Northwest Florida Water Management District
Land Management Plan

for the

Central Region

December 2021

Northwest Florida Water Management District
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Executive Summary

The Northwest Florida Water Management District (the District) is one of five water management districts created by the Water Resources Act of 1972. The District is responsible for managing and protecting water resources in the Florida Panhandle. The District's land management program provides protection for wetland and floodplain functions, groundwater recharge, surface and groundwater quality, natural systems, and fish and wildlife habitat. The purpose of this Land Management Plan (LMP) is to formally document established land management objectives that provide both Governing Board and Land Management Review Teams a means to ascertain whether District-owned lands are being managed in accordance with Sections 373.016, 373.1391 .373.591, Florida Statutes (F.S) and the District's water resources protection mission.

This LMP will serve as an operational guide for all land management planning and operations for the District over the next 10 years. The District will use the LMP to reinforce measures for compliance with applicable laws and regulations and identify and provide direction for voluntary stewardship initiatives or best practices. This LMP supersedes all other District land management plans and is created with the flexibility to be updated/revised if necessary to reflect the best interest of the resources that the District is charged with protecting and managing. Pursuant to Section 373.591 F.S., "the water management districts shall establish land management review teams to conduct periodic management reviews."

This LMP provides a comprehensive overview of District natural resources and goals and objectives for resource management. This LMP is organized into four main chapters, plus references and appendices.

- Chapter 1 - Introduction and Purpose: includes discussion of management authority.
- Chapter 2 - District Land Management: provides an overview of District lands and outlines District land management policies, and internal/external coordination.
- Chapter 3 - Land Management Elements: provides a detailed description of District land management practices.
- Chapter 4 - Regional LMPs: Details resources and practices per region. Regional LMPs (East, Central, and West) function as stand-alone documents embedded within the overall LMP.

Land managers work to protect and enhance District-owned natural areas through a variety of activities, including prescribed burning, timber management and harvesting, groundcover reintroduction, reforestation, invasive and exotic species control, streambank erosion control and protection, wetland restoration (based on permit requirements), and management of public access and recreation. The District's silviculture activities are guided by the Florida Department of Agriculture and Consumer Services (FDACS) "Best Management Practices for Silviculture" – Chapter 5I-6 Florida Administrative Code.

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Acronyms and Abbreviations

%	percent
Amsl	above mean sea level
ATV	all-terrain vehicle
BMP	Silviculture Best Management Practice
CRIFF	Cooperative Research in Forest Fertilization
DHR	(Florida) Division of Historical Resources
District, the	Northwest Florida Water Management District; *also* NWFWMD
F.S.	Florida Statutes
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FFS	Florida Forest Service
FMSF	Florida Master Site File
FNAI	Florida Natural Area Inventory
ft^2/acre	square feet per acre
FWC	Florida Fish and Wildlife Conservation Commission
GIS	geographic information system
LMP	Land Management Plan
NGO	non-governmental organization
NRHP	National Register of Historic Places
NWFWMD	Northwest Florida Water Management District: *also* the District
OFW	Outstanding Florida Waters
ONRW	Outstanding Natural Resource Waters
SMZ	Special Management Zone
SRAP	Special Resource Area Permit
SWIM	Surface Water Improvement and Management
SWMP	Strategic Water Management Plan
T&E	threatened and endangered
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBMP	Wildlife Best Management Practices
WMA	water management area; *also* Wildlife Management Area (FWC)

1 Introduction and Purpose

The Northwest Florida Water Management District (the District) is one of five water management districts created by the Water Resources Act of 1972 and is charged with managing the water resources of the Florida Panhandle. The District began acquiring land in the mid-1980s for the purpose of water resources protection and manages its lands in accordance with statutory requirements.

1.1 Purpose and Authority

The purpose of the Land Management Plan (LMP) is to formally document established land management objectives that provide the Governing Board and Land Management Review Teams both a means to ascertain whether District-owned lands are being managed in accordance with Sections 373.016, 373.1391, and 373.591, Florida Statutes (F.S), and the District's water resources protection mission.

1.2 LMP Use and Organization

This LMP will serve as an operational guide for all land management planning and operations for the District's Central Region over the next 10 years. The plan provides a comprehensive overview of District natural resources, as well as goals and objectives for resources management to maintain a balance among often competing uses with a focus on water resources. The District will use the LMP to: 1) demonstrate and measure compliance with applicable laws and regulations, and 2) identify and provide direction for stewardship initiatives that are not necessarily required by law or regulations but that are considered best management practices (BMPs).

This document is organized to be easily used by a variety of readers. Chapter 1 provides an overview of the purpose, management authority, development, review, and update of the LMP. Chapter 2 provides an overview of District lands and outlines District land management policies, coordination within other District departments/sections, and land management agreements with outside agencies and local governments. Chapter 3 provides a detailed description of District land management practices. Chapter 4 provides specifics for the Central region LMP that details natural resources, land management programs and policies, and current and potential future projects for each District water management area (WMA). Each regional LMP (East, Central, and West) is designed to function as a stand-alone document embedded in a broader contextual framework.

1.3 Public Review and Stakeholder Involvement

The District cooperates with federal, state, and local governments; water supply utilities; non-governmental stakeholders; and private citizens to accomplish its statutory mission. Public and agency participation and comment on this LMP is essential for implementing a collaborative and successful process. External participation involves stakeholder identification, outreach, and analysis and implementation of stakeholder feedback.

It is the intent of the District to engage the public and stakeholders throughout the development of this LMP. The public will be encouraged to provide input, and this input will be considered in project development and review. Meetings to obtain public comment on the LMP will be held in the Central

Region. In addition, the District will post the LMP on the District website for review and comment. This LMP will be brought to the District's Governing Board for review and approval.

1.4 LMP Update and Revisions

The LMP is created with the flexibility to be updated/revised if necessary to reflect the best interest of the resources that the District is charged with protecting and managing. Pursuant to Section 373.591, F.S., "the water management districts shall establish land management review teams to conduct periodic management reviews." This requirement is to ensure that the LMP is consistent with the legislative intent and meets the expectations of the public at large. This land management review team shall comprise individuals from the principal user/stakeholder groups and shall be selected by the Executive Director. Land management review team members shall serve a minimum of two years, after which they will be reappointed or replaced in the same manner as they were selected. This LMP will supersede all other District land management plans.

2 District Land Management

This section is a summary of District lands and land management coordination within other District departments/sections, and land management agreements with outside agencies and local governments consistent across all three LMPs (East, Central and West).

2.1 District Lands

The District extends from the Aucilla River Basin in Jefferson County to the Perdido River in Escambia County, encompassing approximately 11,305 square miles, or 17 percent (%) of the state's geographic area (Figure 2-1). Sixteen (16) counties lie within the District: Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Leon, Liberty, Okaloosa, Santa Rosa, Wakulla, Walton, and Washington counties, and the westernmost portion of Jefferson County. There are 63 incorporated cities within the District. The District is bordered to the north by Georgia and Alabama, to the west by Alabama, to the south by the Gulf of Mexico, and to the east by the Suwannee River Water Management District (Figure 2-1). The District also contains more than 250 springs, including five first-magnitude springs: Wakulla Spring, Jackson Blue Spring, Gainer Springs Group, St. Marks River Rise, and the submarine Spring Creek Springs Group.

The District manages approximately 212,000 acres of land in fee-simple interest and approximately 226,000 acres in combined fee and less-than-fee interests. Funding sources and the purpose for acquiring District-owned lands, which includes protection of floodplain functions, water recharge, water quality, natural systems, fish and wildlife habitat, and public recreation, are detailed in Appendix A. For the purpose of land management, the District's Bureau of Land Management has established three regions: East, Central, and West. These three regions are further subdivided into eleven (11) WMAs: Apalachicola River, Blackwater River, Chipola River, Choctawhatchee River & Holmes Creek, Econfina Creek, Escambia River, Garcon Point, Perdido River, Yellow River, St. Marks/Wakulla Rivers, and Elinor Klapp-Phipps Park (Table 2-1).

Table 2-1 District-Owned Lands by Region, Water Management Area, and Generalized Forest Type (Fee Only)

NWFWMD Region	Total Acres[(a)]	Upland Acres	Floodplain Acres	Open Acres
Eastern Region	46,587	1,958	44,539	90
Apalachicola WMA	36,823	141	36,682	-
Chipola WMA	9,094	1,354	7,734	6
Elinor Klapp-Phipps Park WMA	540	413	42	85
St. Marks/Wakulla Rivers WMA	131	50	81	-
Central Region	103,318	43,061	59,895	362
Econfina Creek WMA	42,138	31,763	10,158	217
Choctawhatchee River & Holmes Creek WMA	61,180	11,298	49,737	144

Table 2-1 District-Owned Lands by Region, Water Management Area, and Generalized Forest Type (Fee Only)

NWFWMD Region	Total Acres[(a)]	Upland Acres	Floodplain Acres	Open Acres
Western Region	61,852	4,398	54,225	3,227
Yellow River WMA	16,553	1,207	15,201	145
Blackwater River WMA	380	-	380	-
Escambia River WMA	35,413	448	34,965	-
Perdido River WMA	6,261	2,582	3,679	-
Garcon Point WMA	3,245	161	2	3,082
Total Acres	**211,757**	**49,417**	**158,660**	**3,679**

Source: Data originated from the District's geodatabase: acreage is calculated using UTM [Universal Transverse Mercator Zone] 16N.
Note: (a) Data sourced from District land acquisition table circa Summer 2021 and should be considered approximate and not authoritative.

2.2 Land Management Overview

The primary goal of the District land acquisition and subsequent land management activities is to protect water resources. The District's land management program provides protection for wetland and floodplain functions, groundwater recharge, surface and groundwater quality, natural systems, and fish and wildlife habitat. As indicated in Table 2-1, approximately 75% of District-owned lands are within floodplains. Land managers work to protect and enhance District-owned natural areas through a variety of activities, including prescribed burning, timber management and harvesting, groundcover reintroduction, reforestation, streambank erosion control and protection, wetland restoration (based on permit requirements), invasive and exotic species control, and public access and recreation. Currently, the District does not harvest hardwood timber in floodplains, riparian areas, and wetland areas. This management decision minimizes the potential for erosion and sedimentation. The District's silviculture activities are guided by the Florida Department of Agriculture and Consumer Services (FDACS) "Best Management Practices for Silviculture" – Chapter 5I-6 Florida Administrative Code.

Table 2-1 also demonstrates that approximately 25% of District-owned lands consist of upland forests dominated by both upland pines and hardwoods. The District's approach to upland forest management begins with an evaluation of predominant soil conditions within upland stands. The soils component determines which pine species is preferred in the overstory, based on soil moisture availability and other soil characteristics. The District utilizes relative Condition Class to assess current conditions and set desired future condition goals. The District Condition Class is determined by the amount of time since the last disturbance, such as fire, chopping, logging, or mowing has occurred in the visible vicinity of the plot and ranges from Condition Class 1 to 4. Additional detail and examples of the District's Condition Class are provided in Sections 3.2.1 through 3.2.4 and Appendix B.

Upland management is accomplished through the use of traditional silvicultural practices including clearcuts, overstory thinning, natural and artificial regeneration, and pre-commercial maintenance. The primary intent of all silvicultural practices is to restore upland timber stands to a near natural condition. If a stand has obtained its desired Future Condition, then the silvicultural intent is to maintain that condition to the extent possible. The predominant reforestation activity on land previously managed as commercial

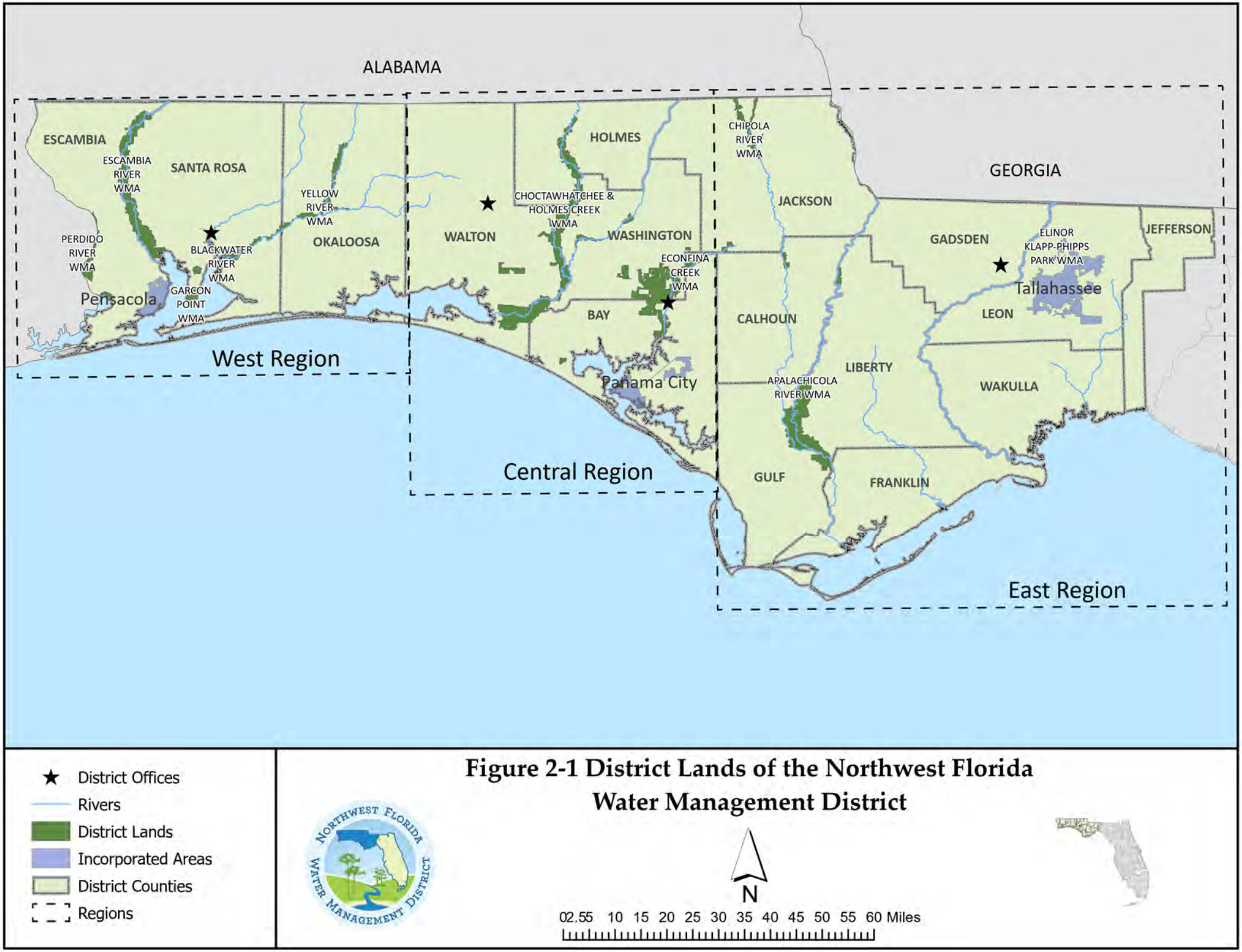


Figure 2-1 District Lands of the Northwest Florida Water Management District

pine plantation is to convert these timber stands to uneven-aged, low basal area, fire-maintained pine stands, or to maintain the structure and function of previously restored areas.

When clearcut activities are necessary for the reforestation of a site, appropriate pine species are planted including longleaf, slash, and loblolly pines. In reforested areas, natural regeneration is primarily relied upon to recruit new trees. Since stand density and basal area are important to this recruitment, timber thinning is another vital tool to improve and protect habitat by removing diseased trees, which opens stands to decrease competition and promote greater levels of understory/overstory diversity. The District evaluates hardwood harvesting on a case-by-case basis with an evaluation of impacts to water quality. Revenues generated from timber harvests are used to partially fund District land management activities. A more detailed description of District land management practices is provided in Section 3.

Prescribed burning is the District's primary land management tool to obtain desired future condition (Condition Class) within fire-dependent habitat areas. Maintaining these lands in the appropriate burn cycle is essential for forest health by promoting appropriate understory regeneration and reducing hardwoods, as well as reducing fuel loads for wildfire risks and improving general aesthetics. The District timber database categorizes the land management areas as stands, each of which are identified by a unique Stand ID number. While stands are typically the smallest land management unit, there are instances where a prescribed burn unit is comprised of a single stand. However, in general, multiple individual timber stands are typically combined into larger burn units. The amount of District lands burned within the preferred burn cycles is the primary land management metric. By increasing the number of acres in their preferred burn cycle, maintaining those same acres in the preferred burn cycle for extended periods of time, and employing periodic thinning harvest to maintain appropriate basal area, the Condition Class of those acres should improve to a point that the desired future condition is obtained.

2.3 District Land Management Program Goals and Objectives

Implementation of the District's goals and objectives is accomplished through coordinated activities within each of the District's major divisions: Asset Management, Resource Management, Regulatory Services, and Administration. Given that the District is primarily a water resource agency, its principal purpose is to protect and, where necessary, restore water resources and watershed functions. The District recognizes that a healthy forest system, with appropriately maintained tree density and understory coverage significantly contributes to improved protection of water resources. Well-maintained forest stands contribute by assisting in erosion and sediment control, as well as providing improvements in water quality and quantity. It is also important to note that forest cover, when maintained in the correct Condition Class, provides deeply rooted vegetation, invites numerous animal burrows, and provides relic root channels and stump holes, all of which contribute to the rapid infiltration of rainfall to subsurface flow and/or to the aquifer. Thus, forests are the preferred land cover for District lands, where appropriate.

- **Goal 1 Water Resource Protection** – to preserve water resources and related land for water quality management and for water supply and conservation.

- **Goal 2 Public Use** – to provide opportunities for compatible resource-based recreation opportunities to meet the public's needs.

- **Goal 3 Resource Management** – to protect, enhance, and/or restore natural, archaeological, and historical resources on lands owned by the District.

2.3.1 Resource Management

Resource management is most effective when ecosystem components (i.e., soils, water quality, forest resources, wildlife, etc.) are addressed together in a coherent and comprehensive manner. Effective land management occurs at a level that incorporates the similarities and interconnectedness of the resources. District staff focus on resource interactions across the landscape when developing management prescriptions. The following section details goals by resource to outline specific strategies.

2.3.1.1 Resource Objectives

Water Resource Protection

Protection of water resources, including rivers, lakes, springs, estuaries, wetlands, and groundwater recharge areas, is the primary purpose of District land acquisition and management. District ownership of floodplains, riparian lands, water recharge areas, and other sensitive lands provides significant protection of surface and groundwater quality, groundwater recharge, floodplain functions, and natural systems, while also providing for public access and use.

Water Resource Protection Objectives:

- Protect surface and groundwater quality
- Protect groundwater recharge
- Protect floodplain functions
- Support water resource restoration

Soils, Topography, and Natural Systems

Soils are the parent material from which terrestrial plants are rooted and obtain nutrients for survival. Florida's topography influences hydrologic flow and storage. District land managers work to minimize topsoil degradation and loss and to sustainably manage natural systems.

Soils, Topography, and Natural Systems Objectives:

- Minimize soil degradation (erosion, compaction)
- Maintain and/or restore natural systems for a given site to an appropriate Desired Future Condition
- Update and maintain current reference data

Invasive and Non-Native Plants and Animals

Invasive species displace native plants and associated wildlife, limit species diversity, impact timber health and long-term productivity, hinder public access and use, alter natural processes such as fire regimes and hydrology, and increase land management costs.

Invasive and Non-Native Plant and Animal Resource Objectives:

- Manage and eliminate invasive and non-native plants and animals.

Groundcover Resources

Groundcover, specifically grasses, herbaceous plants, and woody debris, are vital elements to biodiversity and natural community management and offer water resource protection. Many terrestrial vertebrate animals are directly or indirectly dependent on the groundcover for forage and cover. Fire-dependent natural communities are managed with prescribed fire because native groundcover provides flammable fine fuels. These fine fuels historically provided for natural fires across the entire state. Hydric community groundcovers trap sediment-laden runoff and aerate soils, among other important functions.

Groundcover Resource Objectives:

- Reduce degradation of the existing native groundcover
- Observe grass, herbaceous, and shrub layers to determine if stand Condition Class is in/out of the accepted range
- Encourage the re-establishment of native groundcover species

Forest Resources

The District strives to maintain healthy, sustainably managed forests in the appropriate Condition Class. Sustainable forest management means that current practices and the attainment of short-term goals should not compromise the capacity of the forests to deliver ecosystem services and economic products in the future. In its simplest terms, this is accomplished by limiting harvesting so that the rate of removal does not exceed the rate of growth. District land management staff activities are guided by silvicultural BMPs in order to enhance existing forested communities; therefore, silvicultural prescriptions will incorporate natural stand development and disturbance patterns that are consistent with these BMPs.

Forest Resource Objectives:

- Manage to attain an uneven-aged and vertically diverse forest, including retaining dominant and/or old growth trees and snags
- Reforest using appropriate tree species, as determined by soil conditions to protect water resources
- Ensure that District lands are prescribe-burned in accordance with preferred burn cycles
- Maintain an accurate and current pine forest resource inventory

- Ensure that commercial harvests optimize financial returns while protecting District water resources protection goals

Threatened and Endangered Species Resources

By focusing land management efforts on maintaining a natural community structure, District-owned lands provide habitat for numerous native plants and animals, some of which are classified as listed species. The District relies on the following government agencies to classify species as rare:

- Listed by the U.S. Fish and Wildlife Service (USFWS) as federally threatened or endangered; or
- Listed by the Florida Fish and Wildlife Conservation Commission (FWC) as threatened or endangered.

Rare Species Resource Objectives:

- Protect listed species on District-owned lands
- If a species is known to exist on District-owned lands, staff will implement BMPs and/or other measures as appropriate
- On District-owned lands, the District will coordinate with the FWC and the USFWS and consider their recommendations for habitat management and monitoring regarding known locations of threatened and endangered species prior to silviculture operations.

Cultural and Historic Resources

Artifacts and remnants of past human inhabitants are part of the land's natural history. The District avoids damage to these known resources during all land management activities. Section 3.8 details the process if resources were inadvertently discovered during the completion of District land management activities.

Cultural and Historic Resource Objectives:

- Avoid and prevent negative impacts to cultural and historical resources, to the extent practicable
- Utilize the documented location of significant cultural and historical resources on District-owned lands provided by the Division of Historical Resources (DHR) within the Department of State
- Follow appropriate protocols for construction projects (non-silviculture)

Aesthetic and Visual Resources

The application of aesthetic principles to land management operations enhances the visual quality of District-owned lands. The District will continue to incorporate uneven-aged forest management and other strategies to enhance the aesthetic value of managed lands.

Aesthetic and Visual Resource Objectives:

- Maintain or enhance overall visual quality of District lands, where appropriate

2.3.2 Public Use

2.3.2.1 Establishing Public Use

District-owned lands provide opportunities for compatible resource-based recreation. In recent years, the District has enhanced and expanded the recreational opportunities on District-owned lands. Activities at each location are compatible with natural resources protection and intended land use priorities and include swimming, picnicking, paddling, hiking, fishing, hunting, camping, cycling, horseback riding, wildlife viewing, and more.

Any changes to the recreational infrastructure will be updated on the District's recreation section on the website, which can be viewed online at https://www.nwfwater.com/Lands/Recreation .

Public Use Objectives:

- Maintain parking areas, campsites, trails, picnic areas, restrooms, kiosks, roads, bridges and gates
- Maintain current information on the District website
- Provide, maintain and support an online reservation system for designated campsites

2.3.2.2 Hunting and Fishing

The District's land management program provides a variety of public hunting opportunities for traditional game species such as deer, turkey, and quail. Hunting opportunities are available on District lands that are designated as FWC Wildlife Management Areas (Table 2-2). Fishing is allowed on District-owned tracts subject to regulations set forth by the FWC.

Table 2-2 FWC Wildlife Management Areas on District-owned Lands

NWFWMD Water Management Area	FWC Wildlife Management Area	Comments
Perdido River Water Management Area	Perdido River Wildlife Management Area	N/A
Escambia River Water Management Area	Escambia River Wildlife Management Area	N/A
Blackwater River Water Management Area	N/A	N/A
Garcon Point Water Management Area	N/A	N/A
Yellow River Water Management Area	Yellow River Wildlife Management Area	Multiple Hunt Zones FWC WMA also includes Florida Forest Service property

Table 2-2 FWC Wildlife Management Areas on District-owned Lands		
NWFWMD Water Management Area	FWC Wildlife Management Area	Comments
Choctawhatchee River & Holmes Creek Water Management Area	Choctawhatchee River Wildlife Management Area	Multiple Hunt Zones
	Lafayette Creek Wildlife Management Area	Mostly Quota Hunts
Ward Creek West Tract	N/A	Annexed into City of Panama City Beach city limits. Wetland Mitigation Property
Econfina Creek Water Management Area	Econfina Creek Wildlife Management Area	Multiple Hunt Zones, including Mobility-Impaired and an area closed to hunting.
Carter Tract/Sand Hill Lakes Mitigation Bank	Fitzhugh Carter Wildlife Management Area	Within Econfina Creek FWC Rule/Brochure but also stand-alone WMA for FWC. Wetland Mitigation Property – Sand Hill Lakes Mitigation Bank. Mostly Quota Hunts.
Chipola River Water Management Area	Chipola River Wildlife Management Area	Multiple Hunt Zones Lower Chipola River WMA (Altha Tract; south) and Marianna Tract (north)
Apalachicola River Water Management Area	Apalachicola Wildlife Management Area	East Side of Apalachicola River – Adjoins Apalachicola National Forest
	Apalachicola River Wildlife and Environmental Area	West side of Apalachicola River including Cutoff Island
	Beaverdam Creek Wildlife Management Area	Separate Tract North of Bristol
Elinor Klapp-Phipps Park Water Management Area	N/A	Closed to hunting - City of Tallahassee Park
Source: Northwest Florida Water Management District, FWC		

2.3.2.3 Otherwise Authorized Activities (Permits)

Activities on District-owned lands are compatible with natural resources protection and intended land use priorities and include paddling, hiking, fishing, hunting, camping, cycling, horseback riding, wildlife viewing, and more. In order to protect sensitive resources and reduce management costs, it is necessary to limit some recreational opportunities and the use of certain roads or other access on District lands. Any entity that desires to hold an event with 10 or more participants within any WMA must apply in advance for and receive a Special Resource Area Permit (SRAP) from the District as provided in Appendix C. Common uses that require an SRAP include (but are not limited to) cross-country runs, organized trail rides and weddings.

