LAND MANAGEMENT PLAN

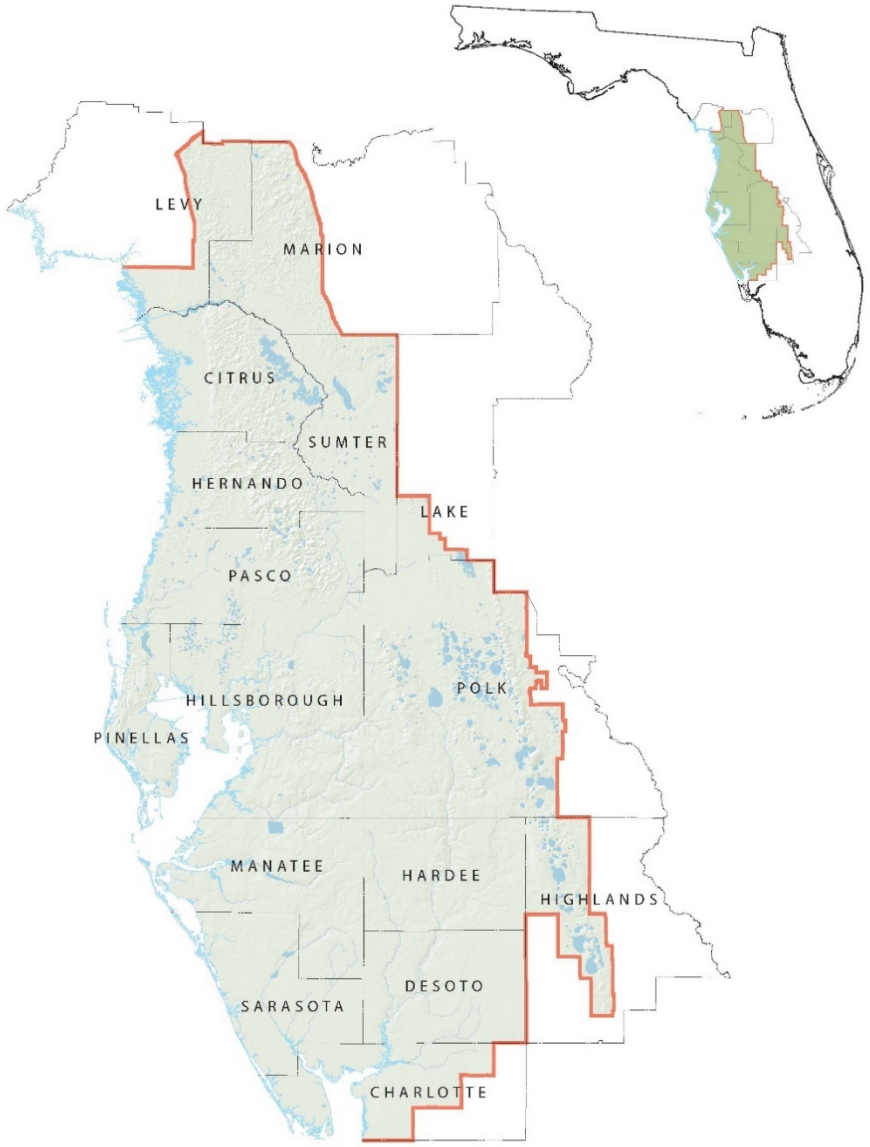
LOWER HILLSBOROUGH WILDERNESS PRESERVE

Southwest Florida
Water Management District

SEPT. 28, 2021

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
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The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs, services and activities. Anyone requiring reasonable accommodation, or who would like information as to the existence and location of accessible services, activities, and facilities, as provided for in the Americans with Disabilities Act, should contact the Human Resources Office Chief, at 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4747; or email ***ADACoordinator@WaterMatters.org.*** *If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at* ***WaterMatters.org/ADA****.*

Executive Summary

Acres: 16,064

Acquisition Dates: 1965-1970s

Plan Term: 10 Years (2022-2031)

Primary Basin: Hillsborough River

Secondary Basin: Trout Creek, Clay Gully, Basset Branch, Two Hole Branch, Flint Creek, Cow House Creek, Tampa Bypass Canal

Location: Hillsborough County (County)

Funding Source: Water Management Lands Trust Fund, Florida Forever, Ad Valorem

Partnerships: Hillsborough County Park & Recreation Department and School Board of Hillsborough County

Natural Systems: The Lower Hillsborough Wilderness Preserve (Preserve) is dominated by forested wetlands including an extensive riverine swamp associated with the floodplain of the Hillsborough River. The riverine swamp occurs on frequently flooded soils along the Hillsborough River and Trout Creek. Cypress swamps generally occur within isolated wetland systems in the flatwoods. Pine flatwoods are the most prevalent natural upland community on the Preserve. Mesic hammocks occur in areas that do not frequently burn due to soil moisture or position in the landscape.

Water Resources: Water management benefits associated with the property include water supply, flood protection, and water quality protection and enhancement. The vast majority of the Preserve occurs within the floodplain of the Hillsborough River, while a small portion of the site occurs within the floodplain of Trout Creek. To accommodate the Four River Basins, Florida Project (FRB), the District acquired lands around the Hillsborough River up to an elevation of 40 feet to provide for protection during a 100-year flood. The Morris Bridge Wellfield (MBW) is located in the northwest portion of the Preserve. Tampa Bay Water (TBW) manages the MBW as a potable water supply source. The Hillsborough River also serves as a major water supply source for the City of Tampa downstream of the Preserve. Water quality on the project site is influenced by both development around the site and by activities occurring within the Preserve.

Land Management: The District's land management practices applied on the Preserve result in healthy, natural systems. Management activities on the Preserve include prescribed fire, forest management of silvicultural zones, management and monitoring of resident wildlife to maintain existing biodiversity, feral hog control, and control of several invasive exotic (non-native) plant species.

Cultural and Historical Resources: The Preserve is an area that is steeped in a rich history. The Preserve contains approximately 40 archaeological sites that have been recorded in the Florida

Master Site File of the Florida Division of Historical Resources. These sites are prehistoric campsites and mounds from the late Paleo-Indian through Transitional periods. Artifacts suggest that the Archaic period was the most intense time of occupation. Portions of the Old Morris Bridge Road and a former railroad between Tampa and Thonotosassa are found on the Preserve.

Recreation: The types of recreation offered at the Preserve provide for passive, resource-based recreation and expansive recreation opportunities, dependent upon the area of the Preserve. The Preserve has nine areas within its boundaries that provide for recreational opportunities: Dead River Park, Flatwoods Park, John B. Sargeant Park, Morris Bridge Park, Trout Creek Park, as well as the Wilderness Park Off Road Trails, and the Jefferson, Washburn, and Oak Ridge Equestrian Areas.

Areas where recreation is managed by the County offer a modern outdoor experience with a variety of park amenities. The recreational uses at the County recreation areas include bicycling, inline skating, fishing, birding, boating, and hiking.

Areas where recreation is managed by the District provides for a passive, resource-based outdoor experience with camping, horseback riding, fishing, and hiking opportunities in an undisturbed, natural setting.

Special Use Authorization: There are various special uses on the Preserve which require Special Use Authorization (SUA) approval from the District as set forth in Florida Administrative Code §40D-9. The typical special use types occurring on the Preserve can be categorized as recreation, research, educational, and training.

Access: Public access to the property is provided at the nine access points for the recreation areas on the Preserve to allow the general public to partake in the available outdoor recreation opportunities, including two access points at Flatwood Park (Bruce B Downs and Morris Bridge Road). Access to the Washburn site requires a SUA or camping reservation.

Real Estate: Under a partnership agreement between the District and the County, the County manages six individual park sites (Dead River Park, Flatwoods Park, John B. Sargeant Park, Morris Bridge Park, Wilderness Park Off Road Trails System, and Trout Creek Park) known collectively as the Wilderness Park and accounting for approximately 7,100 acres of the Preserve. An approximately 3,000 acre "outparcel" of the Hillsborough River State Park occurs between the Dead River Park and Sargeant Park. Three additional recreational areas consisting of the Jefferson Road Equestrian Area, the Oak Ridge Equestrian Area, and the Washburn Equestrian Area are managed by the District. The District will continue to consider the opportunities of purchasing lands adjacent to the Preserve with the goal to promote the District's Mission of protecting the natural features of conservation lands for the benefit of flood attenuation, water quality, and water supply.

Cooperative Agreements, Leases, and Easements: The District is party to a management agreement with the County for the management of the previously mentioned recreation areas. There is a cooperative agreement with the City of Tampa for the New Tampa Nature Park to allow the trails

within the New Tampa Nature Park to connect to the trail system within Flatwoods Park. There is a land use agreement with the School Board of Hillsborough County for the Nature's Classroom. The District has also granted multiple easement types which are assigned to utility companies, State of Florida agencies, and local municipalities, as well as a land use agreement with the Florida Fish and Wildlife Conservation Commission (FWC) for the purposes of providing a Wildlife Management Area. There is a designation agreement with the Florida Department of Environmental Protection (FDEP) for the recreation trails on the Preserve. Finally, the District is a party to license agreements with TBW for public water supply purposes.

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Introduction and General Information

Management Plan Purpose

The purpose of this Management Plan is to set forth the District's management strategy for the Preserve for the next 10 years. The creation, updating, and implementation of this Management Plan is governed by the District's Governing Board Land Use and Management Policy (District Policy) and the District's Executive Director Procedure titled Land Use and Management Planning (Procedure), which outlines the use and management of District-owned conservation lands. District conservation lands are managed for the protection of water resources and natural systems through the application of effective and efficient land management practices. This Management Plan provides an overview of the property, a summary of past achievements, and an outline of goals and objectives for the next 10-year planning period.

District Planning Philosophy

The District's planning philosophy is intended to identify the method in which Management Plans are developed and implemented with input from both internal and external stakeholders. Management Plans are designed to guide the use and management of District conservation lands and incorporate input from stakeholders as to the use and management.

Management Plans are developed following an extensive process of planning, coordination, data review, field review, and creation of strategic goals and objectives. Through this process, a draft Management Plan is created and reviewed by key stakeholders, including District staff, subject matter experts, state agencies, local governments, partners, non-governmental organizations, and other interest groups.

Following review of the draft Management Plan by the key stakeholders identified above, a public workshop is held to solicit public input as to the draft Management Plan. The workshop is advertised in local newspapers, on the District's website, and via social media outlets and is held in the region the property is located. Additionally, the public has an opportunity to provide input via the District's website for a period both preceding and following the workshop. Once the public comment period has expired, a final draft of the Management Plan that considers public input received is prepared, and ultimately presented to the District's Governing Board for approval at a regular Governing Board meeting.

Public Involvement

In addition to the input solicited through public workshops during the development of the Management Plan, the District also provides the opportunity for stakeholders to provide input during the Land Management Review process. This process occurs every five years as a way to inform the public and hold the District accountable for the management of the property. This process assures the District is managing the land in accordance with the Management Plan and is consistent with purpose for which the property was acquired. The Land Management Review team is comprised of team members from various state agencies, cooperative partners, private land managers, and other entities involved in land management. The focus is on management activities

and includes a thorough review of the property followed by an evaluation which is reviewed by the District.

Management Authority

The Preserve is considered by the District as conservation land which signifies 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 Procedure governs the use and management of these lands in accordance with Chapters 259 and 373 of the Florida Statutes.

