# Draft Land Management Plan

## Potts Preserve

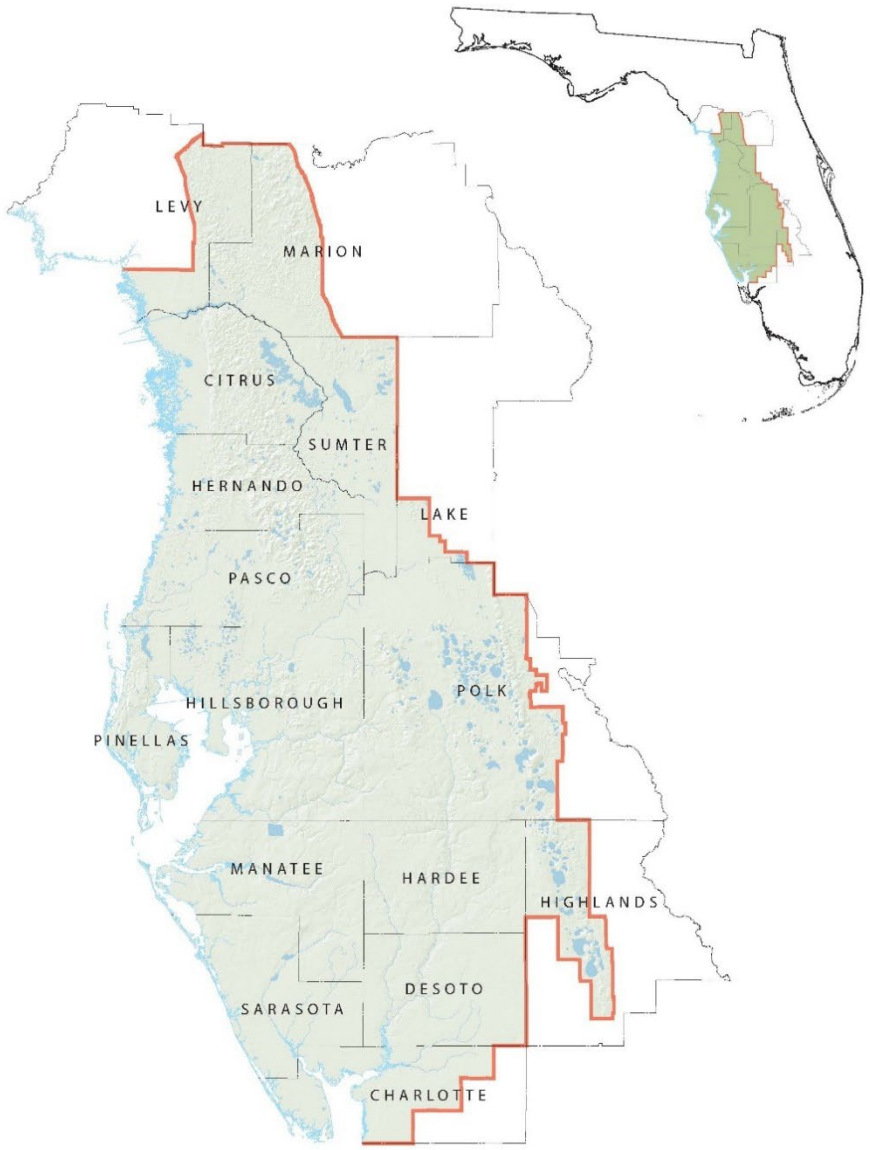
**Land Resources Bureau**

**Southwest Florida Water Management District**

**July 26, 2022**

The Southwest Florida Water Management District (District) is a science-based organization responsible for managing and protecting water resources in west-central Florida. The District's job is to ensure there are adequate water supplies to meet the needs of current and future users while protecting and restoring water and related natural resources.

The District encompasses all or part of 16 counties, from Levy County in the north to Charlotte County in the south. It extends from the Gulf of Mexico east to the highlands of central Florida. The District contains 97 local governments spread over approximately 10,000 square miles, with a total population estimated to be 5.4 million in 2020.



Southwest Florida
Water Management District

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# Executive Summary

Acres: 9,375

Acquisition Dates: 1988-1993

Plan Term: 10 Years (2023-2032)

Primary Basin: Withlacoochee River

Secondary Basins: Tsala Apopka Outlet

Location: Citrus County

Funding Source: Save Our Rivers, Preservation 2000

Partnerships: Florida Fish and Wildlife Conservation Commission (FWC)

Natural Systems: Potts Preserve (Preserve) is dominated by an extensive network of basin marsh, interspersed with islands of scrub, scrubby flatwoods and mesic hammock. The Preserve is bounded on the east by five miles of Withlacoochee River frontage, where forested wetlands dominate the floodplain. Most of the basin marsh is sovereign submerged lands held in trust by the State of Florida.

Water Resources: Water management benefits associated with the property include both structural and non-structural flood protection, water quality enhancement, and water supply. The water supply benefits are associated with high recharge values.

Land Management: The District's land management practices seek to enhance and restore the property's natural systems and water management functions. Management activities conducted on the Preserve have include prescribed burning, scrub restoration, management and monitoring of wildlife, control of invasive non-native plant species, and control of feral hogs.

Cultural and Historical Resources: A total of 11 archaeological sites have been documented on the Preserve and recorded in the Florida Master Site File by the Florida Division of Historical Resources (DHR). The sites represent a broad range of cultural periods, extending from the Archaic (8,500 B.C. – 1,000 B.C.) and Prehistoric (1,000 B.C.- 1,000 A.D.) periods to the early 20$^{th}$ Century. The Preserve also has historical significance related to the Second Seminole War.

Recreation: A variety of passive, resource-based recreational opportunities are accommodated at the Preserve including hiking, horseback riding, bicycling, camping, birding, nature study, hunting, and fishing. Hunting activities in the eastern half of the Preserve are managed by the Florida Fish and Wildlife Conservation Commission as part of the Potts Wildlife Management Area.

Special Use Authorizations: The District can issue a Special Use Authorization (SUA) to allow a use or activity that are not otherwise allowed on the property. SUAs must be approved by the District as set forth in Florida Administrative Code §40D-9. The range of special uses that can be authorized by SUAs include recreational activities, research projects, educational study, or special events conducted in accordance with any restrictions or guidance dictated by the District.

Access: Public access to the Preserve is provided at two locations. The main entrance and parking area are located at 2700 Dee River Road. A secondary entrance near the Withlacoochee River at 2988 North Hooty Point provides access to the riverfront campground and network of hiking trails.

Real Estate: The Dee River Ranch/Potts Preserve property was purchased by the District in four stages, beginning in May 1988 with the initial purchase of 3,782 acres through the Save Our Rivers Program (SOR). The three subsequent acquisitions culminated in July 2000 with purchase of the final parcel of 83 acres, bringing the total acreage of the Preserve to the current 9,375 acres. The majority of the Preserve was purchased through SOR except for an 841-acre parcel purchased using funds from the Preservation 2000 Program.

Cooperative Agreements, Leases, and Easements: Hunting activities on the Preserve are managed by FWC in accordance with an agreement that established the Potts Preserve Wildlife Management Area (WMA). The Preserve is not currently subject to any cooperative agreements, leases or easements. Previously, the District has worked cooperatively with the Florida Trails Association (FTA) to facilitate the development of recreational hiking trails on the Preserve.

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# Introduction and General Information

## Management Plan Purpose

This Management Plan (Plan) establishes the District's management strategy for Potts Preserve for the 10-year period from 2023-2032. The process for creating, updating, and implementing the Plan is outlined by the District's Governing Board Policy titled Land Use and Management (District Policy) and the District's Executive Director Procedure titled Land Use and Management Planning (Procedure) dictates how District-owned conservation lands are to be used and managed. District-owned conservation lands are managed for the protection of water resources and natural systems through the application of effective and efficient land management practices. This Plan provides an overview of the property and its resources, a summary of past achievements, and an outline of the goals and objectives for the next 10-year planning period.

### District Planning Philosophy

The District's planning philosophy ensures that Management Plans are developed and implemented with input from both internal and external stakeholders. Management Plans are designed to guide the public use and resource management of District conservation lands and incorporate input from stakeholders. They are developed through a process of planning, coordination, data review, field reconnaissance, and creation of a property-specific series of goals and objectives. Following development of a draft Management Plan, it is reviewed by an array of stakeholders including District staff, subject matter experts, relevant state agencies and local governments, partners, and key user groups.

Following review of a draft Management Plan by the stakeholders identified above, a public workshop is scheduled to solicit public input. Such workshops are advertised though a variety of media including local newspapers, the District's website, and social media platforms to ensure the public is apprised of the workshop, which is be conducted within the region where the property is located. The public can also provide input via the District's website during the period preceding and following the workshop. A final draft of the Management Plan is prepared after receiving the public's input and then presented to the District's Governing Board for formal approval at a scheduled meeting of the Governing Board.

### Public Involvement

The District also provides the opportunity for stakeholders and the public to provide input on management and public use during the Land Management Review process. Land Management Reviews are conducted periodically as a way to both inform the public of the District's land management activities and to gauge the District's progress in implementation of the plan. This process helps ensure the District is managing the land in accordance with the Management Plan, and in a manner consistent with the purpose for which the property was acquired. The Land Management Review team is comprised of representatives of various state agencies, cooperative partners, private land managers, and other interested parties with expertise in resource management. The reviews culminate in an evaluation report that is submitted for review and consideration by District staff and ultimately presented to the District's Governing Board.

## District Strategic Plan

The 2022 – 2026 Strategic Plan outlines the District's focus in each of the four planning regions over the next five-year planning cycle (SWFWMD, 2022). The Strategic Plan identifies 11 strategic initiatives as they relate to the District's core mission of water supply, water quality, natural systems, and flood protection. The goal for natural systems is to preserve, protect, and restore natural systems to support their natural hydrologic and ecologic functions (Natural Systems Goal). The Conservation and Restoration Strategic Initiative contained within the Strategic Plan supports the Natural Systems Goal, and the major components of this initiative include land acquisition and management, ecosystem monitoring and restoration, education, and regulation. Land acquisition and management are critical to the District's conservation and restoration objectives. If land acquired has been altered, that land may be restored if necessary and then managed to maintain ecological and hydrological functions. In addition, land management is identified as one of seven Core Business Processes critical to achieving the District's Strategic Initiatives and Regional Priorities as defined in the Strategic Plan.

## Management Authority

The Preserve is considered by the District as conservation land which dictates the management intent for the property. Pursuant to Subsection 373.089(6)(c) of the Florida Statutes, all lands titled to the District prior to July 1, 1999, were designated as having been acquired for conservation purposes. This brings parcels that were purchased originally as water control projects within the purview of conservation land management. Other parcels that were later acquired under conservation land acquisition programs are also managed for these same purposes.

Furthermore, pursuant to Section 373.1391 of the Florida Statutes, lands titled to the District should be managed and maintained, to the extent practicable, in such a way as to ensure a balance between public access, recreation, and the restoration and protection of their natural state and condition. District Policy and District Procedure govern the use and management of these lands in accordance with Chapters 259 and 373 of the Florida Statutes.

## Location

The Preserve is located in Citrus County approximately two miles north of Inverness (**Figure 1**). It encompasses a total area of 9,375 acres (**Figure 2)** and is bounded on the east by the Withlacoochee River and on the south by East Hooty Point Road, East Turner Camp Road and Dee River Road. Approximately half of the preserve lies within the Hernando Pool of the Tsala Apopka Lake system (**Figure 3**), a structurally managed system that interacts with the Withlacoochee River through natural overflows. The primary public access to the Preserve is via the Main Road entrance located at the terminus of Dee River Road. A secondary public access point, which provides more direct access to the riverfront campground and hiking trail network, is located off North Hooty Point Road.