2.3.2.4 Law Enforcement

The District relies on the FWC and county sheriffs' offices to enforce Florida statutes and administrative rules on District-owned lands. District staff and visitors report potential violations to the most appropriate

law enforcement agency. The District also contracts for enhanced patrols by law enforcement agencies in high-use areas and areas with chronic violations.

2.4 LMP Relationship with Existing District Plans, Permits and Programs

The LMP is designed as an operational plan to address land management within District-owned lands. This LMP will supersede all other District land management plans. District lands designated for wetland mitigation purposes often have requirements beyond those found in this document. Many land management activities on mitigation lands are directed by regulatory guidance or permit requirements. It is important to recognize many activities are implemented through subordinate plans, permits, and programs that directly execute the strategies outlined in the LMP. Thus, the LMP reflects an integrated approach to the major land management challenges facing the District. Related plans and programs include:

- ***Surface Water Improvement and Management (SWIM) Program***, was enacted by the Surface Water Improvement and Management (SWIM) Act in 1987 by the Florida Legislature to improve and manage the water quality and natural systems of Florida's surface waters, which include lakes, rivers, streams, estuaries, springs and wetlands. The SWIM Program is implemented by the District working cooperatively with the FDEP, other state and federal agencies, local governments, and private stakeholders and initiatives to accomplish watershed protection and restoration objectives. The District has approved a SWIM priority list that includes all seven (7) of the major riverine-estuarine watersheds of northwest Florida. SWIM Plans are developed to address, on a watershed basis, cumulative manmade impacts on water quality and aquatic habitats. They incorporate comprehensive strategies to both restore and protect watershed resources. Implementation is accomplished through a variety of activities, such as retrofitting stormwater management systems to improve water quality and flood protection, restoring wetland and aquatic habitats, evaluating resource conditions and freshwater needs, protecting and restoring springs, and providing public outreach and awareness. The SWIM Plans identify Outstanding Florida Waters (OFW), Outstanding Natural Resource Waters (ONRW), Class I Waters, and other protected surface water bodies within each watershed within the District.

- ***The Strategic Water Management Plan (SWMP)*** presents the District's strategic priorities and identifies goals, strategies, success indicators, funding sources, deliverables, and milestones for the next five-year planning horizon. A separate Annual Work Plan Report on the strategic plan's implementation are submitted each year with the District's March 1 Consolidated Annual Report. The SWMP is reviewed and updated annually, based on implementation progress as well as direction from the Governing Board and input from the public.

- ***The Five-Year Water Resource Development Work Program*** is updated annually and provides a description of activities and funding needed to continue implementation of the District's Regional Water Supply Plans.

- ***Water Supply Plans and Assessments*** are evaluated by the District every five years to determine whether existing and anticipated water sources are sufficient to meet future demands while sustaining water resources and associated natural systems. If the District determines that a region's water needs are likely to exceed available water sources in the next 20 years, the District will prepare a Regional Water Supply Plan, which identifies alternatives for meeting the anticipated future water needs (as required by Section 373.709, F.S.).

- ***Florida Forever/Water Management District Work Plan*** is required to be annually updated under Section .373.199(7), F.S. This plan, which is presented as a separate chapter in the Consolidated Annual Report, contains information on projects eligible to receive funding under the Florida Forever Act and reports on land management activities, surplus lands, funding status, staffing, and resource management projects for which the District is responsible.

- ***Wetlands Mitigation Program*** is a District program charged with protecting and managing the water resources, including wetlands, of northwest Florida in a sustainable manner for the benefit of its residents and natural ecosystems. Other District programs implemented to accomplish a similar goal include land acquisition and management, and regulation of wetland impacts. Proposed transportation projects in northwest Florida with potential wetland impacts may be found at the Florida Department of Transportation (FDOT) Efficient Transportation Decision Making website. The District mitigation program does not compete with private mitigation banks and provides mitigation options to FDOT only when use of a private mitigation bank is not feasible.

2.5 Cooperating Land Management Agencies and Agreements

The District maintains cooperative management agreements and/or leases with local governments, government agencies (state and federal) and other non-governmental organizations (NGOs) to provide management, protection, and public access. In fact, a strength of the District is the development of effective partnerships and cooperative relationships with other governmental and private organizations with similar/complementary functions and authority. Several state agencies have a major or direct role in the management of District lands.

The FDACS, Florida Forest Service (FFS), assists the District in the development of wildfire emergency plans and provides assistance with prescribed burning activities. The FWC provides staff for the enforcement of state laws pertaining to wildlife, freshwater fish, and other aquatic life. In addition, the FWC aids the District with wildlife management programs, including listed species management. The DHR assists the District with management and protection of cultural resources. See Appendix D for the DHR's management procedures for state-owned properties. Additionally, the District maintains numerous public/private cooperative agreements addressing access, prescribed fire assistance, and fire detection and prevention. Details on these management agreements are provided in the following sections and in Appendix E.

Volunteers provide an extension of the District workforce to accomplish the agency mission. The District provides volunteers an opportunity to work in areas such as trail development and maintenance and

general resource management. Volunteers will continue to provide vital assistance in managing District lands in the future.

2.6 Summary of Management Issues

The following is a summary of key management issues facing the District during their land management planning efforts.

2.6.1 Prescribed Fire

Fire set by frequent lightning strikes has historically been a significant force in shaping the natural Florida landscape and prescribed burns that mimic this natural occurrence are the District's primary land management tool. Prescribed burning is used to reduce fuels and potential wildfires, promote the development of desired understories, and increase the abundance and health of the forest itself as well as many wildlife species.

The District's goal is to execute fires, as indicated in Section 3.5.6. However, executing a prescribed fire is a weather-dependent activity, subject to resource availability. The District implements its prescribed fire program using contractors and District staff. Burns conducted by District staff often include crew members from other entities, in particular staff from cooperating groups such as the Gulf Coastal Plain Ecosystem Partnership and the Apalachicola Regional Stewardship Alliance and two prescribed fire support teams supported through these regional cooperative programs. The cooperators include government agencies, NGOs, and some private entities. Additionally, a federal training program, the National Interagency Prescribed Fire Training Center often provides burn crews to assist District staff.

Constraints on the prescribed burning program include weather, availability of qualified contractors, staffing and resources, and competing resource management priorities.

2.6.2 Invasive Species Management

The District faces the increasing impacts of non-native invasive/exotic species (plants, animals, and pathogens). Invasive species displace native plants and associated wildlife, limit species diversity, impact timber health and long-term productivity, hinder public access and use, alter natural processes such as fire regimes and hydrology, and increase land management costs. The management of these species requires a proactive and sustained effort.

2.6.3 Timber Management

Through reforestation, many areas within the District are being restored to their natural state and condition. Various tree species such as longleaf, slash, and loblolly pines may be planted each year. Timber thinning is another important tool to improve and protect timber resources by removing suppressed and diseased trees, which opens stands to increase sunlight and promote growth and understory plant diversity. Proceeds from timber harvests contribute to the District's funding for land management.

2.6.4 Management of Public Use

District lands are available for public use, including fishing, hunting, camping, hiking, boating, swimming, and other recreational activities. Access and use issues are addressed on a parcel-by-parcel basis and must be evaluated and consistent with Florida Statutes and the goals and objectives for District lands pursuant to Section 379.3001, F.S.

The District strives to understand, maintain, and protect the inherent integrity of natural resources, processes, systems, and values of their lands, while providing meaningful and appropriate opportunities to enjoy them. Therefore, the District promotes low-impact resource-based recreational activities and currently prohibits activities such as riding all-terrain vehicles (ATVs) and other destructive practices with motor vehicles. This LMP addresses, to the extent possible, the balancing of allowable, competing uses on District lands.

2.6.5 Cooperative Utilization of Other Management Resources

The District's land management program utilizes the services and cooperation of private organizations, other governmental agencies, and volunteers. This assists with the efficient use of resources for the District to successfully conduct natural resource management with existing staff and resources. Section 2.5 highlights the ability of the District to cooperate with other entities, and Appendix E provides a detailed account of the cooperative management agreements that are in place with the District.

3 Land Management Elements

This section provides a detailed review of specific District land management practices consistent across all three Regions for lands that are not permit-driven. District-owned lands are subdivided into uplands or floodplains as indicated in Section 2.1. Floodplains, which account for approximately 75% of District-owned lands, are essentially viewed as "buffer lands" and require minimum management activities but are essential in meeting the mission of the District to protect water resources. Conversely, uplands, which are approximately 25% of the remaining District-owned lands, are dominated by upland pines and hardwoods and require moderate to significant management activities as determined by current Condition Class and desired future condition. The District utilizes relative Condition Class to assess current conditions and set goals for desired future condition. Although uplands only account for a relatively smaller overall percentage of District-owned lands, the greatest focus and application of management resources are on these uplands.

3.1 Floodplain Conservation

The District's goal of preserving water resources and related land for water quality management, water supply and conservation, as well as to restore, enhance, or conserve the lands' natural, aesthetic, recreational or hydrologic values drives all land management decisions. Most of the rivers in the District are in their natural state and have few manmade structures that alter their floodplains and channels or control their flow rates. To provide flood protection and maintain floodplain function, the District has acquired a substantial percentage of the river frontage and neighboring floodplains throughout the District.

Floodplains protect water quality by allowing storage of floodwaters, reducing runoff velocity and preventing erosion and sedimentation. Floodplains also attenuate potential flood effects while providing an ecological link between aquatic and upland ecosystems and habitat for many terrestrial and aquatic species. Development of and encroachment into floodplains, reduces water storage capacity, increases flood heights and velocities, and degrades natural systems in areas beyond the encroachment itself. Maintaining the hydrological integrity of the floodplain can benefit surface water systems in drought conditions, as well as flood conditions. Floodplain vegetation reduces evaporation and increases soil water storage capacity. Riparian wetlands, marshes, and floodplain forests help to slow stormwater runoff, protecting water quality and regulating the release of water into streams and aquifers.

Since gaining ownership, the District minimizes land management practices within these floodplain areas. Instead, these areas have been identified essentially as "buffer lands" intended to help accomplish the District's mission of water quality protection. When resources are available, land management practices e.g., invasive species management will be conducted in accordance with the State of Florida *Silviculture Best Management Practices Manual* (Silviculture BMP Manual). The FFS provides specific guidance on BMPs (FDACS 2008) and has established compliance monitoring requirements and procedures. The Florida Department of Environmental Protection (FDEP) evaluated the effectiveness of silviculture BMPs and concluded that forestry operations conducted in accordance with the Silviculture BMP Manual resulted in no major adverse habitat alterations or impacts to water quality.

3.2 Uplands Management

The District adapted a fire regime system to establish a reference for land management effectiveness. While fire is the preferred disturbance that maintains most natural communities in Florida, other disturbances, though not ecological surrogates to fire, may accomplish or aid in the accomplishment of management objectives. Periodically, each District timber stand is assigned a Condition Class score as discussed below. Photographic examples of each Condition Class are provided in Appendix B. District staff make periodic Condition Class assessments and incorporate them into the forestry database for tracking and event planning.

Within the District's forest land management database, each District timber or burn stand is assigned a fire return interval based upon its unique characteristics. The fire intervals provided below are a general guideline for these habitats.

- Flatwoods once every two years
- Sandhill once every three years
- Scrub once every eight to twenty years
- Marsh/Wet Prairie once every two to three years

3.2.1 Condition Class I

Condition Class I is considered to be the desired condition of a fire-managed land management unit (or "stand"). If a recommended fire return interval is consistently achieved over a period of time, resulting in the appropriate plant community composition and structure, and the stand has benefited from disturbance within that appropriate fire recurrence interval then the subject stand would fall within Condition Class I.

3.2.2 Condition Class II

Condition Class II typically includes stands that have experienced a disturbance less often than the recommended fire return interval (but within two burn/disturbance cycles). Fire typically can bring the stand into desired Condition Class. Given more infrequent disturbance, shrubs will typically dominate portions of a burn zone. Appropriate plant community composition and structure will remain under these conditions, but many desirable plants will start being "edged out" or out-competed, especially in the later years of the second missed burn cycle.

3.2.3 Condition Class III

Condition Class III lacks successful disturbance within three or more fire return intervals and the stand has begun to experience undesirable changes in plant community composition and structure. Shrubs dominate much of the burn zone, and groundcover plants are noticeably reduced. Burn zones in these conditions can still be recovered, but additional actions (mechanical/chemical) may be required as fire alone may not be sufficient.

3.2.4 Condition Class IV

A Condition Class IV area has gone so long without disturbance that plant community composition and structure have changed entirely, and the area should no longer be considered a fire-maintained zone without prior implementation of additional actions (such as mechanical or chemical vegetation management). Fire alone can no longer restore such areas and desirable groundcover plants are nearly absent. Significant time, energy, and money will be required to restore these areas to Condition Class I.

3.2.5 Cooperative Research in Forest Fertilization (CRIFF) Soils

The University of Florida Cooperative Research in Forest Fertilization (CRIFF) developed a soil/site productivity index that integrates soil drainage class, soil texture, and depth of subsurface soil layers (Jokela and Long 2015). This index comprises eight CRIFF Group codes (A through H) that correspond with 85% of the soil series in the state as detailed in Table 3-1. Soils in the District have been identified according to the CRIFF program and will be detailed in following WMA descriptions.

Table 3-1 CRIFF Soil Groupings

CRIFF Soil Group	Drainage	Important Feature
A	Very poor to somewhat poor	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.
B	Very poor to somewhat poor	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.
C	Poor to somewhat poor	Spodic horizon below the surface layer. Sandy loam or finer textured soil horizon below the spodic horizon.
D	Poor to somewhat poor	Spodic horizon below the surface layer. Sand to loamy sand soil horizon below the spodic horizon.
E	Moderate to Well	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.
F	Moderate to Well	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.
G	Excessive	Sand to loamy sand surface layer at least 100 inches thick.
H	Very Poor	High in decomposing plant residues, often an organic soil.
X*	Not Classified	Bottomland areas subject to prolonged or frequent inundation and/or highly altered/manipulated areas

Source: Jokela and Long 2015; *NWFWMD

3.3 Silviculture Best Management Practices

As mentioned above, the District follows the Silviculture BMP Manual when conducting forestry and land management practices on District-owned lands. The FFS defines silviculture BMPs as, “the minimum standards necessary for protecting and maintaining the State’s water quality as well as certain wildlife habitat values, during forestry activities” (FDACS 2008). As such, they represent a balance between overall natural resource protection and forest resource use. The following subsections describe various components of the Silviculture BMP Manual that are germane to the District’s operations. Supporting information that further details the mechanics of applying specific BMPs are found in the Silviculture BMP Manual, which can be readily accessed via the following website:

https://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Our-Forests/Best-Management-Practices-BMPs.

3.3.1 Special Management Zone

The Special Management Zone (SMZ) is a BMP that consists of a specific area associated with a stream, lake, or other waterbody that is designated and maintained during silvicultural operations. Specifically, these zones provide buffering, shade, bank stability and erosion-control, as well as detritus and woody debris. They are intended to protect water quality by reducing or eliminating sediment, nutrients, logging debris, chemicals, and water temperature fluctuations. They also maintain forest attributes that provide wildlife habitat. Widths of SMZs vary depending on the type and size of the waterbody, soils, and slope.

Specific SMZs are described as follows.

1. The Primary Zone varies between 35 and 200 feet and applies to perennial streams, lakes, and sinkholes, OFW, ONRW, Class I Waters, and, in some cases, wetlands. A primary zone generally prohibits clear-cut harvesting within 35 feet of perennial waters and within 50 feet of waters designated OFW, ONRW, or Class I. Other operational prescriptions also apply to forestry practices to protect water and natural resources.

2. The Secondary Zone applies to intermittent streams, lakes, and sinkholes. Unrestricted selective and clear-cut harvesting is allowable, but mechanical site preparation, operational fertilization, and aerial application or mist blowing of pesticide, are not. Loading decks or landings, log bunching points, road construction other than to cross a waterbody, and site preparation burning on slopes exceeding 18% are prohibited. These zones vary in width between 0 and 300 feet.

3. Stringers provide trees to be left on or near both banks of intermittent streams, lakes, and sinkholes to provide food, cover, nesting, and travel corridors for wildlife.

Other BMPs found in the Silviculture BMP Manual are detailed below and include practices for forest road planning, construction, drainage, and maintenance; stream crossings; timber harvesting; site preparation and planting; fire line construction and use; pesticide and fertilizer use; waste disposal; and wet weather operations. The Silviculture BMP Manual further includes specific provisions to protect wetlands, sinkholes, and canals. Separate forestry wildlife BMPs for state-imperiled species, which are associated with the BMP manual, are addressed below.

3.3.2 Road Planning, Construction, Drainage and Design

Public access and forest roads represent a potential source of long-term erosion and sedimentation. Permanent access roads are often accompanied by permanent drainage structures, e.g., culverts, bridges, and low water crossings, that are critical to maintaining appropriate water levels, flow rates, and flow patterns. Unmaintained or insufficiently maintained roads typically deteriorate at accelerated rates over time, which can result in increased sedimentation of streams, rivers, estuaries, ponds, lakes (receiving waters) on and off property. A key to managing for water quality maintenance and improvement is to properly design, build, drain, and maintain forest roads so drainage structure capacity is not exceeded

during storm events. The Silviculture BMP Manual provides extensive guidance regarding these topics. Fundamental principles and keys to success include:

- conducting road building and associated activities during dry periods, reducing and controlling the rate of water flow by intercepting and turning water out into the woods before it reaches receiving waters;
- providing stable and appropriately sized water conveyance structures (see Section 3.3.3);
- stabilizing exposed soil;
- monitoring road conditions, conveyance structures, and waterbody crossings on a routine basis; and
- conducting appropriate maintenance on roads and conveyance structures in a timely manner to maintain/improve water quality.

3.3.3 Water Conveyance Structures

The majority of water conveyance structures are associated with stream crossings, which represent the point at which a forest road or skid trail comes in contact with a waterbody. The use of some type of planned crossing is necessary to protect water quality at these locations. The District has numerous hydrologic facilities on District-owned lands, including culverts, bridges, and low-water crossings. The District desires that all water conveyance structures be constructed/replaced in compliance with the Silviculture BMP Manual. Careful consideration is given to selecting and installing the appropriate type of crossing at each site.

The principal objectives of a culverted stream crossing are to provide a dry surface even during periods of stormflow and to provide adequate conveyance of flow beneath the road fill so that impounding does not occur. In addition:

- the number of crossings should be minimized per stream and conveyance structures should be sited perpendicular to the flow at the narrowest section. This minimizes the area of disturbance and simplifies construction;
- any erodible fill material or other areas normally exposed to flowing water should be stabilized with rip-rap, vegetation, or other appropriate material following construction; and
- construction during wet periods and high-water conditions should be avoided.

The predominant crossings on District-owned lands are low water crossings, which are designed to maintain stream flow while allowing for a stable substrate for vehicular access under most conditions.

3.4 Threatened and Endangered Species

All District forestry and land management activities protect federal and state threatened and endangered species where they are known to occur on District-owned lands. District staff have access to geographic information system (GIS) data supplied by other agencies and NGOs that track known species occurrences. Where the FWC offers assistance, the District may expand its BMPs to incorporate published FWC resource management guidelines. These sources are periodically reviewed by District staff who utilize associated and pertinent data and information when formulating plans and conducting forest and land management activities. Construction projects such as recreation site development, restoration and improvement, docks, piers, boardwalks, and parking lots typically go through a thorough threatened and endangered species review as part of the Environmental Resource Permitting process.

This LMP considers species identified in the Florida Natural Areas Inventory's *FNAI Standard Data Report* (August 2019, October 2019, November 2020, and December 2020) that represent recently documented occurrences on District-owned lands and are also classified as threatened and endangered per the state or federal governments. Species identified by FNAI as documented historic (records greater than 20 years old), likely to occur, and potential occurrences are not considered herein.

3.4.1 State Best Management Practices for State-Listed Species

For state-listed species, the District follows the *Florida Forestry Wildlife Best Management Practices for State Imperiled Species Manual* (WBMP Manual). WBMPs are not a means of species recovery or expansion or of habitat restoration but are a means of protecting species determined to be present on managed lands. Silvicultural practices can be beneficial to the conservation of fish and wildlife, including many of the state's imperiled species. The WBMP Manual was developed to enhance silviculture's contribution to the conservation and management of terrestrial and aquatic wildlife and the functionality of associated ecosystems. The WBMP Manual reflects a balance between natural resource conservation and forest resource utilization and serve to benefit a multitude of species.

The District follows the WBMPs when completing land management practices on District-owned lands, where appropriate. The WBMP Manual provides extensive guidance per species. Species having known ranges that coincide with District-owned lands are listed below. As detailed in the WBMP Manual, burrows, nests, and rookeries are not required to be located prior to silviculture operations, and specific surveys to determine the presence/absence of state-imperiled species are not required. In addition, fundamental principles and keys to success include: 1) maintaining important habitat features, e.g., snags for some species, while conducting management activities such as harvesting (includes thinning), site preparation, and/or burning; 2) siting heavy equipment operational areas, (log decks, landings, and main skid trails) away from known and visibly apparent active burrows, nests, and rookeries; 3) advising heavy equipment operators to avoid direct contact (year-round) with all known and visibly apparent burrows, nests, and rookeries; and 4) when practical, minimizing the use of heavy equipment during breeding/fledging seasons.

Details regarding specific WMBPs can be found at the following website: https://www.freshfromflorida.com/content/download/81186/2341323/FFSWBMPSurvey2017Report.pdf.

3.4.1.1 State-Imperiled Aquatic Species

Ten (10) state-imperiled species are in the Aquatic Species category and are generally associated with flowing streams. Seven (7) of 10 state-imperiled aquatic species have ranges that coincide with District-owned lands: crystal darter (*Crystallaria asprella*), harlequin darter (*Etheostoma histrio*), bluenose shiner (*Pteronotropis welaka*), blackmouth shiner (*Notropis melanostomus*), Barbour's map turtle (*Graptemys barbouri*), Florida bog frog (*Lithobates okaloosae*), and the Georgia blind salamander (*Eurycea wallacei*). At this time, the District does not conduct any land management activities, e.g., timber harvests, within the habitat of any of these species. Land management activities conducted on District-owned lands contribute to the overall conservation strategy for these species.

3.4.1.2 State-Imperiled Burrowing Animals Species

Two state-imperiled species are in the Burrowing Animals species category and are generally associated with both forested and open area uplands. Only the gopher tortoise (*Gopherus polyphemus*) occurs within District-owned lands.

3.4.1.3 State-Imperiled Nesting Bird

Four state-imperiled species are in the Nesting Birds species category and are associated with both forested wetlands and uplands. Specifically, they include little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), Florida sandhill crane (*Antigone canadensis pratensis*), and southeastern American kestrel (*Falco sparverius Paulus*). According to the WBMP manual, most instances of incidental take are the result of disturbances to wading bird rookeries and southeastern American kestrel or Florida sandhill crane nests during certain periods of the year. Such disturbances include damaging or removing nest trees, excessive noise from machinery located in proximity, and frequent human presence. By following the WBMPs during land management activities, there is a presumption that there would be no incidental takes.

3.4.2 Federally Protected Species

In addition to state-imperiled species, the District is aware of and avoids taking federally protected species that are known to occur on District-owned lands. In support of and inherent to their land management processes, District staff periodically check multiple websites maintained by the USFWS Panama City Beach Field Office, FNAI, and FWC. Data and information contained on these websites (and others) are focused on wildlife and plant species that are protected under the federal Endangered Species Act, the federal Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act.

3.5 Forest Management

District-owned lands are partitioned into three regions and ten WMAs that are further divided into stands for forest management. As of July 2019, there are 1,999 stands within all District-owned lands.

3.5.1 Forest Data Management

On District-owned lands where silviculture is an intrinsic component of overall upland management, field-based timber inventories are conducted. The District has developed the "District Pine Forest

Inventory - Plot Procedure Specifications," which describes standards and processes to be followed during data collection while conducting pine and hardwood forest inventories. Data are typically collected using mobile data collection software and stored in the District's timber management database. These data are used in generating timber volumes, projecting growth, potential timber revenues, stand/stock tables, future growth and yield models, etc. These values are verified and incorporated into the District's timber management database. Changes that may occur over time within timber stands are recorded in an events management system and include changes associated with harvests, natural disturbances, herbicide treatments, burning, and reforestation activities. This information is used to help land management staff forecast land management needs.

3.5.2 Timber Management

The District timber management practices guide staff in planning, implementing, and overseeing silvicultural operations such as timber harvests, site preparation, and reforestation. All silvicultural operations are intended to improve or maintain the Condition Class and forest health of historically pine-dominated natural communities. Professional forestry consultants are utilized as needed to help the District meet timber management goals.