Location

The Preserve is located in north-central Hillsborough County. The Preserve is generally bounded on the west by Interstate 75 (I-75), on the north by residential areas, on the east by agricultural and conservation lands (Hillsborough River State Park), and on the south by State Road 41 (SR 41/ US Highway 301) and low density residential (Figure 1). Incorporated municipalities within 10 miles of the Preserve include the City of Tampa, Temple Terrace, Zephyrhills, and Plant City. The majority of the property is within the Hillsborough River Basin with a small portion of the property falling within the Tampa Bay Basin.

The Preserve occurs within Sections 13, 24, 25, and 36, Township 27 South, Range 19 East; Sections 1, 2, 11-36, Township 27 South, Range 20 East; Sections 7, 17-19, 30 and 31, Township 27 South, Range 21 East; and Sections 1-9, Township 28 South, Range 20 East.

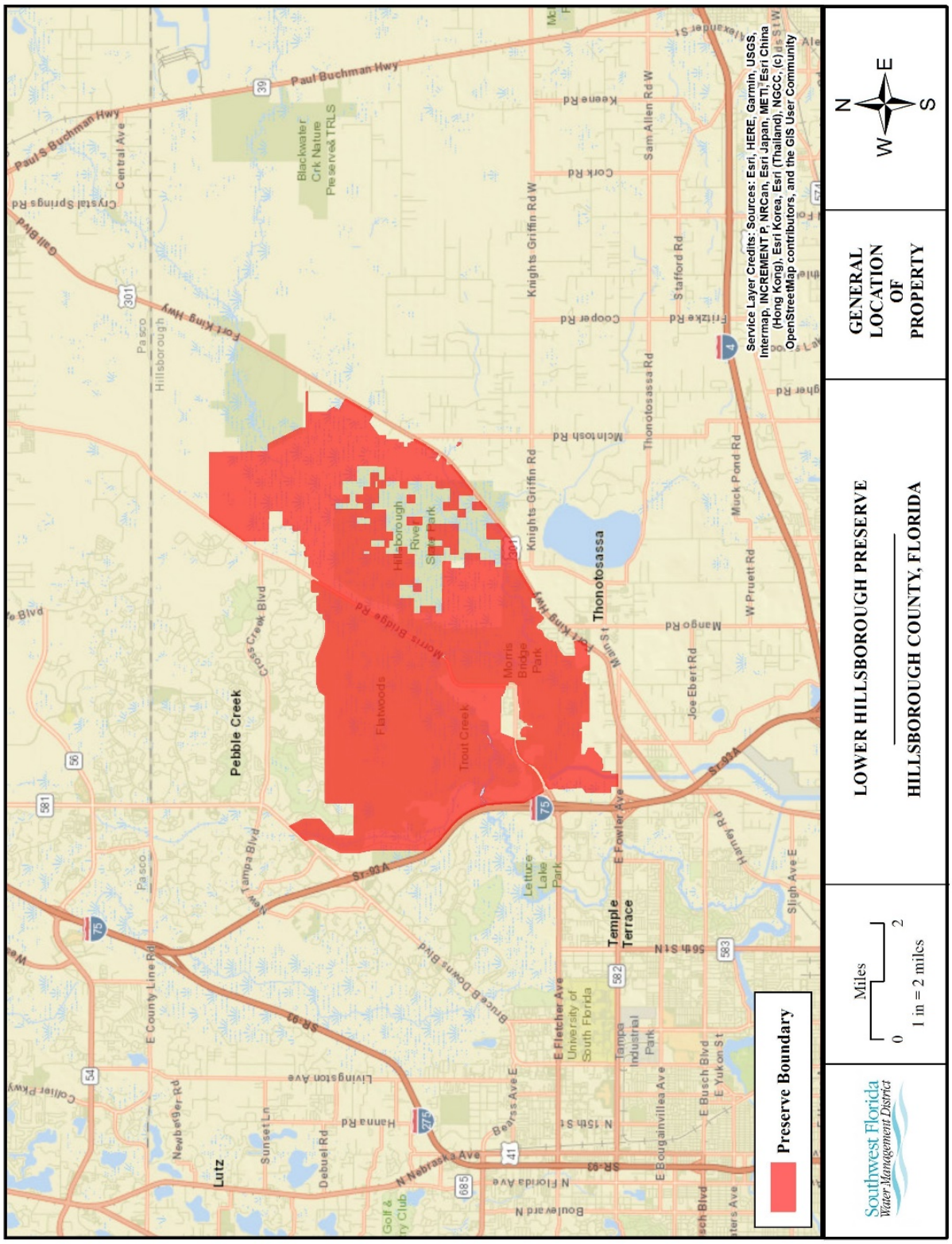

FIGURE 1. GENERAL LOCATION

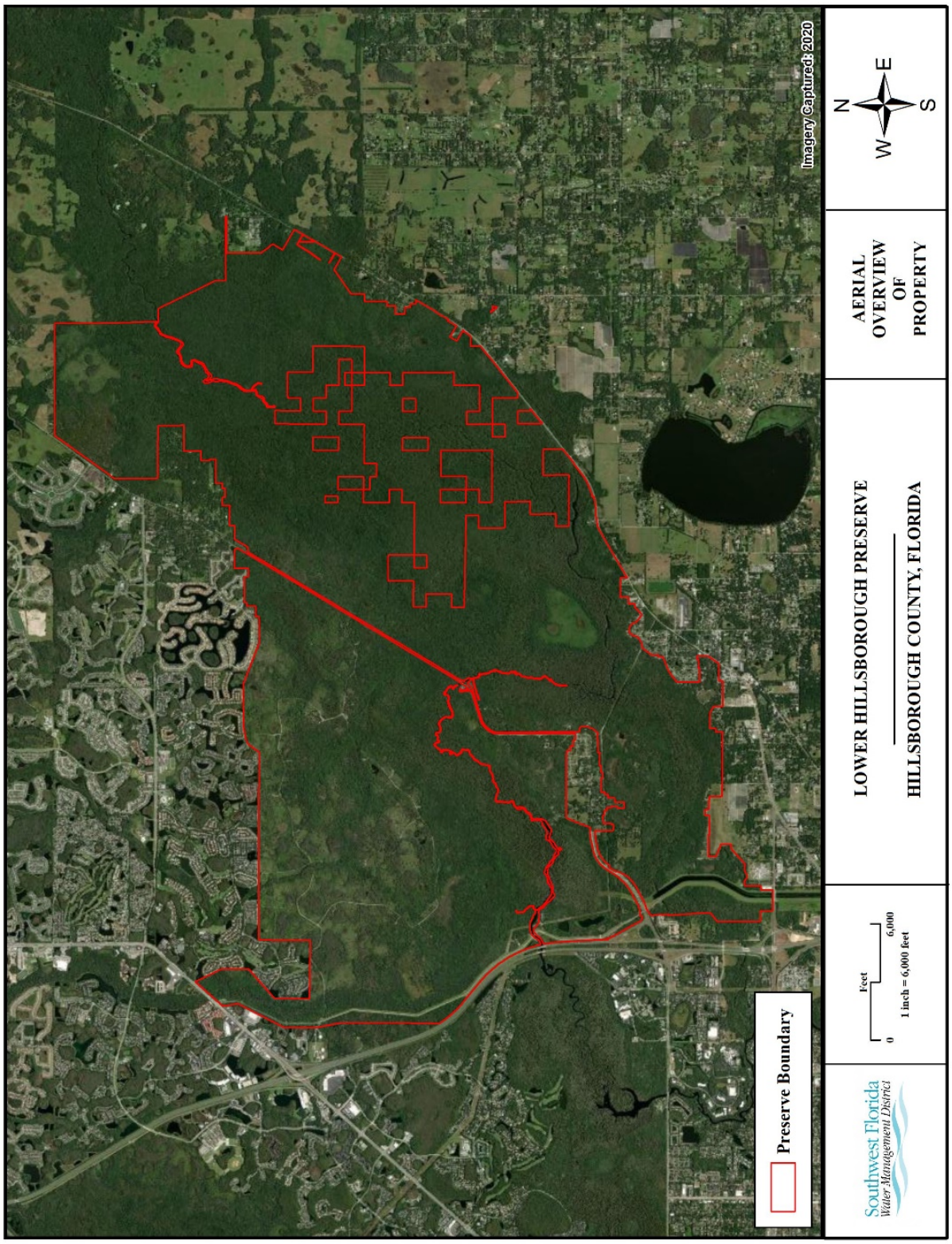

FIGURE 2. AERIAL OVERVIEW

Acquisition

The District purchases land for the purposes of protecting and conserving water supply, flood protection, water quality, and natural systems. These purposes are referred to as the Areas of Responsibility (AORs) of the District. The District acquired most of the Preserve as part of the FRB designed by the United States Army Corps of Engineers (USACE) in the 1970s. Another principal purpose for the purchase of the Preserve was to protect, restore, and maintain the quality and natural functions of the land, water, and wetland systems, water detention, and to provide natural resource-based public recreational opportunities within the region. The specific resource management is discussed further in the proceeding sections.

Acquisition History

The lands comprising the Preserve were initially acquired as part of FRB. The FRB was designed by the USACE to provide a structural approach to control flooding in the region. The District assumed responsibility for land acquisition, and operation and maintenance of the completed works. As originally proposed, the FRB project included structural elements, such as levees, water control structures, and/or permanent "conservation pools." To accommodate the FRB project, the District acquired lands around the Hillsborough River up to an elevation of 40 feet to provide for protection during a 100-year flood. The FRB plan included the development of recreational amenities. The District and the USACE agreed to cost share the development of these amenities. As part of the recreational use and management agreement with the District, the County covers the District's portion of the cost share agreement with the USACE.

Regional Significance

The Preserve represents the largest inland conservation area near Tampa. In combination with other conservation areas in the region, the Preserve helps to protect over 16,000 acres of the Hillsborough River and its floodplains. The Preserve, in conjunction with surrounding public lands, buffer the river's winding path from the Green Swamp to the north edge of the Tampa metro area. Since the Preserve was acquired, much of the land to the north, west, and south has been converted to residential and/or commercial development, increasing the importance of retaining these natural communities for conservation (Figure 2). The forested wetlands onsite are essential for filtering surface water before it flows into the river and for storing floodwaters. Within the Preserve, the Hillsborough River and associated floodplains are considered Outstanding Florida Waters (OFW) as described in Section 62-302.700 of the Florida Administrative Code.

The primary purpose of the initial acquisition of the Preserve was for the benefit of water storage and water supply. The FRB was initiated by the USACE following severe floods in 1960 to prevent future flooding in Tampa and Temple Terrace. The Preserve was designed for temporary impoundment of floodwaters by constructing an earthen levee on its western boundary, and a dam on the Hillsborough River and the Tampa Bypass Canal (TBC) to reroute floodwaters. In addition, in the 1970s the MBW was developed, which serves as an important regional water supply facility. The Hillsborough River serves as a major water supply source for the City of Tampa downstream of the Preserve. The Preserve serves an important role in environmental education for the

surrounding area, as Hillsborough County school children learn about the environment at Nature's Classroom.

Regional Conservation Network

The Preserve is an integral component of a larger network of protected public conservation and recreation lands that protect a vast natural area of statewide significance (Figure 3). The Preserve adds approximately 16,064 acres to the network of protected conservation lands in the region. Conservation lands surrounding the Preserve include the Cypress Creek Preserve to the northwest, the Hillsborough River State Park which is adjacent to the northeast, Lake Thonotosassa to the south, and the North Tampa Mitigation Bank to the west. Further to the northeast, large tracts of public conservation lands including the Upper Hillsborough Preserve and Green Swamp, among others, work together to protect large expanses of the Hillsborough River, its headwaters, and associated floodplains. These lands also provide vital expanses of core wildlife habitat and natural areas to provide important strategic ecological networks. The network of conservation lands within 20 miles of the Preserve are summarized in Table 1.