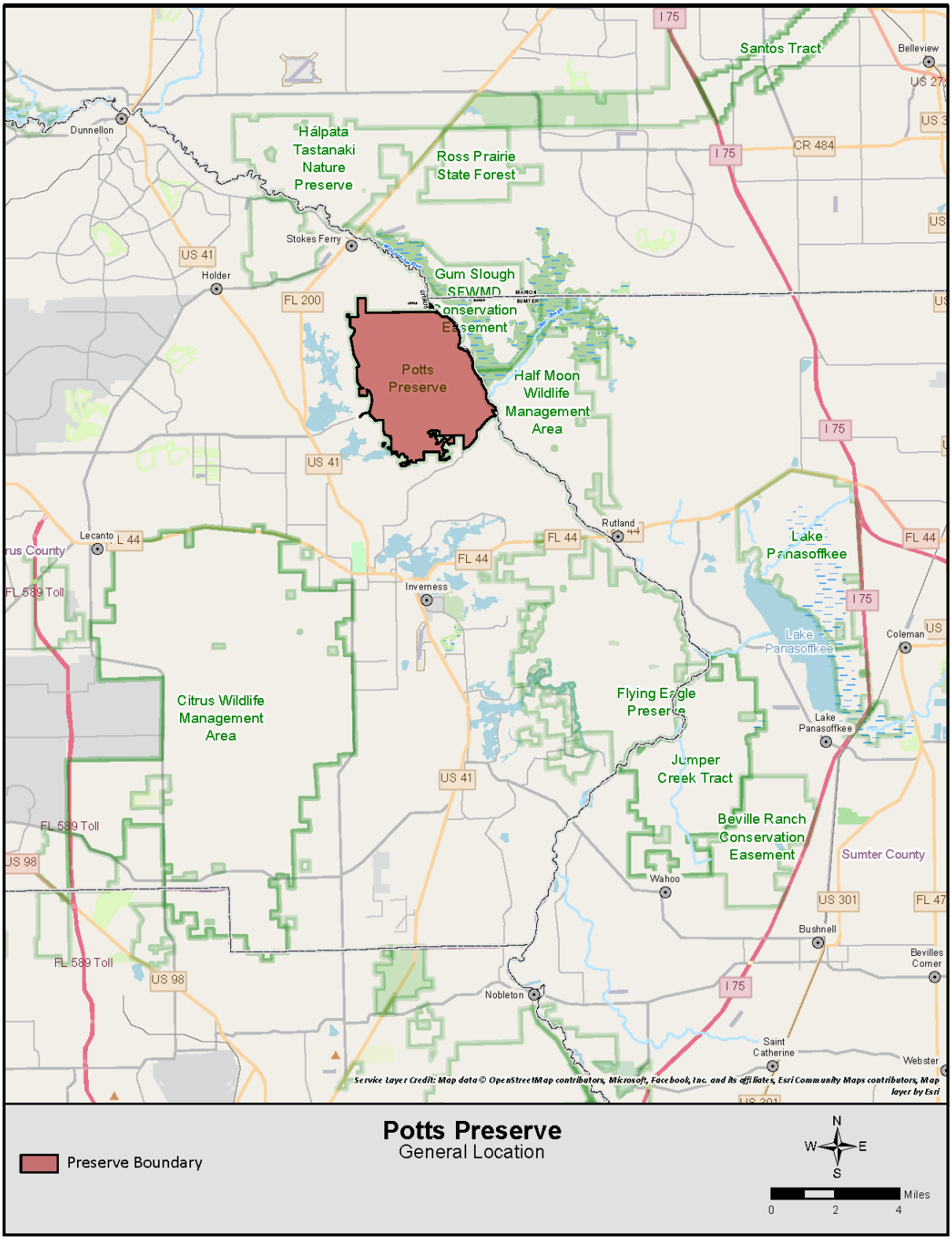


FIGURE 1. GENERAL LOCATION

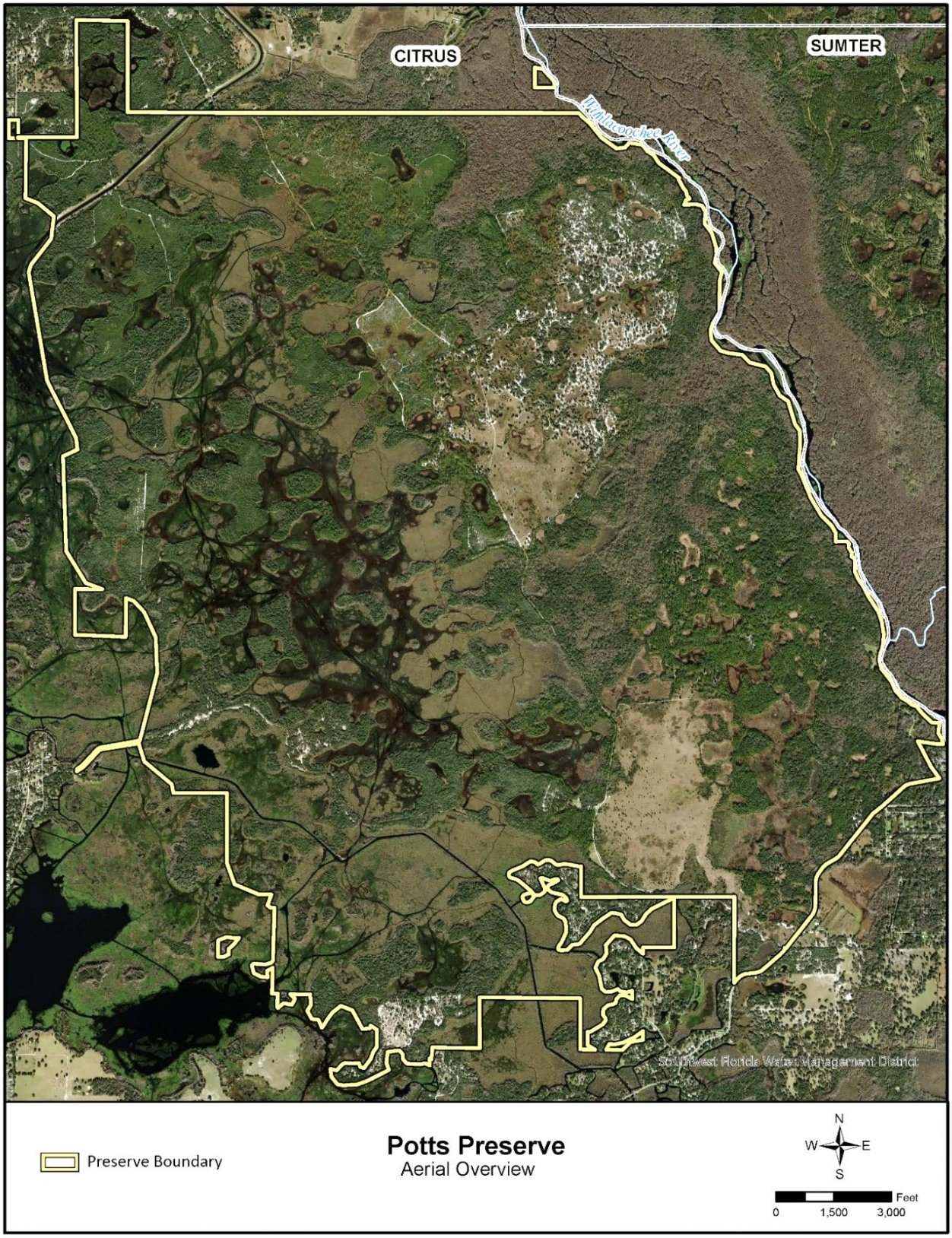


**FIGURE 2. AERIAL OVERVIEW**

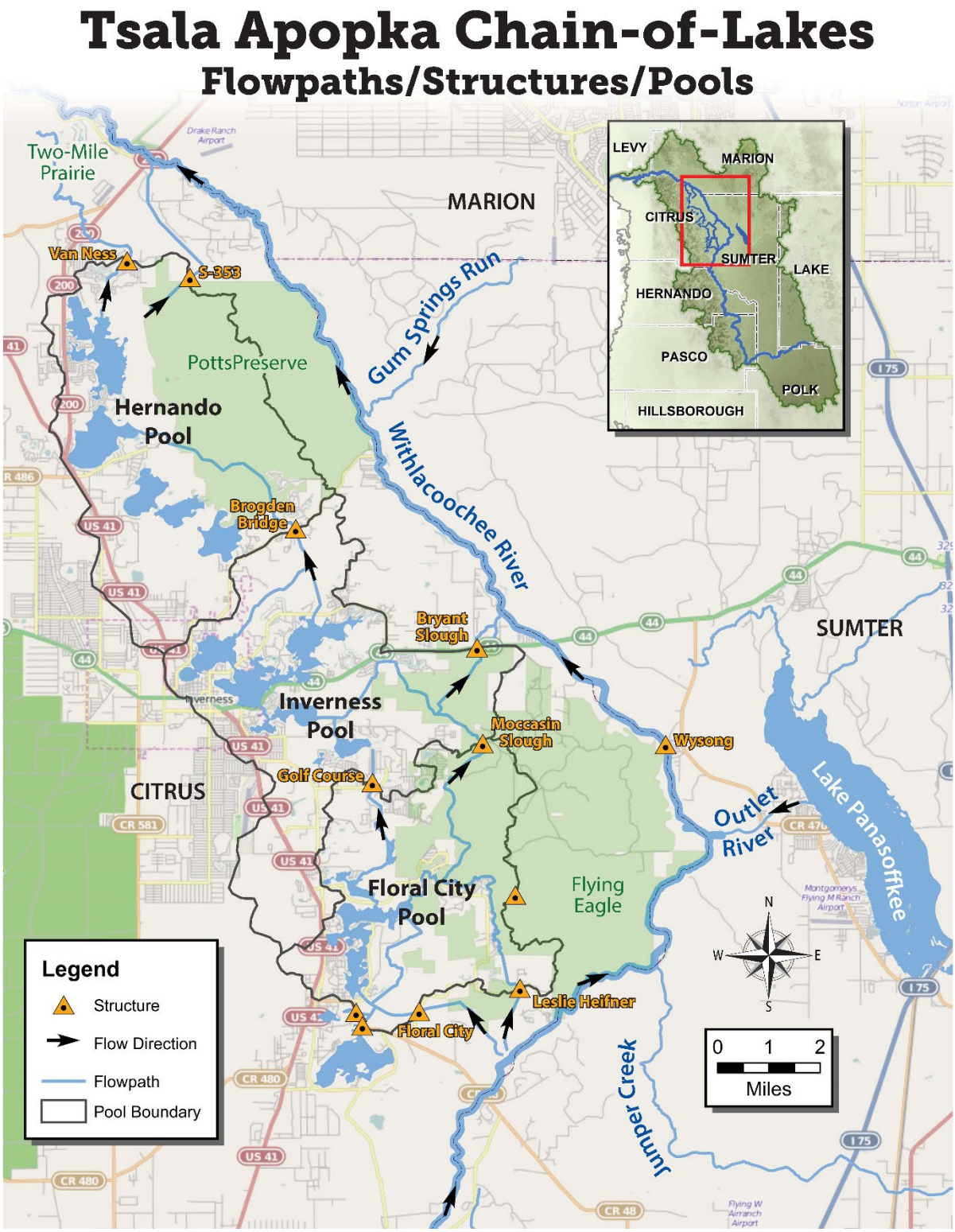


FIGURE 3. TSALA APOPKA LAKE SYSTEM

## Acquisition

### Policy

Pursuant to Section 373.139(2), Florida Statutes, the District's Governing Board is empowered and authorized to acquire title to real property for purposes of flood control, water storage, water management, conservation and protection of water resources, aquifer recharge, water resource and water supply development, and preservation of wetlands, streams, and lakes. Lands evaluated for purchase by the District shall be evaluated based on the District's four (4) Areas of Responsibility (AORs): water supply, water quality, flood control, and natural systems. The Governing Board is primarily interested in acquiring conservation lands that meet at least two (2) of the four (4) AORs.

### History

Potts Preserve was acquired by the District through a series of purchases initiated in 1988 through the Save Our Rivers Program. The parent parcel was known at the time of purchase as Dee River Ranch. It was subsequently renamed Potts Preserve in memory of a District staff member who suffered a fatal accident while working on the property. A cumulative total of approximately $12.8 million in funds from the Water Management Lands Trust Fund were applied to the purchase of the Preserve.

### Regional Significance

The Preserve has been distinguished as a highly significant priority for conservation through a comprehensive geographic analysis conducted jointly the by the Florida Natural Areas Inventory (FNAI) and the University of Florida's Center for Landscape Conservation Planning. The Critical Lands and Water Identification Project (CLIP) ranks lands statewide on the basis of nine separate natural resource values, aggregates them into three different categories, and then scores them from 1 (highest) to 5 (lowest). The resource categories are Biodiversity, Landscape and Surface Water Resources. The three resource categories are then aggregated again to create one overarching ranking of natural resource conservation value. Additional information about the CLIP methodology can be obtained from the CLIP Technical Report (Oetting *et al.,* 2016). The most current version of the CLIP analysis (Version 4.02) ranks Potts Preserve as follows:

- Biodiversity Resource Category: Priority Levels 1, 2 and 3
- Landscape Resource Category: Priority Level 3
- Surface Water Resource Priorities: Priority Levels 1, 2, 3 and 4
- Aggregated Resource Priorities: Priority Levels 1 and 2

The high CLIP rankings are reflected in much of the discussion that follows, especially the section addressing Water Resources and Natural Systems, because they are a result of the Preserve's importance in protecting floodplains, wetlands, recharge areas, and natural systems that support native flora and fauna. The Preserve is also an important link in a regional network of conservation lands that provides extensive opportunities for the public to enjoy resource-based recreation. The Preserve is available for hiking, horseback riding, bicycling, camping (primitive, equestrian, and backcountry), fishing, hunting, bird watching, and nature study.

## Regional Conservation Network

Potts Preserve adds 9,375 acres to the network of protected conservation land in the surrounding region, which encompasses portions of Levy, Marion, Citrus, Sumter, and Hernando counties (**Figure 4)**. The Preserve itself is located at the center of a virtually continuous corridor of protected conservation lands that extends along a 35-mile length of the Withlacoochee River. The District has played a leading role in the protection of this corridor through acquisition of the Flying Eagle Preserve, Panasoffkee Outlet, Half Moon-Gum Slough portion of the Half Moon Wildlife Management Area, Gum Slough Conservation Easement, Halpata Tastanaki Preserve, and Two-Mile Prairie State Forest. This region contains an abundance of conservation land including the Withlacoochee State Forest, Goethe State Forest, Crystal River Preserve State Park, Rainbow River State Park, Chassahowitzka National Wildlife Refuge, and the Marjorie Harris Carr Cross Florida Greenway (**Table 1**).

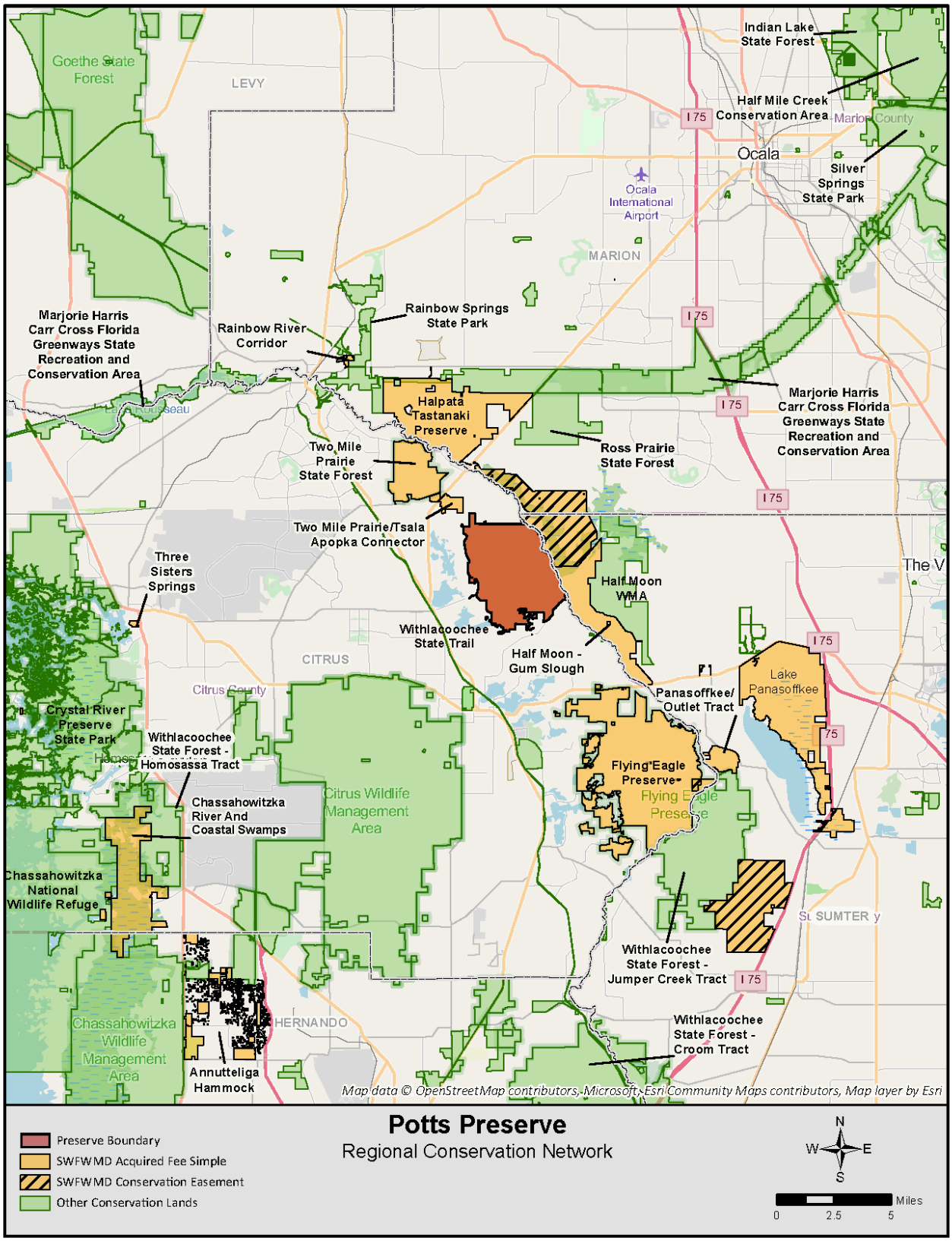


FIGURE 4. REGIONAL CONSERVATION NETWORK

## TABLE 1. CONSERVATION LANDS WITHIN THE VICINITY

| Name | Owner | Manager | County | Acreage |
|---|---|---|---|---|
| **Flying Eagle Preserve** | SWFWMD | SWFWMD | Citrus | 16,338 |
| **Chassahowitza River and Coastal Swamps** | SWFWMD | SWFWMD | Citrus | 5,748 |
| **Lake Panasoffkee** | SWFWMD | SWFWMD | Sumter | 9,881 |
| **Panasoffkee Outlet** | SWFWMD | SWFWMD | Sumter | 813 |
| **Halpata Tastanaki Preserve** | SWFWMD | SWFWMD | Marion | 7,889 |
| **Annutteliga Hammock** | SWFWMD | SWFWMD | Hernando | 2,316 |
| **Gum Slough Conservation Easement** | SWFWMD | Private | Sumter and Marion | 5,801 |
| **Beville Ranch Conservation Easement** | SWFWMD | Private | Sumter | 5,471 |
| **Half Moon Wildlife Management Area** | SWFWMD and TIITF | FWC | Sumter | 9,554 |
| **Chassahowitzka Wildlife Management Area** | TIITF | FWC | Citrus and Hernando | 27,263 |
| **Janet Butterfield Brooks WEA** | TIITF | FWC | Hernando | 318 |
| **Withlacoochee State Forest – Jumper Creek, Croom, Citrus, Richloam** | TIITF | FFS | Sumter, Citrus, Hernando, and Pasco | 160,042 |
| **Ross Prairie State Forest** | TIITF | FFS | Marion | 3,541 |
| **Goethe State Forest** | TIITF | FFS | Levy and Alachua | 54,237 |
| **Indian Lake State Forest** | TIITF | FFS | Marion | 4,466 |
| **Cross Florida Greenway** | TIITF | FDEP | Levy, Marion, Citrus | 71,100 |
| **Rainbow Springs State Park** | TIITF | FDEP | Marion | 1,471 |
| **Silver Springs State Park** | TIITF | FDEP | Marion | 4,666 |
| **Crystal River Preserve State Park** | TIITF | FDEP | Citrus | 27,596 |
| **Homosassa Spring State Park** | TIITF | FDEP | Citrus | 200 |
| **Fort Cooper State Park** | TIITF | FDEP | Citrus | 734 |
| **Chassahowitzka National Wildlife Refuge** | Federal | USFWS | Citrus and Hernando | 30,842 |
| **Total** | | | | 450,287 |