Timber harvesting is a silvicultural practice implemented on District-owned lands for upland pine management. These operations are used to restore and improve pine forest health and vigor while generating revenue to support land management activities. Pine stands targeted for harvest are those that comprise off-site species, those that are overly stocked, and/or are dominated by older trees with large volumes of timber (potentially unhealthy and prone to infestations by damaging insects).

At a minimum, the District implements timber harvests to protect the public's investment in the pine forest asset as well as to protect water resources. To ensure commercial harvests provide the maximum financial returns, the District considers timber market reports and market insights provided by forestry consultants. Timber security measures and suitable performance bonds are implemented on all timber harvests to protect the public investment and potential financial returns.

Thinnings are intended to generate higher valued products such as sawtimber, to increase revenue potential, and to maintain stand health. Initial thinnings are conducted to upgrade or improve stand quality, i.e., remove diseased, crooked, forked, suppressed, unhealthy, or poor-quality trees. Retained or "leave trees" should provide for the long-term health and productivity of the stand. The first thinning is pivotal as it drives the growth rate for the rest of the rotation. It should occur shortly after tree crowns start to close or touch. Live crown ratio is the percentage of a tree's height occupied by live branches. In southern pines, optimum growth and vigor are maintained when the live crown comprises at least 40% of tree height (40% live crown ratio). Thinning is not advisable for sand pine since it does not alter the growth curve, does not yield an upgrade in product class, and increases the residual stand's susceptibility to windthrow. Loblolly pine typically exhibits a positive response to thinning in terms of product class and growth. Failure to thin loblolly pine at appropriate times increases its susceptibility and exposure to stand-damaging bark beetles. Slash pine has a relatively narrow thinning window. If this window is missed, crowns thin and shorten, which leads to stagnation and little chance of a future positive growth response to thinning. The number of trees to cut depends on initial stand density, site quality, and

management objectives. A thinning should reduce stand density to ensure that individual tree growth is maximized without sacrificing full utility of the site.

Historically, the District has purchased lands comprising sand, slash, and loblolly pine that have been managed via even-aged silvicultural systems. Sand pine (planted at high densities on droughty, low productivity sites) is typically left to grow for about 25 years (not normally thinned) and then clearcut. These stands are evaluated for restoration following clearcut and are usually converted to longleaf, slash, or loblolly pine based upon soil type. Slash and loblolly pine are managed as either even-aged or uneven-aged depending on stand history. Stands acquired outside of recommended thinning windows will be clearcut and replanted to initiate long-term, uneven-aged management through intermittent thinning and planting. Stands currently within recommended thinning schedules will be managed as uneven-aged through periodic thinning and underplanting. Slash and loblolly pine stands tend to occupy richer, more productive sites and sawtimber rotation lengths are predominantly shorter than on poorer sites where longleaf pine is managed. Slash and loblolly pine first thinnings yield mainly pulpwood while second thinnings produce both pulpwood and chip-n-saw product classes. Slash and loblolly pine stands are usually harvested within five to seven years of the second thinning and a rotation age of approximately 30 to 35 years is typical. The District manages longleaf pine under either a two-aged or an uneven-aged system. As such, longleaf pine stands do not have a predetermined rotation age, periodic harvests are specific to growth and regeneration needs, and two or more age classes are always present. The result is a mosaic of tree ages and sizes within any given stand such that a continuous overstory cover is maintained through time.

District timber management also includes reforestation operations. All reforestation operations utilize site preparation and planting techniques that promote maximum seedling survival rates and meet state water quality standards.

3.5.2.1 Sand Pine

District-owned sand pine plantations are being converted to other pine types based on soil type and associated characteristics. The only activity currently planned for these stands is clearcut and reforestation. Clearcuts can be authorized when standing timber volume averages at least 30 tons per acre. When clearcutting, the District limits the number of log decks and does not allow the piling of woody debris generated through harvesting. Woody debris must be scattered evenly across the harvested area as possible additional fuel for site prep burns and to distribute nutrients from the decomposition of organic materials across the stand. Current plans indicate that the majority of the sand pine stands will be harvested over the next 17-year period. Clearcut sand pine stands are typically converted to longleaf pine. The primary steps involved in preparing a site for reforestation include the application of herbicides to reduce hardwood competition and site preparation for prescribed burns.

3.5.2.2 Longleaf Pine

Longleaf pine stands are managed on a long-term basis to promote structural and compositional diversity, especially as it concerns native groundcover vegetation. Longleaf pine sites are prepared for reforestation similar to methods used when converting sand pine to other pine types. Longleaf pine stands are typically

planted at a density of 726 trees per acre. In some areas where management is primarily focused on habitat restoration or education, longleaf pine stands may receive supplemental plantings at 436 trees per acre to enhance stand development. Timber stand improvements are generally conducted three to seven years after planting and generally include sand pine eradication by hand cutting. Some young stands may also need follow-up hardwood control treatments by hand cutting or herbicide. Selective thinning (individual tree as opposed to row thinning) will be conducted when average pine basal area exceeds 120 square feet per acre (ft^2/acre) and projected harvest volumes are greater than 22 tons per acre. Targeted basal area after selective thinning is 70 ft^2/acre. The District has established a default three-year burn cycle for longleaf pine stands that can be adjusted based on the recommendation of the regional forest operations supervisor. The initial prescribed burn generally occurs three years following reforestation.

3.5.2.3 Slash/Loblolly Pine

Slash and loblolly pine plantations will be managed at low densities and converted to uneven-aged stands while effectively realizing potential revenue streams. Slash/loblolly stands are prepared for reforestation as described above. Slash and loblolly pine stands are generally established at a planting density of 726 trees per acre. Clearcuts can be authorized when stands are at least 25 years old. Minimum harvest volume is 15 tons per acre and should be accomplished prior to reaching 40 tons per acre. Initial thinning (individual tree selections as opposed to row thinning) will be conducted when stands are 12 to 19 years old or when basal area exceeds 110 ft^2/acre for slash pine and 120 ft^2/acre for loblolly and harvest volumes are greater than 22 tons per acre. Targeted residual basal area after initial thinning is 70 ft^2/acre. Intermediate thinning (individual tree selections) will be conducted when stands are 20 to 26 years or when basal area exceeds 100 ft^2/acre and harvest volumes are greater than 22 tons per acre. Targeted residual basal area after intermediate thinning is 50 ft^2/acre. The District has established a default three-year burn cycle that can be adjusted based on the recommendation of the regional forest operations. The initial burn should be scheduled after 15 years of establishment.

3.5.3 Invasive/Exotic Species Management

A wide variety of non-native species inhabit the natural communities of Florida. The District's management approach directly affects invasive species and provides mechanisms to prevent their persistence and spread to surrounding areas. Appendix F provides a list of potential Category I and II plant species on District-owned lands.

To protect District-owned lands from the potential spread of invasive/exotic vegetation, staff utilizes a "Come Clean, Leave Clean" standard for all contractual work. All equipment used on District-owned lands must be free of Florida Exotic Pest Plant Council Category I and II invasive exotic material.

3.5.4 Forest Pest Management

Forest pest management on District-managed lands is primarily accomplished by maintaining healthy vigorous stands with the appropriate species for the site. Healthy vigorous stands are less likely to suffer from epidemic outbreaks of damaging pests and pathogens than stands that are stressed by lack of

nutrients or overstocked conditions. As part of their regular duties, District foresters and other land managers keep an eye out for forest pest infestations or outbreaks and take appropriate actions as needed.

3.5.5 Vegetation Management and Fuel Loading

The District actively manages understory vegetation for fuel loadings using three distinct control methods: mechanical, chemical, and prescribed fire. In communities that were historically fire adapted, the District utilizes prescribed fire as the foremost method to control understory vegetation. When prescribed fire is not suitable or circumstances exist that preclude the use of prescribed fire, the District utilizes mechanical or chemical measures to maintain the fuel loads so prescribed fire can be used. All vegetative management methods will consider Condition Class guidelines.

The District's prescribed fire practices address fuel load management. To prevent an over-accumulation of fuels, the District aims to burn stands within the preferred burn cycle per Condition Class as identified in the events management system and prescribed by the regional forester. Undesirable tree/shrub species often require management through mechanical treatments such as mowing and chopping, timber stand improvement, and hand clearing. These techniques may be used in areas that have high fuel loading and/or are adjacent to smoke sensitive zones. Fuel load management promotes the ecological functions of the natural community and prevents catastrophic wildfires.

When chemical herbicide operations are conducted on District-owned lands, applicators are required to follow all federal, state, and local regulations. No chemical herbicide applications will exceed the labeled rates on the herbicide containers. At a minimum, all mechanical operations must follow silviculture BMPs.

3.5.6 Prescribed Burning

Fire is a vital factor in managing the character and composition of vegetation in many of Florida's natural communities. The District's primary use of fire is to manage fuel loading to reduce wildfire risks and competition for nutrients. It also mimics natural fire regimes and encourages the proliferation of native pyric plant communities and dependent wildlife. Additionally, the application of fire aids in the reduction of fuels and minimizes the potential for catastrophic and damaging wildfires. Most of the upland communities on District-owned lands are fire adapted, making prescribed fire the primary tool for use in the restoration and maintenance of plant communities. Forest and fire management activities within District-owned lands are linked. The coordinated implementation of forest and fire management activities is necessary to achieve management objectives.

The District has developed a model to optimize burn scheduling, based upon the modeling cycle and operational efficiency, to bring District-owned lands into compliance with the preferred burn cycle. Acres that are out of compliance have a higher cost to attain the preferred burn cycle due to the need for mechanical or chemical intervention prior to burning. From this modeling effort, a 10-year plan was developed to get all District-owned lands into and maintained in its preferred burn cycle. To accomplish this, the District proposes to burn/treat between 4,500 and 12,000 acres annually.

Burning will occur on District lands either in the dormant season or the growing season. Growing season burns are preferred since they provide a better kill on hardwood root systems; this is important if the

management objective is to move the forest to predominantly pine. Dormant season burns may have the same effect in some cases, but normally they only "top-kill" the hardwoods, leaving the roots to re-sprout.

Since the District is moving toward a pine forest ecosystem, the growing season burns are the most effective and will be utilized whenever possible. Based on the burn objectives, the District has made significant strides in returning regular growing season burns to the landscape. The District will continue to implement growing season burns where possible, understanding that constraints related to young pine stands, high fuel loadings, organic soils, and proximity to smoke sensitive areas may require the use of dormant season burns in some cases. The District uses contractors and in-house resources to implement prescribed burns.

Smoke management is a primary consideration and all burns are conducted to minimize off-site impacts by maneuvering smoke plumes away from smoke sensitive areas and by ensuring adequate smoke dispersal. While prescribed fire is the preferred tool for managing, restoring, enhancing, and maintaining natural communities, alternative methods are sometimes necessary. As such, the District uses selective herbicide treatments, silvicultural thinning, mowing, mulching, and roller chopping in combination with fire as part of an integrated approach to restoring, creating, and maintaining appropriate Condition Class desired conditions.

3.6 Public Use Management

District-owned lands provide an extensive set of resource-based recreational opportunities. These public uses take into account the protection of important natural resources, the proximity of similar recreational opportunities, the time and financial requirements to meet recreational standards, and public demand for the particular use pursuant to Sections 373.251, 373.3001, and 379.104 F.S.. Typically, the location, physical condition, and resource sensitivity of a particular tract determines its recreational level of development in one of the following public use classifications: passive, primitive, general, or featured. The District strives to ensure that recreational facilities are compliant with the provisions of the Americans with Disabilities Act, wherever feasible.

Periodic inspections of these facilities are required to ensure the safety, maintenance, and longevity of each facility. District staff have established the following general guideline restrictions for recreational users of District-owned lands.

- District lands are open during daylight hours every day (unless otherwise posted, i.e., authorized by permit only).
- Possession and consumption of alcoholic beverages is prohibited on the Perdido River and Econfina Creek WMAs, in the Holmes Creek Unit of the Choctawhatchee River WMA, and in the Lower Chipola River WMA (Altha Tract).
- ATVs and non-street-legal vehicles are prohibited.
- Dumping of trash and littering is prohibited.

- Pets must be kept on a leash; no free-roaming dogs (unless otherwise authorized).
- The possession of firearms or other similar devices must comply with Chapter 790, F. S.
- Removal or disturbance of trees, plants, soil, minerals, or cultural resources is prohibited.

3.7 District Project Prioritization and Development

As indicated previously, a strength of the District is the development of effective partnerships and cooperative relationships with other governmental and private organizations with complementary functions and authority. As a result, potential projects can come from a variety of entities including individual citizens, organized user groups, and local governments, as well as various potential funding sources. These projects are typically developable if the net result protects existing resources in particular water resources. The District works with its managing partners during the design and development of the project.

Project proposals are evaluated to determine if they meet the overall mission of the District to protect water resources and if the project increases or protects public access. In addition, the project proposal is evaluated against the District's strategic priorities as outlined in the *District's Strategic Water Management Plan.* These priorities are accomplished through coordinated activities within each of the agency's major divisions: Land Management and Acquisition, Resource Management, Regulatory Services, and Administration. All projects are reviewed by the Board from a budgetary standpoint, particularly, if the proposal is sensitive in nature, requires the use of or potential impact to regional resources, or necessitates District staffing, maintenance, or other District financial obligations.

3.8 Historical and Archaeological Resources

The District provides protection and preservation for known historical resources on District lands. For improvements and management practices other than forest management practices, the District will provide the DHR with reasonable opportunity to comment on site improvement activities on state-owned or District-owned lands.

Chapters 267 and 872, F.S., provide protection for historical resources and unmarked burials. In the event that historical features or artifacts are encountered during project activities, finds will be reported to the DHR. At the direction of and the expense of DHR, newly discovered sites will be recorded in the Florida Master Site File (FMSF). Human remains from individuals who have been deceased over 75 years are protected under Section 872.05, F.S. In the event that human remains are inadvertently discovered, District personnel are trained to follow procedures outlined in Section 872.05, F.S., notifying the local district Medical Examiner and the office of the State Archaeologist at DHR.

3.9 Asset Management

The District has developed an Asset Management Database (GIS database) to inventory and track District assets. The Asset Management Database is for non-timber assets such as, roads, culverts, fences, gates,

and campsite amenities. The database allows for the recording and reporting of maintenance issues and projects, such as public recreation improvements. As the Asset Management Database is further developed, District staff will use the database to assess the level of effort and budgetary requirements to maintain, repair, and construct District assets and District management will be provided information via dashboard.

4 Central Region

This section is a description of the Central Region and provides details for the Econfina Creek and Choctawhatchee River & Holmes Creek WMAs. Each WMA section describes natural and cultural resources, resource management philosophies, management actions and strategies, and current and upcoming project activities.

4.1 Description of the Central Region

4.1.1 Central Region Characteristics

The Central Region includes two major watersheds: Choctawhatchee River and Bay Watershed and St. Andrews Watersheds. The District's Central Region landholdings comprise 103,317 acres or slightly less than 50% of all District-owned lands and includes lands in Walton, Washington, Bay, Holmes and Jackson counties (Figure 4-1, Appendix A). Further, the Central Region accounts for 87% of all uplands managed by the District. Of the District-owned lands within the Central Region, 59,895 acres or 57% are floodplains, 43,061 acres or 42% are uplands, and 361 acres or 1% are open acres (Table 4-1).

Table 4-1 Central Region Lands by WMA and Generalized Forest Type

Central Region WMA	Total Acres[(a)]	Upland Acres	Floodplain Acres	Open Acres
Econfina Creek	42,138	31,763	10,158	217
Choctawhatchee River & Holmes Creek WMA	61,179	11,298	49,737	144
Central Region Totals	103,317	43,061	59,895	361

Source: Data originated from the District's geodatabase: acreage is calculated using UTM [Universal Transverse Mercator Zone] 16N.
Note: (a) Data sourced from District land acquisition table circa Summer 2021 and should be considered approximate and not authoritative.

Together, these two WMAs illustrate the diversity in the types of resources present and management required. For instance, the Econfina Creek WMA is represented primarily by uplands and open acreage, while the Choctawhatchee River & Holmes Creek WMA are primarily associated with floodplains.

Other publicly owned and conservation lands represent a significant portion of lands within the region including the Pine Log State Forest (FFS), which is Florida's oldest state forest. The region contains the St. Andrews Aquatic Preserve managed by FDEP's Office of Resilience and Coastal Protection, Aquatic Preserve Program. Parks include Ponce de Leon Springs State Park and Camp Helen State Park. Local government-maintained parklands and other state, federal, and private conservation lands are also located within the Central Region. Another local conservation effort is the South Walton County Ecosystem project – one of the largest natural areas on the northern Gulf coast. This project includes the majority of the undeveloped lands in Walton County south of the Choctawhatchee Bay and links three state parks

(Topsail Hill, Grayton Beach and Deerlake) as well as the Point Washington State Forest (FFS) to protect several rare plants and animals.

4.1.2 Hurricane Michael Impacts

Hurricane Michael was a category 5 storm (on the Saffir-Simpson Hurricane Wind Scale) that made a catastrophic landfall in Bay and Gulf County, Florida, producing devastating winds and storm surge near the coast, and rain and wind inland. It was directly responsible for 16 deaths and about $25 billion in damage in the United States. (National Hurricane Center 2018).

In Florida, nearly 47% of land, or approximately 16.96 million acres, is forestland cover. Of the forestland cover, 49% is pine, 45% is hardwood or mixed hardwood-pine, while 6% is cypress. These productive forests support a large forest products processing and manufacturing sector in the state, of which, a large proportion is clustered in Northwest Florida. Hurricane Michael's winds caused catastrophic damage on North Florida's forest industry. Nearly 347,000 acres of productive forest were destroyed by the Category 3 and 4 winds, with losses ranging between 90% and 100%. An additional 1 million acres of forestland experienced severe damage due to high wind speeds, with losses around 75%. Another 1.4 million acres experienced tropical storm force winds, with estimated losses of 15%. Salvaging fallen timber in these conditions is extremely challenging. Fallen trees blocked road access throughout rural areas, making transportation of timber and equipment a challenge. Several mills that could have been used to process the salvaged timber sustained heavy damage and were operating at a portion of their capacity. Timber losses will have unexpected consequences across the rural economies of the impacted region. Several farmers (growing crops other than timber) use their timber stands as collateral for loans used to operate their farms, and many people in the area use their timber stands as a safety net or a savings/retirement plan. In all, total losses to the timber stock are estimated at $1,289,023,465 (FDACS 2018).

Forest resources within the Econfina Creek WMA sustained significant damage in the wake of Hurricane Michael. The majority of sand pine and longleaf pine stands, across multiple age classes, were impacted beyond the point of being a viable stand. Given this and the damage sustained elsewhere, the District and FDEP worked collaboratively to: 1) salvage timber across hundreds of upland acres (as of Summer 2021), 2) initiate the restoration of upland habitat, and 3) clear miles of rivers and creeks obstructed by downed woody debris. These restoration efforts will continue within areas that sustained damage from Hurricane Michael.

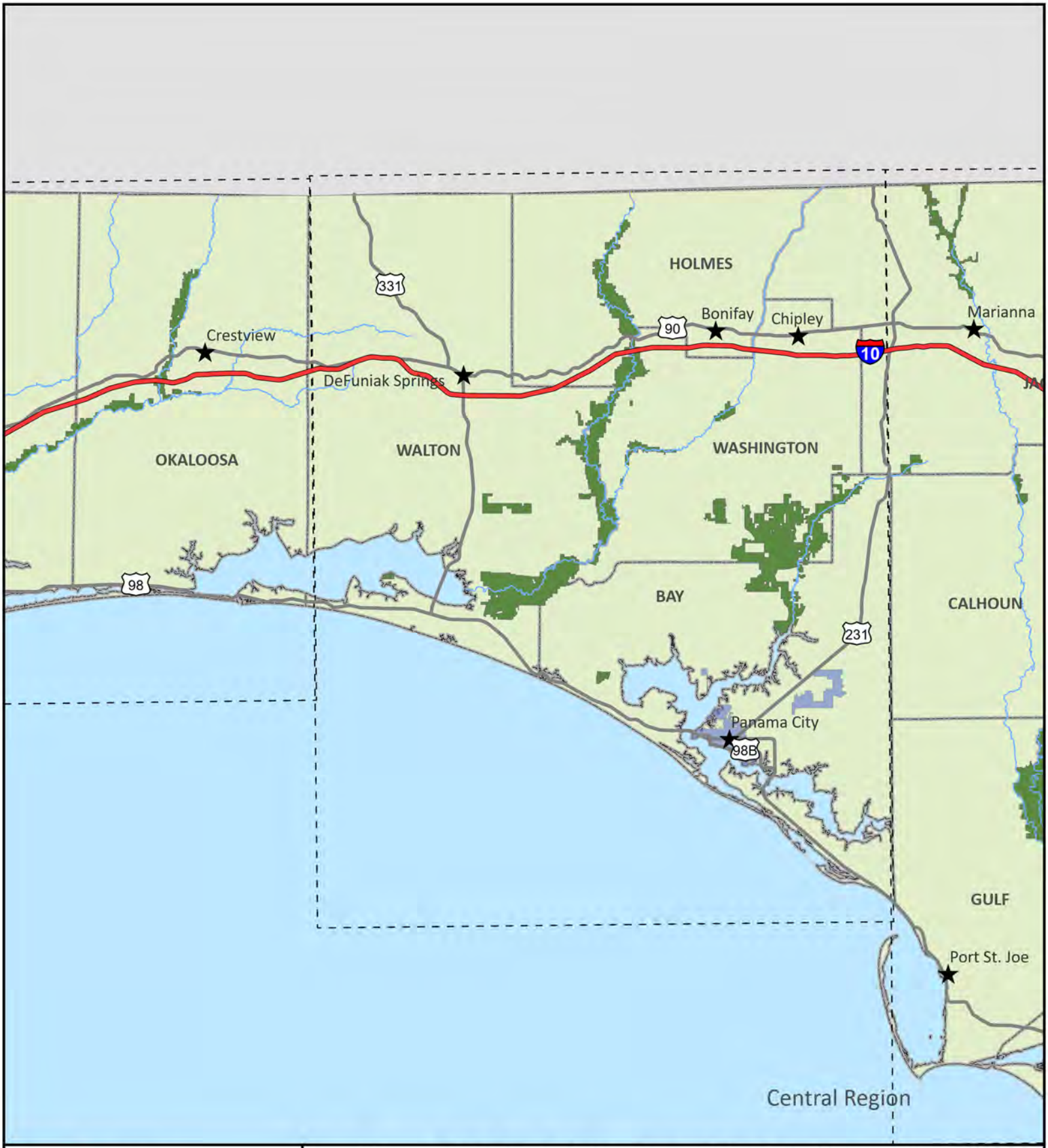


Figure 4-1 Central Region of the Northwest Florida Water Management District

4.2 Econfina Creek WMA

The District manages the Econfina Creek WMA (Figure 4-1), which encompasses most of the groundwater contribution area for springs contributing to Econfina Creek and Deer Point Lake Reservoir, as well as the Sand Hill Lakes. The Econfina Creek WMA contains a total of 42,138 acres, of which 24% are classified as floodplains (along the Econfina Creek) while 75% of the WMA is considered upland (Figure 4-1).

Econfina Creek is a spring-run stream draining a combined surface water basin and groundwater contribution area of approximately 168,000 acres. As described above, Econfina Creek includes 11 major separate springs or spring groups and has a sandy bottom with exposed limestone in places. As the primary tributary to Deer Point Lake Reservoir, the creek is a Class I waterbody. The creek includes designated critical habitat for the endangered Gulf moccasinshell (*Medionidus penicillatus*) and oval pigtoe (*Pleurobema pyriforme*), and may also support the endangered shinyrayed pocketbook (*Lampsilis subangulata*).

4.2.1 Property Resources

This section provides descriptions of the natural and cultural resources present in the Econfina Creek WMA.

4.2.1.1 Physiographic Features

The Econfina Creek WMA lies within the Coastal Plain province, which is a broad belt of primarily unconsolidated sand, silt, and clay. In the Florida panhandle, the Coastal Plain physiographic province is divided into two divisions, the Western Highlands and the Gulf Coastal Lowlands. The division results from past events where ancient seas eroded the Citronelle Highlands (Western Highlands) and produced the Coastal Plain. The Western Highlands slope subtly to the south to the Gulf Coastal Lowlands, which are generally less than 50 to 100 feet (ft.) above mean sea level (amsl). The Econfina Creek drainage cuts through the eastern portion of the Western Highlands into the Gulf Coast Lowlands. The break between Citronelle Highlands and the Gulf Coastal Lowlands, as subtle as it may seem, is quite obvious within the Econfina Creek WMA south of the Bay-Washington County line where the sand hills and Karst topography giver way to flatter, less well-drained land north of the St. Andrew Bay system. Econfina Creek drains into the St. Andrew Bay system via North Bay and what is now Deer Point Lake.

4.2.1.2 Unique or Important Natural or Physical Features

The Econfina Creek WMA contains many unique wetland and upland habitats in the state of Florida. Econfina Creek contains spring run streams and limestone bluffs which are the focal point of this WMA. The surrounding sand hills and lakes provide the water that recharges the limestone aquifer that feeds the springs in Econfina Creek. Other habitats include pine flatwoods, mix pine hardwood uplands, cypress ponds, steephead ravines, and bottom land hardwood forests. Econfina Creek is also the primary source for drinking water for Bay County and its municipalities.