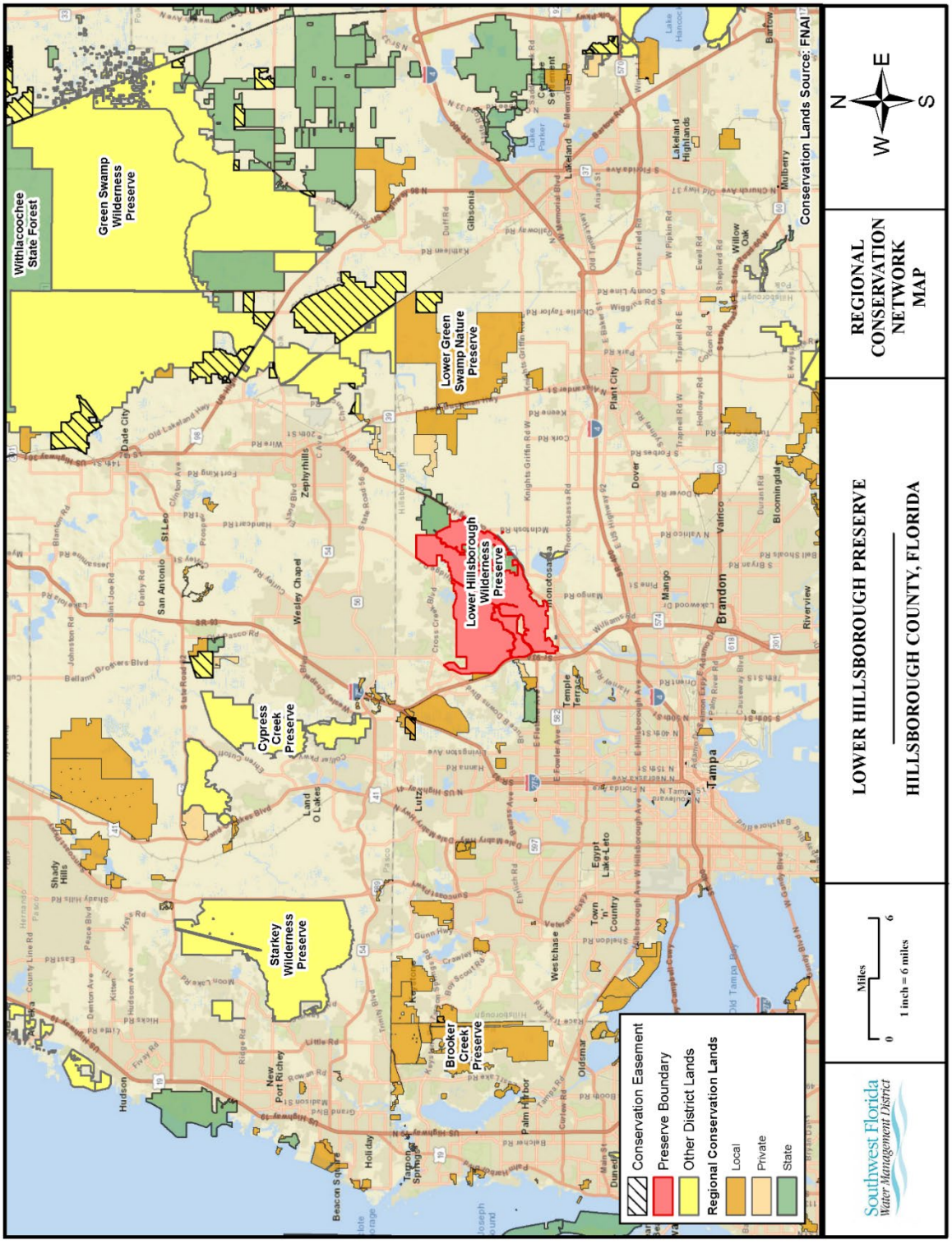

FIGURE 3. REGIONAL CONSERVATION NETWORK

TABLE 1. CONSERVATION LANDS WITHIN 20 MILES OF THE PRESERVE

Name	Manager	Owner	Acreage
Chito Branch Reserve	SWFWMD	SWFWMD	5,385
Conner Preserve	SWFWMD	SWFWMD	3,488
Cypress Creek Preserve	SWFWMD	SWFWMD	7,475
Edward Medard Conservation Park	Hillsborough	SWFWMD	1,291
Fred and Ida Schultz Preserve	Hillsborough	SWFWMD	120
Green Swamp Wilderness Preserve	SWFWMD	SWFWMD	104,275
Lower Hillsborough Wilderness Preserve	SWFWMD	SWFWMD	16,063
Upper Hillsborough Preserve	SWFWMD	SWFWMD	9,440
Alafia River Reserve	SWFWMD	SWFWMD/Polk	334
Hillsborough River Corridor	SWFWMD	SWFWMD	356
Starkey Wilderness Preserve	SWFWMD	SWFWMD	19,853
Brooker Creek Headwaters	Hillsborough	SWFWMD	1,111
Alafia River Corridor	Hillsborough	SWFWMD/Hillsborough	5,148
Hillsborough River State Park	FDEP DRP	TIITF/Hillsborough	3,319
Colt Creek State Park	FDEP DRP	TIITF/SWFWMD	5,067
Tenoroc Fish Management Area	FWC	TIITF	8,380
Little Gator Creek WEA	FWC	TIITF	566
Gator Creek Reserve	Polk	Polk	2,708
Alderman's Ford Nature Preserve	Hillsborough	TIITF/Hillsborough	971
Balm-Boyette Scrub Nature Preserve	Hillsborough	TIITF/Hillsborough	4,871
Alafia Scrub Nature Preserve	Hillsborough	Hillsborough	78
Alderman's Ford Park	Hillsborough	Hillsborough	597
Apollo Beach Nature Preserve	Hillsborough	Hillsborough	63
Balm Scrub Nature Preserve	Hillsborough	Hillsborough	2,710
Bell Creek Nature Preserve	Hillsborough	Hillsborough	520
Blackwater Creek Nature Preserve	Hillsborough	Hillsborough	2,026
Boy Scout	Hillsborough	Hillsborough	602
Brooker Creek Buffer Nature Preserve	Hillsborough	Hillsborough	490
Cypress Creek Nature Preserve	Hillsborough	Hillsborough	2,684
Kitchen Preserve	Hillsborough	Hillsborough	427
Lake Dan Nature Preserve	Hillsborough	Hillsborough	1,172
Lake Frances Preserve	Hillsborough	Hillsborough	1,664
Lettuce Lake Regional Park	Hillsborough	Hillsborough	240
Lower Green Swamp Nature Preserve	Hillsborough	Hillsborough	12,800
Pam Callahan Nature Preserve	Hillsborough	Hillsborough	148
Rhodine Scrub	Hillsborough	Hillsborough	479
Rocky Creek Coastal Preserve	Hillsborough	Hillsborough	352
Sydney Dover Conservation Park	Hillsborough	Hillsborough	697
Town N Country Nature Preserve	Hillsborough	Hillsborough	150
Triple Creek Nature Preserve	Hillsborough	Hillsborough	904
Upper Tampa Bay Park	Hillsborough	Hillsborough	573
Violet Cury Nature Preserve	Hillsborough	Hillsborough	160
English Creek	Hillsborough	Hillsborough	261

Fish Hawk Creek Nature Preserve	Hillsborough	Hillsborough/SWFWMD	2,551
Bower Tract Preserve	Hillsborough	TIITF	1,548
Golden Aster Scrub Nature Preserve	Hillsborough	TIITF	1,191
Al Bar Ranch	Pinellas	Pinellas	4,253
Cross Bar Ranch Wellfield	Pinellas	Pinellas	8,181
Mobbly Bayou Preserve	Pinellas	Oldsmar/Pinellas/TIITF	402
Brooker Creek Preserve	Pinellas	Pinellas/SWFWMD	8,746
Florida Coastal Islands Sanctuaries	Audubon	Audubon/TIITF/Pinellas /Mosaic	340
Crews Lake Wilderness Park	Pasco	Pasco	140
Cypress Creek Preserve (Pasco County)	Pasco	Pasco	255
Five Mile Creek Conservation Area	Pasco	Pasco	199
Jumping Gully Preserve	Pasco	Pasco	1,701
Upper Pithlachascotee River Preserve	Pasco	Pasco	129
Withlacoochee River Park	Pasco	Pasco/SWFWMD	258
Lithia Springs Conservation Park	Hillsborough	The Mosaic Company	160
Lake Park	Hillsborough	City of St. Petersburg	474
Lake Rogers Park	Hillsborough	City of St. Petersburg	275
New Tampa Nature Park	City of Tampa	City of Tampa	122
Picnic Island	City of Tampa	City of Tampa	244

Current Land Use

The primary purpose of the Preserve is water storage and water supply. In addition to protecting natural resources, the Preserve has become an important site for recreational opportunities in the Tampa Bay area. A wide range of operational and resource management actions are conducted within the Preserve each year, including activities such as prescribed burning, habitat restoration and improvement, invasive exotic species maintenance and control, road and trails repairs and maintenance, site security, imperiled species protection, and facilities and infrastructure maintenance and repair. It is the policy of the District that appropriate public recreational usage of District lands be permitted, provided that usage is compatible with natural resource management and protection needs. 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."

Current recreational uses of the property are diverse. Within the Preserve, there are nine separate designated park areas, including Dead River Park, Flatwoods Park, Jefferson Equestrian Area, John B. Sargeant Park, Morris Bridge Park, Oak Ridge Equestrian Area, Washburn Equestrian Area, Trout Creek Park, and Wilderness Park Off Road Trails System. Supported activities include bird watching, dog walking, hiking, inline skating, bicycling, equestrian use, boating, paddling, fishing, camping, picnicking, and hunting during certain times of year. Approximately 365 acres of the Preserve are leased to the School Board of Hillsborough County for the Nature's Classroom program. The site is used as an outdoor classroom to educate middle-school children in the county. Facilities, including animal enclosures, for the program are located along the floodplain of the Hillsborough River.

Local Government Land Use Designation

According to the Hillsborough County Land Development Code, the Preserve is currently zoned as Agricultural Rural (AR). This zoning designation does not reflect the current use of the property. Per Section 163 of the Florida Statutes, local governments are required to create, adopt, and maintain a Comprehensive Plan that addresses where residential and non-residential uses are located in the area. These comprehensive plans rely upon a foundation for future planning that will maintain community quality, preserve key ecosystems, and focuses on quality-of-life issues and sustaining the livability of the community. As per the Hillsborough County Comprehensive Land Use Plan, the Future Land Use designation for the Preserve is Natural Preservation. The purpose of the Natural Preservation designation is to recognize public or privately owned lands of significant environmental importance set aside primarily for conservation purposes. All development is prohibited in these areas except for compatible recreational or educational development.

Adjacent Land Uses

The Preserve is bound by residential neighborhoods to the north, the Hillsborough River State Park to the northeast, and lower density residential areas to the east. There is low density residential to

the southeast with additional residential and agricultural lands to the south. Along the western boundary is I-75 and a water treatment plant.