SWFWMD – Southwest Florida Water Management District
FWC- Florida Fish and Wildlife Conservation Commission
FDEP – Florida Department of Environmental Protection
FFS – Florida Forest Service
USFWS – United States Fish and Wildlife Service
TIITF- Board of Trustees of the Internal Improvement Trust Fund

## Current Land Use

The Preserve is managed to conserve and protect its water resources and natural systems values. In addition, the Preserve provides compatible, resource-based recreational opportunities to the public. It is the policy of the District that appropriate public recreational usage of District lands be allowed, provided the usage is compatible with natural resource management and protection responsibilities. This approach is consistent with Chapter 373 of the Florida Statutes, which states that "Lands titled to the governing boards of the districts shall be managed and maintained, to the extent practicable, in such a way as to ensure a balance between public access, general public recreational purposes, and restoration and protection of their natural state and condition." The Preserve will continue to be managed consistent with this multiple-use approach. Passive recreational uses at the Preserve include equestrian camping, primitive camping, backcountry camping, picnicking, hiking, bicycling, equestrian use, bird watching, and nature study. Current natural resource management activities at the Preserve include prescribed burning, forest management, imperiled species protection, control of invasive non-native species, trail and firebreak maintenance, and site security.

## Local Government Land Use Designation

The Citrus County Comprehensive Plan was developed in accordance with the requirements of Chapter 163 of the Florida Statutes, and Chapter 9J-5 of the Florida Administrative Code. The Comprehensive Plan provides a comprehensive framework for future development in the County that is designed to provide all the services and amenities necessary to maintain a high quality of life for its residents. The Comprehensive Plan designates the Preserve in the Conservation Category in its Generalized Future Land Use Map. It is likewise zoned as Conservation.

## Adjacent Land Uses

The Preserve is bounded on the north and south by rural lands and low-density residential development. To the west is a continuation of the basin marsh and open water lakes of the Tsala Apopka lake system. The entire eastern boundary adjoins a continuous expanse of other publicly owned conservation lands, including the District-owned Half Moon Gum Slough property, which is managed by the FWC as part of the Half Moon Wildlife Management Area, and private lands over which the District holds a conservation easement (**Figure 4**).

## Management Challenges

### Marsh with Intermixed Uplands

The dominant natural community type within the Preserve is basin marsh. This marsh includes intermixed uplands throughout and access to these uplands can be challenging. It is not realistic to maintain hard control lines for prescribed fire applications and wetlands need to be inundated to safely apply fire. On many of these islands other land management techniques like mechanical treatments are limited due to access and wetland disturbance potential. Additionally, the navigability and inter-connected nature of most of the basin marsh results in a lot of trails occurring throughout the marsh system. As such, extra care must be taken when conducting land management activities to avoid impacting folks recreating on this tract.

# Historical Land Use and Cultural Resources

## Historical Land Use

The lands comprising the Preserve were used primarily as a cattle ranch prior to being purchased by the District. Turpentining and logging were other uses that pre-dated the District's acquisition of the property. The Preserve's prior identity as Dee River Ranch is still reflected in the name of the road that now serves as the main entrance to the Preserve (Dee River Road). The presence of substantial areas of improved and semi-improved pasture, as noted in the discussion of Natural Systems, is a legacy of its ranching history and aside from some old cattle pens, there is little remaining structural evidence of this history.

## Cultural and Archaeological Resources

A total of 11 sites with archaeological or other cultural significance have been documented on the Preserve and recorded in the Florida Master Site File by the Florida Division of Historical Resources (DHR). The sites represent a broad range of cultural periods, extending from the Archaic (8,500 B.C. – 1,000 B.C.) and Prehistoric (1,000 B.C.- 1,000 A.D.) periods to the early 20$^{th}$ Century. At least five of the sites have been determined to potentially qualify for listing in the National Register of Historic Places.

The presence of culturally significant resources on the Preserve is unsurprising given the landscape context of the property, which would have provided easy access to water, a variety of food sources, and high ground suitable for habitation. This combination of features made it highly attractive to aboriginal peoples. Additional cultural significance is derived from the more contemporary role of the Preserve had during the Second Seminole War. The Tsala Apopka system's large, complex mosaic of marshland and interspersed upland islands, known collectively during the period as the "Cove of the Withlacoochee", served as a refuge for Seminoles during the early years of the War (1835 – 1836) when they sought places of refuge to hide from the U.S. Army forces pursuing them (Weisman, 1985).

Protection of the Preserve's archaeological and historical resources will consist primarily of preventing or avoiding physical disturbance and monitoring for any evidence of looting. The known sites are isolated and relatively difficult to access, helping to insulate them from unauthorized activities, and currently they show no signs of recent looting. Monitoring for signs of disturbance during the course of regular management activities will allow staff to respond appropriately to any observed evidence of looting. The District will ensure that its land managers take the Archaeological Resource Management training offered by the Division of historic Resources' Bureau or Archaeological Research.

# Water Resources and Natural Systems

The acquisition of land to conserve and manage water resources is an important component of the District's strategic approach to meeting its four primary Areas of Responsibility (AORs). These AORs include flood protection, water supply, water quality, and natural systems protection. The District's overall Mission is to protect water resources, minimize flood risks, and ensure the public's water needs are met. The District is one of five regional agencies directed by state law to protect and preserve water resources within its area of jurisdiction. Initially created in 1961 to develop, operate and maintain several large flood protection projects, the District's responsibilities have since expanded to also include managing water supply sources, protecting water quality, and protecting natural systems including rivers, lakes, wetlands, and associated uplands.

## Water Quality

The Preserve is dominated by basin marsh, which accounts for 3,244 acres, or 36 percent, of the total area encompassed within its boundary (**Table 2**). When combined with the occurrences of hydric hammock, wet flatwoods and floodplain swamps, wetland land cover accounts for more than 5,000 acres or 55 percent of the Preserve. The role of the Preserve in protecting or enhancing water quality is centered primarily around the presence of these wetlands. Their ability to filter sediments and nutrients helps to protect the nearby Tsala Apopka lake system and the Withlacoochee River (**Figure 5**). Significant volumes of the cleansed water also infiltrate the Floridan Aquifer via recharge, ultimately reaching several first magnitude springs along the gulf coast of Florida. The floodplain swamps along the Preserve's eastern boundary provide a natural buffer between the Tsala Apopka marshes and the Withlacoochee River. Overall, the Preserve's wetlands trap sediments and nutrients, and enhance water quality in downstream reaches of the river and throughout portions of the Tsala Apopka Lake system.

## Water Supply

Ensuring adequate water supplies for humans and the environment is central to the District's Mission. A variety of effective water supply programs, including water use permitting, address the use and management of surface and groundwater sources. The District's regulatory efforts are balanced with other strategies, including incentives provided through the Cooperative Funding Initiative that support water conservation and the development of alternative water supplies such as reclaimed water, surface water, brackish groundwater, seawater desalination or other non-traditional sources.

The Preserve's contribution towards meeting the District's water supply needs is through the significant groundwater recharge that takes place across the western half of the property. The Floridan Aquifer is largely unconfined across the Tsala Apopka Plain and occurs very close to the land surface. This combination of hydrogeologic characteristics results in an estimated recharge rate of 1-20 inches per year. It also makes the Floridan Aquifer in this area highly vulnerable to contamination. District ownership of the Preserve ensures this area of high recharge will be protected, while preventing land uses that could potentially contaminate the aquifer.

## Flood Protection

Flood protection is another important AOR for the District and served as the initial impetus for creation of the agency. Historically, flood protection depended upon the construction of control structures and storage features. Widespread flooding in 1960 impacted many homes and properties along the Withlacoochee River and throughout the Tsala Apopka lake system. This prompted the construction of a flood control structure (S-353) and conveyance canal (C-331) in the late 1960s to help alleviate future flooding in the region. These flood control features diverted the natural outflow from the lakes, which historically passed through the lands of Potts Preserve, to a point farther downstream along the Withlacoochee at Hwy 200. In later years, a natural approach to flood protection was adopted by the District as a more environmentally sound and cost-effective method. Natural flood protection depends upon identifying and preserving natural floodplains and other land that can serve as storage areas for storm-generated floodwater. A large part of this passive flood protection is the purchase of environmentally sensitive lands like Potts Preserve.

With over 80 percent of the property being either wetland, located within in the 100-year floodplain (**Figure 6**), or otherwise recognized as flood prone, the Preserve provides significant natural flood protection benefits. Wetland areas and floodplains have a natural ability to store, detain, and absorb water generated by storm events. The result is a reduction in the peak elevation of floodwaters, a moderated or attenuated release of floodwater, and improved water quality in areas located downstream.

The western half of Potts Preserve is located within the Hernando Pool of the Tsala Apopka lake system. Today, the District balances flood protection and recreation in this area by operating nearly a dozen water conservation structures to move water between the Withlacoochee River and the three pools of the Tsala Apopka lake system. This affects water levels in portions of Potts Preserve by helping to mitigate extreme droughts or floods that the region naturally experiences. Along the eastern portions of the property, flooding occurs periodically due to natural fluctuations along the Withlacoochee River. While there are water control structures upstream and downstream of this area along the Withlacoochee, there are no water management activities that affect the river adjacent to Potts Preserve.