4.2.1.3 Threatened and Endangered Species

Listed species documented in the Econfina Creek WMA include: gopher tortoise (*Gopherus polyphemus*), pine snake (*Pituophis melanoleucus*), toothed savory (*Calamintha dentata*), Baltzell's sedge *(Carex baltzellii),* three-leaved sundew *(Drosera filiformis),* smoothbark St. John's wort (*Hypericum lissophloeus*), Coville's rush (*Juncus gymnocarpus*), mountain laurel (*Kalmia latifolia*), Godfrey's blazing star (*Liatris gholsonii*), Gulf Coast lupine (*Lupinus westianus*), Ashe's magnolia (*Magnolia ashei*), pyramid magnolia (*Magnolia pyramidata*), Crystal Lake nailwort (*Paronychia chartacea var. minima*), small-flowered meadowbeauty (*Rhexia parviflora*), mock pennyroyal (*Stachydeoma graveolens*), silky camelia (*Stewartia malacodendron*), quillwort yellow-eyed grass (*Xyris isoetifolia*), and karst pond xyris (*Xyris longisepala*).The District recognizes the importance of these species and is committed to accommodating these species when making management decisions.

4.2.1.4 Non-Native Invasive Species

Non-native invasive species found within the Econfina Creek WMA include Japanese climbing fern *(Lygodium japonicum),* Chinese Tallow *(Triadica sebifera),* Cogongrass *(Imperata cylindrica),* Mimosa *(Albizia julibrissin),* and feral hog *(Sus scrofa).*

4.2.1.5 Archaeological and Historical Resources

Four (4) resource groups, one (1) cemetery and one (1) standing structure are recorded on the Econfina Creek WMA according to the FMSF records (Appendix G). The prehistoric archaeological record for northwest Florida began between 10,000 and 12,000 years ago and indicates that prehistoric aboriginal populations were present until the time of contact with Spanish explorers in the sixteenth century. While the Paleoindian Stage is not well represented in the project area, the Archaic, Woodland, and Mississippian stages are represented by thousands of archaeological sites located throughout the Panhandle region (Panamerican Consultants, Inc. 2006). Econfina Creek was one of a few areas between Pensacola and Apalachicola that were focal points for rural homesteads and early agricultural development by the 1820s. (Panamerican Consultants, Inc. 2006).

Nineteen archaeological and historical surveys have been conducted in the Central Region which includes the Econfina Creek WMA. The manuscripts are on file at the FMSF and copies are available to the District. Staff are to be familiar with surveys and recorded resources in the Econfina Creek WMA and will assist the Department of State's Division of Historical Resources in recording newly identified resources with the FMSF.

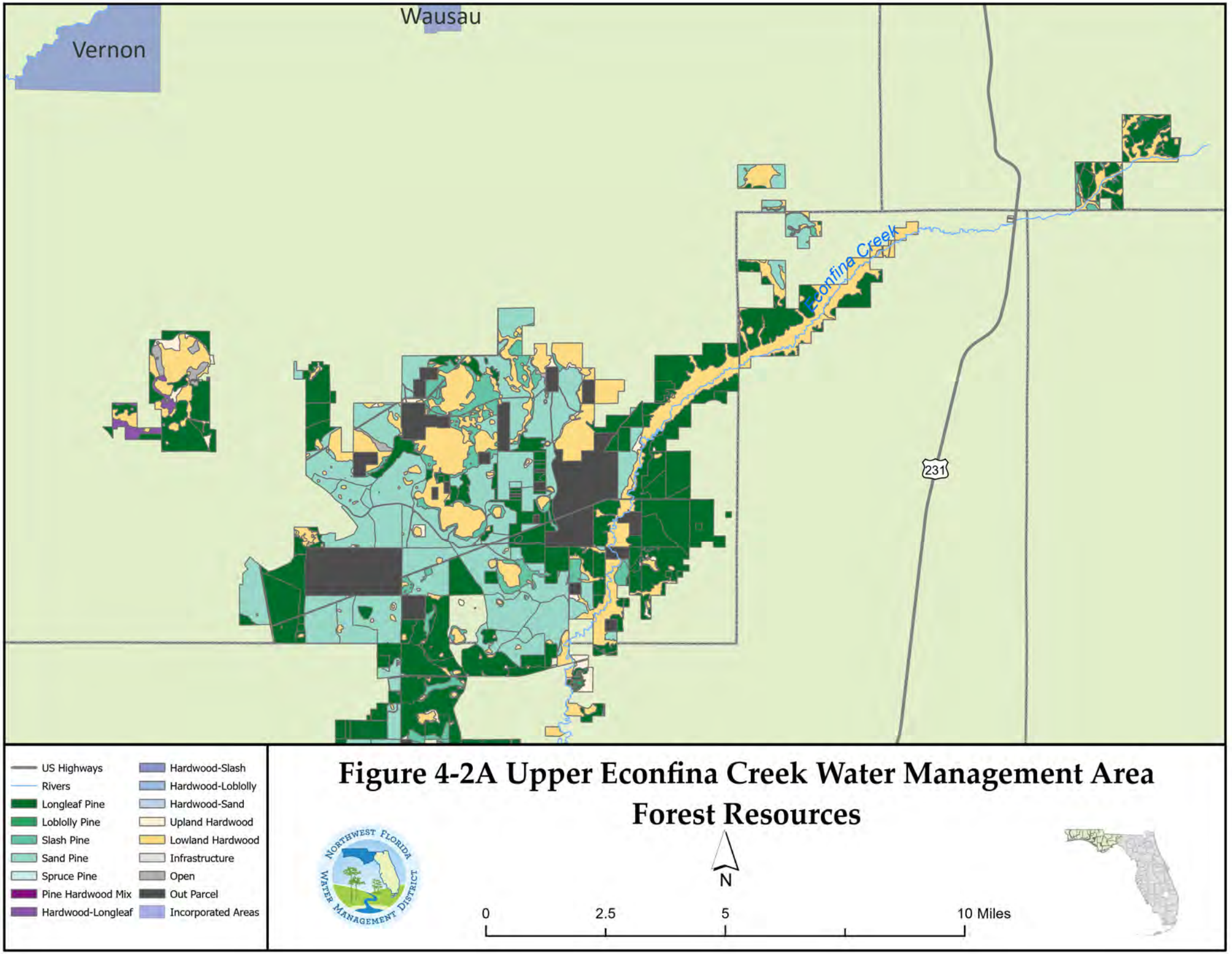
4.2.1.6 Forest Resources

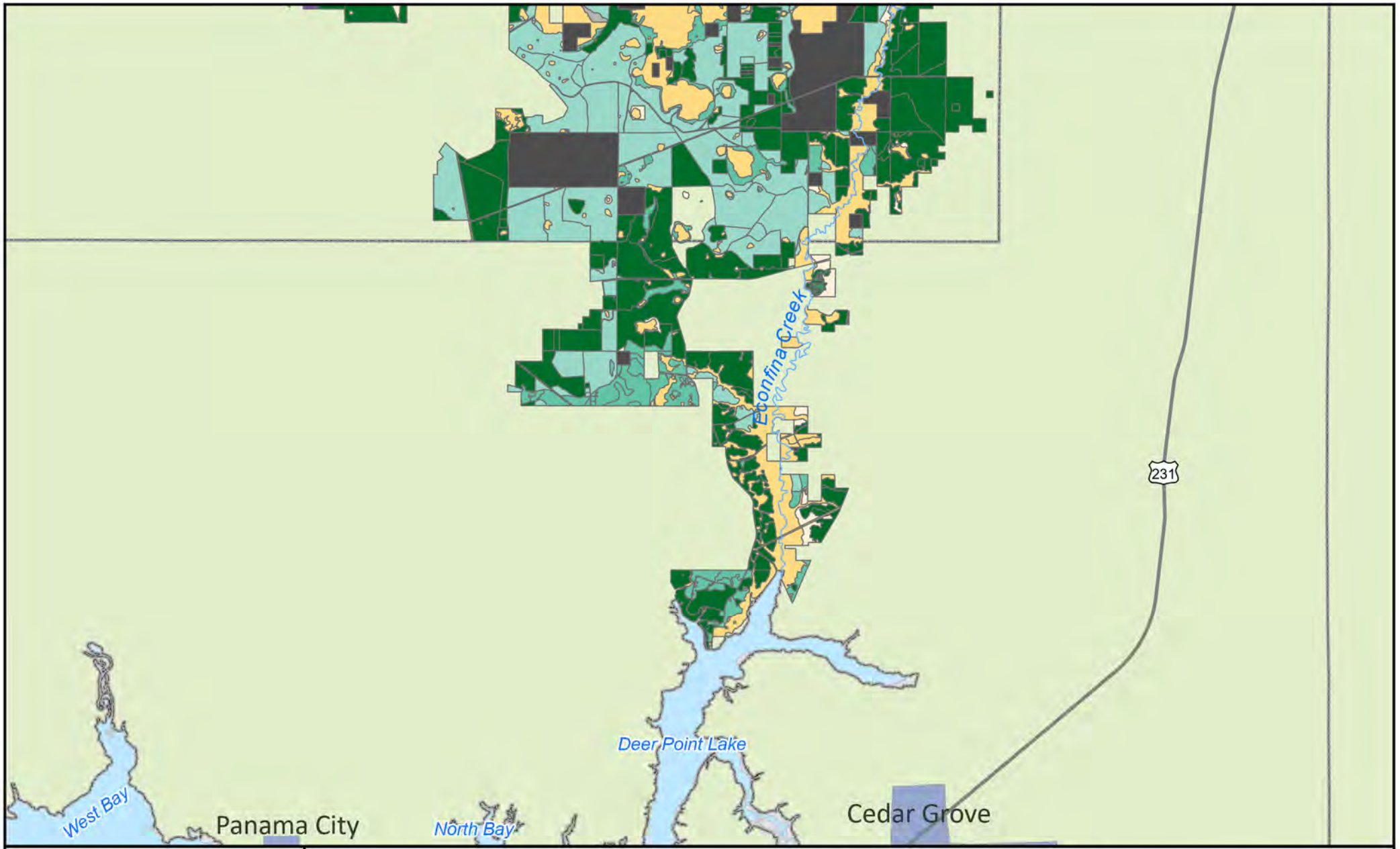
The Econfina Creek WMA is primarily focused on uplands protection. The forested resources of the Econfina Creek WMA are dominated by upland forested communities (75%) (Table 4-2; Figures 4-2A and 4-2B).

Table 4-2 Forest Resource Type, Acres, and Percent within the Econfina Creek WMA

Forested Community	Acres[(a)]
Lowland Hardwood	10,158
Slash Pine	3,297
Sand Pine	11,650
Loblolly Pine	38
Upland Hardwood	711
Hardwood-Longleaf	189
Longleaf Pine	15,879
Non-Forest	217
Total	**42,138**

Source: Data originated from the District's geodatabase: acreage is calculated using UTM [Universal Transverse Mercator Zone] 16N.
Note: (a) Data sourced from District GIS layers circa Fall 2019 and should be considered approximate and not authoritative.


Vernon
Wausau
Econfina Creek
231
US Highways
Rivers
Longleaf Pine
Loblolly Pine
Slash Pine
Sand Pine
Spruce Pine
Pine Hardwood Mix
Hardwood-Longleaf
Hardwood-Slash
Hardwood-Loblolly
Hardwood-Sand
Upland Hardwood
Lowland Hardwood
Infrastructure
Open
Out Parcel
Incorporated Areas
Figure 4-2A Upper Econfina Creek Water Management Area
Forest Resources
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
N
0
2.5
5
10 Miles



US Highways
Rivers
Longleaf Pine
Loblolly Pine
Slash Pine
Sand Pine
Spruce Pine
Pine Hardwood Mix
Hardwood-Longleaf
Hardwood-Slash
Hardwood-Loblolly
Hardwood-Sand
Upland Hardwood
Lowland Hardwood
Infrastructure
Open
Out Parcel
Incorporated Areas

Figure 4-2B Lower Econfina Creek Water Management Area Forest Resources

N

0 2.5 5 10 Miles

4.2.1.7 Soils

Soils in the Econfina Creek WMA have been identified according to the CRIFF system, which is described in Section 3.2.5. The Econfina Creek WMA soil group(s) are summarized in Table 4-3 and illustrated on Figures 4-3A and 4-3B.

Table 4-3 CRIFF Soils and Acreages on the Econfina Creek WMA

CRIFF Soil Group	Drainage	Important Feature	Acreage
A	Very poor to somewhat poor	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.	1,731
B	Very poor to somewhat poor	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.	6,140
D	Poor to somewhat poor	Spodic horizon below the surface layer. Sand to loamy sand soil horizon below the spodic horizon.	1,954
E	Moderate to Well	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.	163
F	Moderate to Well	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.	1,218
G	Excessive	Sand to loamy sand surface layer at least 100 inches thick.	26,744
H	Very Poor	High in decomposing plant residues, often an organic soil.	1.377
X	Not Classified	Bottomland areas subject to prolonged or frequent inundation and/or highly altered/manipulated areas	2,811
Total			**42,138**

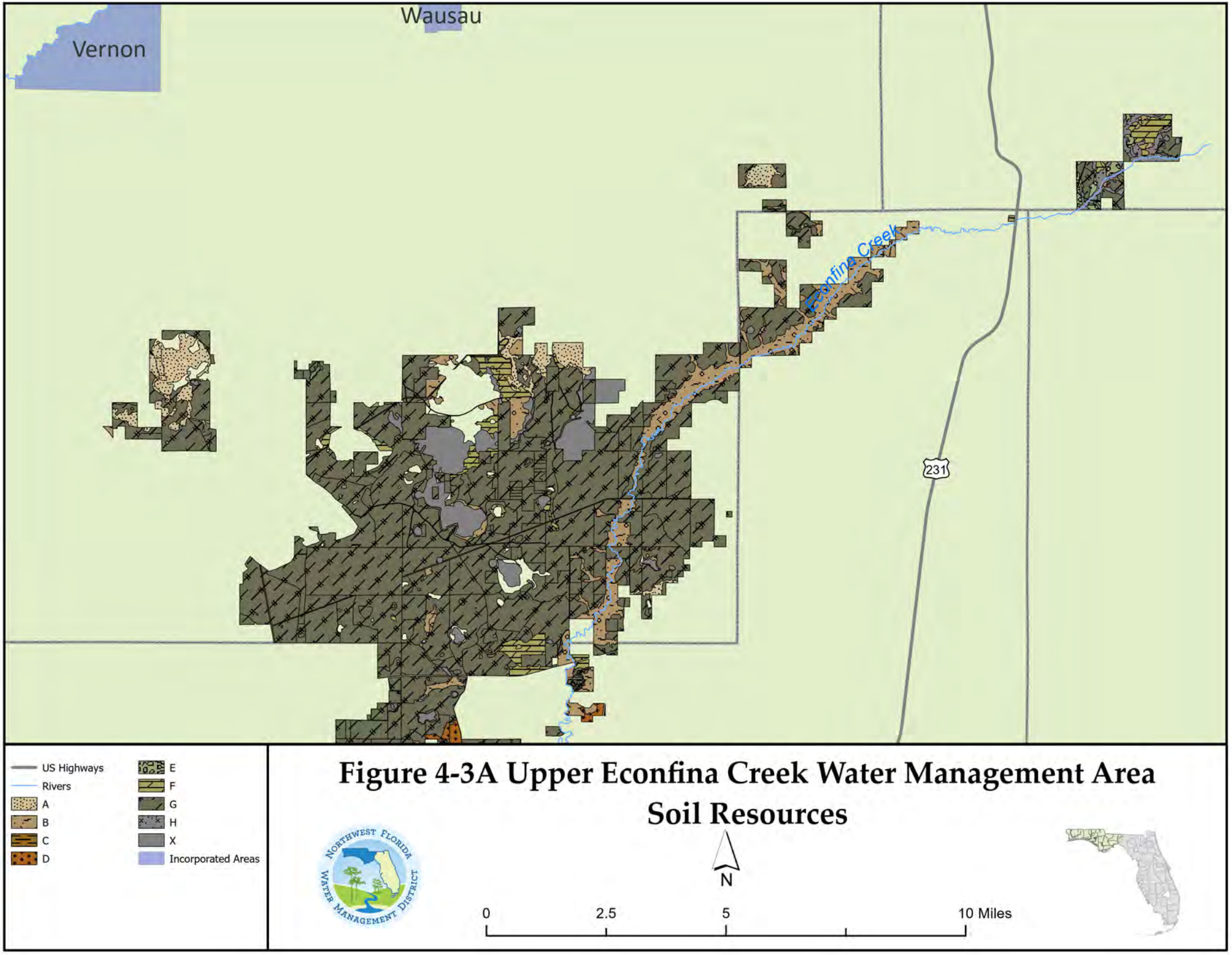


Figure 4-3A Upper Econfina Creek Water Management Area Soil Resources

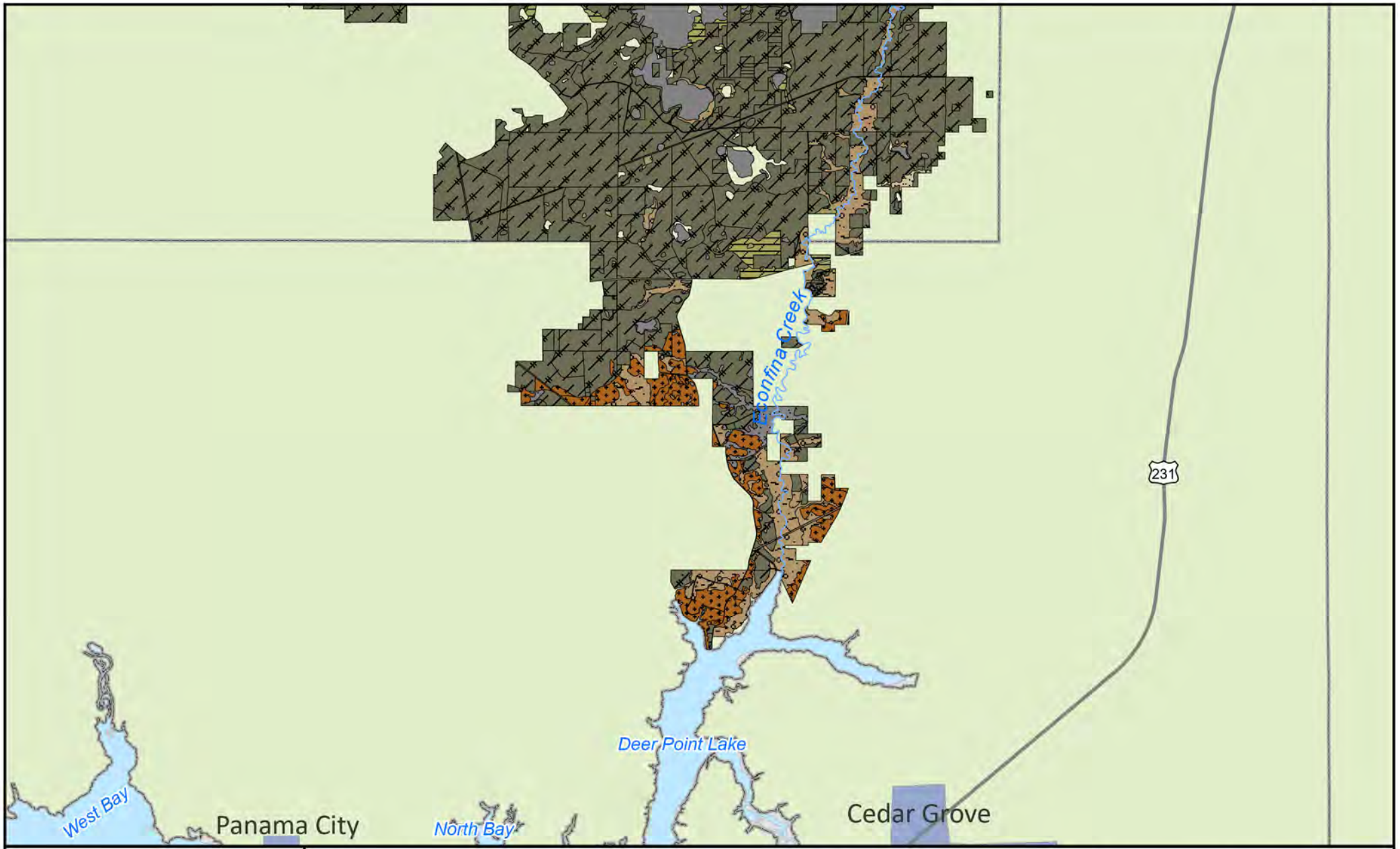


Figure 4-3B Lower Econfina Creek Water Management Area Soil Resources

4.2.1.8 Public Recreation

The Econfina Creek WMA contains sloughs, creeks, sand hill lakes, and springs. Recreational opportunities include hunting, fishing, camping, picnicking, hiking, boating, paddling, horseback riding, swimming and wildlife viewing. There are several developed recreation sites in the Econfina Creek WMA as described below and shown on Figures 4-4A and 4-4B. An eighteen-mile portion of the Florida National Scenic Trail (FNST) traverses the area and is open to hikers year-round. The Econfina Section of the FNST is widely considered as the "most beautiful in the entire state of Florida." This part of the FNST also features two 60-foot suspension bridges called Fender Bridge and Two Penny Bridge. Camping is available at the hike-in campsites. The primitive campsites do not have power, water, or waste disposal hookups. Seasonal hunting opportunities are allowed on the WMA as well as mobility impaired quota hunts. Information on these can be obtained by visiting the FWC website: myfwc.com.

Blue Spring Recreation Area features pavilions, pedestal grills, fire rings, and portable toilet. Blue Springs is a day-use only area and is open year-round from 8 AM to sunset. Three campsites for overnight camping are available by reservation only. Each campsite can accommodate a maximum of eight (8) people and two (2) vehicles. Motorized vehicles allowed on designated roads only. Recreational opportunities include camping, RV's, picnicking, fishing, paddling, hiking, swimming, and wildlife viewing.

Devil's Hole Recreation Area features picnic tables, grills and a portable toilet. The recreation area also contains a single campsite which includes a picnic table, fire ring, and a grill. The campsite available by reservation only. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, picnicking, swimming, and wildlife viewing.

Econfina Canoe Launch features a canoe launch and parking area. This recreation site is a day-use only area and is open year-round 8 AM to sunset. Motorized vehicles are only allowed on designated roads. Recreational opportunities at this site include fishing, paddling, and wildlife viewing.

Fitzhugh Carter Tract (also known as the Sand Hill Lakes Mitigation Bank) features special fishing and quota hunt opportunities. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, hiking, bicycling, wildlife viewing, and seasonal hunting.

Hammock Lake features a designated boat landing. Motorized vehicles are only allowed on designated roads. Recreational opportunities at this site include boating, fishing, paddling and wildlife viewing.

Longleaf Recreation Area features a picnic table, fire ring, and a pedestal grill. The recreation area has a tent-only campsite available by reservation only. The campsite can accommodate a maximum of eight (8) people and two (2) vehicles. The primitive campsite does not have power, water, or waste disposal hookups. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, picnicking, fishing, paddling, hiking, and wildlife viewing.

Pine Ridge Equestrian Trail features around 15 miles of trails throughout the Econfina Creek WMA. Parking is available for vehicles towing horse trailers at Pine Ridge Campground (off Greenhead Road).

Pine Ridge Campground offers eight (8) campsites for use by reservation only with picnic pavilions, picnic tables, fire rings, pedestal grills, and a portable toilet. Day use is allowed with specified parking outside the campsite areas. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, RV's, picnicking, hiking, horseback riding, and wildlife viewing. Sections of trails will be temporarily closed due to ongoing hurricane recovery and habitat restoration projects.

Pitt and Sylvan Springs features a tube launch, picnic pavilions with grills, nature trail, and composting restrooms. Pitt and Sylvan Springs is a day-use only area and is open year-round 8 AM to sunset. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, swimming, fishing, tube launch, canoe launch, canoeing, hiking, and wildlife viewing.

Rattlesnake Lake North features a boat ramp, picnic pavilion, pedestal grill, fire ring, and portable toilet. Rattlesnake Lake North is a day-use only area and is open year-round 8 AM to sunset. Overnight camping is available at a single site by reservation only. This site can hold a maximum of 25 people. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, RV's, picnicking, boating, fishing, paddling, hiking, biking, and wildlife viewing.

Rattlesnake Lake South features a picnic pavilion, pedestal grill, fire ring, and portable toilet. Rattlesnake Lake South is a day-use only area and is open year-round 8 AM to sunset. Overnight camping is available by reservation only. The campsite can hold a maximum of 25 people. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, RV's, picnicking, boating, fishing, canoe launch, canoeing, hiking, biking, and wildlife viewing.

Scott Road Equestrian Trail features a parking area and 4.5 miles of horse trails. Motorized vehicles are only allowed on designated roads. Recreation opportunities include horseback riding, hiking, and wildlife viewing.

Seashell Recreation Area features a picnic table, pedestal grill, and a fire ring. Seashell Recreation Area is a small day-use area and is open year-round 8 AM to sunset. Seashell has one tent only campsite available by reservation only. The campsite can accommodate a maximum of eight (8) people and two (2) vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, picnicking, fishing, paddling, hiking, and wildlife viewing.

Sparkleberry Equestrian Trail features a parking area and 12 miles of horse trails. Motorized vehicles are only allowed on designated roads. Recreation opportunities include horseback riding and wildlife viewing.

Sparkleberry Pond features a campsite that contains a picnic pavilion, picnic tables, fire rings, pedestal grills, and a portable toilet. The campsite can hold a maximum of 50 people and is available by reservation. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, picnicking, boat launch, boating, fishing, paddling, hiking, horseback riding, and wildlife viewing.