Management Challenges

The challenges associated with the management of this parcel are primarily due to the location of the parcel within an increasing area of residential development. This additional residential and commercial development puts pressure on the natural systems and could increase flood control needs in the area. In addition, the abundance of Wildland Urban Interface and major highways along the boundary of Preserve increase the complexities of prescribed fire operations. This results in an increased amount of planning to mitigate and limit impacts to smoke sensitive features. There is also an increased demand for human use in these areas which must be balanced with the goals of the acquisition and management for the natural systems in the property.

Water Resources and Natural Systems

The acquisition of conservation lands is important for the management of water resources and is a strategic element in the District's effort to meet its four primary AORs. These AORs are flood protection, water supply, water quality, and natural systems. The District's 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 boundaries. Established in 1961 to operate and maintain several large flood protection projects, the District's responsibilities have since expanded to include managing water supply, protecting water quality, and protecting natural systems including rivers, lakes, wetlands, and associated uplands. The Preserve's water resources are outlined in Figure 4.

Water Quality

Water quality on the project site is influenced by both development around the site and by activities occurring within the Preserve. Development alterations include changes in water flow patterns due to construction of impermeable surfaces and channelization. Stormwater detention and treatment facilities subject to District regulations are designed to offset some of these impacts, but non-source nutrient inputs associated with landscaping can have downstream effects on water quality that are not completely offset by stormwater facilities.

Impacts to water quality from resource-based recreation and land management of the site are likely minimal. However, storage of various substances necessary for these management activities (e.g., gasoline, herbicides, etc.) could have some impacts if spills occur. In addition, erosion from inappropriate trail usage may lead to local impacts resulting in degradation of water quality. Water quality monitoring is currently conducted within the MBW by TBW and at several locations along the Hillsborough River by the United States Geological Survey (USGS). The District will continue to coordinate with these groups to address water quality issues for the site.

A 23-mile segment of the Hillsborough River, extending from Fletcher Avenue just west of the Preserve upstream to the Withlacoochee River overflow point in Pasco County, was designated an Outstanding Florida Water (OFW) by FDEP in 1995. The OFW designation recognizes the generally high water quality and exceptional recreational and ecological values of the Hillsborough River and affords protection to river water quality through stringent stormwater and wetland protection regulations. Although the OFW designation requires more extensive stormwater treatment for systems draining into the River, it does not necessarily protect against non-point sources affecting water quality. Additional protection for water quality issues is afforded through the Hillsborough County's Wellhead and Surface Water Resource Protection ordinance, which covers the 100-year floodplain of the Hillsborough River. This ordinance includes measures to ensure compatibility of proposed development or recreational activities with water supply / water quality protection within and adjacent to the Preserve.

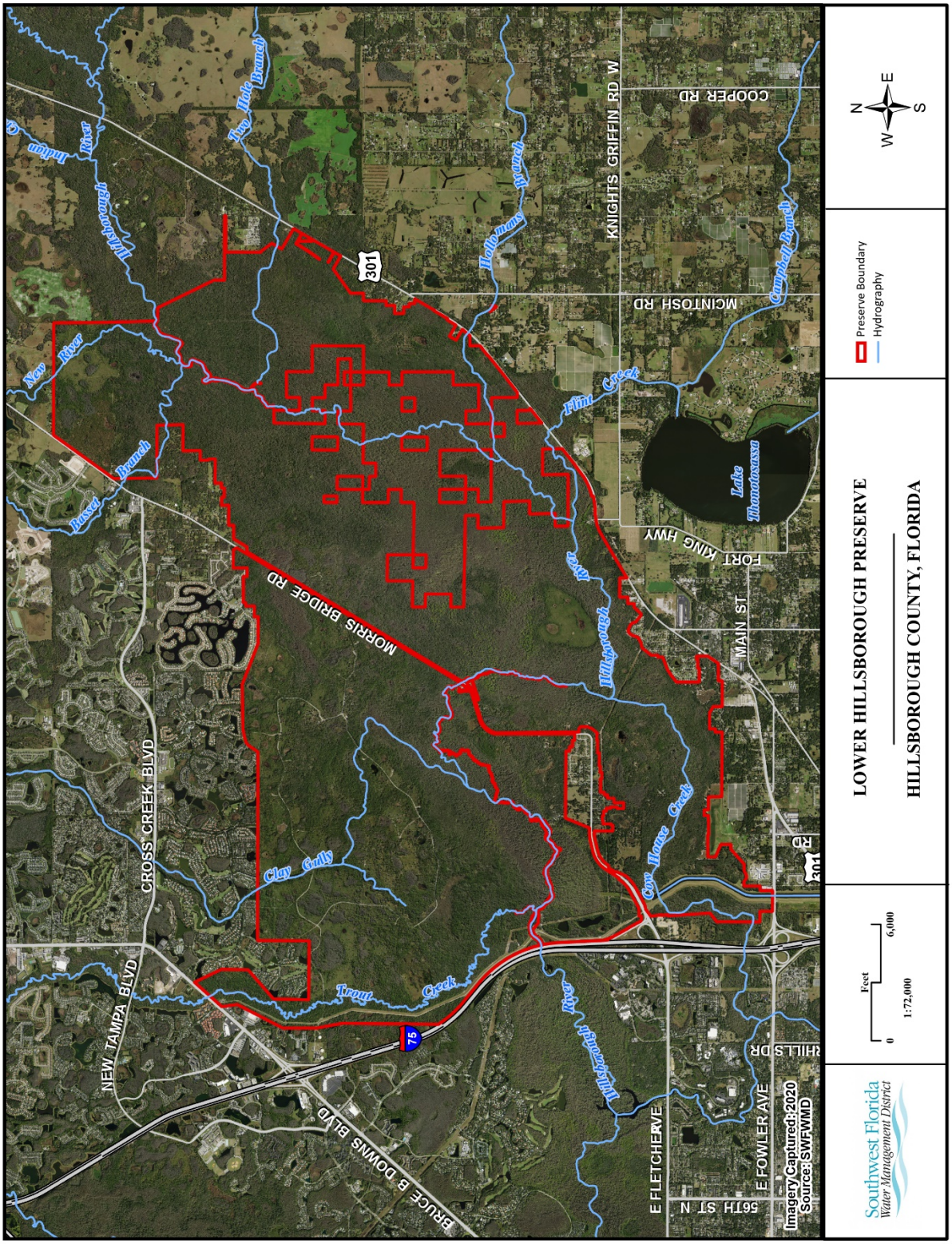

FIGURE 4. WATER RESOURCES AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Water Supply

The MBW is located in the northwest portion of the Preserve. TBW manages the MBW as a potable water supply source. The Hillsborough River also serves as a major water supply source for the City of Tampa downstream of the Preserve. The City of Tampa constructed a water treatment plant west of the MBW in 1975. A total of 20 production wells tap into the Upper Floridan aquifer and have been operational since 1978 (SWFWMD, 1989).

In 1998, TBW assumed ownership of the water supply facilities and now operates the MBW under Consolidated Permit No. 2011771.01. Under the Consolidated Permit, the MBW has a maximum withdrawal limit of 12 million gallons per day (mgd) with an individual wellhead maximum limit of 2.5 mgd. In 2000, the first phase of the District's Northern Tampa Bay Water Use Caution Area (NTBWUCA) Recovery Strategy was adopted to address NTBWUCA lake and wetland minimum flow levels (MFLs) and an MFL for the Lower Hillsborough River that were not being met. The strategy called for a phased reduction in groundwater pumping from 160 mgd to 90 mgd at TBWs regional wellfields and development of alternative water supply projects.

A second phase of the recovery strategy, adopted in 2010, included a comprehensive plan that addressed continued monitoring, evaluation of environmental mitigation for withdrawal impacts, and continued water conservation activities. In support of the recovery strategy, over 85 mgd of new regional alternative sources of public supply have been developed. A number of other projects providing ancillary recovery benefits, including reuse and water conservation, have also been implemented within the region.

An assessment completed in 2020 identified substantial recovery of hydrologic and ecological conditions associated with strategy implementation and rainfall conditions. MFLs within the NTBWUCA for all but one lake (Pasco Lake), one wetland (Cypress Bridge A), and the Lower Hillsborough River were found to be met, and aquifer levels in the region were near their peak elevations observed during the past 40 to 60 years. Based on these findings, in March 2021 the District's Governing Board approved initiation of rulemaking and approved rule language to repeal the NTBWUCA Recovery Strategy. Also being addressed is recovery of the remaining single wetland MFL (located within the MBW) not being met, as well as re-adoption and continued implementation of the Hillsborough River Strategy. Repeal of MFLs has occurred for Pasco Lake and Cypress Bridge A that were determined to not be representative MFLs water bodies.

A one-lane paved loop road was constructed to provide access to production wells on the MBW. It is also heavily utilized by recreational users of Flatwoods Park. The loop road serving the wellfield was elevated on a berm to provide year-round access and to serve as a dike. Six water retention structures were installed at several locations along the roadway where significant natural drainage ways occurred. An adaptive approach to use of the structures, which included monitoring water levels and retaining more water in the interior portions of the loop road, was initiated in 1995 by the City of Tampa.

The use of uplands for retaining water was raised as a concern by the District in 1998. As a condition of the Consolidated Permit, a plan detailing proposed alterations to the surface water

control structures in the southern portion of the loop road was required to offset adverse environmental impacts from the operation of these structures. This plan was completed in 1999 and included recommendations for both water level monitoring and modifications to the structures and their operating schedule.

Flood Protection

The vast majority of the Preserve occurs within the floodplain of the Hillsborough River (Figure 5), while a small portion of the site occurs within the floodplain of Trout Creek. The Preserve was acquired to provide flood control to protect the City of Tampa, City of Temple Terrace and the surrounding urbanized areas which is a priority that still guides the management of the property. Although this flood control includes significant structural components, the extensive floodplains of the Hillsborough River, Cow House Slough, Flint Creek, Clay Gully, and Trout Creek provide natural attenuation of floodwaters. In addition, the significant system of forested wetlands and herbaceous marshes in Flatwoods Park store large volumes of rainfall.

To accommodate the FRB project, the District acquired lands around the Hillsborough River up to an elevation of 40 feet National Geodetic Vertical Datum (NGVD) to provide for protection during a 100-year flood event. An earthen levee (Levee 112N) was constructed along the western boundary of the Preserve from Fletcher Avenue / Morris Bridge Road to Bruce B. Downs Boulevard to allow the Preserve to be used as a flood control reservoir. A water control structure (S-155) was constructed at the intersection of the levee and the Hillsborough River (SWFWMD 1989). During major flooding events, the District closes this structure to both detain water within the Preserve (SWFWMD 1989) and divert Hillsborough River flow to Tampa Bay via the TBC, another major structural component of the FRB.

Since inception of the FRB project, the District's responsibilities for regulation and management of water resources have broadened considerably. The District still works closely with the USACE to implement the flood control mandates of the FRB program. The focus of the flood control program is to protect the nearby Cities of Temple Terrace and Tampa.