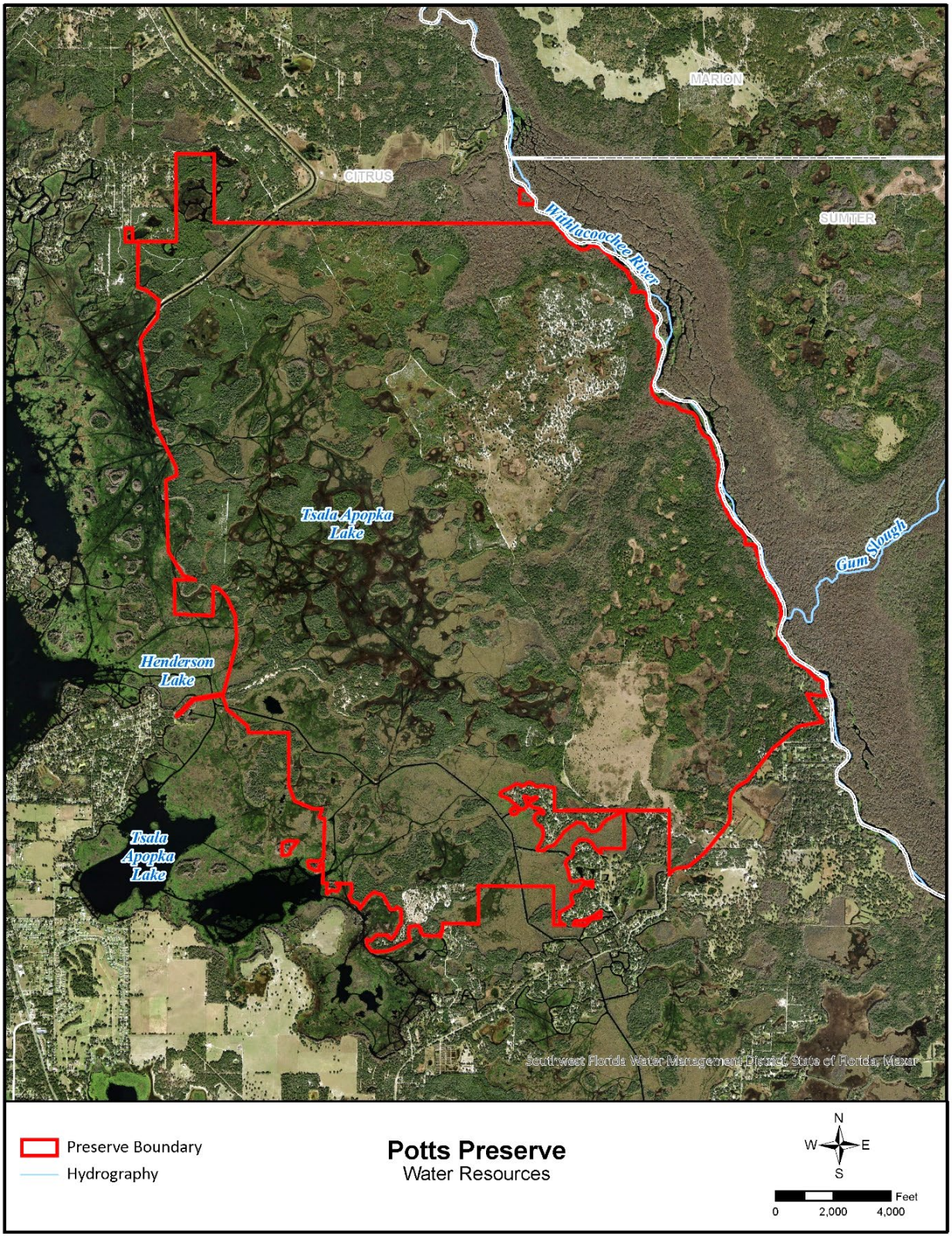


FIGURE 5. WATER RESOURCES

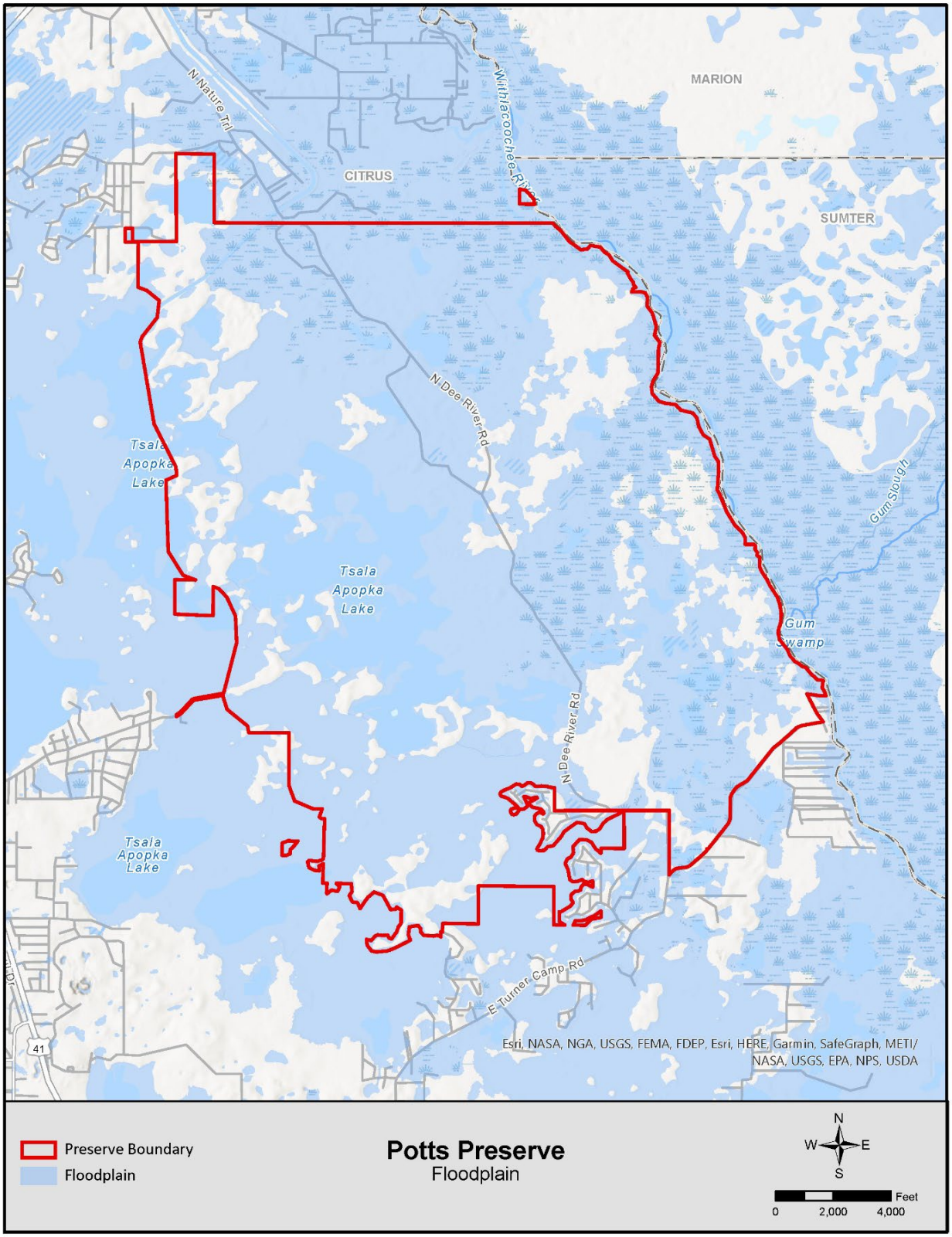


FIGURE 6. FLOODPLAIN MAP

## Natural Systems

The western half of the Preserve is a complex mosaic of forested upland communities interspersed within a matrix of basin marsh. Upland communities attain a greater dominance in the eastern half of the Preserve, with a band of floodplain swamp lining the 5.5-mile stretch of frontage on the Withlacoochee River, which defines the eastern boundary of the property. A discontinuous swath of forested wetlands forms a hydrologic connection between the Withlacoochee River and the basin marshes to the west during periods of high water.

The Preserve's diverse array of wetland and upland natural communities provides habitat for a similarly diverse assemblage of native animal and plant species. Most of these natural communities are dependent on recurring fire to maintain habitat values and benefit greatly from the District's land management activities, such as, application of prescribed fire.

The following discussion of the Preserve's natural communities follows the classification system used by the Florida Natural Areas Inventory (FNAI). For a more detailed discussion, refer to FNAI's *Guide to the Natural Communities of Florida* or to the site-specific survey conducted on Potts Preserve by FNAI staff (FNAI, 2006).

The Preserve was surveyed intensively by FNAI biologists and much of the site-specific information compiled by their survey has been incorporated into the descriptions that follow. **Figure 7** illustrates the geographic distribution of natural communities across the Preserve, and the community type breakdown is provided in **Table 2**.

### TABLE 2. NATURAL COMMUNITY TYPE SUMMARY

| Natural Community Type | Acreage | Percentage Cover |
|---|---|---|
| **Basin Marsh** | 3,244 | 35.7% |
| **Mesic Hammock** | 1,540 | 16.5% |
| **Semi-Improved Pasture** | 760 | 8.1% |
| **Improved Pasture** | 545 | 5.8% |
| **Scrub** | 541 | 5.7% |
| **Hydric Hammock** | 505 | 5.4% |
| **Wet Flatwoods** | 469 | 5.0% |
| **Depression Marsh** | 335 | 3.5% |
| **Floodplain Swamp** | 310 | 3.3% |
| **Mesic Flatwoods** | 246 | 2.6% |
| **Ruderal** | 228 | 2.4% |
| **Xeric Hammock** | 213 | 2.2% |
| **Scrubby Flatwoods** | 211 | 2.2% |
| **Basin Swamp** | 99 | 1.0% |
| **Dome Swamp** | 85 | 0.9% |
| **Total** | 9,334 | 100% |

## Wetland Communities

*Basin Marsh (3,244 acres)*
Basin marsh occurs in large, irregularly shaped depressions. The west half of Potts Preserve is dominated by an extensive, inter-connected network of basin marsh that accounts for more than 35 percent of the entire area encompassed within the Preserve boundary. Characteristic vegetation of basin marshes includes sawgrass, maidencane, dotted smartweed, and bulltongue arrowhead. Deeper areas with open water frequently have American white waterlily. Other common herbaceous species include blue maidencane, lemon bacopa, and soft rush. -Shrubs and trees, including wax myrtle, buttonbush, red maple, slash pine and bald cypress are generally restricted to the edges. Wildlife species dependent on basin marsh habitat include the American alligator, Florida sandhill crane, numerous species of wading birds, round-tailed muskrat, and many fish and amphibian species.

*Depression Marsh (335 acres)*
Depression marsh is an herbaceous wetland community that is generally found in circular depressions, and often features concentric zones of vegetation that radiate inward from the outer edge towards deeper, wetter zones in the center. At Potts Preserve, most of the numerous depression marshes are dominated by maidencane and generally have little woody plant encroachment. Other herbaceous species include blue maidencane, bushy bluestem, broomsedge bluestem, lemon bacopa, sawgrass, Virginia buttonweed, Gulf Coast spikerush, tenangle pipewort, swamp rosemallow, manyflower marshpennywort, soft rush, Carolina redroot, yellow pondlily, American white waterlily, pale meadowbeauty, largeflower rosegentian, and Virginia chain fern. Trees are generally absent or sparse in depression marsh, but may include red maple, sweetgum, swamp tupelo, and slash pine. The presence of such tree species is usually an indicator of hydrologic alteration or fire suppression.

*Floodplain Swamp (310 acres)*
Floodplain swamp is a forested community dominated by deciduous tree species, and typically occurs along rivers and streams where prolonged flooding limits plant diversity. At Potts Preserve, the floodplain swamp is continuous along the east boundary next to the Withlacoochee River and is essentially unaltered from its historic natural condition. The swamp consists of a closed canopy of mature trees with few shrubs or herbs and expansive areas of exposed mucky soil. The canopy is dominated by mature bald cypress, with red maple, water hickory, green ash, cabbage palm, and American elm also present. The subcanopy is composed of younger specimens of the canopy species, particularly green ash, red maple, and American elm. The few shrubs present include buttonbush and young cabbage palms. Herbs are generally sparse but may include royal fern and marsh fern.

Noteworthy wildlife species that depend on floodplain swamps for habitat include the American alligator, limpkin, swallow-tailed kite, wood stork, Florida long-tailed weasel, and Florida black bear. The Withlacoochee River corridor provides especially important habitat for the limpkin owing to the presence of large numbers of apple snails. FNAI has identified the Withlacoochee River as one of Florida's exemplary occurrences of floodplain swamp.

*Wet Flatwoods (469 acres)*
Wet flatwoods are a forested wetland natural community that features a pine canopy and shrubby and/or herbaceous understory. Wet and mesic flatwoods are often intermixed. Wet flatwoods require frequent fires to prevent hardwood encroachment and to promote herbaceous species survival and diversity. Fire likely occurred naturally in wet flatwoods every 3-10 years during the late spring/early summer lightning season. Wet flatwoods are most prominent in the east half of Potts Preserve where they frequently border the numerous marshes.

The Preserve's wet flatwoods are characterized by the presence of a slash pine and/or pond pine canopy over a dense shrub layer of saw palmetto, shiny lyonia, and gallberry. The canopy is sometimes invaded by red maple, sweetgum, water oak, live oak, and cabbage palm if fires occur too infrequently. The shrub strata typically includes groundsel tree, common buttonbush, common persimmon, peelbark St. John's wort, fourpetal St. John's wort, dahoon, coastalplain staggerbush, and wax myrtle. Herbaceous cover density is dependent on shrub abundance and most frequently includes blue maidencane, bushy bluestem, vanillaleaf, Elliott's milkpea, pinebarren goldenrod, and Virginia chain fern. Vines include peppervine, trumpet creeper, yellow jessamine, earleaf greenbrier. Invasive non-native species present in the wet flatwoods include torpedograss, bahia grass, and vaseygrass.

*Hydric Hammock (505 acres)*
Hydric hammock is another forested wetland habitat, distinguished from floodplain swamp by a more diverse canopy consisting of both deciduous and evergreen hardwoods and palms, and shorter hydroperiod. It is rarely inundated, usually only for short periods following heavy rains. Hydric hammock at the Preserve is characterized by a closed canopy with abundant cabbage palm, water hickory, red cedar, sweetgum, sweetbay, swamp laurel oak, live oak, and American elm. The subcanopy adds American hornbeam and swamp bay. The shrub strata include common buttonbush and swamp dogwood. Groundcover species include switchcane, blue mistflower, cypress witchgrass, beaked panicum, lizard's tail, and marsh fern.

Epiphytic species are also abundant in the Preserve's hydric hammock, including resurrection fern, shoestring fern, golden polypody, Spanish moss, comb polypody, plume polypody and angle pod. The latter two polypody species are listed as Endangered by the state and are located at the northern limit of their natural range at Potts Preserve. Angle pod is listed as Threatened by the state.

Wildlife species common to hydric hammock are the same as those usually found in floodplain swamp. The large number of oak species in hydric hammock produce abundant oak mast, which also makes it attractive habitat for a number of game species.

*Basin Swamp (99 acres)*
Basin swamp is a relatively large, irregularly shaped depression vegetated with trees and shrubs that can withstand an extended hydroperiod. Fire is generally restricted to the edges of basin swamp because of their prolonged flooding. Basin swamps in the east half of Potts Preserve are in good condition.

The nearly closed canopy is dominated by mature bald cypress, red maple, swamp tupelo, swamp laurel oak, Carolina ash, dahoon, sweetgum, and swamp bay. Sabal palm may be present as trees and saplings. The shrub cover is sparse and dominated by buttonbush and wax myrtle. Herbaceous cover may include false nettle), sawgrass, American white waterlily, maidencane, swamp smartweed, narrowfruit horned beaksedge, lizard's tail, and marsh fern. Eastern poison ivy and muscadine vines are often present.

*Dome Swamp (85 acres)*
Dome swamp is a forested wetland primarily of deciduous trees found in depressions. Trees in the center are generally taller than those on the edges, giving the swamp a dome-shaped profile. Dome swamps require fire to prevent hardwood invasion. Fires are more frequent along the periphery and less frequent in the center of the swamp, where the natural fire return interval may be as long as 100 or more years. The Preserve's dome swamps are found in scattered locations on the east half of the property.

The mature tree canopy of the dome swamps consists primarily of bald cypress, with less frequent red maple, water hickory, green ash, sweetgum, and swamp tupelo. The subcanopy usually consists of young trees of the canopy species, with dahoon holly, swamp bay, and cabbage palm. The shrub strata may consist of buttonbush, Virginia willow, and wax myrtle. The groundcover varies from sparse to dense and may have false nettle, spadeleaf, fireweed, prairie iris, royal fern, maidencane, dotted smartweed lizard's tail, Virginia chain fern, and the exotic species water hyacinth. Vines include peppervine, trumpet creeper, and eastern poison ivy.

## Upland Communities

*Mesic Hammock (1,540 acres)*
Mesic hammock is an upland forest of evergreen broadleaved trees occurring in naturally fire-protected areas. Soils are generally sand with a significant organic component. Mesic hammock can also develop in flatwoods communities as a result of long-term fire exclusion. Fires are rare in mesic hammocks due to incombustibility of the fuels, relatively high humidity, and isolation from pyrogenic communities. At Potts Preserve, this widespread natural community is commonly found on higher ground adjacent to and within the hydric hammock, especially along the Withlacoochee River. In the west half of the site, it frequently covers many of the islands in the basin marsh and may occur side by side with xeric hammock. It is second only to basin marsh in overall coverage on the Preserve.

Mesic hammock is characterized by a closed canopy of live oak, along with various mixtures of pignut hickory, sweetgum, southern magnolia, red bay, black cherry, laurel oak, water oak, and cabbage palm. The subcanopy may have American hornbeam, red cedar, winged elm, and Hercules' club. The shrub strata include smallflower pawpaw, American beautyberry, red bay, saw palmetto, and sparkleberry. Herbs include hammock snakeroot, fourangle flatsedge, needleleaf witchgrass, fireweed, partridgeberry, and Carolina wild petunia.

Some of the most significant species found in the Preserve's mesic hammock are epiphytic species, including plume polypody, comb polypody, green-fly orchid and Florida butterfly orchid, all four

of which have been designated as Threatened species by the state. Other epiphytic species include resurrection fern, and Spanish moss. Vines include Florida spiney pod, which has been listed as Endangered by the state, angle pod, yellow jessamine, bristly greenbrier, eastern poison ivy, and muscadine.

*Mesic Flatwoods (246 acres)*
Mesic flatwoods is an upland forest occurring on low, flat terrain and is characterized by an open pine canopy and an understory composed of various shrubs and grasses. Fire is an essential factor in maintaining the high plant diversity that characterizes mesic flatwoods and occurred naturally every two to four years during the late spring/early summer lightning season.

Mesic flatwoods typically have a canopy of slash pine with occasionally pond pine, loblolly pine, and live oak. Longleaf pine is often absent. The generally open subcanopy may include black cherry, sand live oak, water oak, and cabbage palm. The shrub layer is often dominated by saw palmetto and gallberry, with lower frequencies of dwarf pawpaw, netted pawpaw, tarflower, American beautyberry, St. Andrew's cross, coastalplain staggerbush, fetterbush, wax myrtle, Darrow's blueberry, shiny blueberry, and deerberry. The herbaceous groundcover varies from diverse to sparse depending on fire frequency. The herbaceous layer may include wiregrass, shortspike bluestem, bushy bluestem, broomsedge bluestem, chalky bluestem, vanillaleaf, witchgrass Elliott's milkpea, yellow jessamine, myrtleleaf St. John's wort, bracken fern, blackroot, and little bluestem. The exotic pasture grass bahia grass is often present. Vines include earleaf greenbrier, cat greenbrier, and muscadine.

*Scrubby Flatwoods (211 acres)*
Scrubby flatwoods are open-canopied forests of widely spaced pines and dense shrubs occurring on slightly elevated, relict sand dunes. The vegetative composition of scrubby flatwoods is intermediate between that of mesic flatwoods and scrub, and it often occupies transitional areas between these two other communities. Scrubby flatwoods have a higher coverage of scrub oaks than mesic flatwoods, and the natural fire frequency for scrubby flatwoods ranges widely, from 5-15 years, depending on site-specific variations in soils and moisture conditions.

The Preserve’s scrubby flatwoods have a canopy of widely scattered slash pine over a dense understory of shrubs dominated by sand live oak, myrtle oak, Chapman’s oak, and saw palmetto. Other shrubs include bigflower pawpaw, tarflower, common persimmon, blue huckleberry, gallberry, rusty staggerbush, coastalplain staggerbush, wax myrtle, pricklypear, scrub wild olive, winged sumac, Darrow's blueberry and shiny blueberry. The groundcover is generally very sparse due to the high shrub density. Herbaceous species include broomsedge bluestem, vanillaleaf, Michaux's croton, needleleaf witchgrass, bracken fern, and sweet goldenrod. Vines include purple passionflower, earleaf greenbrier, and muscadine.