Tom Johns Landing features a boat ramp, pavilion, picnic tables, fire rings, pedestal grills and a portable toilet. Four (4) campsites are available by reservation, of which two (2) are for tent-only (no RVs) camping, while the other two (2) can be used for tents, travel trailers, and RVs. (While RV camping is

allowed at the two sites, power, water, or waste disposal hookups are not available.) Each site can hold a maximum of eight (8) people. Day-use is permitted from 8 AM to sunset in the designated day-use area. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, RV's, picnicking, boat ramp, boating, fishing, paddling, and w ildlife viewing.

Tom Johns North features a picnic table and a pedestal grill. Tom Johns North is a day-use only area and is open year-round 8 AM to sunset. Motorized vehicles are only allowed on designated roads. Recreational opportunities include picnicking, fishing, paddling, and wildlife viewing.

Walsingham Camp Site features a picnic table, pedestal grill and a fire ring. Walsingham Camp is a day-use only area and is open year-round 8 AM to sunset. Primitive camping is available by reservation only. Motorized vehicles are only allowed on designated roads. Recreational opportunities include picnicking, fishing, paddling, hiking, and wildlife viewing.

Walsingham Park Recreation Area features a picnic pavilion, pedestal grill, fire ring, and portable toilet. The recreation area includes a small, paved canoe and kayak launch and a primitive camping and picnic area. Walsingham Park Recreation Area is a day-use only area and is open year-round from 8 AM to sunset. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, picnicking, fishing, paddling, hiking, and wildlife viewing.

White Oak Landing features a boat launch, pavilion, picnic tables, pedestal grills, fire rings, and a portable toilet. Three camping sites are available by reservation only. Each site can hold a maximum of eight (8) people. Though RV camping is permitted, no power, water, or waste disposal hookups are available. Day-use is permitted from 8 AM to sunset in the designated day-use areas. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, RVs, picnicking, boat ramp, boating, fishing, paddling, hiking, and wildlife viewing.

Whitewater Lake Recreation Area features a small canoe launch, screened pavilion, a picnic table, fire rings, pedestal grills, a dock, a portable toilet, and a reservable campsite. The campsite will hold a maximum of ten (10) people. Motorized vehicles are only allowed on designated roads. Recreational opportunities include camping, picnicking, boat launch, boating, fishing, paddling, and wildlife viewing.

Williford Spring is a day use only area that is open year-round 8 AM to sunset and features a canoe and kayak launch, three picnic pavilions, composting restrooms, a boardwalk system and a nature trail. Motorized vehicles are only allowed on designated roads. Recreational opportunities include swimming, picnicking, fishing, paddling, hiking, and wildlife viewing.

Wolf Pond Equestrian Trail features a parking area and 13.5 miles of horse trails. Motorized vehicles are only allowed on designated roads. Recreation opportunities include horseback riding and wildlife viewing.

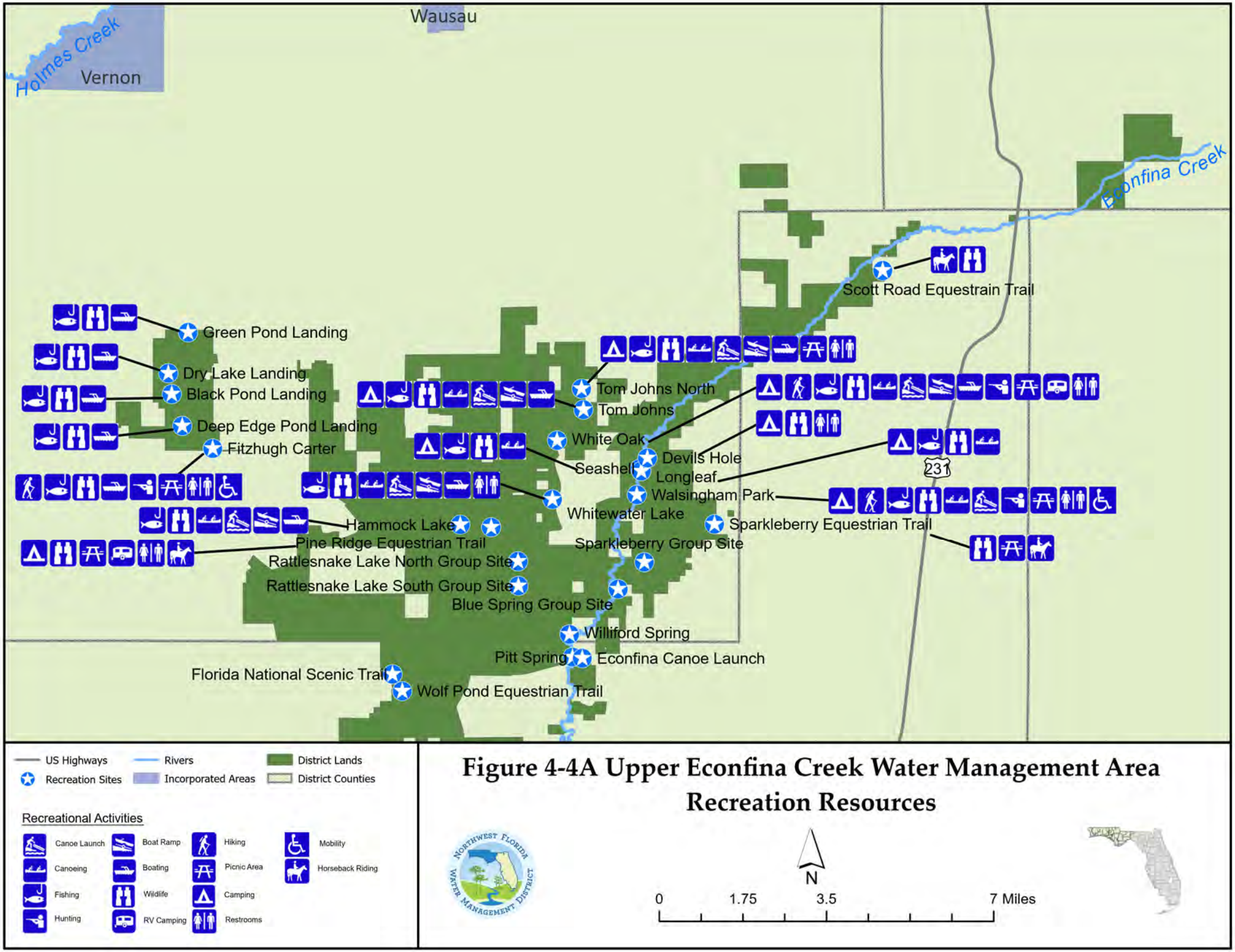


Figure 4-4A Upper Econfina Creek Water Management Area Recreation Resources

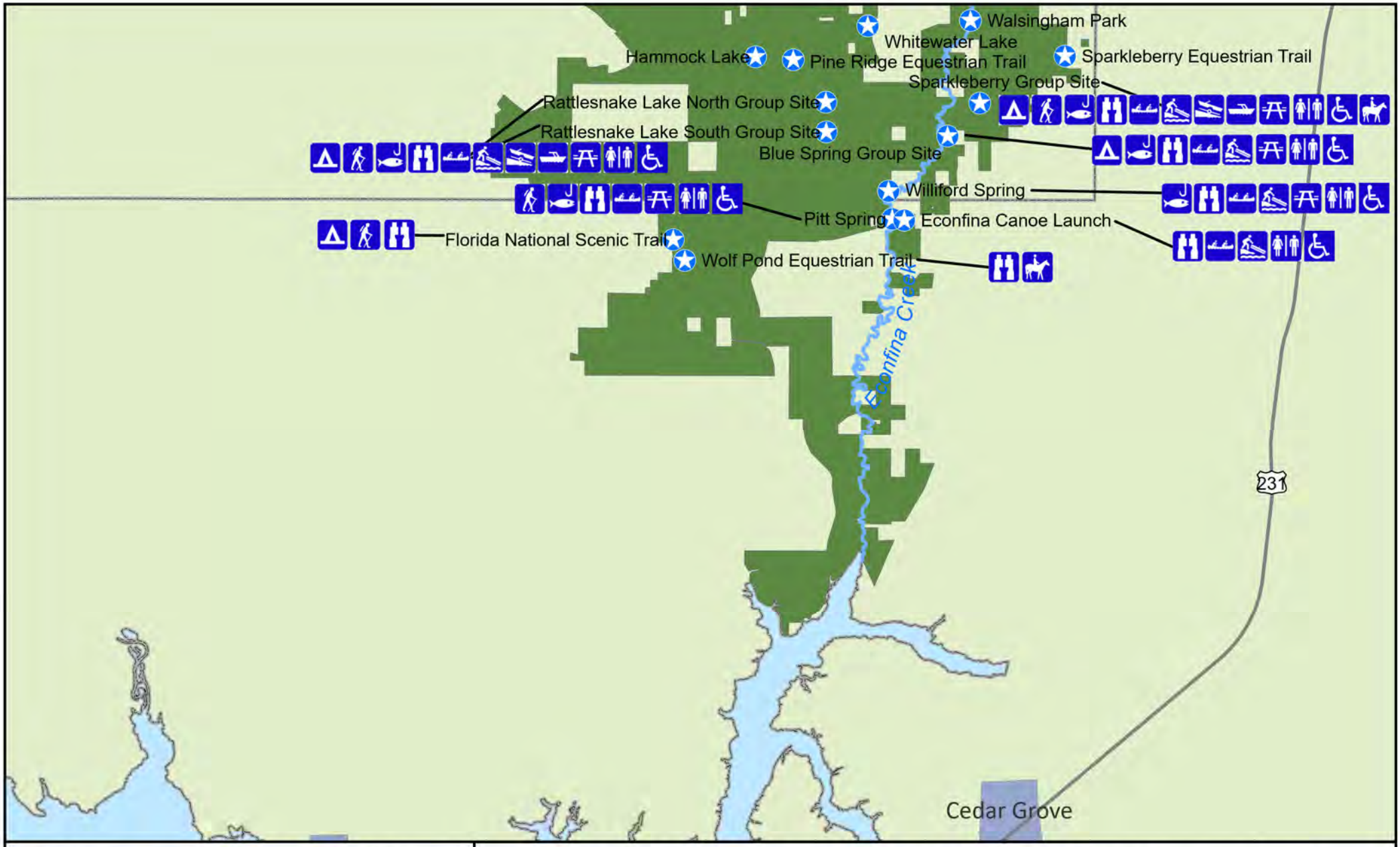


Figure 4-4B Lower Econfina Creek Water Management Area Recreation Resources

4.2.2 Resource Management Philosophy

The resource management philosophy for the Econfina Creek WMA is primarily focused on the protection and preservation of the existing natural resources specific to maintaining water quality, water quantity, and aquatic resources within the Econfina Creek and surrounding recharge area, as well as vegetation such as old growth trees of varying species and ground-cover species. The philosophy also encompasses protection of T&E species.

4.2.3 Management Actions and Strategies

The Econfina Creek WMA is predominantly associated with uplands but, does include 10,158 acres of floodplains acquired to protect the waters of Econfina Creek. A brief description of primary management actions and strategies and how they correlate with the District's goals and objectives as identified in Section 2.3 are provided in Table 4-4.

Table 4-4 Management Goals, Objectives, and Current and Upcoming Projects and Contracts on the Econfina Creek WMA

District Goal	Program	District Objectives	Current and Upcoming Projects and Contracts
Water Resource Protection	Floodplain/Wetland Protection	▪ Protect surface and groundwater quality ▪ Protect groundwater recharge ▪ Protect floodplain functions ▪ Support water resource restoration	Spring Restoration/Enhancement – Blue Spring (RMD)
Resource Management	Forest Management	▪ Manage to attain an uneven-aged and vertically diverse forest; e.g., retain snags and dominant and/or old growth trees ▪ Reforest to protect water resources using appropriate tree species per CRIFF ▪ Maintain an accurate and current pine forest resource inventory ▪ Ensure commercial harvests optimize financial returns while protecting District water resources protection goals ▪ Ensure District lands are prescribe-burned in accordance with preferred burn cycles	▪ Reforestation – 951 acres of longleaf in January 2021 ▪ Reforestation – 2,274 acres of longleaf and slash pine in 2022 ▪ Econfina Creek 2021 Sand Pine Timber Sale – DeerPoint (21-004) ▪ Econfina Creek 2021 Sand Pine Timber Sale – Cedar Creek (21-005) ▪ Contract: Prescribed Burning ▪ In-House Prescribed Burning ▪ Sand Pine Eradication ▪ Timber Harvesting
Resource Management	Reforestation and Groundcover Restoration	▪ Reduce degradation of the existing native groundcover ▪ Observe grass, herbaceous, and shrub layers to determine if stand Condition Class is in/out of the accepted range ▪ Encourage the re-establishment of native groundcover species	

Table 4-4 Management Goals, Objectives, and Current and Upcoming Projects and Contracts on the Econfina Creek WMA

District Goal	Program	District Objectives	Current and Upcoming Projects and Contracts
Resource Management	Protection of Threatened and Endangered Species	▪ Protect listed species on District lands ▪ If a species is known to exist on District lands, implement appropriate BMPs ▪ On District-owned lands, the District will coordinate with the FWC and the USFWS and consider their recommendations for habitat management and monitoring regarding known locations of threatened and endangered (T&E) species prior to silviculture operations.	
Resource Management	Control of Invasive and Non-Native Plants and Animals	▪ Manage and eliminate invasive and non-native plants and animals to the degree possible through grants, public hunting, and herbicide application by District land managers.	▪ Beaver control ▪ Exotics control
Public Access	Recreation/Access Management	▪ Maintain parking areas, campsites, picnic areas, restrooms, kiosks, roads, bridges, and gates. ▪ Maintain current information on District website. ▪ Provide, maintain, and support an online reservation system for designated campsites.	▪ Contracts: Hurricane Debris Management Services ▪ Contract: Law Enforcement – Washington County Sheriff and FWC ▪ Contract: Portable toilets ▪ Campsite pavilion installation project ▪ Road improvements – Devils Hole Road ▪ Road improvements – Mabel Porter Road ▪ Seashell Recreation Area Improvements ▪ Hobbs Pasture Water Access and Day Use Area – proposed project

Key:
BMPs = best management practices.
CRIFF = Cooperative Research in Forest Fertilization.
FWC = Florida Fish and Wildlife Conservation Commission.
T&E = threatened and endangered.
WMA = water management area.

4.2.4 Special Resource Management Designations

In addition to the District's listed programs, several other management and monitoring programs occur within the Central Region, along Econfina Creek, and within/adjacent to the Econfina Creek WMA. These programs have been identified and are addressed as part of the *St. Andrews Bay SWIM Plan* and other long-term resource management plans (Table 4-5).

Table 4-5 Special Resource Designations and Programs within the Econfina Creek WMA		
Designation/Program	Description	Managing Agency
Watershed Management Planning	To achieve comprehensive and long-term success for Gulf restoration, The Nature Conservancy facilitated a community-based watershed management planning process in 2014 and 2015 along Florida's Gulf Coast for the following six watersheds: Perdido Bay, Pensacola Bay, Choctawhatchee Bay, St. Andrew and St. Joseph bays, Apalachicola to St. Marks, and the Springs Coast.	The Nature Conservancy
Florida Fish and Wildlife Conservation Commission - Fish and Wildlife Research Institute (FWC-FWRI) Long-term Monitoring (LTM)	The FWC-FWRI LTM program is a program designed to effectively assess the current status and future trends of fish species and environmental parameters in Florida's lentic and lotic systems. The primary mission of the program is to provide timely, accurate, and consistent fisheries independent data and analysis to fisheries managers for the conservation and protection of Florida's fisheries.	FWC/FWRI
Key: BMP = best management practice. WMA = water management area.		

4.3 Choctawhatchee River & Holmes Creek WMA

The Choctawhatchee River & Holmes Creek WMA extends for some 41 miles along the Choctawhatchee River in Bay, Holmes, Walton, and Washington counties, and includes approximately nine miles on Holmes Creek, south of Vernon. The Choctawhatchee River, the fourth largest river in the state of Florida in terms of flow (Fernald and Purdum 1998), is the main source of freshwater for the Choctawhatchee Bay.

The Choctawhatchee River & Holmes Creek WMA contains a total of 61,179 acres, of which the majority is classified as floodplains along the Choctawhatchee River & Holmes Creek (Figure 4-1).

4.3.1 Property Resources

This section provides descriptions of the natural and cultural resources present in the Choctawhatchee River & Holmes Creek WMA.

4.3.1.1 Physiographic Features

The Choctawhatchee River & Holmes Creek WMA lie within the Gulf Coastal Plain physiographic region, which is characterized by gently rolling hills, sharp ridges, prairies, and alluvial flood plains underlain by sediments of sand, gravel, porous limestone, chalk, marl, and clay. Within the Gulf Coastal Plain, the Florida portion of the watershed contains three localized physiographic regions: the Western Highlands, the Gulf Coastal Lowlands, and the River Valley Lowlands (USGS 2013).

The Western Highlands region is located across the northern portion of the watershed (including Holmes and northern Walton and Washington counties) and extends southward to its termination point at a relic escarpment located approximately 30 to 40 miles south of the Alabama-Florida state line. The Western Highlands are characterized by rolling hills, from 100 to over 300 feet above sea level, composed of Pliocene-Pleistocene delta deposits that are overlain by Pleistocene marine terrace deposits in the southern part of Walton County. Steepheads form in the Western Highlands where groundwater emerges from the base of a steep-walled bluff (USDA 1975). Steepheads form when groundwater begins to collect underground and flow along a gradient, causing erosion of the slope base and the beginnings of a groundwater fed stream in the underside of a hill (FNAI 2010).

The estuarine embayments of the watershed are located within the Gulf Coastal Lowlands region; a series of successively higher, parallel terraces rising from the coast. Terraces of the Gulf Coastal Lowlands formed during the Pleistocene Epoch (Great Ice Age) when fluctuating sea levels were associated with the growth and melting of ice caps. Dunes, barrier islands, beach ridges, and other topographical features were stranded inland as seas receded (USDA 1989). The River Valley Lowlands physiographic region follows the floodplain of the Choctawhatchee River and reflects Pleistocene sea level fluctuations including down-cutting, significant erosional features, and fluvial terraces (1989).

4.3.1.2 Unique or Important Natural or Physical Features

The Choctawhatchee River & Holmes Creek WMA encompasses a diversity of natural habitats including a broad floodplain forest of old growth bottomland hardwoods and at least 13 springs in numerous spring

fed tributaries. Additionally, the Choctawhatchee River & Holmes Creek WMA include upland pine, sandhill, flatwoods and mixed upland hardwoods forests.

4.3.1.3 Threatened and Endangered Species

Listed species documented in the Choctawhatchee River & Holmes Creek WMA include: gopher tortoise (*Gopherus polyphemus*), Barbour's map turtle (*Graptemys barbouri*), American alligator (*Alligator mississippiensis*), variable leaved Indian-plantain (*Arnoglossum diversifolium*), ciliate-leaf tickseed (*Coreopsis integrifolia*), mountain laurel (*Kalmia latifolia*), Ashe's magnolia (*Magnolia ashei*), Florida flame azalea (*Rhododendron austrinum*), small-flowered meadowbeauty (*Rhexia parviflora*), and silky camelia (*Stewartia malacodendron*). The District recognizes the importance of these species and is committed to accommodating these species when making management decisions. The USFWS has designated Critical Habitat within the boundaries of the Choctawhatchee River & Holmes Creek WMA for the southern kidneyshell (*Ptychobranchus jonesi*). The District cooperates with other agencies in managing this Critical Habitat area/unit.

4.3.1.4 Non-Native Invasive Species

Two of the most harmful non-native invasive species within the Choctawhatchee River & Holmes Creek WMA floodplains and wetlands are Japanese climbing fern *(Lygodium japonicum)* and feral hog (*Sus scrofa*). Japanese climbing fern is the most prevalent non-native invasive plant species in the Choctawhatchee River & Holmes Creek WMA. Japanese climbing fern spreads by spores, making it extremely difficult to control. Feral hogs may exacerbate the populations of Japanese climbing fern and other non-native invasive plants when soil is disturbed by their rooting and wallowing habits. Feral hog behavior also can cause erosion and increased sedimentation of water sources. Non-native invasive species found in upland habitats include Japanese climbing fern, Chinese Tallow *(Triadica sebifera)*, Cogongrass *(Imperata cylindrica)*, Chinaberry Tree *(Melia azedarach)*, Mimosa *(Albizia julibrissin)*, Chinese Privet *(Ligustrum sinense)*, and feral hog.

4.3.1.5 Archaeological and Historical Resources

Two (2) resource groups and one (1) bridge are recorded on the Choctawhatchee River & Holmes Creek WMA according to the FMSF records (Appendix G). The prehistoric archaeological record for northwest Florida began between 10,000 and 12,000 years ago and indicates that prehistoric aboriginal populations were present until the time of contact with Spanish explorers in the sixteenth century. While the Paleoindian Stage is not well represented in the project area, the Archaic, Woodland, and Mississippian stages are represented by thousands of archaeological sites located throughout the Panhandle region (Panamerican Consultants, Inc. 2006).

The Florida State Historic Preservation Officer has evaluated one (1) resource group (Louisville & Nashville Railroad - Bonifay) as Eligible for the NRHP. Nineteen archaeological and historical surveys have been conducted in the Central Region which includes the Choctawhatchee River & Holmes Creek WMA. The manuscripts are on file at the FMSF and copies are available to the District. Staff are to be familiar with surveys and recorded resources in the Choctawhatchee River & Holmes Creek WMA and

will assist the Department of State's Division of Historical Resources in recording newly identified resources with the FMSF.

4.3.1.6 Forest Resources

The Choctawhatchee River & Holmes Creek WMA is primarily focused on floodplain protection. The floodplain forested resources of the Choctawhatchee River & Holmes Creek WMA are dominated by lowland hardwood forested communities (81%) (Table 4-6; Figures 4-5A and 4-5B).

Table 4-6 Forest Resource Type, Acres and Percent within the Choctawhatchee River & Holmes Creek WMA

Forested Community	Acres[(a)]
Lowland Hardwood	49,737
Upland Hardwood	10
Hardwood-Slash	141
Hardwood-Loblolly	37
Pine-Hardwood Mix	7
Longleaf Pine	3,064
Loblolly Pine	3,780
Slash Pine	3,882
Sand Pine	151
Spruce Pine	227
Non-Forest	144
Total	**61,179**

Source: Data originated from the District's geodatabase: acreage is calculated using UTM [Universal Transverse Mercator Zone] 16N.
Note: (a) Data sourced from District GIS layers circa Fall 2019 and should be considered approximate and not authoritative.