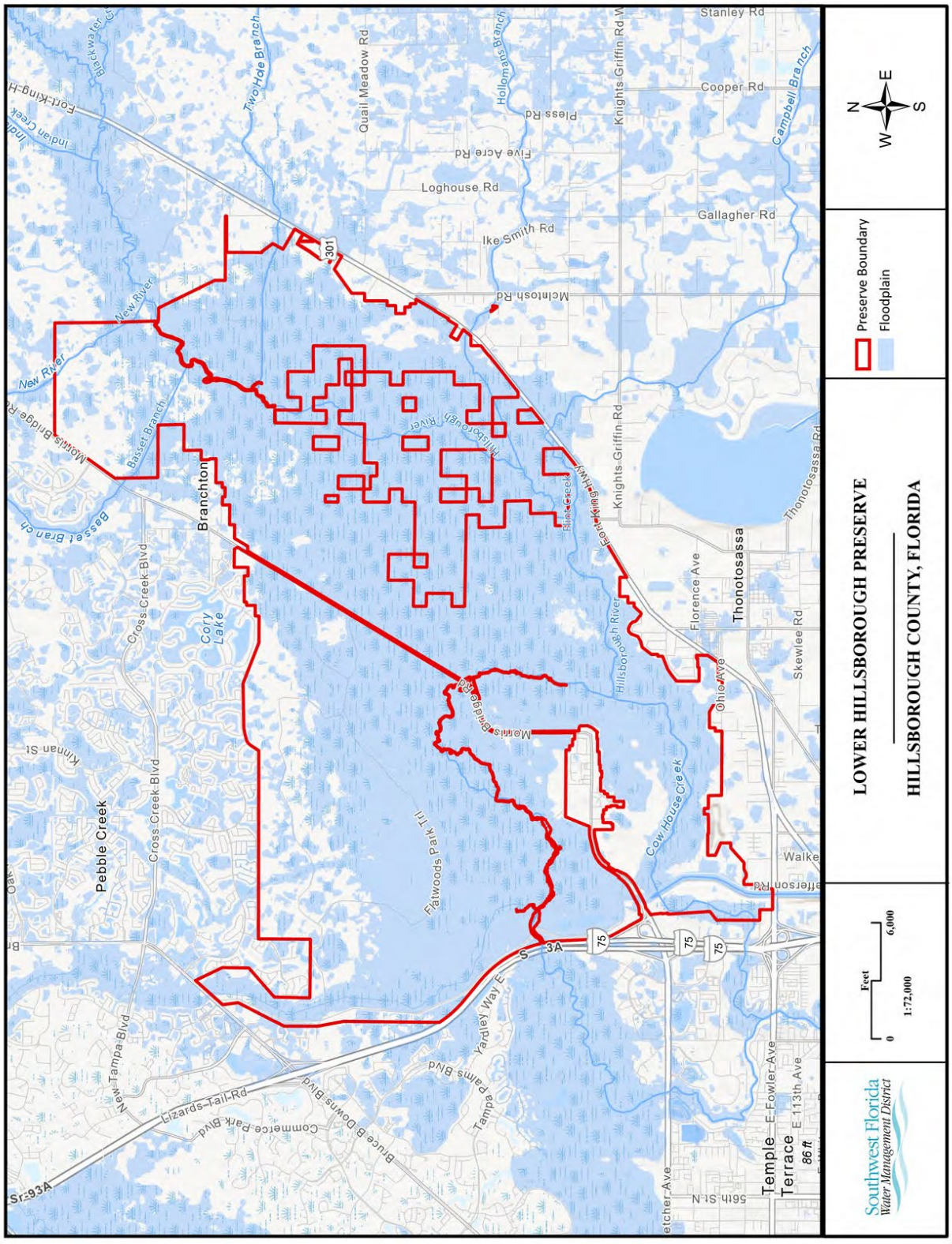

FIGURE 5. FLOODPLAIN MAP

Natural Systems

Thirteen natural communities and three altered communities occur on the Preserve, as defined by the Florida Natural Areas Inventory (FNAI), depicted in Figure 6. The dominant natural community within the Preserve is hydric hammock, accounting for 31 percent, with subdominant natural communities including mesic flatwoods, floodplain swamp, and mesic hammock (all > 7 percent cover). Altered lands within the Preserve consist of pine plantation, improved pasture, and ruderal lands. The ruderal land use is also subdominant, accounting for approximately 6 percent of Preserve. Cumulatively, wetlands account for a combined land area of approximately 60 percent of the Preserve. The natural communities and percent cover is summarized below in Table 2.

TABLE 2. NATURAL COMMUNITY TYPE SUMMARY

FNAI Communities	Acreage	Percent of Land Cover
Hydric Hammock	5,029	31%
Mesic Flatwoods	3,777	24%
Floodplain Swamp	3,100	19%
Mesic Hammock	1104	7%
Ruderal	953	6%
Basin Swamp	556	3%
Dome Swamp	391	2%
Xeric Hammock	345	2%
Basin Marsh	312	2%
Pine Plantation	148	1%
Depression Marsh	135	1%
Blackwater Stream	54	0.3%
Wet Flatwoods	48	0.3%
Sandhill	20	0.1%
Pasture Improved	16	0.1%
Wet Prairie	7	0.04%
Total	**15,995**	**100%**

Basin Marsh (312 acres)

This natural community is described as a basin that is seasonally inundated with occasional fire. Within the Preserve, basin marshes make up approximately 2 percent of the landscape. This marsh system typically has a long hydroperiod. These systems are largely herbaceous and include species such as maidencane, sawgrass, bulltongue arrowhead, pickerelweed, cordgrass, and white-water lily.

Basin Swamp (556 acres)

Basin swamps account for approximately 3 percent of the total land use within the Preserve. These systems are typically large basin wetlands with peat substrate that is seasonally inundated with still water or with water output. Within these systems, fire is rare or occasional. The forested system is made up of species that can withstand long periods of standing water, including cypress, tupelo, and mixed hardwoods.

Blackwater Stream (54 acres)
This land use comprises a very small portion of the Preserve, less than 1 percent. Blackwater streams are perennial or intermittent watercourses characterized by tea-colored water with a high content of particulate and dissolved organic matter from drainage through swamps and marshes.

Depression Marsh (135 acres)
Depression marshes are small, isolated, and often rounded depressions. This land use only accounts for less than 1 percent of the Preserve. Depression marshes typically have a long hydroperiod and are often surrounded by fire-maintained communities. Depression marshes are seasonally inundated with still water. They are largely herbaceous with and include species such as maidencane, sawgrass, pickerelweed, longleaf threeawn, sand cordgrass, and peelbark St. John's wort.

Dome Swamp (391 acres)
This natural community makes up approximately 2 percent of the land use within the Preserve, and includes small or large, shallow, isolated depressions in the flatwoods. Within the Preserve, they occur within a fire-maintained community and area seasonally inundated with still water. These forested systems often have the tallest canopy in the center and gets its distinctive shape by the smaller trees growing in the shallower waters along the edges, with the taller trees in the deeper center parts of the wetland. Dome swamps are dominated by pond cypress or bald cypress, although scattered black gum, dahoon holly, and sweetbay also occur. These systems undergo a variety of inundation regimes within and between years.

Floodplain Swamp (3,100 acres)
This land use occurs along or near rivers and streams and is usually inundated. Fire is rare in these systems. The canopy is often closed and dominated by bald cypress, black gum, American elm, water ash, red maple, and water hickory. Floodplain swamps make up approximately 19 percent of the Preserve. This land use occurs on frequently flooded soils along the Hillsborough River and Trout Creek. The water levels within the floodplain swamps can change dramatically in association with rainfall and/or the operation of the water control structures in other portions of the site.

Hydric Hammock (5,029 acres)
Hydric hammocks are the dominant land use within the Preserve. They are lowlands in mesic-hydric areas. This natural community comprises approximately 31 percent of the Preserve. Species often include live oak, cabbage palm, red cedar, and mixed hardwoods. Fire is occasional to rare.

Mesic Flatwoods (3,777 acres)
This natural community is subdominant within the Preserve and encompasses approximately 24 percent of the landscape. Mesic flatwoods are flatlands with mesic soils. In these communities, fire is frequent. This habitat contains species that can withstand periods of soil inundation and periods of dry conditions. The canopy is dominated by sparse open pine, with a layer of low shrubs and herbs. Canopy can be either longleaf pine and/or slash pine, with a shrub layer of saw palmetto, gallberry, dwarf live oak, and wiregrass.

Mesic Hammock (1,104 acres)
Mesic hammocks are flatlands with mesic soils, with occasional or rare fire. This land use describes approximately 7 percent of the Preserve. This habitat is a closed evergreen canopy made up of live oak, cabbage palm, southern magnolia, and pignut hickory with a shrub layer of saw palmetto.

Pasture – Improved (16 acres)
Improved pastures are an altered community, as they have been cleared of their native vegetation. This land use occurs infrequently on the Preserve and accounts for less than 1 percent of the landscape. Herbaceous cover is dominated by planted, non-native or domesticated native forage species, including bahiagrass, bermudagrass, or pangolagrass. Weedy native species are common, and include dogfennel, carpetgrasses, and flatsedges. The former pasture occurs primarily in the Oak Ridge Equestrian Area.

Pine Plantation (148 acres)
Pine plantations are areas altered by silvicultural activities. Pine plantations in Florida are often dominated by even-aged slash pine. The understory is typically spare to absent herbaceous vegetation as a result of shading or deep pine needle duff. This altered community constitutes a very small portion of the Preserve, approximately 1 percent.

Ruderal (953 acres)
Ruderal areas are characterized as anthropogenically altered lands, primarily due to the historic conversion of these areas to pastureland or agricultural lands. This altered land use describes approximately 6 percent of the habitat within the Preserve. These ruderal areas are mixed grasslands with a variety of native and non-native grasses.

Sandhill (20 acres)
Sandhill communities are uplands with deep sand substrate and xeric soils. Sandhill habitats occur infrequently and in small pockets within the Preserve, and only account for less than 1 percent of Preserve. These habitats benefit from frequent fire. The canopy is widely spaced longleaf pine and/or turkey oak with a wiregrass understory.

Wet Flatwoods (48 acres)
This native community occurs on less than 1 percent of the Preserve. Wet flatwoods are flatlands with sand substrate and are seasonally inundated. Fire is frequent. The canopy is dominated by pine, with grassy or shrubby understory. Common species include slash pine, gallberry, fetterbush, sweetbay, cabbage palm, and wiregrass.

Wet Prairie (7 acres)
Wet prairies occur infrequently on the Preserve and comprise less than 1 percent of the land use onsite. They are flatlands that are usually saturated but only occasionally inundated. Fire is frequent. These systems are treeless with dense herbaceous cover and few shrubs. Species commonly observed within wet prairies on the Preserve include beakrush, St. John's wort, redroot, blue maidencane, and sand cordgrass.

Xeric Hammock (345 acres)

Xeric hammocks are uplands with deep sand substrate and xeric soils, where fire is very rare. Within the Preserve, this natural community is approximately 2 percent of the total land use onsite. The canopy is often closed with a mixture of evergreen hardwoods, sand live oak, and a shrub layer of saw palmetto.