Wildlife usage of scrubby flatwoods is similar to that described for mesic flatwoods, with the addition of species that prefer the drier, more xeric conditions found in scrubby flatwoods. These include the aforementioned Florida scrub-jay, as well as the threatened gopher tortoise, which requires a greater depth to groundwater in order to accommodate excavation of the burrows in which it resides.

*Xeric Hammock (213 acres)*

Xeric hammock is an upland forest with a canopy of scrub oaks that have attained tree stature, sometimes as a result of long-term fire exclusion in scrub or scrubby flatwoods habitat. Xeric hammock is found on many of the isolated islands found in the western half of the Preserve, embedded within the matrix of basin marsh discussed previously.

Typical vegetation consists of a closed canopy of mature sand live oak mixed with other shrubby species, including myrtle oak, Chapman's oak, rusty staggerbush, and scrub wild olive. Stands of xeric hammock derived from fire-suppressed scrub or scrubby flatwoods appear to also support occasional saw palmetto. Shrub strata may include bigflower pawpaw, rusty staggerbush, fetterbush, pricklypear, scrub wild olive, silk bay and shiny blueberry. Groundcover vegetation is sparse to absent, but may include needleleaf witchgrass, Elliott's milkpea, bracken fern, and sweet goldenrod. The presence of silk bay is noteworthy due to its somewhat infrequent occurrence and status as a Florida endemic. Its presence is also indicative of an apparent resistance to the non-native laurel wilt disease, which has nearly eliminated Florida's native bay species.

*Scrub (541 acres)*

Scrub is a xeric community characterized by patchy to dense shrub growth dominated by scrub oaks, with little-to-no herbaceous growth, and with sandy openings interspersed throughout. A sparse to dense canopy of sand pine may or may not be present. Scrub occurs on elevated, relict sand dunes with deep, well-drained sandy soils. It frequently co-occurs with scrubby flatwoods, which would occupy slightly lower elevations.

The shrub strata are dominated by myrtle oak, sand live oak, rusty lyonia, Chapman's oak, and saw palmetto. Sparkleberry is unusually common for scrub. Other shrub species include scrub pawpaw, American beautyberry, Florida rosemary, dwarf huckleberry, gopher apple, fetterbush, wax myrtle, winged sumac, pricklypear, scrub wild olive, shiny blueberry, and hog plum.

The state threatened shrub garberia is found in a few locations in the Preserve's scrub. Silk bay is a Florida endemic shrub that is restricted to scrub and is also present on the Preserve

*Improved Pasture (545 acres)*

Improved pasture is not a natural community. The term applies to a form of land conversion intended to replace the pre-existing natural community or communities with non-native pasture grasses in order to maximize the land's ability to support grazing by livestock. It is a legacy of the Preserve's historic use as a cattle ranch.

The Preserve's improved pasture areas are dominated by a dense growth of non-native bahia grass. The few native plant species that persist include bigflower pawpaw and such weedy species as dogfennel, sand blackberry, and flat-topped goldenrod. It is difficult for native species to compete with the dense, tenacious cover of bahia grass turf. As noted previously, the natural land cover in the improved pasture areas is presumed to have been a mixture of scrub and scrubby flatwoods, based on an analysis of soils and historic aerial imagery. The coarse sands that are characteristic of scrub and scrubby flatwoods, and which often correspond with ancient ridges and dunes, are relatively sterile soils that drain rapidly following rains.

*Semi-improved Pasture (760 acres)*

Semi-improved pasture, like the improved pasture discussed above, is not a natural community. The distinction between improved and semi-improved pasture is rests on the intensity of alteration or conversion to enhance the site's ability to support grazing by livestock. Bahia grass coverage in the semi-improved pastures is patchier than in the improved pastures, and a more diverse complement of native species remains or has re-established. The Preserve's semi-improved pasture supports a mixture of such woody species as live oak, wax myrtle, and slash pine. Other native species present include prickly pear cactus, broomsedge bluestem, Elliott's milkpea and bracken fern. A small population of the giant orchid, which is listed as Threatened by the state, is present in the Preserve's south pasture.

*Ruderal (228 acres)*

Ruderal is a term used to describe areas that have altered or disturbed to such a degree that the original natural community is no longer discernable. Management of the Preserve's ruderal areas will parallel the approach implemented in the improved and semi-improved areas by using prescribed fire to promote progressive recovery to a more natural condition.

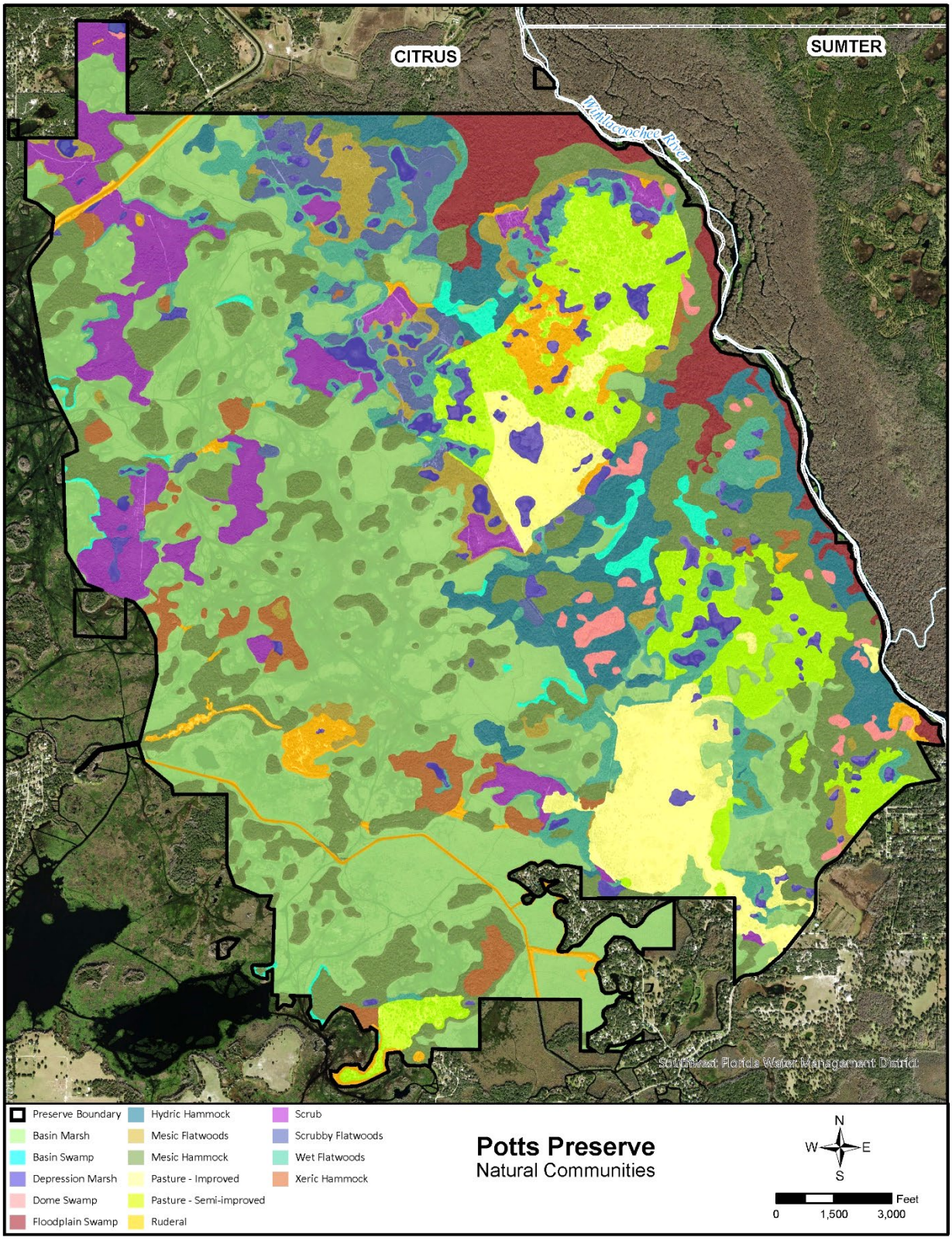


FIGURE 7. NATURAL COMMUNITIES - FNAI

## Soils and Topography

### Soils

**Figure 8** depicts the Preserve's soils, which can be divided generally into categories based on the hydrology of the areas where they occur. These generalized categories, ranging from wettest to driest, are hydric, mesic, and xeric soils. Hydric soils typically occur in low-lying areas that are frequently flooded or saturated, such as wetlands and rivers. The Preserve's basin marshes are characterized by Basinger and Eau Gallie fine sands. The floodplain swamp associated with the Withlacoochee River overlie soils in the Terra-Ceia-Okeelanta association, which is characterized by frequent flooding. Slightly up-gradient are the Malabar and Paisley fine sands that underlie the Preserve's wet flatwoods and transitional areas leading into the hydric hammock and mesic hammock.

Mesic soils, which are characteristic of mesic flatwoods, include Myakka and Immokalee fine sands. Across some of these areas the water table rises to within 10 inches of the surface for several months of the year. Therefore, they are unsuitable for burrowing by gopher tortoises. At some of the Preserve's higher elevations there is a component of Myakka fine sands which support scrub and scrubby flatwoods vegetation. In those areas, the water table remains deep enough that gopher tortoise burrows are present. The highest elevations correspond with xeric soils that support scrub, scrubby flatwoods and xeric hammock, or the altered pasturelands that formerly supported these xeric habitats. The dominant soils in those areas include Orsino and Tavares fine sands, and the water table remains at least 40-72 inches beneath the land surface year-round, making them suitable habitat for burrowing by gopher tortoises.

More detailed information about the Preserve's soils can be found in the Soil Survey of Citrus County (USDA, 1988).

### Topography

The Preserve is located in the Tsala Apopka Plain region of the Central Valley physiographic province. Elevations on the Preserve range from a low of approximately 32 feet above sea level to a high of 61 feet (**Figure 9**). The Tsala Apopka Plain is noted for being low and flat. Despite the limited topographic relief, the elevation range is sufficient for the property to support soils ranging from hydric to xeric. The mix and distribution of the Preserve's natural communities is a direct reflection of elevation and the related distribution of soils.