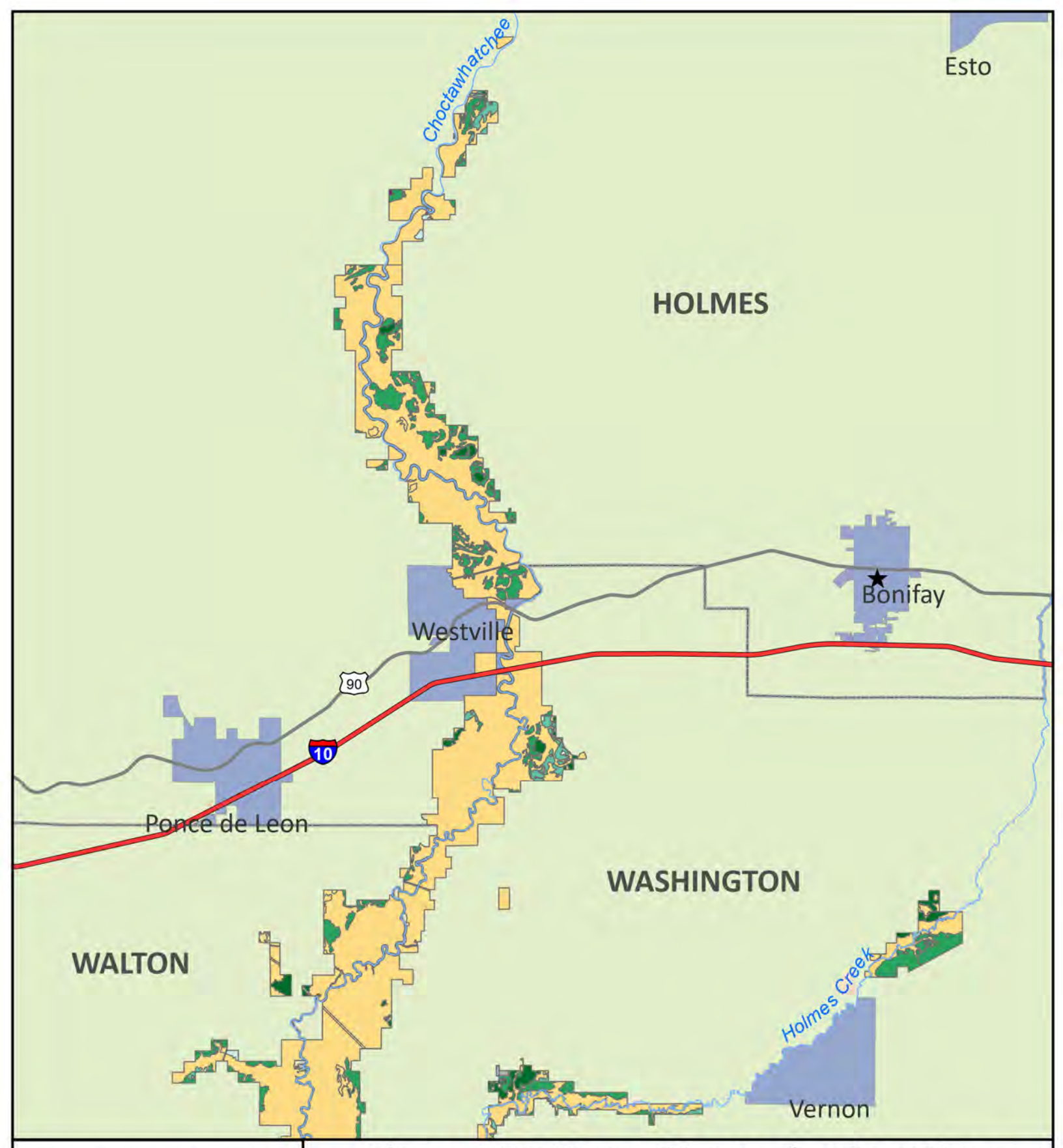
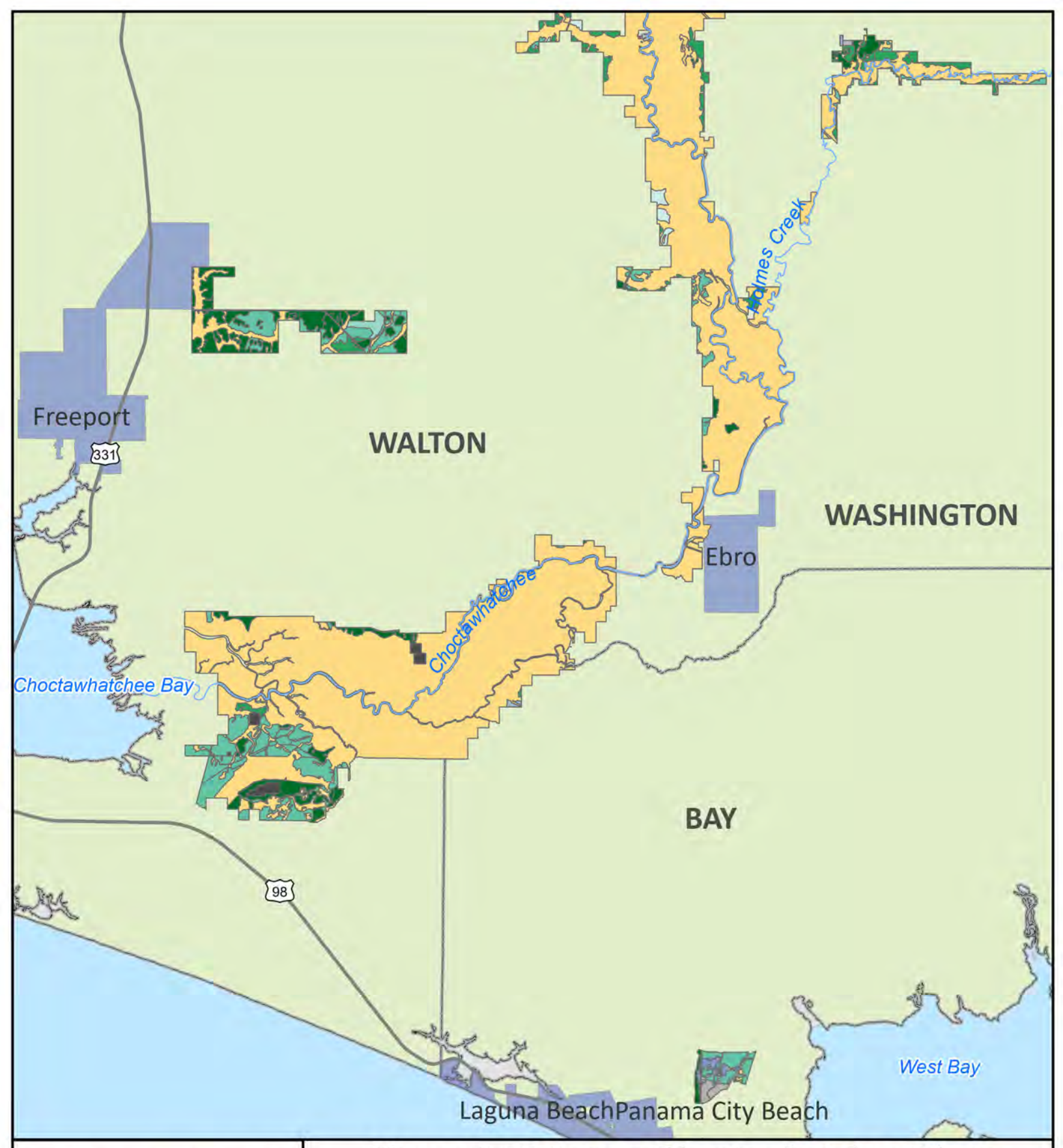


Figure 4-5A Upper Choctawhatchee River - Holmes Creek Water Management Area Forest Resources



- US Highways
- Rivers
- Longleaf Pine
- Loblolly Pine
- Slash Pine
- Sand Pine
- Spruce Pine
- Pine Hardwood Mix
- Hardwood-Longleaf
- Hardwood-Slash
- Hardwood-Loblolly
- Hardwood-Sand
- Upland Hardwood
- Lowland Hardwood
- Infrastructure
- Open
- Out Parcel
- Incorporated Areas

Figure 4-5B Lower Choctawhatchee River - Holmes Creek Water Management Area Forest Resources

N

0 2 4 8 Miles

4.3.1.7 Soils

Soils in the Choctawhatchee River & Holmes Creek WMA have been identified according to the CRIFF system, which is described in Section 3.2.5. The Choctawhatchee River & Holmes Creek WMA soil group(s) are summarized in Table 4-7 and illustrated in Figure 4-6A and 4-6B.

Table 4-7 CRIFF Soils and Acreages on the Choctawhatchee River & Holmes Creek WMA

CRIFF Soil Group	Drainage	Important Feature	Acreage
A	Very poor to somewhat poor	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.	15,785
B	Very poor to somewhat poor	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.	24,343
D	Poor to somewhat poor	Spodic horizon below the surface layer. Sand to loamy sand soil horizon below the spodic horizon.	1,044
E	Moderate to Well	Sand to loamy sand surface layer less than 20 inches thick, with a finer textured soil horizon below.	1,030
F	Moderate to Well	Sand to loamy sand surface layer greater than 20 inches thick, with a finer textured soil horizon below.	2,114
G	Excessive	Sand to loamy sand surface layer at least 100 inches thick.	3,503
H	Very Poor	High in decomposing plant residues, often an organic soil.	12,873
X	Not Classified	Bottomland areas subject to prolonged or frequent inundation and/or highly altered/manipulated areas	486
Total			**61,179**

4.3.1.8 Public Recreation

The Choctawhatchee River & Holmes Creek WMA contains sloughs, creeks, floodplain lakes, islands, freshwater springs and spring runs, primitive campsites, boat ramps, canoe launches, paddling trails and hiking trails for public access. In general, recreation opportunities include hunting, fishing, camping, swimming, paddling, picnicking, hiking, and wildlife viewing. A portion of the FNST traverses the area and is open to hikers year-round. A few unique hunting opportunities are offered on the Choctawhatchee River & Holmes Creek WMA include primitive weapon hunting areas on Holmes Creek and East River Island, the family quota hunts on Lafayette Creek WMA and the North Choctawhatchee Unit Spring Turkey Quota Hunts. Several developed recreations sites are throughout the WMA and are discussed below and shown on Figures 4-7A and 4-7B.

Recently designated by the Office of Greenways & Trails as an official state Blueway, Choctawhatchee River Paddle Trail is 64 miles, spanning from SR 2 near the Alabama border to Cowford Landing on Hwy 20 near the opening of Black Creek which empties into Choctawhatchee Bay. Several recreational sites discussed below provide trail stops offering amenities such as boat ramps and multi-use ramps, picnic pavilions, bathrooms and overnight camping facilities.

Bear Hewitt Landing features a small unpaved boat launch suitable for small boats, canoes, or kayaks. Motorized vehicles are only allowed on designated roads. Recreational opportunities include boating, fishing, paddling, and wildlife viewing.

Boynton Landing Recreation Area features a reservation-only campsite, charcoal grill, picnic table, portable toilet, fire ring, and a paved boat ramp which allows for launching and retrieval of boats at all times. The campsite has a capacity of eight (8) people and two (2) vehicles. This campsite is available for use by campers with tents, vans, and pickup-mounted campers only (no RVs or travel/camping trailers). The campsites do not have power, water, or waste disposal hookups. Motorized vehicles are only allowed on designated roads. Recreational opportunities include boating, fishing, paddling, and wildlife viewing.

Bruce Creek Landing features a small paved boat launch and parking for up to ten (10) vehicles. Motorized vehicles are only allowed on designated roads. Recreational opportunities include boating, fishing, paddling, and wildlife viewing.

Burnt Sock Landing features a recently improved launch site for canoes, kayaks, or small boats. A parking area with a portable toilet is available for use sunrise to sunset. Motorized vehicles are only allowed on designated roads. Recreation opportunities include fishing, paddling, wildlife viewing, and seasonal hunting.

Cerrogordo Landing features a wide, single-lane paved boat ramp and parking for up to ten (10) vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include boating, fishing, paddling, and wildlife viewing.

Cotton Landing Recreation features a picnic pavilion, portable toilet, and parking area. This recreation area also includes three pavilions for the reservable campsites, and a hand-launch boat ramp for canoes, kayaks, and small boats. Cotton Landing is a day-use only area and is open year-round sunrise to sunset. Three campsites are available by reservation only. These campsites are suitable for tents, truck campers, vans, and small trailer campers. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, camping, and wildlife viewing.

Cow Lake Landing features a picnic table and a grill. This recreation site also includes a small concrete boat ramp and a gravel parking lot with capacity for ten (10) vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include boating, fishing, paddling, and wildlife viewing.

Dead River Landing Park features a day-use picnic area, concrete boat ramp with trailer parking, portable toilets, a small playground area for children, and 16 campsites that are available by reservation only. The day-use area is open daily from dawn to dusk and launching and retrieval of boats is allowed at all times. Each campsite has a capacity of eight (8) people and two (2) vehicles. The day-use area has two picnic pavilions with charcoal grills and each campsite has a picnic table, charcoal grill, and fire ring. Campsites 1 through 8 are available by reservation for use with RVs, travel trailers, other camping vehicles, trailers and tents. Campsites 9 through 16 are limited to tent-only camping. The campsites do not have power, water, or waste disposal hookups. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, RVs, picnicking, boating, fishing, paddling, and wildlife viewing.

East Pittman Creek features a paved boat ramp, pavilion, two picnic tables, a grill, a portable toilet, and parking for up to 20 vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, and wildlife viewing.

Hightower Landing Recreation Area features picnic tables, grills, and portable toilet. This recreation area also includes a single, concrete boat ramp and parking for ten (10) vehicles with trailers. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, and wildlife viewing.

Lafayette Creek Tract serves as the trailhead for the Lafayette East and Lafayette West entry points for the Florida Trail. Seasonal hunting is permitted within this area. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, hiking, and wildlife viewing.

Lafayette Hike-In East (also known as Forgotten Creek) is a first-come, first-serve hike-in only location with benches and a fire ring. The primitive campsite offers access to a trailhead for the nearby Florida Trail. Seasonal hunting is permitted within this area. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, hiking, and wildlife viewing.

Lafayette Hike-In West is a first-come, first-serve hike-in only location with benches and a fire ring. The primitive campsite offers access to a trailhead for the nearby Florida Trail. Seasonal hunting is permitted within this area. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, hiking, and wildlife viewing.

Live Oak Landing features a picnic table, grill, portable toilet, and parking for up to ten (10) vehicles. This site includes a single, concrete ramp best suited for launching small boats, canoes, and kayaks and small fishing pier. Motorized vehicles are only allowed on designated roads. Recreation opportunities include boating, fishing, paddling, and wildlife viewing.

Lost Lake Campsite features a picnic pavilion with a grill, picnic tables, portable toilet, and a fire ring. The campsite is a reservation-only campsite with a capacity of 16 people and four (4) vehicles. The day-use area is open daily from dawn to dusk and launching and retrieval of boats is allowed at all times. This campsite is available for RVs, travel trailers, other camping vehicles, trailers, and tents, although the gravel access road may be difficult for larger camping vehicles to traverse. The campsite does not have power, water, or waste disposal hookups. Motorized vehicles are only allowed on designated roads. Recreation opportunities include camping, picnicking, fishing, paddling, and wildlife viewing.

Lost Lake Landing features a picnic pavilion with two picnic tables, grill, portable toilet, and gravel parking for approximately 10-12 vehicles with trailers. This site includes a single, concrete/rock boat ramp that is suitable for launching canoes, kayaks, and small boats (including jon boats and bass boats). More parking is available along the road and in the Day-Use Parking Area. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, and wildlife viewing.

Old Warehouse Landing features a grill and a picnic table. The site includes a single concrete boat ramp and parking for up to 20 vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include boating, fishing, paddling, and wildlife viewing.

Seven Runs features a pavilion, four (4) picnic tables, three (3) grills, a portable toilet, and parking for up to four (4) vehicles. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, fishing, paddling, and wildlife viewing.

Spurling Landing Recreation Area features a boat ramp and two (2) reservation-only campsites which contain a charcoal grill, picnic table, portable toilet, and fire ring. Each site has a capacity of eight (8) people and two (2) vehicles. The day-use area is open daily from dawn to dusk and launching and retrieval of boats is allowed at all times. These campsites are available for campers with tents, vans and pickup-mounted campers only (no RVs or travel/camping trailers). The campsites do not have power, water or waste disposal hookups. Motorized vehicles are only allowed on designated roads. Recreation opportunities include picnicking, boating, fishing, paddling, and wildlife viewing

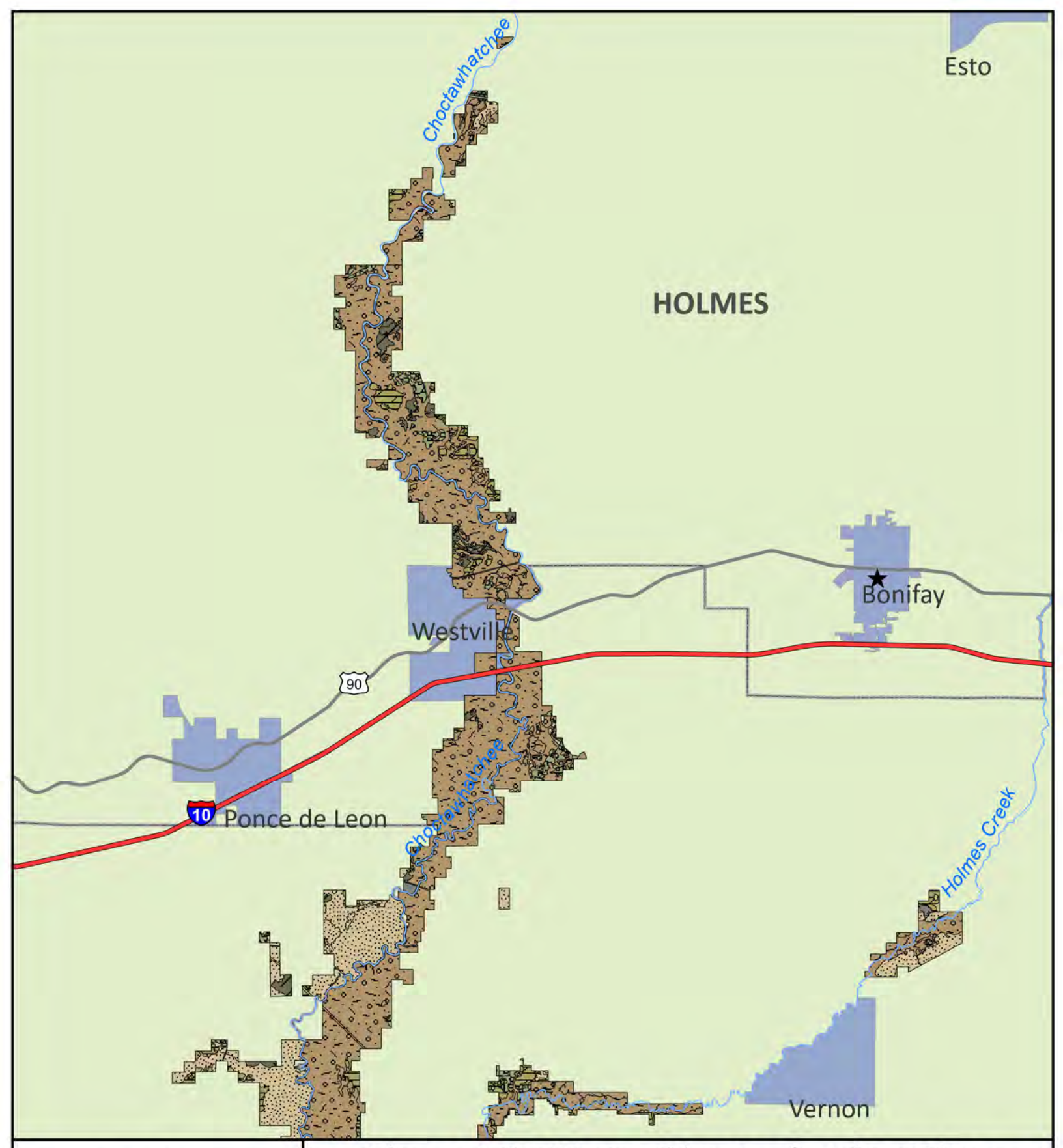
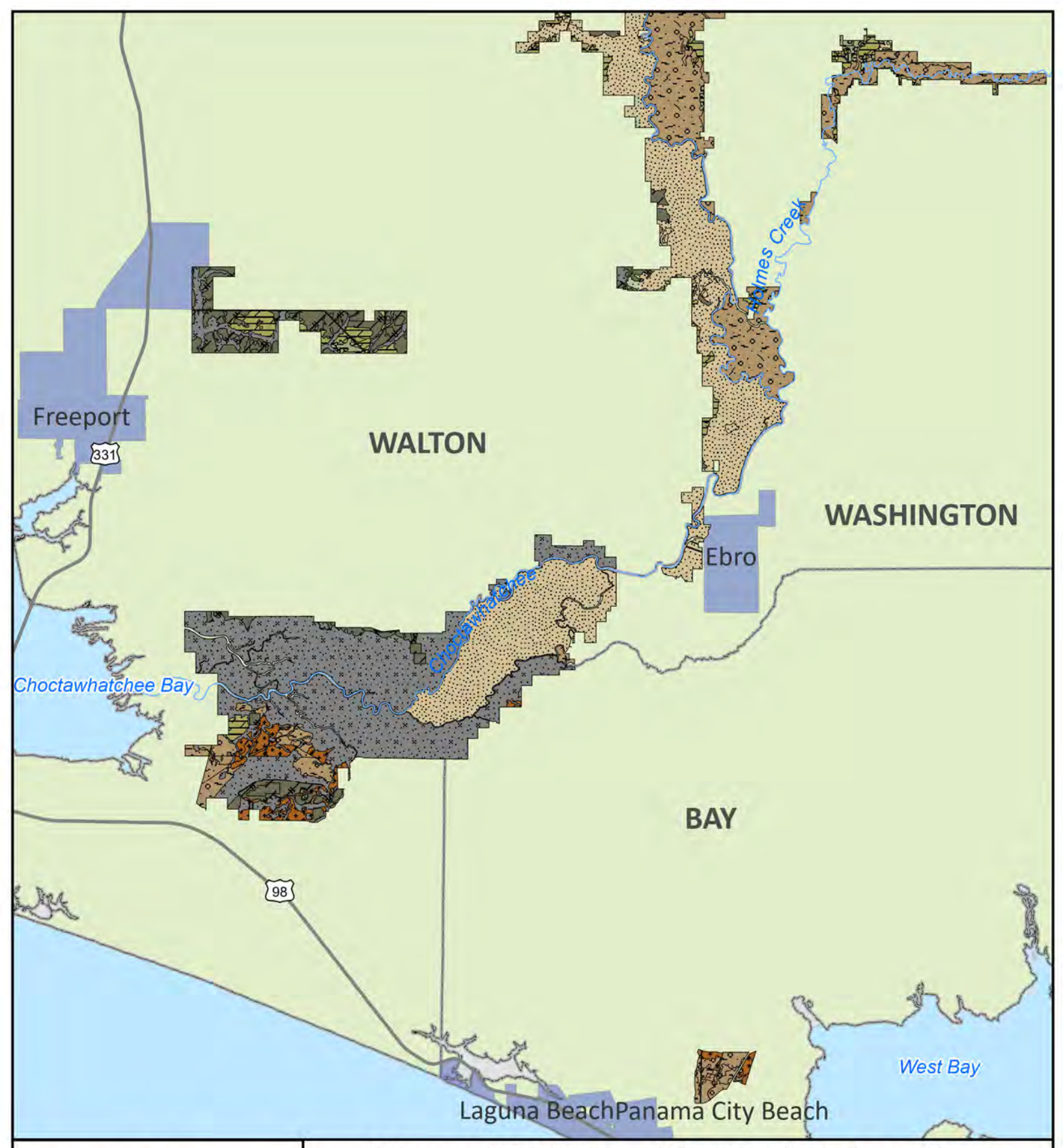


Figure 4-6A Upper Choctawhatchee River - Holmes Creek Water Management Area Soil Resources



US Highways
Rivers
A
B
C
D
E
F
G
H
X
Incorporated Areas

Figure 4-6B Lower Choctawhatchee River - Holmes Creek Water Management Area Soil Resources

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

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0 2 4 8 Miles

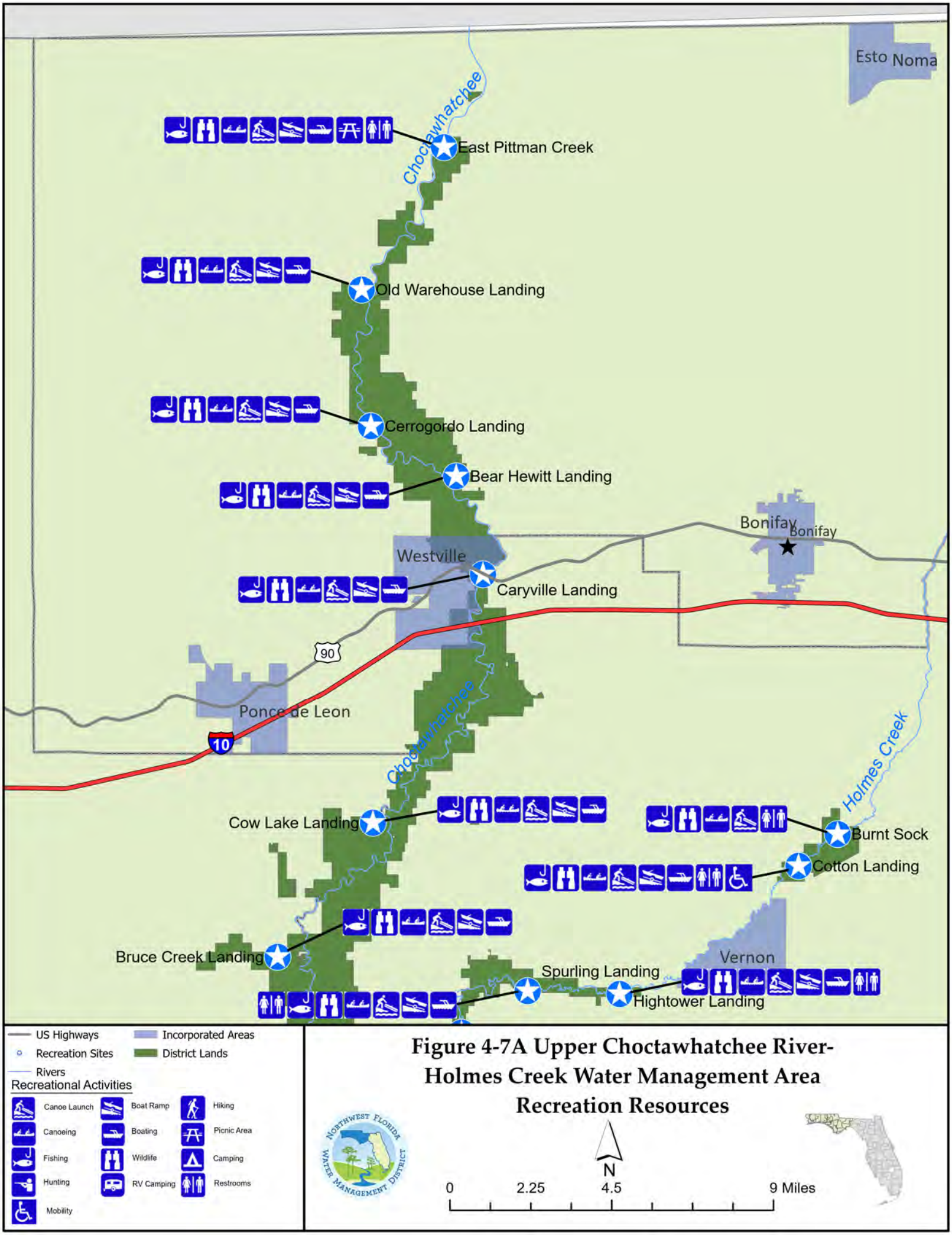

Figure 4-7A Upper Choctawhatchee River-Holmes Creek Water Management Area Recreation Resources

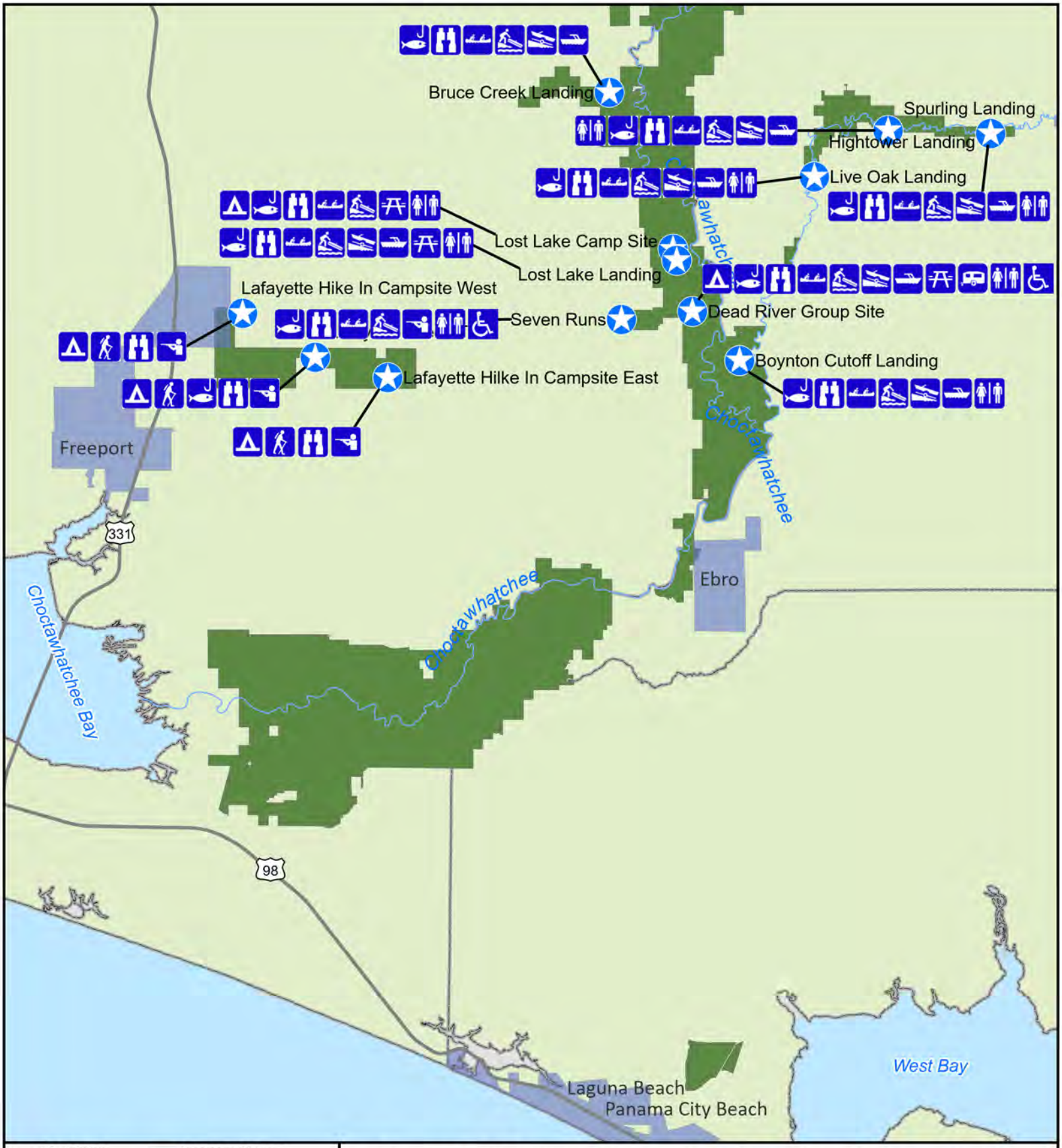

Figure 4-7B Lower Choctawhatchee River-Holmes Creek Water Management Area Recreation Resources

4.3.2 Resource Management Philosophy

The resource management philosophy for the Choctawhatchee River & Holmes Creek WMA is primarily focused on the protection and preservation of the existing natural resources specific to maintaining water quality, water quantity, and aquatic resources within the Choctawhatchee River, as well as vegetation such as old growth trees of varying species and ground cover species. The philosophy also encompasses protection of T&E species.