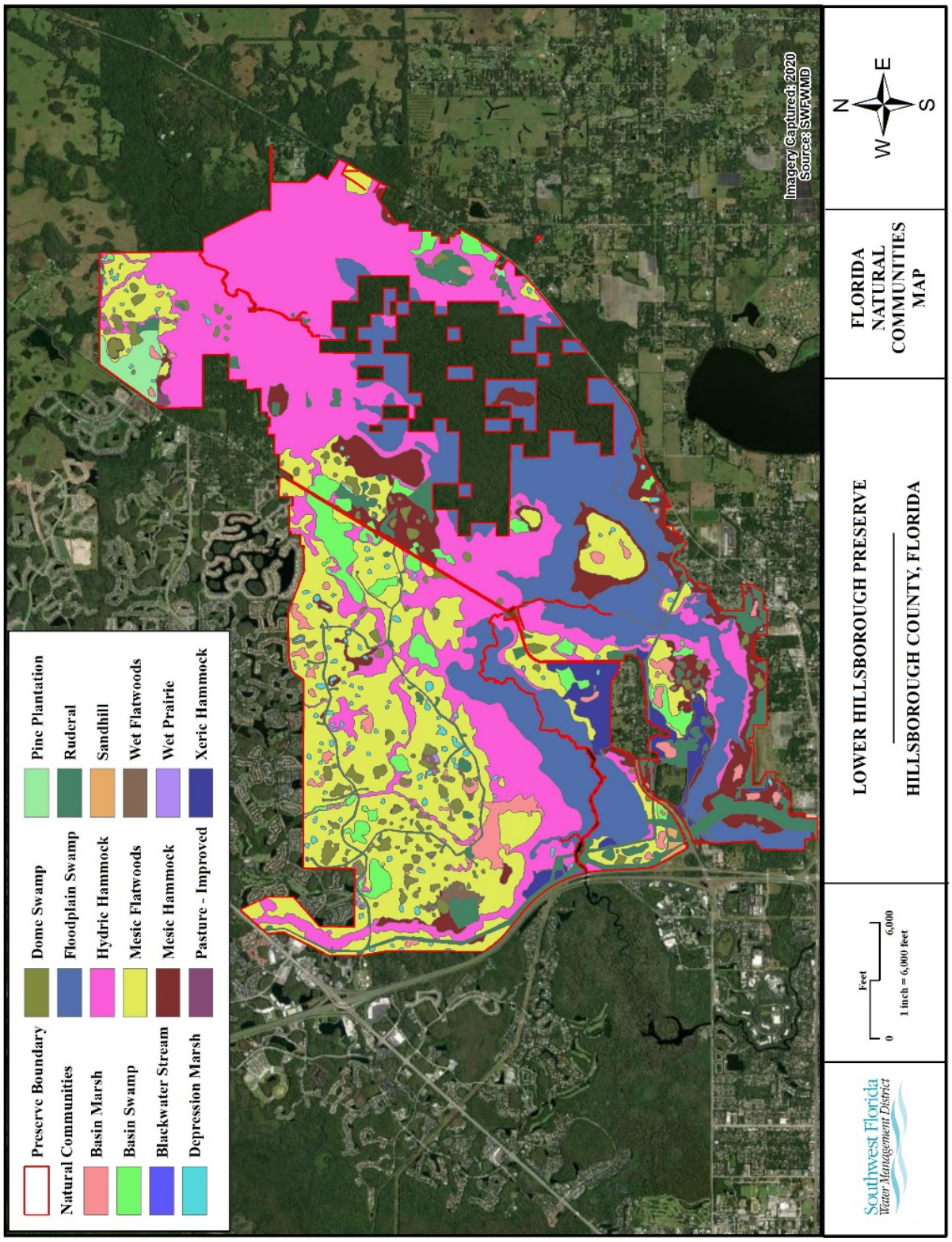

FIGURE 6. NATURAL COMMUNITIES- FNAI

Soils and Topography

The Preserve has relatively low-lying topography, with elevations (Figure 7) ranging from approximately 25 feet to 50 feet National Geodetic Vertical Datum (NGVD). Based on the United States Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS) Soil Survey Hillsborough County (1989), 27 soil types are mapped within the Preserve as depicted in Figure 8. Of these soil types, 11 are considered hydric according to the Hydric Soils of Florida Handbook, accounting for approximately 74 percent of the Preserve. Hydric soils typically occur in low-lying areas, and all wetlands have hydric soils. Chobee sandy loam, frequently flooded, a hydric soil, is the dominant soil on the property, accounting for approximately 37 percent of the soils on the Preserve, while Winder fine sand and Myakka fine sand, 0 to 2 percent slopes, both also hydric soils, are subdominant and account for approximately 17 percent and 16 percent of the soils, respectively. Chobee sandy loam is also the most frequently observed soil within the hydric hammock and floodplain swamp communities on the Preserve. Winder and Myakka fine sands are most frequently associated with the mesic flatwoods and portions of the hydric hammock on the Preserve. Mesic soils typically occur in flat areas that are at higher elevations relative to hydric soils. Within the Preserve, seven soils are classified as mesic, and are often associated with pine flatwoods and dryer parts of the mesic hammocks. These mesic soils account for approximately 21 percent of the soils within the Preserve. Xeric soils are at the highest relative elevation. They are typically sandy, and the water table is typically well below the surface. Eight xeric soils occur within the Preserve, and account for only 5 percent. These soils mainly occur within the xeric hammock and sandhill communities on the Preserve.

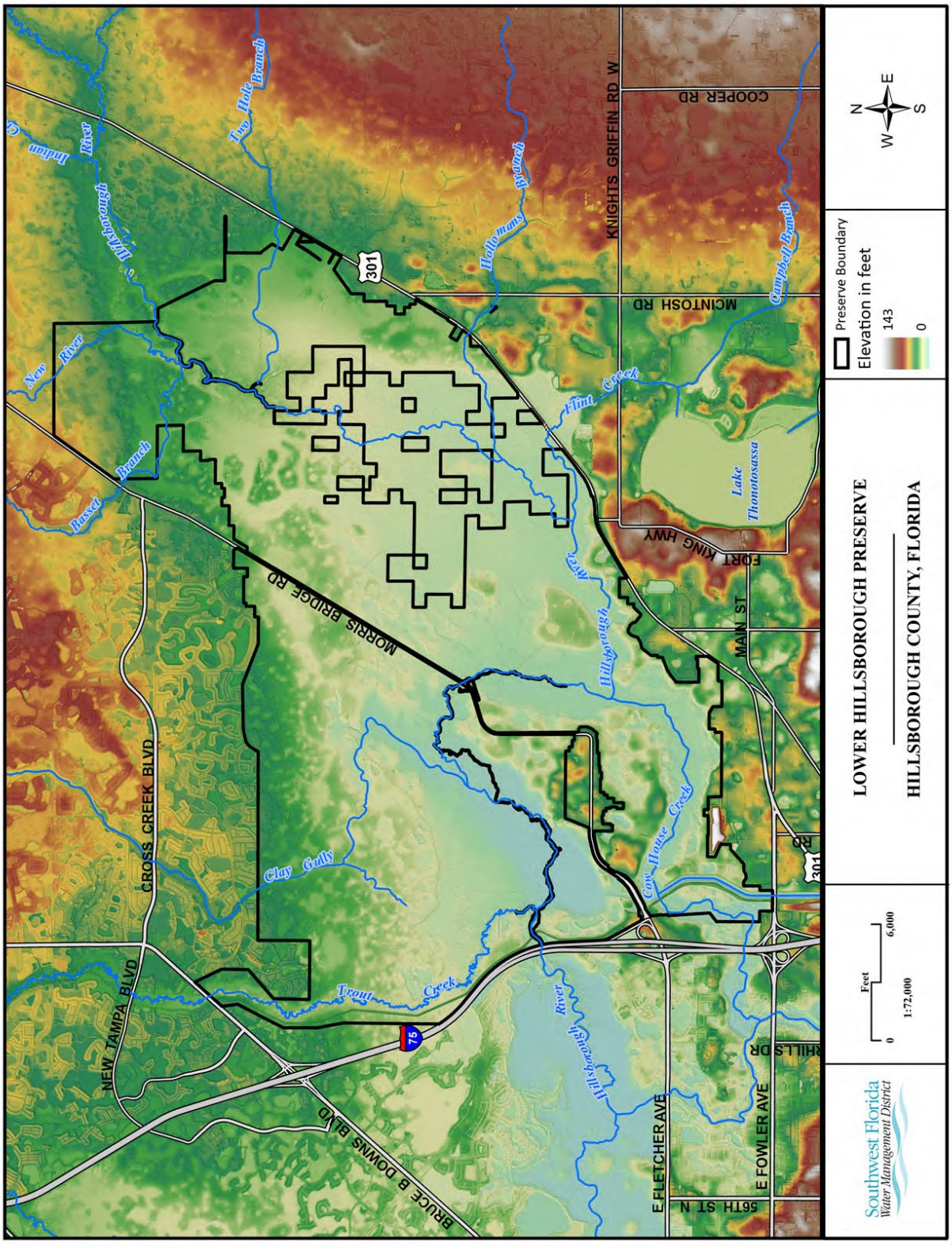

FIGURE 7. DIGITAL ELEVATION MODEL OF LOWER HILLSBOROUGH WILDERNESS PRESERVE

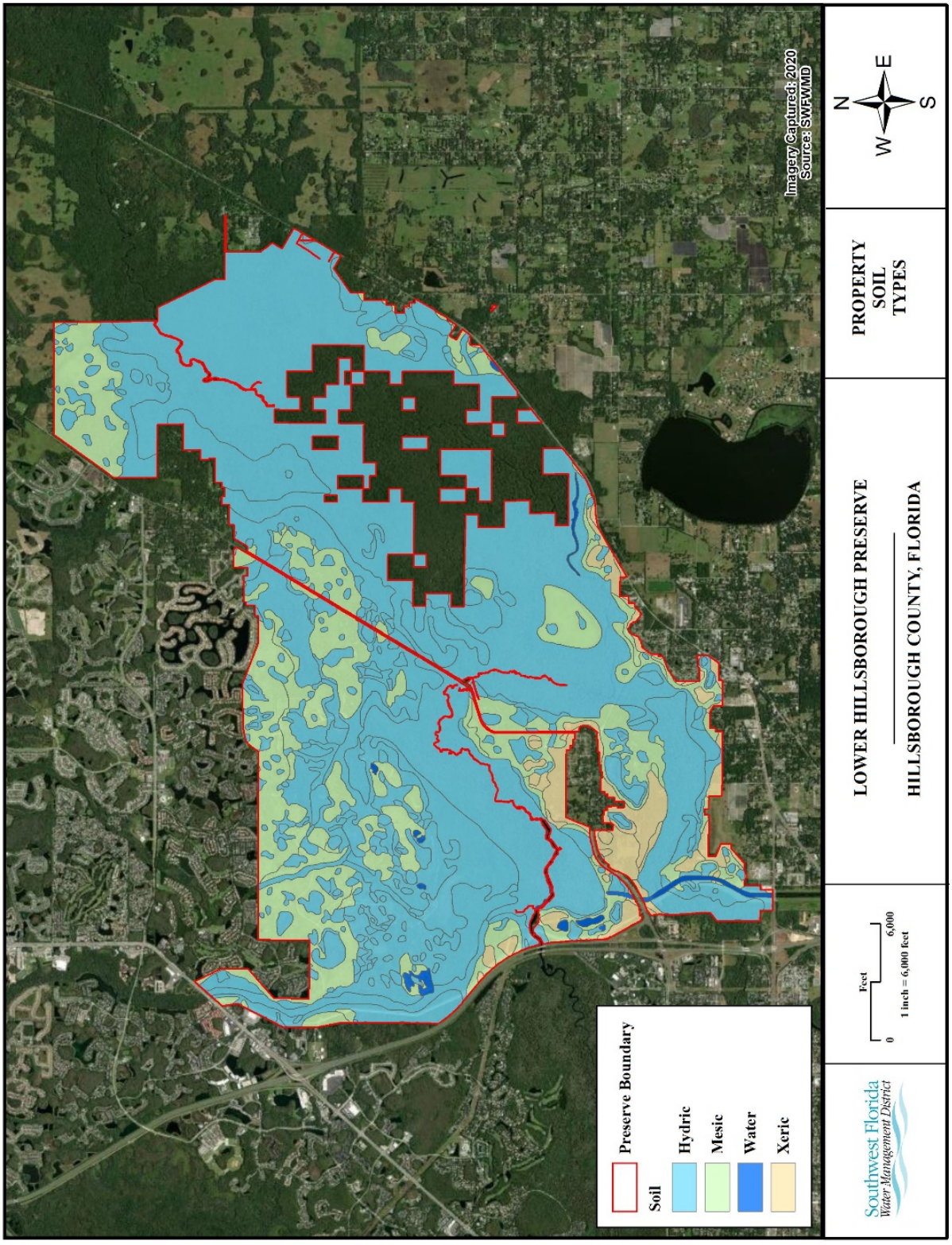

FIGURE 8. SOIL TYPES AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Historical Land Use and Cultural Resources

Historical Land Use

Features of local historical significance have been documented on the Preserve. As is common throughout Florida, the forested plant communities and pine flatwoods on site have been subjected to a long history of timber operations that have led to the reduction or loss of the historical canopy structure and coverage. Former pasture occurs primarily in the Oak Ridge Equestrian Area. A large borrow pit occurs in the western portion of the property in an area that was excavated to develop the loop road serving the water supply facilities on the property. Human occupation of the area has had a long history. Past generations of Native Americans took advantage of flint along area rivers to make tools. American industrialists began harvesting pine, cypress, and hardwood trees on the property in the 1840s. The Old Fort King Trail was a supply route from Tampa to Ocala that used to support U.S. troops during the Seminole wars and was later used during the Civil War. A portion of this route is now a multi-use trail connecting the Preserve to the Hillsborough River State Park.