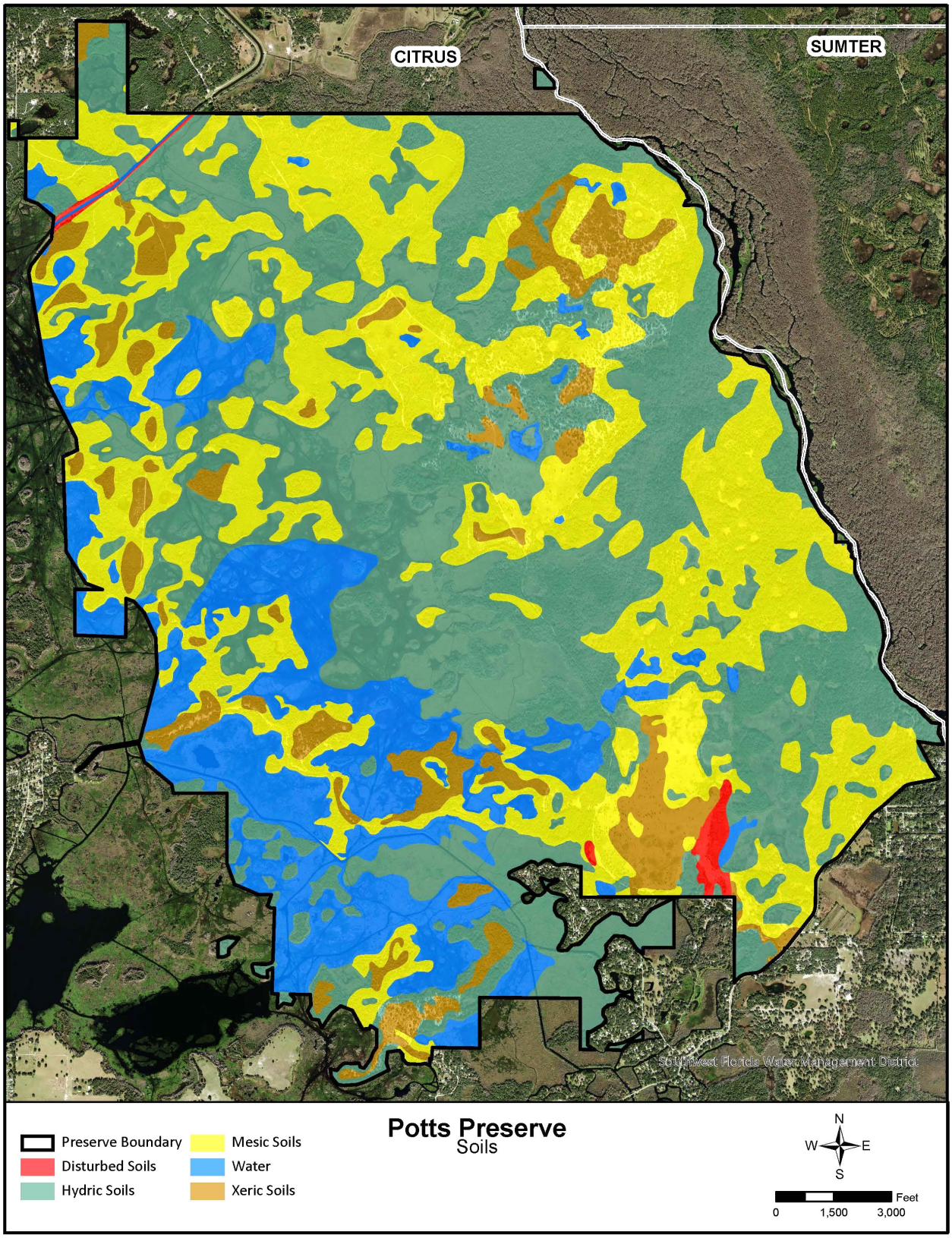


FIGURE 8. SOIL MAP

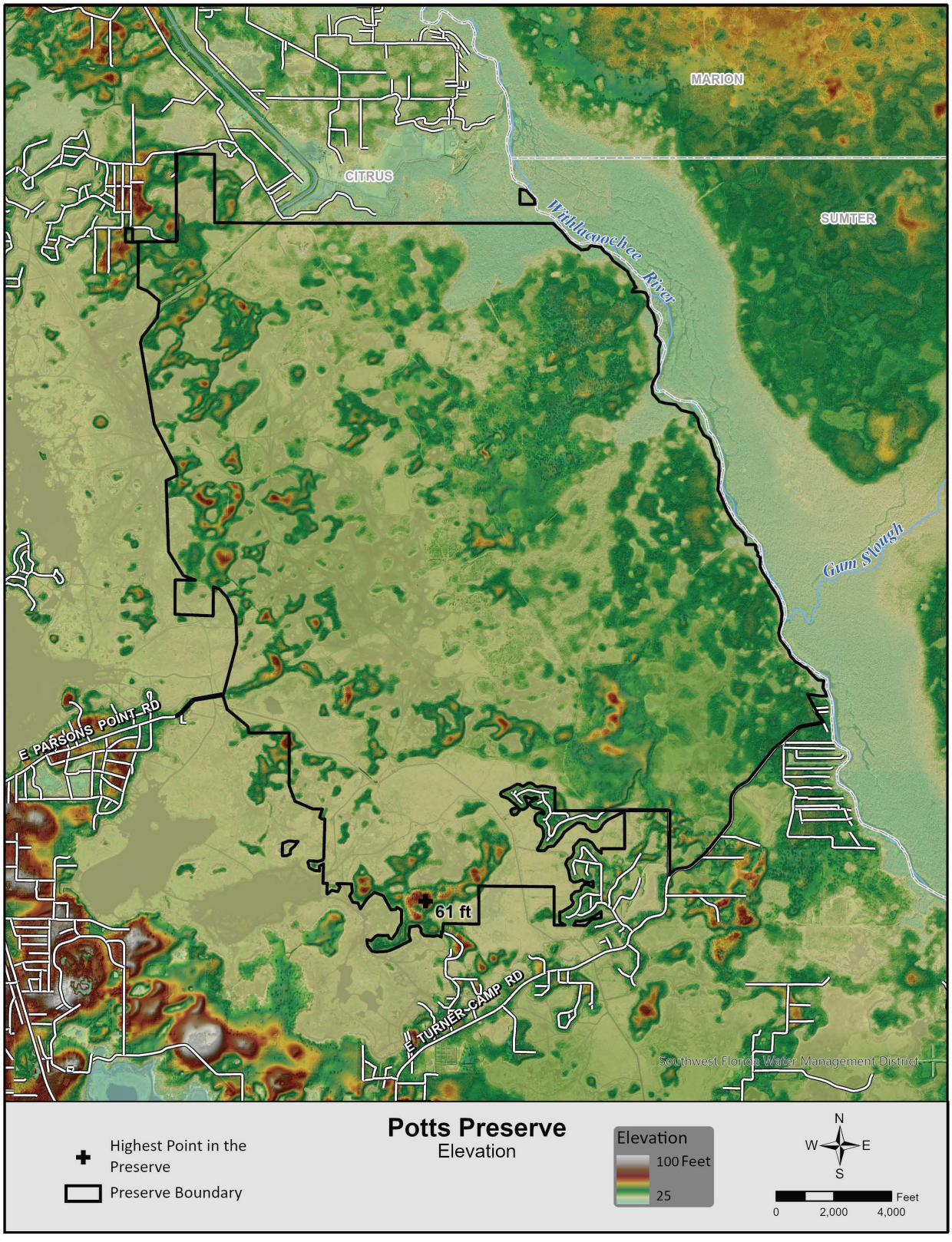


FIGURE 9. DIGITAL ELEVATION MODEL

# Land Management and Land Use

## Land Management

As part of ownership of conservation lands, the District is responsible for protection of water resources and natural systems through the application of effective and efficient land management practices. These land management practices include prescribed fire, forest management, habitat restoration, exotic and invasive species control, and habitat maintenance. The primary land management tool that land managers utilize is the application of prescribed fire. This is the most cost-effective method to maintain the natural communities in their natural condition. Along with prescribed fire, the District uses some of the other common land management techniques referenced above to achieve specific land management objectives. The goal of the District's land management program is to maintain and restore natural systems according to their natural community descriptions outlined by the FNAI Natural Communities Guide.

### Fire Management

Prescribed fire is the single most important tool for the management of conservation lands in Florida. Fire is a natural process that has played a foundational role in shaping Florida's landscape over the course of thousands of years. The goal of the District's prescribed fire program is to mimic natural fire in a controlled, safe, efficient and effective manner. The Preserve's scrub, xeric hammock, depression marsh, basin marsh, dome swamp, and hydric, mesic, and scrubby flatwoods are fire-maintained systems that are dependent upon recurring fire for their long-term maintenance and viability. In the prolonged absence of fire, the vegetative structure and species composition of these communities would gradually change and be of reduced value to wildlife.

The District's use of prescribed fire is designed to apply fire to all fire-dependent natural communities based on natural fire return intervals as defined through years of intensive research. A thorough review and explanation of fire dependence and fire return intervals is provided in the FNAI Guide to the Natural Communities of Florida.

Natural fires in Florida historically occurred during the "growing" season, which corresponds with the spring and summer months during which lightning strikes are most common. Research has demonstrated that burning during the growing season has the most beneficial impact on native plant communities because it most closely mimics the natural incidence of fire. Many native plant species respond more vigorously to growing season fires than to fires conducted during the "dormant" season, as evidenced by heavier flowering and fruit development following growing season fires. Additionally, the fire-sensitive hardwood species that typically invade fire-dependent natural communities during the prolonged absence of fire are more effectively eliminated or constrained by growing season fires than dormant season fires, which tend to be cooler and less damaging to the invaders.

To the greatest extent possible, the District will emphasize the use of growing season fires, conducted within the proper fire return interval established for the respective natural community (**Table 3**). However, the importance of fire frequency, or return interval, is so critical to

maintaining natural habitat structure and plant composition that it will take precedence over seasonality when planning and conducting prescribed burns.

The District's fire management program seeks to achieve the following:

- Maintain and restore fire-dependent natural communities.
- Maintain or enhance habitat values for native flora and fauna.
- Preserve water resource benefits.
- Reduce hazardous fuel loads and minimize wildfire risk.
- Maximize the recreational values of conserved lands.
- Maintain the aesthetic values of natural Florida landscapes.
- Support forest management activities.

### TABLE 3. FIRE RETURN INTERVALS FOR NATURAL COMMUNITIES

| Habitat | Fire Frequency/Return Interval |
|---|---|
| **Wet Flatwoods** | 2-4 years |
| **Mesic Flatwoods** | 2-4 years |
| **Scrubby Flatwoods** | 5-15 years |
| **Scrub** | 5-20 years |
| **Depression Marsh** | Variable |
| **Basin Marsh** | Variable |
| **Dome Swamp** | 5-100 years |
| **Improved Pasture** | 4-6 years |
| **Semi-improved Pasture** | 4-6 years |
| **Ruderal** | Variable |

Firebreaks have been established throughout the Preserve to create a logical network of management units that can be burned safely and efficiently. Firebreaks are maintained by regular discing or through the use of other mechanical methods. The created firebreaks are complemented by natural firebreaks to the greatest extent practical in order to minimize the physical disturbance associated with created firebreaks, and to maximize the ability for fires to move unimpeded between adjoining natural communities. This results in more natural transition zones between the adjoining communities. Natural firebreaks consist of natural communities that are resistant to burning, such as the Preserve's forested wetlands, or of open water.

The term condition class, as applied to the Preserve's individual management units (**Figure 10**), refers to the status of the management unit relative to how closely its fire history matches the natural fire return interval sought for the natural community, or communities, that comprise the unit. Condition Class 1 is applied to units that are within one fire return interval. Condition Class 2 and 3 refer to units that are within two or three fire return intervals, respectively. Condition Class 4 is a category reserved for units that are extremely fire-suppressed and are considered beyond recovery through reintroduction of fire alone without implementing extraordinary measures, typically mechanical treatments as a prelude to reintroducing fire. Condition Class 5 is reserved

for natural communities that are not fire-maintained, such as hydric hammock and floodplain swamp.

The primary objective of the Land Management Condition Class Evaluation Program is to assign a value to each fire management unit that represents the degree of departure from the preferred fire return interval community type(s) within the unit. The purpose of the Condition Class Evaluation Program is to provide an accurate representation of the condition of lands managed by the District with fire. It is the District's goal to preserve, protect, and restore natural systems to support their natural hydrologic and ecological functions.

### Forest Management

Some District properties include Timber Management Zones (TMZs) where pine plantations were established to restore a pine overstory in previously altered areas. It is a management approach that uses standard silvicultural practices to re-establish a forest canopy while improving habitat value for wildlife and generating revenue through time sales to help offset the costs of management. While there are no pine plantations on the Preserve, there could be opportunities to conduct timber stand improvement harvests in native pine stands to support the land management objectives identified for a specific management unit.

Many of the imperiled species present on the Preserve, in particular those that occur in the mesic and hydric hammocks and floodplain swamp habitats, require a mature canopy to maintain suitable habitat conditions. Protecting these important forested habitats will essentially be a passive exercise by conserving the canopy and preventing invasions by non-native species that could displace native species.

### Habitat Restoration

Whenever practical, the District seeks to restore lands that have been altered from their natural state and condition. The District's most prominent approach to restoration has focused on the reintroduction of fire to fire-dependent habitats in order to reverse the impacts of long-term fire suppression. In some cases, roller-chopping and tree-cutters have been used as a prelude to reintroducing fire when the vegetative structure of a stand has become so overgrown that it resists fire. To date, this approach has successfully restored the natural form, function, and species composition to many of the Preserve's fire-dependent natural communities and it will be continued. The Preserve's wetland communities were substantially altered at the time of the District's purchase. Measures to restore natural water flow, including berm removal, ditch blocks and wet crossings have been completed, and there is no additional wetland restoration planned for the Preserve at this time.

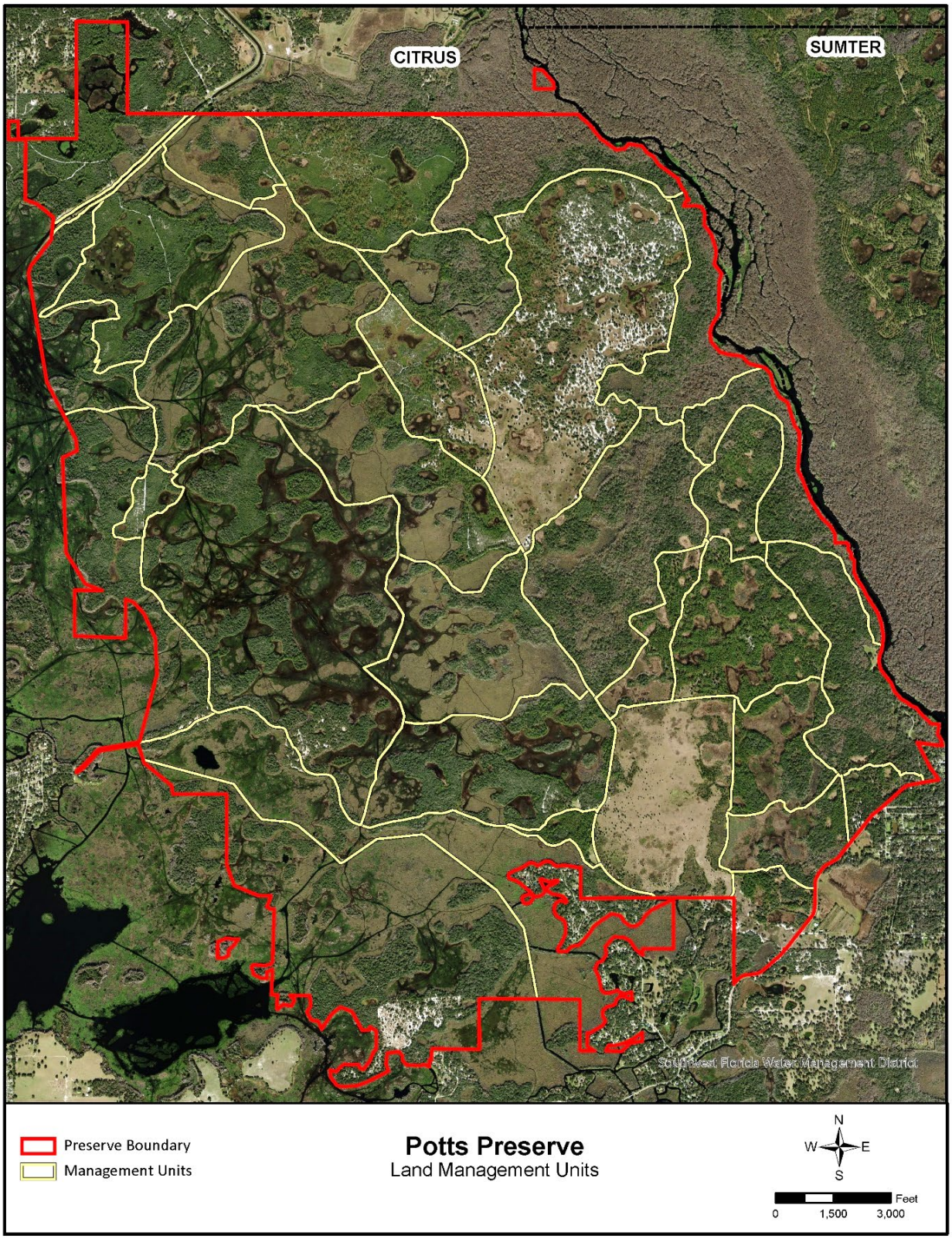


FIGURE 10. MANAGEMENT UNITS

## Invasive Species Management

### Invasive Plant Management

Invasive, non-native plants are a threat to ecosystems worldwide and are an especially serious threat in Florida due to the state's sub-tropical climate and numerous ports of entry, which frequently serve as a vector for the introduction of non-native plants. The high rate of introduction in Florida increases the likelihood that non-native plant species will be introduced to the wild and establish self-propagating populations once there. As a result, Florida's natural areas have been invaded by many non-native plant species that have aggressively expanded their range, displaced native species, and disrupted ecosystem function.

The Florida Invasive Species Council (FISC) tracks non-native plant species in the state, identifies those that have been determined to be invasive, and categorizes them based on their demonstrated impacts to natural systems. Category I species are the most aggressive and are known to degrade natural communities by displacing native species, changing community structure or ecological functions, or by hybridizing with native species. Category II species are those that have been observed to be increasing in abundance, but not yet determined to be altering native plant communities to the extent demonstrated by Category I species (FISC, 2019). At present, FISC has designated 162 non-native plants as invasive, 79 of which are designated as Category 1 invaders. A total of 17 non-native plant species have been documented in the Preserve, and 15 of them are designated as invasive by FISC (**Table 4**). Many of these species also appear on the Florida Department of Agriculture and Consumer Service's (FDACS) Noxious Weed List and/or the Prohibited Aquatic Plants List.

The District is committed to the management of invasive non-native plant species and uses an adaptive management strategy to prevent their establishment and/or spread on the Preserve. The District's Vegetation Management Section has dedicated staff that spearhead control efforts by surveying, prioritizing, and treating invasive non-native plant populations on District conservation lands. The District's management efforts focus on invasive species that FISC has designated Category I or II plants, as set forth above. Additionally, the Vegetation Management Section uses the framework set out in The Nature Conservancy's Site Weed Management Plan Template to analyze and prioritize invasive plant species for treatment based on several factors including:

1. their infestation levels;
2. the current and potential impacts of the species;
3. the value of habitat that the species does or could invade; and
4. the difficulty of controlling the species.

This prioritization scheme ensures that the District's resources are expended strategically and where they have the greatest benefit to the ecosystem. The District has also implemented an Early Detection-Rapid Response (EDRR) strategy that calls for rapidly identifying and treating new occurrences of invasive species that are not currently present, or not yet widespread, on the Preserve but have the potential to become problematic if they are allowed to become established. **Table 4** lists the invasive plant species found on the Preserve, their FISC status, and the level of priority placed on their control.