4.3.3 Management Actions and Strategies

The Choctawhatchee River & Holmes Creek WMA is predominantly associated with floodplains along the river acquired to protect the waters of the Choctawhatchee River and one of its major tributaries Holmes Creek. However, approximately 11,298 acres of scattered uplands are located throughout the Choctawhatchee River & Holmes Creek WMA. A brief description of primary management actions and strategies and how they correlate with the District's goals and objectives as identified in Section 2.3 are provided in Table 4-8.

Table 4-8 Management Goals, Objectives, and Current and Upcoming Projects and Contracts on the Choctawhatchee River & Holmes Creek WMA

District Goal	Program	District Objectives	Current and Upcoming Projects and Contracts
Water Resource Protection	Floodplain/Wetland Protection	▪ Protect surface and groundwater quality ▪ Protect groundwater recharge ▪ Protect floodplain functions ▪ Support water resource restoration	Spring Restoration/Enhancement – (RMD)
Resource Management	Forest Management	▪ Manage to attain an uneven-aged and vertically diverse forest; e.g., retain snags and dominant and/or old growth trees ▪ Reforest to protect water resources using appropriate tree species per CRIFF ▪ Maintain an accurate and current pine forest resource inventory ▪ Ensure commercial harvests optimize financial returns while protecting District water resources protection goals ▪ Ensure District lands are prescribe-burned in accordance with preferred burn cycles	▪ Devils Swamp North Thinning Timber Sale (19-046) ▪ Reforestation – 2022 Holmes Creek ▪ Contract: Prescribed Burning ▪ In-House Prescribed Burning ▪ Sand Pine Eradication ▪ Timber Harvesting
Resource Management	Reforestation and Groundcover Restoration	▪ Reduce degradation of the existing native groundcover ▪ Observe grass, herbaceous, and shrub layers to determine if stand Condition Class is in/out of the accepted range ▪ Encourage the re-establishment of native groundcover species	

Table 4-8 Management Goals, Objectives, and Current and Upcoming Projects and Contracts on the Choctawhatchee River & Holmes Creek WMA			
District Goal	**Program**	**District Objectives**	**Current and Upcoming Projects and Contracts**
Resource Management	Protection of Threatened and Endangered Species	▪ Protect listed species on District lands ▪ If a species is known to exist on District lands, implement appropriate BMPs ▪ On District-owned lands, the District will coordinate with the FWC and the USFWS and consider their recommendations for habitat management and monitoring regarding known locations of threatened and endangered (T&E) species prior to silviculture operations.	
Resource Management	Control of Invasive and Non-Native Plants and Animals	▪ Manage and eliminate invasive and non-native plants and animals to the degree possible through grants, public hunting, and herbicide application by District land managers.	▪ Beaver control ▪ Exotics control
Public Access	Recreation/Access Management	▪ Maintain parking areas, campsites, picnic areas, restrooms, kiosks, roads, bridges, and gates. ▪ Maintain current information on District website. ▪ Provide, maintain, and support an online reservation system for designated campsites.	▪ Blueway Trail coordination with counties ▪ Contract: Law Enforcement – Washington County Sheriff and FWC ▪ Contract: Portable toilets ▪ Campsite pavilion installation project ▪ Road improvements – Devils Swamp Tract ▪ Road improvements – Westville Tract
Key: BMPs = best management practices. CRIFF = Cooperative Research in Forest Fertilization. FWC = Florida Fish and Wildlife Conservation Commission. T&E = threatened and endangered. WMA = water management area.			

4.3.4 Special Resource Management Designations

In addition to the District's listed programs, several other management and monitoring programs occur within the Central Region, along the Choctawhatchee River and Holmes Creek, and within/adjacent to the Choctawhatchee River & Holmes Creek WMA. These programs have been identified and are addressed as part of the *Choctawhatchee River and Bay Watershed SWIM Plan* and other long-term resource management plans (Table 4-9).

Table 4-9 Special Resource Designations and Programs within the Choctawhatchee River & Holmes Creek WMA		
Designation/Program	**Description**	**Managing Agency**
Watershed Management Planning	To achieve comprehensive and long-term success for Gulf restoration, The Nature Conservancy facilitated a community-based watershed management planning process in 2014 and 2015 along Florida's Gulf Coast for the following six watersheds: Perdido Bay, Pensacola Bay, Choctawhatchee Bay, St. Andrew and St. Joseph bays, Apalachicola to St. Marks, and the Springs Coast.	The Nature Conservancy
Florida Fish and Wildlife Conservation Commission - Fish and Wildlife Research Institute (FWC-FWRI) Long-term Monitoring (LTM)	The FWC-FWRI LTM program is a program designed to effectively assess the current status and future trends of fish species and environmental parameters in Florida's lentic and lotic systems. The primary mission of the program is to provide timely, accurate, and consistent fisheries independent data and analysis to fisheries managers for the conservation and protection of Florida's fisheries.	FWC/FWRI
Key: BMP = best management practice. WMA = water management area.		

5 References

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Appendix A

District Land Ownership

PERDIDO RIVER

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
International Paper		5,456.00	Escambia	05/31/06	$	12,085,069.00	FL Forever/CI FL Forever (5,237.8 ac.) DOT Mitigation (218.2 ac.)
Escambia County		(1.22)	Escambia	11/17/06		Donation	Surplus to County
District/Herndon Exchange		(4.20)	Escambia	01/27/09		Exchange	Exchange
District/Herndon Exchange		0.45	Escambia	01/27/09		Exchange	Exchange
Dutex		809.85	Escambia	06/12/09	$	1,930,795.77	Florida Forever
Pridgen		0.34	Escambia	10/28/10	$	20,000.00	DOT Mitigation
Perdido River Total		**6,261.22**			**$**	**14,035,864.77**	

ESCAMBIA RIVER

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
St. Regis/The Nature Conservancy		17,998.00	Escambia (4,794) Santa Rosa (13,204)	12/19/84	$	3,500,000.00	Save Our Rivers
Conservancy							
Robinson		138.00	Santa Rosa	10/15/92		-	Donation
Champion		14,094.00	Escambia (7,201) Santa Rosa (6,893)	04/26/94	$	5,721,667.00	Preservation 2000
Boley		1,144.00	Santa Rosa	08/19/94	$	184,680.00	Preservation 2000
Department of Transportation		209.00	Santa Rosa	09/06/94		-	Donation
Gillmore		478.00	Escambia	04/28/95	$	160,416.00	Preservation 2000
Premier Bank		106.00	Escambia	07/18/95	$	19,500.00	Preservation 2000
Neal/Stanley		64.00	Escambia	07/18/95		-	Donation
Beall/Coe		110.40	Escambia	03/13/98	$	64,724.00	Preservation 2000
Gillmore/Gregory		42.90	Escambia	11/09/00	$	38,833.00	Save Our Rivers
Perdido Key		92.00	Santa Rosa	01/19/01	$	135,632.00	Save Our Rivers
Escambia County		(3.60)	Escambia	08/23/01		-	Donation
Rodgers		102.40	Escambia	12/03/03	$	96,500.00	Preservation 2000 (101 ac.) Land Acq. Reserve (1.4 ac.)
District to Watson		(18.70)	Escambia	02/04/05		-	Exchange
Watson		51.40	Escambia	02/04/05		-	Exchange
Bluff Springs/Sharpe		311.30	Escambia	05/27/05	$	357,537.00	DOT Mitigation (108.7 ac.) Florida Forever (202.6 ac.)
Swift		494.30	Santa Rosa	04/22/10	$	999,000.00	Florida Forever
Sale to DOT of 18,282 Sq. Ft.		(0.42)	Escambia	06/29/15			Sold for $2,400
Donation to DOT of 11,342 Sq. Ft.		(0.26)	Santa Rosa	11/19/20			Donation

Escambia River Total	**35,412.72**			**$**	**11,278,489.00**

GARCON POINT

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
FDIC		1,864.00	Santa Rosa	12/06/91	$	800,000.00	Save Our Rivers
Garcon Point (½ interest)		78.00	Santa Rosa	09/01/93	$	11,836.00	Save Our Rivers
Bridge Authority		23.00	Santa Rosa	10/31/96		-	Donation
Clark		1,046.00	Santa Rosa	12/04/96		-	Funds from Santa Rosa Bay Bridge Auth.
Mobley		45.00	Santa Rosa	12/31/96		-	Donation
Santa Rosa County		169.00	Santa Rosa	06/03/97		-	Donation
McKay		10.00	Santa Rosa	09/17/99	$	38,000.00	Save Our Rivers
Perdido Key		10.00	Santa Rosa	10/25/02	$	9,000.00	Preservation 2000
Garcon Point Total		**3,245.00**			**$**	**858,836.00**	

BLACKWATER RIVER

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
Holsberry		15.5	Santa Rosa	12/29/86		-	Donation
Davis		236.7	Santa Rosa	08/03/01	$	315,446.00	Preservation 2000
Zarrow Donation		14	Santa Rosa	12/23/02		-	Donation
Rogers		40.2	Santa Rosa	02/25/05	$	29,710.00	DOT Mitigation
Brewer/Guiles		72.5	Santa Rosa	04/22/05	$	74,475.00	DOT Mitigation
City of Milton Donation		2	Santa Rosa	12/28/10		-	Donation
Surplus of 0.4 acre		-0.4	Santa Rosa	12/13/13			Sold for $2,400
Blackwater River Total		**380.5**			**$**	**419,631.00**	

YELLOW RIVER

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
R and R		57.00	Okaloosa	12/22/92		-	Donation
Champion		7,972.00	Okaloosa (2,586)	04/26/94	$	3,236,319.00	Preservation 2000
			Santa Rosa (5,386)			-	
Wernicke		132.50	Santa Rosa	08/23/95	$	28,164.00	Preservation 2000
Haiseal		7,968.00	Okaloosa	12/15/99	$	5,125,000.00	Preservation 2000
Schluter		61.30	Okaloosa	09/01/00	$	86,400.00	Save Our Rivers
Cunningham		81.00	Okaloosa	09/08/00	$	116,250.00	Save Our Rivers
Okaloosa		(2.75)	Okaloosa	08/30/01		-	Donation
Amerivest		1,176.60	Santa Rosa	09/19/01	$	3,625,000.00	Florida Forever (204.5 acres)

					Save Our Rivers (972 acres)
Allen	278.90	Santa Rosa	12/21/05	$ 825,000.00	DOT Mitigation
West	17.70	Okaloosa	06/04/07	$ 25,526.00	Land Acq. Reserve
Sale to DOT	(0.20)	Santa Rosa	10/05/09	WMD Paid $700	WMD was paid $700
Sale to DOT	(0.024)	Santa Rosa	06/28/10	WMD Paid $500	WMD was paid $500
Surplus of 1.5-acres	(1.5)	Okaloosa	12/13/13		Sold for $3,400
District/Strauss Exchange	(61.1)	Okaloosa	01/24/14		
District/Strauss Exchange	50.0	Okaloosa	01/24/14		
Donation of Grassy Point to BOT	(1,176.6)	Santa Rosa	08/27/14		Donation
Yellow River Total	**16,552.83**			**$ 13,067,659.00**	

CHOCTAWHATCHEE RIVER/HOLMES CREEK

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
Southwest Forest		35,198.00	Bay (999) Holmes (2,371) Walton (18,267) Washington (13,561)	12/02/85	$ 10,207,420.00	Save Our Rivers
Mutual Life		6,731.00	Holmes (1,047) Walton (3,585) Washington (2,099)	07/31/92	$ 2,042,185.00	Preservation 2000
Freeman		41.00	Walton	09/14/92	$ 29,500.00	Save Our Rivers
Wentworth		55.00	Washington	07/09/92	-	Exchange
Harris		86.00	Washington	03/31/93	$ 45,361.00	Save Our Rivers
Mathis		0.07	Washington	04/28/93	$ 9,255.99	Save Our Rivers
M and K		(13.00)	Washington	12/20/93	-	Exchange
Champion		8,725.00	Holmes	04/26/94	$ 3,542,014.00	Preservation 2000
Gould		348.00	Washington	05/24/94	$ 200,250.00	Preservation 2000
Barron		546.00	Washington	02/27/96	$ 287,500.00	Preservation 2000
Brand		619.00	Washington	03/01/96	$ 315,000.00	Preservation 2000
Holmes County		(2.00)	Walton	04/01/96	-	Exchange
Miers		50.00	Holmes	07/03/96	$ 20,000.00	Preservation 2000
Arnold		356.00	Holmes	02/21/97	$ 170,000.00	Preservation 2000
Howell		175.00	Holmes	05/08/98	$ 140,999.00	Preservation 2000
Department of Transportation		(0.56)	Holmes	06/25/98	-	Sold for $560
Cooey		82.00	Holmes	07/17/98	$ 42,270.00	Preservation 2000
Department of Transportation		26.50	Holmes	04/28/99	-	Exchange

McGill		321.70	Walton	11/29/99	$	657,800.00	DOT Mitigation
Englander		58.00	Holmes	12/17/99	$	26,456.00	Save Our Rivers
Smith		58.40	Holmes	11/17/00	$	58,500.00	Save Our Rivers
Hilton		42.00	Walton	08/03/01	$	275,000.00	Preservation 2000
St. Joe	Devils Swamp	2,649.40	Walton	11/16/01	$	3,695,220.00	DOT Mitigation
Great Eastern		28.00	Bay	11/30/01	$	18,550.00	Preservation 2000
Sapp Timber		39.30	Washington	09/18/01	$	78,400.00	Florida Forever
Sapp/Folmer		1,075.50	Washington	09/18/01	$	1,500,000.00	Florida Forever
Hogtown Bayou		132.00	Walton	04/09/02		-	Donation
Donation to Muscogee Nation		(2.29)	Walton	12/29/03		-	Donation
Donation to Muscogee Nation		(0.83)	Walton	07/27/04		-	Donation
Sacred Heart		59.00	Walton	01/10/05	Mitigation Donation		Mitigation Donation
Lafayette Creek/MC Davis		3,160.00	Walton	04/26/05	$	4,503,000.00	DOT Mitigation (490 ac.) Florida Forever (2,670 ac.)
District to White		(1.00)	Washington	10/07/05		-	Exchange
White to District		12.10	Washington	10/07/05		-	Exchange
District to Davis		(18.67)	Walton	10/24/06		-	Exchange
Davis to District		59.31	Walton	10/24/06		-	Exchange
Varn		31.00	Washington	04/28/08	$	180,000.00	Florida Forever
Lee		20.00	Walton	08/29/08	$	133,000.00	DOT Mitigation
Woolley		40.00	Walton	08/27/09	$	104,500.00	DOT Mitigation
Plum Creek		121.50	Washington	10/23/09	$	304,300.00	Florida Forever
Surplus of 38 acres to Lucas		(38.00)	Walton	02/14/14			Sold for $37,620 plus timber of $49,511.70
Brunson (OWNED BY BOT)		348.29	Washington	03/13/15			Owned by BOT-Managed by WMD
Surplus of 38 acres to Mansfield		(38.00)	Walton	10/15/19			Sold for $42,000 plus $54,003.44
Choctaw. R./Holmes Ck. Total		**61,179.72**			**$**	**28,586,480.99**	

ECONFINA CREEK

Owner	Tract	Acres	Counties	Date		Pur. Price	Funding Source
Mutual Life		1,481.50	Jackson (1,258) Washington (223.5)	07/31/92	$	449,487.00	Preservation 2000
Harder		189.40	Bay	04/02/93	$	790,000.00	Save Our Rivers
Deer Park		5.50	Bay	06/01/93	$	54,500.00	Save Our Rivers
Atkinson		19.60	Bay	11/18/93	$	72,295.00	Preservation 2000
Hallmon		43.00	Bay	05/24/94	$	197,370.00	Preservation 2000
Kammer		40.00	Bay	09/07/94		-	Donation

Rosewood	I	1,401.00	Bay (148) Washington (1,253)	11/30/94	$	2,539,800.00	Preservation 2000
St. Joe	Creek Front	3,752.00	Bay (905) Washington (2,847)	11/30/94	$	7,484,000.00	Preservation 2000
Urquhart		339.00	Washington	03/24/94	$	576,300.00	Preservation 2000
Whitehead		128.00	Bay	02/26/96	$	129,675.00	Preservation 2000
Hancock		928.00	Bay	12/12/96	$	1,400,000.00	Preservation 2000
Rosewood	II	28,954.00	Bay (9,033) Washington (19,921)	12/19/97	$	23,215,062.00	Preservation 2000
Carter		5.00	Washington	03/13/98	$	9,738.00	Save Our Rivers
Aldridge		10.00	Washington	04/09/99	$	5,400.00	Save Our Rivers
Reed		10.00	Washington	09/17/99	$	5,200.00	Save Our Rivers
Rist		15.40	Bay	01/22/99		-	Donation
Rosewood	III	20.50	Washington	12/17/99	$	10,800.00	Save Our Rivers
Kolk/Fuller		40.80	Washington	04/20/00	$	24,000.00	General Fund
Curtis		20.00	Washington	08/18/00	$	9,300.00	Save Our Rivers
H.B. James		10.00	Washington	08/18/00	$	3,375.00	Save Our Rivers
Duncan		10.00	Washington	10/20/00	$	3,375.00	Save Our Rivers
Davis/Fowhand		114.80	Bay	12/21/00	$	395,000.00	Preservation 2000
Johns		131.20	Washington	09/14/01	$	139,500.00	Florida Forever
St. Joe	Hobbs Pasture	1,034.00	Bay	09/19/01	$	3,640,000.00	Florida Forever
Stroop		15.00	Washington	01/18/02	$	8,100.00	Florida Forever
Carter		2,155.30	Washington	10/11/02	$	4,335,525.00	DOT Mitigation General Fund
Moseley		65.70	Washington	11/01/02	$	88,600.00	Preservation 2000
Thompson		5.00	Washington	09/30/03	$	2,788.00	Save Our Rivers
Syfrett		(197.90)	Washington	10/24/03		-	Exchange
St. Joe	Additions	949.20	Bay (555.9) Washington (393.3)	12/16/05	$	2,400,000.00	Florida Forever
Peaden		81.30	Washington	02/03/06	$	478,750.00	Florida Forever
Patronis Ex.		(851.10)	Bay	04/17/06		-	Exchange
Patronis Ex.		145.60	Bay	04/17/06		-	Exchange
Moore etal		95.10	Washington	04/21/06	$	250,800.00	Florida Forever
Sirles		10.00	Washington	07/14/06	$	48,000.00	Florida Forever
Adams		13.82	Washington	10/20/06	$	29,070.00	Florida Forever
Fraoli		10.02	Bay	02/09/07		0	Donation

Libby	8.06	Washington	05/25/07	$ 26,240.00	Land Acq. Res.
Bay County	(3.59)	Bay	11/20/08	Surplus for R-O-W	Surplus
Donation to WCSB	(96.20)	Washington	01/29/09	Donation	Surplus to School Board
Surplus of Mt. Pleasant Cemetery	(1.00)	Bay	11/18/09	Surplus of Cemetery	Surplus
Plum Creek	160.10	Washington	12/18/09	$ 232,000.00	Florida Forever
Panhandle Timberlands	61.46	Jackson	07/15/11	$ 121,644.09	Land Acq. Res.
Sartor	10.00	Washington	09/24/13	$15,000.00	Land Acq. Res.
Donation to Bay County for Intake Site	(1.42)	Bay	05/08/14	Donation	Donation for intake site
Surplus of 2.6 Acres to Gainer	(2.60)	Bay	06/12/15	Surplus	Sold for $5,300 to George Gainer
James	3.13	Bay	12/18/15	$ 48,000.00	Springs Funding
Donation to Bay County for Scott Rd.	(2.53)	Bay	09/14/17	Donation	Donation for drainage and paving project
Donation to Washington Co.	(0.88)	Washington	11/08/18	Donation	Donation for realignment of Chain Lake Rd.
Donation to DOT	(0.10)	Washington	11/08/18	Donation	Donation for widening of Hwy 77
District to Porter Exchange	(22.40)	Bay	03/27/19	Exchange	Exchange
Porter to District Exchange	22.40	Bay	03/27/19	Exchange	Exchange
Bodiford/Petty	11.78	Bay	08/20/21	$ 35,328.00	Springs Funding
Econfina Creek Total	**41,345.96**			**$ 49,274,022.09**	

CHIPOLA RIVER

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
Mutual Life		7,378.00	Jackson	07/31/92	$ 2,238,474.00	Preservation 2000
Department of Transportation		(0.73)	Jackson	06/28/93	-	Sold for $380
Belamy-IP		338.70	Jackson	03/31/09	$ 297,000.00	Florida Forever
Chipola Timberlands		1,377.76	Calhoun	12/23/09	$ 5,235,488.00	Florida Forever
Chipola River Total		**9,093.73**			**$ 7,770,962.00**	

WEST BAY

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
St. Joe	Ward Creek West	719.30	Bay	02/29/08	$ 1,936,700.00	DOT Mitigation
West Bay Total		**719.30**			**$ 1,936,700.00**	

APALACHICOLA RIVER

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
Southwest Forest		35,509.00	Gulf (13,134)	12/02/85	$ 10,297,610.00	Save Our Rivers

			Liberty (22,375)			
Wentworth		(22.00)	Liberty	07/09/92	-	Exchange
Peddie		19.00	Liberty	07/12/95	-	Exchange
Neal		1,316.70	Liberty	05/19/11	$ 3,565,426.09	General Fund (948.9 acres) Florida Forever (367.8 acres)
Apalachicola River Total		**36,822.70**			**$ 13,863,036.09**	

LAKE JACKSON

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
Phipps		509.00	Leon	10/15/92	$ 2,939,440.00	Save Our Rivers
Hill		6.70	Leon	12/29/93	-	Donation
Donation of Lake Victoria		23.38	Leon	06/17/11	-	Donation
Lake Jackson Total		**539.08**			**$ 2,939,440.00**	