Cultural and Archaeological Resources

The Preserve contains 44 archaeological sites and 2 linear features that have been recorded in the Florida Master Site File, which is maintained by Division of Historical Resources. Specifically, many sites occur in the higher elevations of the Preserve between the Hillsborough River and Cow House Slough. Sites include small prehistoric campsites and stone tool manufacturing sites. Lithic material on the sites indicates a late Paleo-Indian through Transitional occurrence. Artifacts suggest that the Archaic period was the most intense time of occupation. The two linear features found on the Preserve are a portion of the Old Morris Bridge Road and a former railroad between Tampa and Thonotosassa. The railroad was built in 1893 by the Plant System and extended in 1901 to Vista Junction via the South Florida Railroad. In 1902, the railroad became a part of the Atlantic Coast Line Railroad and then the Seaboard Airline in 1967 before it was dismantled in the 1970s.

The District will perform Best Management Practices for upholding the integrity of the historical and cultural resources that are documented within the confines of the Preserve. District land managers will alert law enforcement, when necessary, as illegal archaeological digs have been a reoccurring issue at the Preserve. Management of these archaeological and historical resources will consist primarily of preventing disturbance. The sites may be made available for supervised study by archaeological researchers.

Land Management and Land Use

Land Management

As part of the ownership of conservation lands, the District is responsible for the 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 managers have 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 other common land management techniques 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 in the FNAI.

This aspect of the plan contains specific actions required to ensure the continued integrity of the Preserve as an important part of the overall ecological landscape. Emphasis is placed on restoring and maintaining, to the greatest degree possible, the natural communities that formed the vegetative and animal species composition within the Preserve. Species specific management is appropriate when the maintenance and/or recovery of that imperiled species population is necessary, and when it is compatible with the District's Mission and values.

Fire Management

Prescribed fire is the primary tool for management of District conservation lands. Fire is a natural process that has occurred on Florida's landscape for thousands of years. The goal of the District's fire program is to mimic that natural process and apply prescribed fire in a safe, efficient, and effective manner to maintain the natural function of the plant and animal communities. Many of the plant and animal species that occur on the Preserve are specifically adapted to fire to maintain a healthy and successful population. As a result, the District aims to apply fire to all fire-dependent natural communities based on their natural fire return intervals defined by the FNAI (Guide to the Natural Communities of Florida, 2010 edition).

The program targets the natural fire season, or the "growing" season, which occurs during the spring and summer. Research indicates that burning during the growing season has the most beneficial impact on native plant communities but maintaining a consistent burn frequency can be just as valuable. Therefore, the District conducts prescribed burns throughout the year to achieve various objectives.

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

- Maintain and restore natural systems.
- Promote water resource benefits.
- Reduce hazardous fuel loads and minimize wildfire risk.
- Promote native plant diversity and habitat function.
- Maintain wildlife habitat quality.
- Support forest management activities.
- Maintain aesthetics and access for recreation.

The pine flatwoods, herbaceous wetlands, and cypress swamps at the Preserve are fire-maintained systems that are dependent upon recurring fire for their long-term maintenance and viability. These areas account for approximately 26 percent of the total property and are adapted to frequent fires that stimulate growth and reproduction in a variety of plants native to these systems. Historical patterns (Table 3) of fire initiation, primarily consisting of lightning-induced fires, are no longer sufficient to maintain these fire dependent communities. In the prolonged absence of fire, the vegetative structure and species composition of these communities gradually would change and be of reduced value to wildlife. The District has a fire management program that is implemented to maintain the viability of these fire-adapted communities and increase both species and habitat diversity. The prescribed burning program implemented by the District is an important land management tool to reduce the threat of destructive and intense fires, while maintaining the natural character and value of these portions of the Preserve. This is especially important to reduce the potential for catastrophic fires which would have dramatic effects on adjacent landowners, especially given the extensive urbanization of the land surrounding the Preserve. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads or wetland areas inundated with water typically will not carry fire as evenly, and usually burn at a lower intensity. The District employs a burning program with different burning frequencies, intensities, and seasonality, creating a diversity of habitats and vegetative patterns.

The Preserve is broken up into various Management Units, which are separated by existing firebreaks or natural breaks such as creeks and wetlands (Figure 9). Whenever possible, these units are used to define burning compartments. Within some habitats, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. In other areas, prescription of fire is dictated more by practical constraints than by the natural land. Due to the extensive urban and suburban development and the extensive road network in which the Preserve is enmeshed, smoke management associated with the prescribed burning program is a significant issue. Generally, prescription fires are conducted under narrowly defined conditions (i.e., wind direction and speed, fuel moisture, air temperature, etc.) and these restrictions limit the potential time frames for burning. The prescribed fire program is also complicated by off-road trails, which act as firebreaks that either stop or slow the spread of prescribed fire. Heavy recreational use also increases the potential for conflicts between the prescribed burning program and visitors to the Preserve. Informational signage and trail closures for trails affected by prescribed fire are used to

prevent unauthorized recreational use during a burn. Additional advisory notices both in the park and outside the park may be employed as necessary to limit potentially dangerous conditions to the public. The District will continue to burn the above referenced units where plausible, and maintain all other areas using alternative management approaches using other mechanical methods.

The term "condition class" is a reference to the status of District-owned and managed lands relative to a historic fire return interval described in the natural history of each community type. The fire return interval demonstrates the amount of time between disturbances that resets succession within a natural community. Condition Class 1 would be within one fire return interval and Condition Class 2 would be within two fire return intervals. Condition Class 3 would represent any unit that is at three or more intervals since the last disturbance. Condition Class 4 represents any system that has had fire excluded for so long that it is beyond recovery through reintroduction of fire without implementing cost-prohibitive measures. Condition Class 5 was developed to represent systems that are not regularly fire-maintained, such as hydric hammock. Condition Classes 1-5 represent the majority of the program aside from special circumstances that have been identified and treated separately for a variety of reasons.

The primary objective of the Land Management Condition Class Evaluation Program is to assign a condition class value to all fire management units based on the natural fire return interval of the targeted community type, and 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.

TABLE 3. FIRE RETURN INTERVALS AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Habitat	Fire Frequency
Sandhill	1-3 years
Dry Prairie	1-2 years
Wet Prairie	2-3 years
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

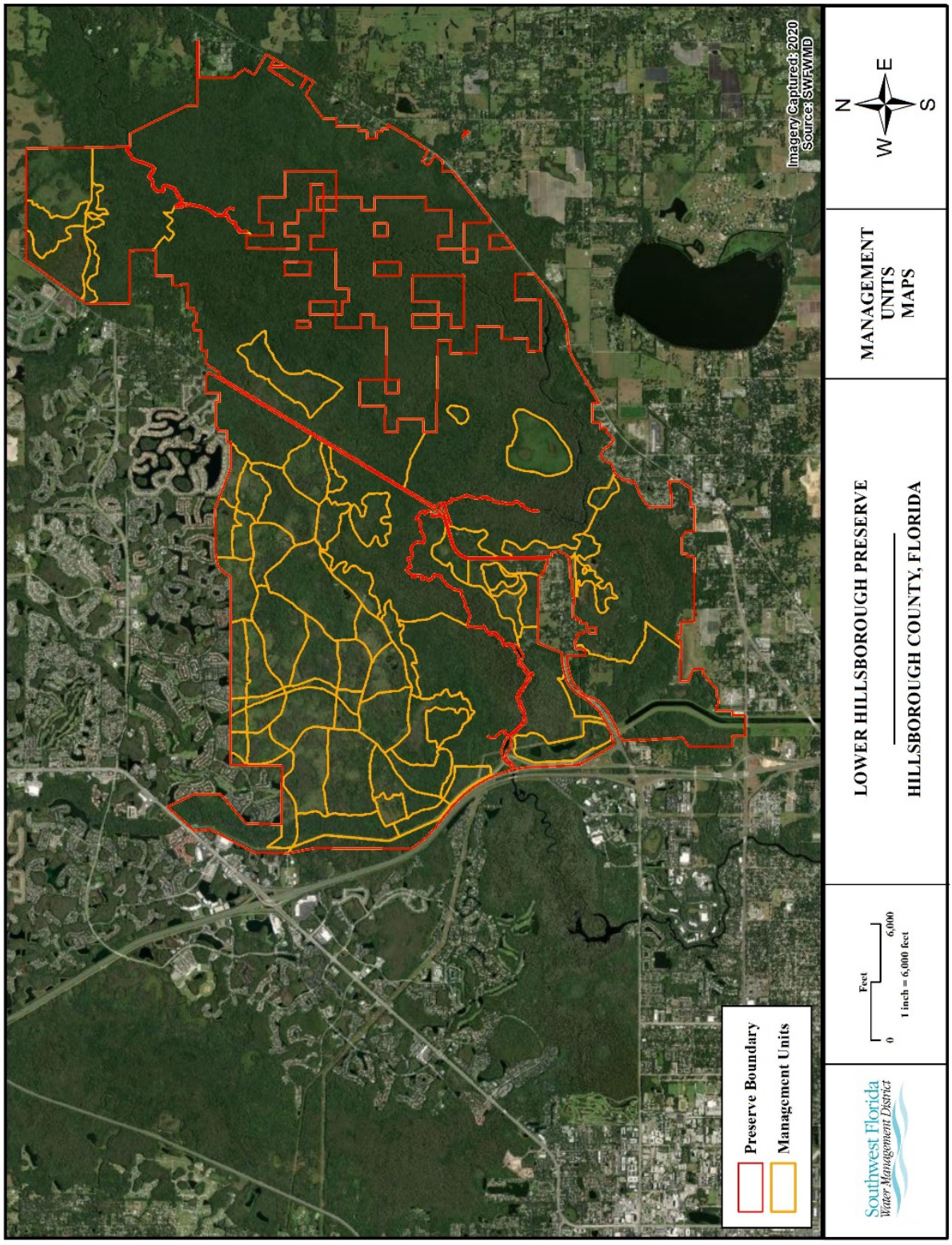

FIGURE 9. MANAGEMENT UNITS AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Forest Management

The District has one designated Timber Management Zone (TMZ) at the Preserve (Figure 10). This site is where the District practices sustainable silviculture in order to produce marketable pine timber. Revenues generated by the sale of such timber are used to support the District's land management program. TMZs are established on altered sites that were determined capable, via comprehensive site assessments, of supporting sustainable silviculture. The goal is to manage these areas using standard silvicultural practices to maintain forest health, provide habitat, support local economies, and generate revenue to offset the cost to manage these properties. The District uses planted pine and timber harvesting as a tool for land management, forest health, restoration, and to salvage timber lost to fire, insects, or disease.