**TABLE 4. INVASIVE PLANTS PRESENT AT THE PRESERVE**

| Common Name | Scientific Name | FISC Category | Priority Level for Control |
|---|---|---|---|
| **Caesar weed** | *Urena lobata* | 1 | 1 |
| **Cogongrass^** | *Imperata cylindrica* | 1 | 1 |
| **Sword Fern** | *Nephrolepis cordifolia* | 1 | 2 |
| **Green Wandering Jew** | *Tradescantia fluminensis* | 1 | 3 |
| **Water Lettuce*** | *Pistia stratiotes* | 1 | 3 |
| **Water Hyacinth*^** | *Eichhornia crassipes* | 1 | 3 |
| **Skunk Vine^** | *Paederia foetida* | 1 | 3 |
| **Chinese tallow-tree^** | *Triadica sebifera* | 1 | 4 |
| **Tropical soda apple^** | *Solanum viarum* | 1 | 5 |
| **Japanese climbing fern^** | *Lygodium japonicum* | 1 | 6 |
| **Chinaberry tree** | *Melia azedarach* | 2 | 7 |
| **Air potato** | *Dioscorea bulbifera* | 1 | 8 |
| **Wild Taro** | *Colocasia esculenta* | 1 | 8 |
| **Bahia grass** | *Paspalum notatum* | N/A | 9 |
| **Vaseygrass** | *Paspalum urvillei* | N/A | 9 |
| **Torpedograss** | *Panicum repens* | 1 | 9 |
| **Alligatorweed*^** | *Alternanthera philoxeroides* | 2 | 9 |

*Prohibited Aquatic Plant (5B-64.011 FAC), ^Noxious Weed List (5B-57.007 FAC)

The District employs a variety of measures to control invasive plant species including thorough surveys, chemical treatments (basal-bark treatment, cut-stump applications, hack-and-squirt methods, and foliar applications), mechanical treatments, the use of biological control agents, or some combination of these alternatives, which may be performed by District staff or by contractors. Upland treatments are often scheduled to occur in the year following a prescribed burn because access to the site can be easier and visibility is increased. All herbicide treatments are conducted in compliance with labeled instructions employ any Best Management Practices recommended for their application. Experimental trials are sometimes conducted by District staff to identify the most effective control techniques for particular species, and the District has also participated in the development and use of biological control agents. Biological control agents are usually insects from within the natural range of the invasive plant species that have been determined to prey exclusively on the target non-native species through rigorous, carefully controlled research. Effective biological controls have now been identified for a number of invasive plant species. An example of a successful and widely used biological control agent is the beetle, *Lilioceris cheni,* which exclusively feeds on the foliage of the air potato vine.

Invasive Wildlife Management

The Preserve is host to several invasive wildlife species. These include Cuban treefrogs, cane toads, brown anoles, and feral hogs. The District's primary focus for invasive wildlife management is on control of feral hogs (*Sus scrofa)*. Feral hogs are the most conspicuous and destructive non-native animal species in the United States, and the cumulative financial impact of the damage they cause and the cost of control measure nationwide is estimated in the billions of dollars annually. Some areas of the Preserve have been severely damaged by their rooting

activities. Feral hogs have the ability to adapt to a wide variety of habitats, exhibit a high reproductive rate, and lack any significant natural predators. The result has been rapidly increasing population densities throughout North America over the last several decades (West, Cooper and Armstrong, 2009).

Feral hogs are capable of carrying and transmitting multiple zoonotic and epizootic diseases, including brucellosis, leptospirosis, and pseudorabies. They also have the potential to be aggressive if startled or angered, posing a threat to both District staff and recreational users, and the soil disturbance cause by their rooting activities invites invasion by non-native plants. Furthermore, feral hogs compete with native species for forage and have been documented preying on native species themselves; specifically, ground-nesting birds.

In recognition of the serious threats posed by feral hogs, the District developed and implemented a feral hog population control plan in 1995. Due to the adaptive nature of feral hogs and their reproductive fecundity, the District utilizes a multi-faceted approach to their management. Research has indicated that at least 70 percent of the individual hogs in a local population must be removed each year just to prevent them from increasing in numbers. Owing to their innate intelligence, they can also become "trap shy" if they survive a trapping experience. To maximize the effectiveness of the District feral hog control, the methods employed at the Preserve include both trapping and hog hunts administered by FWC in the Potts Wildlife Management Area.

The Preserve's feral hogs currently appear to be concentrated in the wet flatwoods and hydric hammock habitats in proximity to the Withlacoochee River, and those areas may merit special attention in the ongoing trapping program. The District will evaluate the potential effectiveness of implementing a "whole sounder" approach to trapping, which relies on habituating an entire family group, or "sounder", to visit a baited trap outfitted with an electronic, radio-controlled gate in order to capture the entire group. There is evidence that removing the entire sounder of wild pigs, instead of individuals or partial groups, is the most effective way to reduce populations and control damage.

Given the array of practical, environmental, and social constraints on hog management, it is generally recognized that the complete eradication of feral hogs from District lands is an unattainable goal. Therefore, the overarching goal of feral hog management at the Preserve will be to keep hog numbers at a maintenance level, thus minimizing the ecological damage resulting from feral hog rooting. This will be accomplished using a comprehensive, science-based strategy as explained above, and that is designed to be humane, cost-effective, and compatible with Preserve management.

## Imperiled Species Management

The District practices maintains a comprehensive approach to land management that places a priority on restoring or maintaining the natural structure, function and species composition of the Preserve's natural communities. This approach generally ensures the habitat needs of the Preserve's entire slate of resident species will be met. In some instances, special measures may need to be implemented to account for the imperiled status of a particular species. For purposes of this Plan, "imperiled species" refers to plant and animal species that have been formally listed as Endangered or Threatened by FWC, the United States Fish and Wildlife Service (USFWS), or the Florida Department of Agriculture and Consumer Services (FDACS).

A number of imperiled species have been documented at the Preserve in association with various surveys, and through the day-to-day observations accumulated by staff over the course of managing the Preserve. Other rare species are likely or potentially present, but not yet documented. FNAI developed the Biodiversity Matrix tool to identify rare species that are known or likely to occur within a specified land area based on a statewide geographic database that synthesizes information on species occurrences, species distributions, and habitat composition. An analysis of Potts Preserve using the Biodiversity Matrix identified a total of eight imperiled wildlife species (**Table 5**) and 10 imperiled plant species (**Table 6**) as known or likely to occur on the Preserve.

### Imperiled Wildlife

There have been eight imperiled wildlife species documented on the Preserve (**Table 5**). These include the Florida scrub-jay (*Aphelocoma coerulescens*), gopher tortoise (*Gopherus polyphemus*), Eastern indigo snake (*Drymarchon couperi*), and Southeastern American kestrel (*Falco sparverius paulus*), which are all restricted to the Preserve's upland communities and are known to be dependent on fire to maintain suitable habitat conditions. Others, like the Florida sandhill crane (*Antigone canadensis pratensis*), wood stork (*Mycteria americana*) and little blue heron (*Egretta caerulea)* are dependent on wetland habitats. Maintaining natural hydroperiods and using prescribed fire to prevent hardwood encroachment into the Preserve's basin marsh and depression marsh will be fundamental to conserving quality habitat for these species.

The Florida scrub-jay poses a special challenge to land managers everywhere due to both the widespread need to overcome decades of fire suppression, and the scrub-jay's exacting habitat requirements. When the scrub oaks and other shrubs that are diagnostic of scrub and scrubby flatwoods attain tree stature in the prolonged absence of fire, the habitat becomes unsuitable for scrub-jays. As noted in the discussion of Natural Systems, roller chopping and other mechanical methods have been used to help restore the Preserve's scrub and scrubby flatwoods habitats as a prelude to burning, and most of those areas have been restored to the point that burning within the prescribed rotation will be sufficient to maintain them.

The Potts Preserve scrub-jays belong to a metapopulation that is considered highly vulnerable to extirpation due to the dispersed nature of the habitat patches it occupies, which includes areas within the nearby Halpata Tastanaki Preserve, Two-Mile Prairie State Forest, and Half Moon Wildlife Management Area (**Figure 4** and **Table 1**). Potts Preserve accounts for the majority of the existing and/or potential habitat supporting this metapopulation. The gopher tortoise, which

has been elevated to Threatened status by the state and is considered a candidate for federal listing under the Endangered Species Act, is present on the Preserve in densities that appear low. While mesic flatwoods habitat often supports large numbers of gopher tortoise, much of the Preserve's mesic flatwoods may offer insufficient depth to groundwater to be suitable for tortoises to excavate the burrows they require. The greatest potential for encouraging an expansion of the Preserve's tortoise population is to enhance the coverage of native herbaceous vegetation in the ruderal and semi-improved pasture areas.

### TABLE 5. IMPERILED WILDLIFE SPECIES KNOWN OR LIKELY TO OCCUR

| Common Name | Scientific Name | Status | Management Recommendations |
|---|---|---|---|
| **Florida Scrub-Jay** | *Aphelocoma coerulescens* | FT | Burn scrub & scrubby flatwoods in rotation. |
| **Eastern Indigo Snake** | *Drymarchon couperi* | FT ST | Burn xeric habitats in rotation. |
| **Little Blue Heron** | *Egretta caerulea* | ST | Wetlands; maintain natural hydroperiods. |
| **Tricolor Heron** | *Egretta tricolor* | ST | Wetlands; maintain natural hydroperiods. |
| **Gopher Tortoise** | *Gopherus polyphemus* | ST | Maintain open canopy and burn in rotation. |
| **Sandhill Crane** | *Grus canadensis* | ST | Maintain hydrology and burn pastures/prairies in rotation. |
| **Southeastern American kestrel** | *Falco sparverius paulus* | ST | Burn in rotation and preserve snags. |
| **Wood Stork** | *Mycteria americana* | FT | Maintain hydrology. |

* FE = Federally Endangered FE = Federally Endangered ST = State Threatened

Imperiled Plants

FDACS maintains the "Florida Regulated Plant Index" (Section 5B-40.0055 of the Florida Administrative Code), which lists all plants designated as endangered, threatened, or commercially exploited in the state. A total of 10 such species have either been documented on the Preserve or are expected to occur (**Table 6**).

### TABLE 6. IMPERILED PLANT SPECIES KNOWN OR LIKELY TO OCCUR

| Common Name | Scientific Name | Status* | Habitat & Management Guidance |
|---|---|---|---|
| **Sand Butterfly Pea** | *Centrosema arenicola* | SE | Scrub & scrubby flatwoods; burn in rotation |
| **Garberia** | *Garberia heterophylla* | ST | Scrub; burn in rotation. |
| **Angle Pod** | *Gonolobus suberosus* | ST | Mesic & hydric hammock; maintain canopy and hydrology. |
| **Cardinal Flower** | *Lobelia cardinalis* | ST | Floodplain swamp; maintain canopy and hydroperiod. |
| **Florida Spiny-pod** | *Matelea floridana* | SE | Scrubby flatwoods & mesic hammock; burn in rotation. |
| **Pygmy Pipes** | *Monotropsis reynoldsiae* | SE | Mesic & xeric hammock, scrub; avoid soil disturbance. |
| **Plume Polypody** | *Pecluma plumula* | | Hydric & mesic hammock |
| **Comb Polypody** | *Pecluma ptilodon* | SE | Hydric & mesic hammock |

| | | | |
|---|---|---|---|
| **Blue Butterwort** | *Pinguicula caerulea* | ST | Wet flatwoods & marsh; burn in rotation |
| **Giant Orchid** | *Pteroglossapsis ecristata* | ST | Scrub & pine flatwoods; burn in rotation. |

* FE = Federally Endangered SE = State Endangered ST = State Threatened

## Arthropod Management

In compliance with Chapter 388.4111 of the Florida Statutes and Section 5E-13.042 of the Florida Administrative Code, all lands comprising the Potts Preserve property have been evaluated and subsequently designated as environmentally sensitive and biologically highly productive. Such designation is appropriate and consistent with the natural resources and ecosystem values of the Preserve and requires that an Arthropod Control Plan be developed for the property to ensure any ongoing or future mosquito control practices implemented on the Preserve will be not pose a hazard to fish, wildlife, and other natural resources protected on the property.

## Recreation

District Policy governs the provision of passive, resource-based recreational uses on conservation lands under its ownership. Only uses that are compatible with the natural values and environmental sensitivity of the particular property are allowed. Compatible uses generally consist of outdoor recreational and educational pursuits that are dependent on the natural resources and surroundings the property provides. Public access points are restricted to locations that can accommodate the parking and other infrastructure necessary to accommodate the permitted uses, and to areas where there is security sufficient to discourage unauthorized use and access. Site-specific determinations about compatibility of uses are based on ensuring the property will be able to satisfy the purposes for which it was acquired.

The mix of passive, resource-based recreational uses accommodated at Potts Preserve include hiking, horseback riding, bicycling, camping (primitive, equestrian, and backcountry), fishing, hunting, bird watching, and nature study (**Figure 11**). A more detailed discussion of the Preserve's recreational usage and amenities is provided below.

### Trails

A trail network totaling nearly 21 miles in length is maintained on the Preserve. Approximately nine miles of mixed-use trail is available for use by hikers, equestrians, and bicyclists. The remaining 12 miles of trail are reserved for hiking use only. All trail users are required to restrict their use to the trails posted as open for their use.

While the mixed-use trails coincide largely with the trail road network used by the District staff, most of the hiking trail follows footpaths that were created and maintained by the Florida Trail Association. The hiking trails are marked by blazes and include two backcountry campsites that must be reserved prior to use. The entirety of the Preserve's trail network is incorporated into the Great Florida Birding Trail in recognition of the tremendous diversity of birds that can be observed on the property.

Horseback riders must be prepared to show proof of a current negative Coggins test, and riders under the age of 16 are required to wear helmets. The mixed-use trial is also available for use by horse-drawn buggies provided the recreationists have secured a free day-use permit that allows access through the locked gate located at the North Dee River Road/Main Road entrance. All other trail users must enter via walk-thru entrances.

### Camping

The Preserve accommodates equestrian, primitive, and backcountry camping. All campers must secure a free permit at least one day in advance of their visit and are limited to a maximum stay of seven continuous days. The equestrian and primitive campgrounds provide accessible portable toilets and a source of non-potable water, and campsites include a picnic table, fire-ring, or grill. Users of these campgrounds are allowed to access them by personal vehicle but cannot drive beyond the campground for which they have secured a use permit.

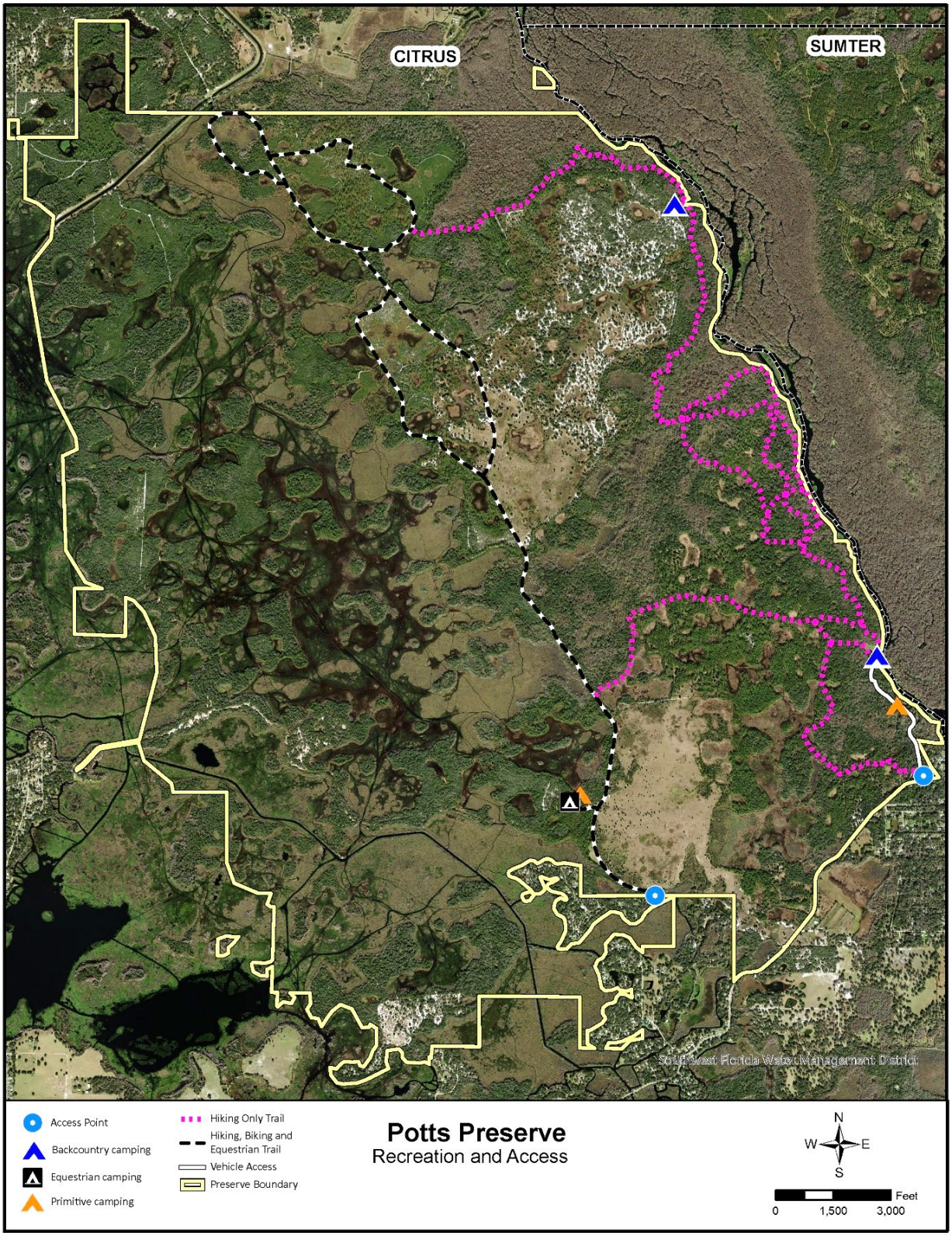


FIGURE 11. RECREATION TRAILS AND ACCESS

Equestrian users are restricted to the equestrian campground, which is designed to accommodate RVs and horse trailers. The primitive campground is reserved for tent camping only. Tent campers are also allowed to use the equestrian campground. The backcountry campsites are reserved for hike-in users only. The southernmost backcountry site, Eastern Amberwing, is located adjacent to a parking area and includes an accessible toilet. The Holly Tree campsite is much more remote, available for hike-in use only, and provides no amenities.