ST. MARKS/WAKULLA RIVERS WMA

Owner	Tract	Acres	Counties	Date	Pur. Price	Funding Source
Revell		131.49	Wakulla	08/19/20	$ 557,938.00	Springs Funding
St. Marks/Wakulla Rivers WMA Total		**131.49**			**$ 557,938.00**	

District-Wide Owned Total

Fee	**211,335.96**	**$ 144,589,058.94**
Less-Than-Fee	**14,131.74**	**$ 15,413,059.53**
TOTAL	**225,467.70**	**$ 160,002,118.47**

District-Wide Managed Total

Fee	**211,684.25**	**$ 144,553,730.94**
Less-Than-Fee	**14,131.74**	**$ 15,413,059.53**
TOTAL	**225,815.99**	**$ 159,966,790.47**

CONSERVATION EASEMENTS

Water Body	Tract	Acres	County	Date		Pur. Price	Funding
Apalachicola River	Peddie	6.00	Liberty	07/12/95		-	Exchange
	Gaskin et al	809.50	Gulf	06/06/03	$	436,500.00	Preservation 2000 & FF
	Trammell	1,544.00	Calhoun	12/23/07	$	2,985,107.84	Florida Forever
		2,359.50			**$**	**3,421,607.84**	
Water Body	**Tract**	**Acres**	**County**	**Date**		**Pur. Price**	**Funding**
Chipola River	Dry Creek Plantation LLC	388.10	Jackson	02/13/20	$	174,579.02	Springs Funding
	Bruce Forest, LLC	622.79	Jackson	04/30/21	$	224,204.90	Springs Funding
		1,010.89			**$**	**398,783.92**	
Econfina Creek	Steele/Lachina	1.00	Washington	02/04/00		-	Exchange
	Lark/Sims (Urquhart/Perry)	1,173.05	Washington	10/03/03	$	750,000.00	Florida Forever
	Syfrett/Atkinson & Shaw	179.40	Washington	10/24/03		-	Exchange
	Syfrett	197.90	Washington	10/24/03		-	Exchange
	Patronis	851.10	Bay	04/17/06		-	Exchange
	Patronis	30.90	Bay	04/17/06		-	Exchange
	Hodson	230.18	Bay	05/24/18	$	573,781.20	Springs Funding
	Circle H Properties	58.96	Bay	02/15/19	$	53,058.10	Springs Funding
		2,722.49			**$**	**1,376,839.30**	
St. Marks River	Pope	120.70	Leon	12/21/00	$	235,725.00	Preservation 2000
	Carlton	62.40	Wakulla	12/13/01	$	101,535.00	Preservation 2000
	Thompson * (BluePrint)	132.62	Leon	11/30/05	$	107,050.00	Florida Forever & BluePrint 2000
	Gerrell	149.11	Wakulla	08/25/06	$	1,000,000.00	Florida Forever
	Billingsley *	194.50	Leon	06/12/09	$	440,000.00	Florida Forever & BluePrint 2000
* Represents one-half of purchase price paid by NWFWMD		**659.33**			**$**	**1,884,310.00**	
Ochlockonee River	Thompson/Gray (Magnolia Farms)	312.00	Gadsden	06/05/01		-	Donation
	Davidson/Lynch	1,528.90	Liberty	11/27/07	$	1,951,197.47	Florida Forever
	Shuler	1,573.66	Liberty	07/28/08	$	2,045,758.00	DOT Mitigation
	Coastal Forest Res.	150.77	Gadsden	08/28/08		-	Donation
	Jones (Jackson)	109.20	Leon	09/24/10		-	Donation
		3,674.53			**$**	**3,996,955.47**	
Spring Creek	Carroll/Avitable (Carpenter)	353.80	Wakulla	09/18/01	$	315,000.00	Florida Forever
	Carroll/Langford (Carpenter)	362.46	Wakulla	04/26/02	$	271,571.00	Preservation 2000
		716.26			**$**	**586,571.00**	

St. Marks/Wakulla Rivers	Revell	124.73	Wakulla	08/19/20	$	386,957.00	Springs Funding
		124.73			**$**	**386,957.00**	
Escambia River	Watson	18.70	Escambia	02/04/05		-	Exchange
		18.70			**$**	**-**	
Perdido River	Herndon	4.2	Escambia	01/27/09		-	Exchange
		4.2			**$**	**-**	
Choctawhatchee River/	Glover	1,111.00	Washington	08/30/01	$	600,000.00	Preservation 2000
Holmes Creek	Partial Rel. to DOT	(1.64)					Sold for $4,500
	White	1.00	Washington	10/07/05		-	Exchange
	Haddock	331.90	Washington	02/03/06	$	298,500.00	Florida Forever
	M.C. Davis at Trustee of M.C. Davis 2006 Trust	1,095.30	Walton	03/17/11	$	1,642,950.00	DOD/REPI Funds
	Nestle-Cypress Spring	303.55	Washington	11/08/18	$	819,585.00	Springs Funding
		2,841.11			**$**	**3,361,035.00**	
	TOTAL	**14,131.74**			**$**	**15,413,059.53**	

Appendix B

Condition Class Examples

Condition Class I

Condition Class I would be considered the Districts goal for maintaining healthy ecosystems.

Disturbance regimes:

- Flatwoods once in every 2 years
- Sandhill once in every 3 years
- Scrub once in every 8-20 years
- Marsh/Wet Prairie once every 2-3 years

Condition Class II

- Has not had a successful disturbance within one fire interval but it has within two fire intervals.
- Shrubs begin to dominate portions of the unit.
- Ground cover is still abundant, but it is starting to be “edged out”.

Condition Class III

- Has not had a successful disturbance within three or more fire intervals and has begun to change plant communities.
- Shrubs dominate much of the unit.
- Ground cover is impacted.
- Can still be recovered, but action is required soon, **fire alone may not** be sufficient.

Condition Class IV

- The unit has gone so long without disturbance, that it has changed natural communities entirely and **should no longer be considered a unit maintained with fire**.
- Groundcover is nearly absent
- Significant time, energy and money will be required to restore the area to the original plant community.

Appendix C

NWFWMD Special Resource Area Permit Form

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT

DIVISION OF ASSET MANAGEMENT

81 Water Management Drive
Havana, FL 32333-4712
(850) 539-5999 - FAX (850) 539-2777

SPECIAL RESOURCE AREA PERMIT APPLICATION

Any entity that desires to hold an event with ten or more participants within any Water Management Area must in advance apply for and receive a Special Resource Area Permit from the Water Management District. Uses that require this Permit include (but are not limited to) organized group activities, trail rides, field trials, group camping, track & field events, and religious services. Each proposed use will be evaluated in terms of its potential impact on the natural resources of the Water Management Area, as well as its potential conflict with other recreational and District uses. If the proposed use is determined to be inconsistent with the purposes for which the lands were acquired**,** the District will inform the applicant that the permit will not be recommended for approval. In the event of such a determination, no further District action will be taken unless requested by the applicant.

Name of Applicant:_____

Mailing Address: _____

Telephone:_____ Email: _____

Water Management Area (location where activity is to be held)

☐Apalachicola ☐Choctawhatchee ☐Escambia ☐Chipola ☐Econfina ☐Yellow ☐ Garcon Point ☐Phipps Park ☐Blackwater

☐Perdido ☐Other _____

Time and Date of Activity: _____

Specific Area Requested for Activity (Please describe in detail and provide a detailed map):

_____

ACTIVITY INFORMATION (please check appropriate box and estimate numbers involved

Planned Activity:	**Estimated Number of:**
☐ **Camping** ☐ **Field Trial**	**People** _____ **Horses** _____
☐ **Trail Ride** ☐ **Religious Services**	**Vehicles** _____ **Dogs** _____
☐ **Other (please specify)** _____	**Bicycles** _____
_____	**Other (please specify)** _____

The permit will be subject to the following conditions and terms:

1. The permit is not transferable.
2. The permit is not for exclusive use of district resources.
3. The status of the holder of this Permit will be that of licensee only. Licensee agrees that the Water Management District, its officers, agents or employees are not liable for any claim whatsoever for damage to equipment, property or injury to persons arising in connection with any activity undertaken under terms of this Permit.
4. Licensee may use only the area specified above and only for the designated purpose.
5. Licensee will avoid all practices detrimental to water, wildlife and forest resources. Licensee shall not cut any vegetation, post any signs, or construct any structures or facilities without prior written consent of the Water Management District.
6. Licensee is responsible for the proper collection and disposal of all waste, litter and trash generated during and by the activities conducted under the terms of this permit. No disposal shall take place within the Water Management Area.
7. Vehicles will be restricted to designated roads and parking lots.
8. Other conditions are as follows:

_____

_____ Date:_____
(Signature of Licensee)

For District Use Only

_____ Date:_____
(Authorized District Representative)

Appendix D

Florida DHR Management Procedures for State-Owned and State-Controlled Properties

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(Revised May 2019)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:
http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Robin D. Jackson
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Email: Robin.Jackson@DOS.myflorida.com
Phone: (850) 245-6496
Toll Free: (800) 847-7278
Fax: (850) 245-6435

Appendix E

NWFWMD Management Agreements

Number	Entity	Purpose
18-002	USDA APHIS	Cooperative Service Agreement for nuisance animal control.
19-037	St Johns River Water Management	Statewide Mutual Aid Agreement for assistance between agencies.
05-057	Florida Fish and Wildlife Conservation Commission	Wildlife Management Area Agreement that provides regulatory structure for certain District lands to be managed for public use under the FWC Wildlife Management Area system. Within the District's West Land Management Region, there are three FWC Wildlife Management Areas on District-owned lands: • Econfina Creek Wildlife Management Area • Choctawhatchee River/Holmes Creek Wildlife Management Area
15-068	Holmes County Board of County Commissioners	Maintenance Agreement between Board of County Commissioners of Holmes County and NWFWMD for Baker Landing (Warehouse), State Road 2 Landing and Campsite Landing (Bear Hewett) Recreation Areas.
16-042	Washington County Board of County Commissioners	Maintenance Agreement with Board of County Commissioners of Washington County for Hightower Springs, Live Oak Landing, Spurling Landing and all District lands in the Econfina Creek WMA along with any recreational and/or boat ramp sites subsequently acquired or identified by the District and mutually agreed to by the County and District.
16-069	Walton County Board of County Commissioners	Maintenance Agreement with Board of County Commissioners of Walton County for Cow Lake Landing, River Landing Boardwalk, Bruce Creek Landing, Seven Runs Creek Park and Dead River Landing along with any recreational and/or boat ramp sites subsequently acquired or identified by the District and mutually agreed to by the County and the District.
LM-05	U.S. Air Force	MOA between the Air Force and NWFWMD that allows for military training on District lands.
LM-06	Florida Trail Association	Provides for maintenance of the Florida National Scenic Trail on District lands using Florida Trail Association volunteers.
MOU-PFTC-USDA-Forest Service	United States Department of Agriculture Forest Service, Fire & Aviation Management	Participating agreement that allows the District to utilize trainee crews from the National Interagency Prescribed Fire Training Center to assist with prescribed burns on District land.

MOU-NAT SCENIC	US Forest Service	Cooperative agreement concerning placement and management of the Florida National Scenic Trail on District lands.
11-012	Florida Fish and Wildlife Conservation Commission	Provides for Law Enforcement/Security Services by off-duty FWC officers.
20-096	Washington County Sheriff's Office	Provides for Law Enforcement/Security Services by two FTE's with the sheriff's office.
LM-18	Washington County School Board	Agreement with Washington County School Board for interim land management activities on 96.2 acres donated for a school site.
MOA/Interagency	Department of Corrections	Provide up to four inmates each workday to assist with land management activities on District lands in qualifying counties.

Appendix F

Florida Exotic Pest Plant Council Category I and II

For more information on invasive exotic plants including links to related web pages, visit:

www.fleppc.org

FLEPPC List Definitions:

Exotic—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. **Native**—a species whose natural range includes Florida. **Naturalized exotic**—an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native).
Invasive exotic— an exotic that has not only naturalized, but is expanding on its own in Florida native plant communities.

Zone: N = north, **C** = central, **S** = south, Referring to each species' general distribution in regions of Florida (not its potential range in the state). Please refer to the map below.

Citation example:

**FLEPPC. 2019 List of Invasive Plant Species.
Florida Exotic Pest Plant Council. Internet: www.fleppc.org**

The 2019 list was prepared by the FLEPPC Plant List Committee

Tony Pernas, **Co-Chair, 2017-2019**, National Park Service, Big Cypress National Preserve, tony_pernas@nps.gov

Dennis Giardina, Co-Chair, 2017-2019, Florida Fish and Wildlife Conservation Commission, dennis.giardina@myfwc.com

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Jimi L. Sadle, National Park Service, Everglades National Park, jimi_sadle@nps.gov

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Jessica Spencer, US Army Corps of Engineers, jessica.e.spencer@usace.army.mil

Arthur Stiles, Florida Park Service, arthur.stiles@dep.state.fl.us

Richard P. Wunderlin, Professor Emeritus, University of South Florida, rwunder@usf.edu

Florida Exotic Pest Plant Council's 2019 List of Invasive Plant Species

*The mission of the **Florida Exotic Pest Plant Council** is to reduce the impacts of invasive plants in Florida through the exchange of scientific, educational, and technical information.*

Note: The FLEPPC List of Invasive Plant Species is not a regulatory list. Only those plants listed as Federal Noxious Weeds, Florida Noxious Weeds, Florida Prohibited Aquatic Plants, or in local ordinances are regulated by law.

Purpose of the List

To provide a list of plants determined by the Florida Exotic Pest Plant Council to be invasive in natural areas of Florida and routinely update the list based upon information of newly identified occurrences and changes in distribution over time. Also, to focus attention on:

- The adverse effects exotic pest plants have on Florida's biodiversity and native plant communities,
- The habitat losses in natural areas from exotic pest plant infestations,
- The impacts on endangered species via habitat loss and alteration,
- The need for pest plant management,
- The socio-economic impacts of these plants (e.g., increased wildfires or flooding in certain areas),
- Changes in the severity of different pest plant infestations over time,
- Providing information to help managers set priorities for research and control programs.

www.fleppc.org

CATEGORY I

Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

Scientific Name	Common Name	Zone
Abrus precatorius	rosary pea	C, S
Acacia auriculiformis	earleaf acacia	C, S
Albizia julibrissin	mimosa, silk tree	N, C
Albizia lebbeck	woman's tongue	C, S
Ardisia crenata	coral ardisia	N, C, S
Ardisia elliptica	shoebutton ardisia	C, S
Asparagus aethiopicus	asparagus fern	N, C, S
Bauhinia variegata	orchid tree	C, S
Bischofia javanica	bishopwood	C, S
Calophyllum antillanum	Santa Maria	S
Casuarina equisetifolia	Australian-pine	N, C, S
Casuarina glauca	suckering Australian-pine	C, S
Cenchrus purpureus (*Pennisetum purpureum*)	elephantgrass, Napier grass	N, C, S
Cinnamomum camphora	camphor-tree	N, C, S
Colocasia esculenta	wild taro	N, C, S
Colubrina asiatica	latherleaf	S
Cupaniopsis anacardioides	carrotwood	C, S
Deparia petersenii	Japanese false spleenwort	N, C
Dioscorea alata	winged yam	N, C, S
Dioscorea bulbifera	air potato	N, C, S
Dolichandra unguis-cati (*Macfadyena unguis-cati*)	cat's-claw vine	N, C, S
Eichhornia crassipes	water-hyacinth	N, C, S
Eugenia uniflora	Surinam cherry	C, S
Ficus microcarpa[1]	laurel fig	C, S
Hydrilla verticillata	hydrilla	N, C, S
Hygrophila polysperma	green hygro	N, C, S
Hymenachne amplexicaulis	West Indian marsh grass	N, C, S
Imperata cylindrica	cogongrass	N, C, S
Ipomoea aquatica	water-spinach	C
Jasminum dichotomum	Gold Coast jasmine	C, S
Jasminum fluminense	Brazilian Jasmine	C, S
Lantana strigocamara[2]	lantana, shrub verbena	N, C, S
Ligustrum lucidum	glossy privet	N, C
Ligustrum sinense	Chinese privet	N, C, S
Lonicera japonica	Japanese honeysuckle	N, C, S
Ludwigia peruviana	Peruvian primrosewillow	N, C, S
Lumnitzera racemosa	black mangrove	S
Luziola subintegra	Tropical American watergrass	S
Lygodium japonicum	Japanese climbing fern	N, C, S
Lygodium microphyllum	Old World climbing fern	N, C, S
Manilkara zapota	sapodilla	S
Melaleuca quinquenervia	melaleuca, paper bark	C, S
Melinis repens	Natalgrass	C, S
Microsorum grossum[4]	serpent fern, wart fern	S
Microstegium vimineum	Japanese stiltgrass	N
Mimosa pigra	catclaw mimosa	C, S
Nandina domestica	heavenly bamboo, nandina	N, C
Nephrolepis brownii	Asian sword fern	C, S
Nephrolepis cordifolia	sword fern	N, C, S
Neyraudia reynaudiana	Burma reed	S
Nymphoides cristata	crested floatingheart	C, S
Paederia cruddasiana	sewer vine	S
Paederia foetida	skunk vine	N, C, S
Panicum repens	torpedograss	N, C, S
Pistia stratiotes	water-lettuce	N, C, S
Psidium cattleianum	stawberry guava	C, S
Psidium guajava	guava	C, S
Pueraria montana var. *lobata*	kudzu	N, C, S
Rhodomyrtus tomentosa	downy rose-myrtle	C, S
Ruellia simplex	Mexican petunia	N, C, S
Salvinia minima	water spangles	N, C, S
Scaevola taccada	beach naupaka, half-flower	N, C, S
Schefflera actinophylla	schefflera, umbrella tree	C, S
Schinus terebinthifolia	Brazilian pepper	N, C, S
Scleria lacustris	Wright's nutrush	C, S
Scleria microcarpa[*]	tropical nutrush	C, S
Senna pendula var. *glabrata*	Christmas senna, climbing cassia	C, S
Solanum tampicense	wetland night shade	C, S
Solanum viarum	tropical soda apple	N, C, S
Sporobolus jacquemontii	West Indian dropseed	C, S
Syngonium podophyllum	arrowhead vine	N, C, S
Syzygium cumini	Java plum	C, S
Tectaria incisa	incised halberd fern	S
Thelypteris opulenta	jeweled maidenhair fern	S
Thespesia populnea	seaside mahoe	C, S
Tradescantia fluminensis	small-leaf spiderwort	N, C
Tradescantia spathacea	oyster plant	C, S
Triadica sebifera (*Sapium sebiferum*)	Chinese tallow-tree	N, C, S
Urena lobata	Caesar's weed	N, C, S
Urochloa mutica	paragrass	N, C, S
Vitex rotundifolia	beach vitex	N

[1] Does not include *Ficus microcarpa* var. *fuyuensis*, which is sold as "green island ficus".

[2] Historically this non-native has been referred to as *Lantana camara,* a species not known to occur in Florida.

[3] Does not include the native endemic *Spermacoce neoterminalis.*

[4] *Microsorum grossum* has been previously misidentified as *Microsorum scolopendria.*

[*] Added to the FLEPPC List of Invasive Species in 2019.

Plant names are those published in the Atlas of Florida Plants (http://www.florida.plantatlas.usf.edu). For historical species nomenclature see "Guide to Vascular Plants of Florida Third Edition." Wunderlin and Hansen, University of Florida Press. 2011.

CATEGORY II

Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category 1 species. These species may become Category 1 if ecological damage is demonstrated.

Scientific Name	Common Name	Zone
Adenanthera pavonina	red sandalwood	S
Agave sisalana	sisal hemp	C, S
Alstonia macrophylla	devil tree	S
Alternanthera philoxeroides	alligatorweed	N, C, S
Antigonon leptopus	coral vine	N, C, S
Ardisia japonica	Japanese ardisia	N
Aristolochia elegans (*Aristolochia littoralis*)	calico flower	N, C, S
Asystasia gangetica	Ganges primrose	C, S
Begonia cucullata	wax begonia	N, C, S
Broussonetia papyrifera	paper mulberry	N, C, S
Bruguiera gymnorrhiza	large-leafed mangrove	S
Callisia fragrans	Inch plant	C, S
Casuarina cunninghamiana	river sheoak	C, S
Cecropia palmata	trumpet tree	S
Cenchrus polystachios (*Pennisetum polystachios*)	mission grass	S
Cenchrus setaceus (*Pennisetum setaceum*)	fountain grass	S
Cestrum diurnum	day jessamine	C, S
Chamaedorea seifrizii	bamboo palm	S
Clematis terniflora	Japanese clematis	N, C
Cocos nucifera	coconut palm	S
Crassocephalum crepidioides	redflower ragleaf	C, S
Cryptostegia madagascariensis	Madagascar rubbervine	C, S
Cyperus involucratus	umbrella plant	C, S
Cyperus prolifer	dwarf papyrus	C, S
Dactyloctenium aegyptium	Durban crow's-foot grass	C, S
Dalbergia sissoo	Indian rosewood, sissoo	C, S
Dalechampia scandens[*]	spurge-creeper	S
Distimake tuberosus (*Merremia tuberosa*)	Spanish arbor vine, wood-rose	C, S
Dracaena hyacinthoides (*Sansevieria hyacinthoides*)	bowstring hemp	C, S
Elaeagnus pungens	silverthorn, thorny olive	N, C
Elaeagnus umbellata	autumn olive, silverberry	N
Epipremnum pinnatum cv. *'Aureum'*	pothos	C, S
Eulophia graminea	Chinese crown orchid	C, S
Ficus altissima	council tree, false banyan	S
Flacourtia indica	governor's plum	S
Hemarthria altissima	limpograss	C, S
Heteropterys brachtiata	redwing	S
Hyparrhenia rufa	jaragua	N, C, S
Ipomoea carnea subsp *fistulosa*	shrub morning-glory	C, S
Kalanchoe x houghtonii	mother of millions	N, C, S
Kalanchoe pinnata	life plant	C, S
Koelreuteria elegans subsp. *formosana*	flamegold tree	C, S
Landoltia punctata	spotted duckweed	N, C, S
Leucaena leucocephala	leadtree	N, C, S
Limnophila sessiliflora	Asian marshweed	N,C, S
Livistona chinensis	Chinese fan palm	C, S
Macroptilium lathyroides	wild bushbean	N, C, S
Melaleuca viminalis (*Callistemon viminalis*)	bottlebrush	C, S
Melia azedarach	Chinaberry	N, C, S
Melinis minutiflora	molasses grass	C S
Mikania micrantha	mile-a-minute vine	S
Momordica charantia	balsam-apple	N, C, S
Murraya paniculata	orange-jessamine	S
Myriophyllum spicatum	Eurasian water-milfoil	N, C, S
Passiflora biflora	twin-flowered passion vine	S
Phoenix reclinata	Senegal date palm	C, S
Phyllostachys aurea	golden bamboo	N, C
Pittosporum pentandrum	Taiwanese cheesewood	S
Platycerium bifurcatum	staghorn fern	S
Praxelis clematidea	praxelis	C
Pteris vittata	Chinese brake, ladder brake	N, C, S
Ptychosperma elegans	solitary palm	S
Richardia grandiflora	largeflower Mexican clover	N, C, S
Ricinus communis	castorbean	N, C, S
Rotala rotundifolia	dwarf rotala, roundleaf toothcup	S
Ruellia blechum	green shrimp plant	N, C, S
Sesbania punicea	rattlebox	N, C, S
Sida planicaulis	mata-pasto	C, S
Solanum diphyllum	twinleaf nightshade	N, C, S
Solanum torvum	turkey berry	N, C, S
Spermacoce verticillata[3]	shrubby false buttonweed	C, S
Sphagneticola trilobata	wedelia	N, C, S
Stachytarpheta cayennensis	nettle-leaf porterweed	S
Syagrus romanzoffiana	queen palm	C, S
Syzygium jambos	Malabar plum, rose-apple	N, C, S
Taliparitti tiliaceum	mahoe, sea hibiscus	C, S
Terminalia catappa	tropical-almond	C, S
Terminalia muelleri	Australian–almond	C, S
Tribulus cistoides	puncture vine, burr-nut	N, C, S
Urochloa maxima (*Panicum maximum*)	Guineagrass	N, C, S
Vernicia fordii	tung-oil tree	N, C, S
Vitex trifolia	simple-leaf chastetree	C, S
Washingtonia robusta	Washington fan palm	C, S
Wisteria sinensis	Chinese wisteria	N, C
Xanthosoma sagittifolium	malanga, elephant ear	N, C, S

Appendix G

Known Historical and Archaeological Resources in the Central Region

Table 1 Known Archaeological Resources in the Econfina Creek WMA

FMSF Site Number	Site Name	Resource Type	Eligibility (SHPO)
BY01005	Gainer (Black) Cemetery	Cemetery	
WS00463	The Ekanachattee Trail	Resource Group	Not Eligible
WS00471	Dykes Homestead	Standing Structure	
WS00472	Dykes Canal	Resource Group	Not Eligible
WS01030	Carter's Canal #1	Resource Group	Not Eligible
WS01031	Carter's Canal #2	Resource Group	

Key:
FMSF = Florida Master Site File.
SHPO = State Historic Preservation Office.

Table 2 Known Archaeological Resources in the Choctawhatchee River & Holmes Creek WMA			
FMSF Site Number	Site Name	Resource Type	Eligibility (SHPO)
HO00565	Louisville & Nashville Railroad Bonifay	Resource Group	Eligible
WL02043	The Ekanachattee Trail	Resource Group	Not Evaluated
WL02351	NN	Bridge	Not Eligible

Key:
FMSF = Florida Master Site File.
SHPO = State Historic Preservation Office.