All campers are responsible for disposing of their own waste, so no waste-receptacles are provided. Additional rules and restrictions that may apply to camping use are available for review on the District's website and onsite signage.

### Wildlife Viewing, Hunting, Fishing, and Boating

The Preserve's diverse and highly functional natural systems allow for a wide variety of wildlife viewing opportunities. The mixture of 15 different habitat types, which includes five miles of unaltered frontage on the Withlacoochee River, supports a rich array of native wildlife and plant species, ranging from the common to the rare, and including game species sought by hunters and fishermen. This abundance of biodiversity is indicative of the effectiveness of the District's land management efforts.

Fishing is allowed year-round on the Withlacoochee River and in the Preserve's extensive basin marsh, provided it is conducted in accordance FWC regulations including possession of a valid fishing license. Hunting opportunities include defined seasons for archery, muzzleloading, hog-dog, small game, and spring turkey hunts within the 4,155-acre portion of the Preserve that is encompassed within the Potts Wildlife Management Area (WMA), defined generally as all lands located east of Main Road. Hunting is also permitted in the Preserve areas west of Main Road, contingent on it being conducted consistent with all applicable FWC regulations.

Although there are no boat launching facilities on the Preserve, there are public boat ramps located in the surrounding area, including the Turner Camp Boat Ramp located on the Withlacoochee River just outside the Preserve at the eastern terminus of East Turner Camp Road. The primitive campground on the Withlacoochee riverfront (**Figure 11**) can accommodate the launching of canoes and kayaks directly into the river. Watercraft can also freely access the picnic area, basin marshes, and sovereign submerged lands in the western half of the Preserve via the adjoining Tsala Apopka lake system, provided they are capable of navigating the shallow waters characteristic of that part of the Preserve.

## Land Use Administration

The land uses administered on District conservation lands are governed by established District policy and Rules established in Florida Administrative Code. The policy recognizes two separate categories of public use: recreational uses and non-recreational uses. Allowable recreational uses vary by property, based on site-specific considerations related to environmental sensitivity and compatibility. Usage on some District properties is governed through cooperative agreements or partnerships with other public agencies or local governments to ensure usage is administered and managed in a manner compatible with the property. Cooperative agreements support the District's efforts to protect water resources and provide nature-based recreation to the greatest extent practicable by working together to create partnerships with other agencies to streamline management. A discussion of recreational use at Potts Preserve is provided in the preceding section.

### Partnerships and Cooperative Management

The only partnership or cooperative management agreement applicable to Potts Preserve is with FWC for the Potts Preserve Wildlife Management Area.

### Special Use Authorizations

An SUA from the District's Land Resources Bureau (LRB) is required for any use of District property not authorized through statute or rule and are available upon approved application. When an application for the SUA is made to the LRB, its staff reviews the application to determine the compatibility of the requested special use with the specified District conservation lands. If LRB staff determine the requested special use is compatible and no other conflict exists, the SUA is issued for the time period necessary to accommodate the requested use.

Examples of activities that may be permitted by SUAs include vehicular access for recreational use by groups or individuals that are mobility impaired, or who require other special accommodations to engage in activities that would otherwise be considered compatible, environmental, biological or cultural research projects, and training exercises by law enforcement or military personnel. As previously mentioned, the approval for obtaining accommodations to the designated trails for a mobility impaired person is completed through the SUA process.

District properties provide a variety of research opportunities for the benefit of natural resource conservation and preservation efforts and advancements. Such projects can include wildlife surveys, wetland studies, or investigation of archaeological sites. The natural and cultural resources that are conserved at Potts Preserve can serve as outstanding living laboratories or outdoor classrooms for environmental studies due to the diverse array of healthy ecosystems present on the property.

### Future Land Conservation

No additional land purchases are proposed for Potts Preserve in the Florida Forever Work Plan, and the project is considered complete. This does not preclude the District from contemplating future additions as circumstances may warrant in order to more effectively meet the District's water management and resource protection goals.

## Land Maintenance and Operations

### Roads and Boundaries

The District is responsible for managing the roads and trails on the Preserve to provide access for conducting routine management activities and to accommodate the public's recreational use. The existing network of roads and trails must also be sufficient to ensure ready access for wildfire response teams and to function as effective firebreaks when conducting prescribed burns. District staff engages in continuing maintenance of the road network to ensure it remains clear of obstructions and to repair or enhance impaired sections of the road and trail network, including several stabilized wet crossings that are subject to flooding during periods of high water. The creation and maintenance of these wet crossings allows the District to forgo the use of culverts, thereby allowing water to flow more naturally across the Preserve while also ensuring vehicular access is not impeded.

Motorized access into the Preserve is limited to authorized personnel. Recreational users enjoy restricted access if they are issued permits to use the equestrian or primitive campgrounds, or to access the check station during hunting season. Some of the roads that were present when the District initially purchased the Preserve property, including most of the roads in the west half of the Preserve, were deemed unnecessary for management access and subsequently closed to vehicular use to allow them to revegetate naturally.

The Preserve boundary is posted and fenced as necessary to prevent unauthorized access and use, and to minimize the potential for encroachment by neighboring landowners. Firebreaks are maintained along much of the Preserve's perimeter to help ensure prescribed burns and wildfires can be contained within the Preserve, and to prevent fires on adjoining lands from entering the Preserve.

District staff will remain alert for evidence of illegal activities, including unauthorized vehicular access and boundary incursions, and will respond accordingly to ensure the Preserve remains secure. Security on the Preserve is provided by FWC through a security agreement.

### Facilities and Infrastructure

Consistent with legislation that was adopted by the state in 1999, lands acquired through state-funded acquisition programs can be used for a variety of public facilities. These include utility lines and other linear facilities, stormwater management projects, and water supply development projects. Approval of such uses is contingent upon a number of criteria, such as the use must be compatible with the natural resource values of the property, reasonable compensation must be provided to the titleholder of said lands, the proposed use must be located appropriately on the lands with due consideration given to use of other lands, and the proposed use must not be inconsistent with the Management Plan for the property.

The only physical infrastructure currently present within the Preserve consists of the utility lines that provide electrical power and water to the developed recreational facilities. These include the campgrounds and the check station that is staffed by the FWC during hunting season.

# Goals and Objectives

## Overview

The following represents a general overview of the goals and objectives over the next 10-year planning period for the Preserve. This set of goals will serve as an outline of management expectations and provide direction over the management activities for the life of this Plan. These goals are not an annual work plan, which is beyond the scope of this Plan.

## Resource Protection and Management

### Hydrologic Management

*Goal: Protect water resources within the Preserve and associated tributaries.*

- Objective 1: Continue to observe and assess water resources within the Preserve to ensure desired hydrologic function and develop restoration projects, as necessary.
- Objective 2: Continue monitoring water quality and wetland conditions through the data collection network and periodic wetland assessments.
- Objective 3: Protect water resources during management activities by continued implementation of Silvicultural and Agricultural Best Management Practices.

### Fire Management

*Goal: Maintain and restore function of natural systems through application of prescribed fire as the primary management tool.*

- Objective 1: Develop and implement an annual burn plan and apply prescribed fire according to the District's Fire Management Guidelines.
- Objective 2: Conduct majority of prescribed burns during the growing season to support development of native fire-dependent species and habitat function.
- Objective 3: Update and maintain a Condition Class database to track management activities on specific management units.
- Objective 4: Maintain perimeter firelines on an annual basis and disk strategic internal management lines supporting the seasonal needs of prescribed fire program and to support wildfire protection.

### Restoration and Natural System Maintenance

*Goal: Evaluate individual management units and develop restoration projects to recover historic natural communities.*

- Objective 1: Assess habitat conditions and develop restoration strategy to recover historic natural communities on previously altered sites targeting imperiled natural communities.
- Objective 2: Utilize information obtained from historic imagery, FNAI Natural Communities Mapping, and on-site investigations to implement site specific restoration projects that support the District's restoration goals.
- Objective 3: Develop annual workplan to implement these restoration and enhancement projects.

*Goal: Maintain and enhance natural system structure and function.*

- Objective 1: Continue to maintain existing habitat enhancement projects over the long-term to achieve desired future conditions outlined in the FNAI Natural Community Guide.

- Objective 2: Evaluate and develop habitat enhancement projects to improve habitat function.
- Objective 3: Implement habitat management projects that support the improvement and development of native plant and animal communities, including imperiled species.

### Forest Management

*Goal: Manage the forest resources on the Preserve by applying sound silvicultural techniques, with consideration for maintenance of sustainable forest resources to achieve the District's land stewardship goals.*

- Objective 1: Manage the forest resources in accordance with the District's 10-Year Timber Management Plan and conduct timber harvests as scheduled.
- Objective 2: Evaluate and develop forest management projects to support specific restoration and enhancement objectives developed for the Preserve.
- Objective 3: Conduct annual inspections of forest resources for indication of disease, insect infestations, or damage from fire to promote forest health and sustainability.

### Imperiled Species Management

*Goal: Manage and maintain natural systems to support development of imperiled, threatened, or endangered plant and animal species.*

- Objective 1: Implement land management strategies and techniques that support development of habitat required for known imperiled species.
- Objective 2: In cooperation with other agencies and partners, implement survey and monitoring protocol where feasible for imperiled species and identify strategies for their recovery.
- Objective 3: Work with other state agencies, conservation organizations, and landowners to maintain habitat connectivity.

### Invasive and Exotic Species Management

*Goal: Manage the populations of exotic and invasive plants and animals found on the Preserve at a maintenance level.*

- Objective 1: Implement the District's Invasive Plant Management Plan for the Preserve.
- Objective 2: Employ an early detection rapid response methodology on new infestations identified in the Invasive Plant Management Plan.
- Objective 3: Implement the feral hog control plan and manage the feral hog population on the Preserve.

### Infrastructure and Maintenance

*Goal: Manage and maintain the infrastructure to protect the water resources and support the District's management objectives.*

- Objective 1: Annually inspect and maintain roads and trails according to their designated maintenance schedule.
- Objective 2: Monitor and maintain culverts, bridges, and low water crossings to prevent adverse impacts on hydrology.
- Objective 3: Periodically inspect boundary fencing and gates to assure adequate protection and site security of resources and repair, as needed.

## Administration

### Land Acquisition

*Goal: Pursue land acquisition projects that support the Florida Forever acquisition plan and seek to obtain conservation easements to maintain critical habitat linkages.*

- Objective 1: Consider acquisition of adjacent parcels to extend project boundary and improve management.
- Objective 2: Evaluate opportunities to acquire fee interest of parcels within the District's optimal boundary and Florida Forever work plan.
- Objective 3: Pursue acquisition of less-than-fee interest through strategic conservation easements that complement the District's existing network of fee interest and less-than-fee acquisitions.

### Land Use and Recreation

*Goal: Manage District lands for multiple-use purposes through the administration of leases, easements, and various types of agreements.*

- Objective 1: Routinely review agreements, easements, and leases and update as required.
- Objective 2: Review special requests and issue special use authorizations for uses that are consistent with the District policies.
- Objective 3: Maintain cooperative relationships with state, local, and other governmental entities along with stakeholders.

*Goal: Provide quality, resource-based passive recreational opportunities for the public's enjoyment.*

- Objective 1: Maintain appropriate public access and quality compatible recreational opportunities.
- Objective 2: Evaluate requests for additional compatible public access and recreational opportunities.

### Archaeological and Cultural Resources

*Goal: Manage cultural and historical resources to protect and preserve natural and cultural history.*

- Objective 1: Coordinate and follow the Division of Historical Resources' recommendations for protection on known sites. Continue to monitor, protect, and preserve as necessary any identified sites.
- Objective 2: Take precautions to protect these sites from potential impacts resulting from looting, management, or maintenance activities.
- Objective 3: Maintain qualified staff as an Archaeological Site Monitor.

### Security

*Goal: Provide site security and resource protection.*

- Objective 1: Identify, document, and address security issues, including encroachments and unauthorized access.
- Objective 2: Maintain and inspect boundary fences, boundary lines, and gates to deter encroachment and unauthorized access. Post and maintain rule and boundary signage.

- Objective 3: Maintain and as needed, update law enforcement agreement with FWC or other agencies as appropriate.

## Significant Management Accomplishments

Below is a summary of the significant management accomplishments over the last ten years for the Preserve. This is not an exhaustive list of all the management activities that have occurred, but a brief highlight of the significant accomplishments over the last ten years.

### Land Management

- Developed annual burn plans.
- Completed prescribed burns on approximately 6,385 acres.
- Completed mechanical restoration on 34 acres for improvement of Scrub-jay habitat.
- Maintained perimeter firelines on an annual basis for prescribed fire and wildfire mitigation.
- Performed maintenance of internal roads and trail along with mowing twice per year on primary and secondary roads.
- Removed 213 feral hogs.
- Over 3,874 acres surveyed for invasive exotic plants and any invasives found within the surveyed area were treated.

### Water Resources

- Performed regular measurements on data collection network to monitor hydrologic conditions.
- The District has completed extensive water resources modeling over the past 10 years to verify operational guidelines for the lake chain and to better understand how flooding occurs in the region. This information has been used to help educate local citizens and users of the Preserve.
- Over the past 20 years there have been many water resource accomplishments These include the lowering of the main road to wet crossings to facilitate natural hydrologic flows, blocking many of the ditches that drain the land to the Withlacoochee River, and most recently removal of the remaining berms along the west loop road.

### Recreation

- Maintained existing recreational amenities.
- 2,260 camping reservations were made at the campgrounds.
- 1,327 volunteer hours were logged to help with trail maintenance, trash cleanup, amenities maintenance, and invasive plant removal.

### Acquisition

- Acquisition of the Two-Mile Prairie Connector Tract occurred in 2018 and is adjacent to the Preserve.

### Administration

- Authorized 7 SUAs for recreational uses, research opportunities and training.

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