The Oak Ridge Plantation TMZ encompasses approximately 149 acres. This site consisted of improved pasture prior to the planting of slash pine in 2000. Normal thinning harvests take place within this area once the slash pine reaches merchantable sizes. The Oak Ridge Plantation TMZ was thinned in 2017. No additional potential TMZ areas have been identified or planned within the Preserve.

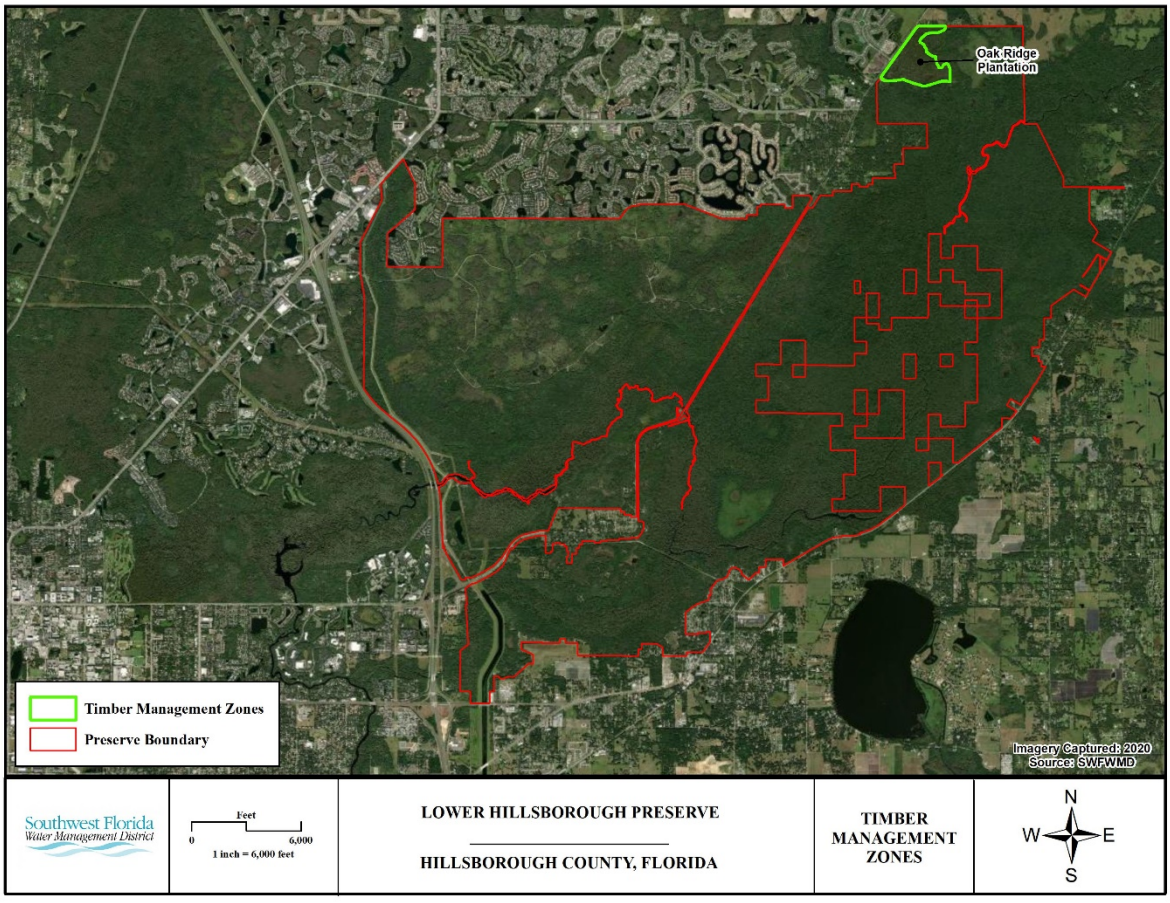

FIGURE 10. TIMBER MANAGEMENT ZONES AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Restoration and Maintenance

The lands comprising the Preserve were initially acquired as part of the FRB Project. This was designed by the USACE to provide a structural approach to control flooding in the region, and the District assumed responsibility for the operation and maintenance of the completed works. Additional maintenance activities ongoing at the Preserve include prescribed burning, control of exotic species, maintenance of roads and recreational facilities, and wildlife monitoring. Maintenance efforts also include removal of deadfalls for boaters, canoes, and kayaks. The District also coordinates with TBW for all restoration activities undertaken by TBW on the site, which includes annual monitoring programs.

Exotic and Invasive Species

The invasion of native communities and ecosystems by non-native and exotic species of plants and wildlife is one of the primary threats to the integrity of Florida's remaining natural areas. Non-native species, growing in an environment free of the population controls typically imposed by their natural predators and pathogens, can often displace native species, and greatly diminish habitat value of the affected areas. The District utilizes multiple methods and has formal procedures to address the control of exotic species within the Preserve, to minimize encroachment into natural systems.

Invasive Plant Management

Invasive, non-native plants are a threat to ecosystems worldwide and are an especially serious issue in Florida due to the state's warm, amenable climate and many ports of entry which import non-native plants. This high rate of introduction combined with the sub-tropical climate makes it more likely for non-native plant species to be introduced into the wild and to establish successful self-propagating populations once there. As a result, Florida is home to many non-native plant species that have become aggressive invaders that severely impact natural systems.

The Florida Exotic Pest Plant Council (FLEPPC) tracks non-native plant species in the state, compiles species lists, and categorizes these species based on their impact to natural systems. Category I species are the most aggressive and can impact natural communities by displacing native species, changing community structure or ecological functions, or by hybridizing with native species. Category II species are those that are increasing in abundance but have not yet altered Florida plant communities to the extent shown by Category I species (FLEPPC, 2019). Many species on the FLEPPC lists also appear on the Florida Department of Agriculture and Consumer Service's Noxious Weed List.

The District is committed to the management of invasive exotic plant species and uses an adaptive management strategy to control their establishment and spread on the Preserve. The District has a Vegetation Management Section with dedicated staff that spearhead control efforts by surveying, prioritizing, and treating invasive exotic plant populations on District conservation lands. The District focuses management efforts on invasive exotic plant species which the FLEPPC has deemed Category I or II plants as discussed above. Furthermore, the Vegetation Management Section uses the framework set out in The Nature Conservancy's Site Weed Management Plan

Template to analyze and prioritize invasive exotic 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 infest; and
4. the difficulty controlling the species.

This prioritization scheme ensures that the District's resources are spent where they will have the greatest impact on the ecosystem. Additionally, the District has implemented an Early Detection Rapid Response (EDRR) strategy which identifies and rapidly treats occurrences of exotic species that are not currently present or are not widespread on the property but have the potential to become invasive if they get established.

The most problematic invasive plant species found at the Preserve are listed in Table 4. Invasive exotic species at the Preserve are most commonly found in historically disturbed sites such as pastures and old home sites, and adjacent to roadways and housing developments.

The District employs a variety of measures to control invasive exotic plant species including thorough surveying, chemical treatment (basal-bark treatment, cut-stump applications, hack-and-squirt methods, and foliar applications), mechanical treatment, and the use of biological control agents or some combination thereof, which are done with both in-house and contracted labor. Chemical and mechanical treatments are often scheduled to occur within the year following a prescribed burn because access to the site is easier and visibility is increased at this time. Treatments utilizing herbicides comply with instructions found on the herbicide label and employ the Best Management Practices for their application. Experimental trials are being conducted on many invasive exotic plant species to identify more effective control techniques such as the development of biological control agents. Biological control agents are most commonly insects that prey exclusively on the target exotic species and have been used effectively to control several invasive species statewide. 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.

TABLE 4. INVASIVE PLANTS AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

Species	Location	FLEPPC Category
Cogongrass	Margins of the loop road, bridge embankments	Category 1
Skunk vine	Floodplain of Hillsborough River	Category 1
Water hyacinth	Hillsborough River, especially downstream from Seventeen Runs	Category 1
Elephant ear	Floodplain swamps on margins of Hillsborough River	Category 2
Paragrass	Floodplain swamps on margins of Hillsborough River	Category 1
Camphor tree	Adjacent to the loop road	Category 1
Wild taro	Floodplain swamps	Category 1
Creeping oxeye	Bridge embankments; parking areas	Category 2
Old world climbing fern	Multiple areas within the Preserve	Category 1
Torpedograss	Open disturbed marshes; TBC	Category 1

Invasive Wildlife Management

The monitoring and control of non-native animal species statewide is overseen by the FWC. The District obtains annual control permits through FWC to track and conduct invasive wildlife removal practices on District-owned properties.

The Preserve is host to several invasive wildlife species. The primary invasive wildlife species that the District focuses eradication efforts on is the feral hog (Sus scrofa). Feral hogs are the most conspicuous and destructive exotic animal species found throughout the conservation lands owned and managed by the District. The species' ability to readily adapt to a wide variety of habitats combined with their high reproductive rates and a lack of significant natural predators has led to rapidly increasing population densities throughout North America (West, Cooper and Armstrong, 2009).

Feral hogs cause millions of dollars in damages to lawns, ponds, natural areas, flood control structures, and rights-of-way each year (Giuliano, 2016). Feral hogs are capable of carrying multiple zoonotic and epizootic diseases, including brucellosis, leptospirosis, and pseudorabies. They also have the potential to be aggressive if startled or angered and are vectors for many invasive plant species on site; specifically, Caesar's weed. Furthermore, feral hogs also compete with native species for forage and have been documented preying on native species themselves; specifically, ground-nesting birds.

Recognizing the severe ecological threat posed by this exotic species, the District first developed and implemented a feral hog population control plan in 1995. Due to the adaptive nature of wild hogs, the District has since taken a multi-faceted approach to their removal. Current control methods include trapping, FWC administered Wildlife Management Area hog hunts, special District administered hog hunts, and on select properties, aerial operations conducted by the United

States Department of Agriculture – Wildlife Services program. The use of electronically controlled hog traps in targeted areas has also proven highly effective.

Given the current array of practical, environmental, and social constraints, it is generally recognized that the complete eradication of feral hogs from District conservation lands is an unattainable goal. Therefore, the overall goal of the feral hog management strategy is to reduce the number of hogs on selected District conservation lands to a maintenance level, thus reducing the overall ecological damage resulting from feral hog rooting. This is done through the use of a comprehensive and scientifically based management strategy that is humane, cost-effective, and compatible with ecologically sustainable land management.

Imperiled Species

The diverse natural communities within the Preserve provide significant habitat for a variety of imperiled and locally important species. The continued land management efforts within the property maintain important ecosystem functions and landscape structure that can support a mix of species.

The term 'Imperiled Species' refers to plant and animal species that are designated as Endangered or Threatened by the FWC or the U.S. Fish and Wildlife Service. The District manages the Preserve in a holistic fashion and according to Best Management Practices which benefit a wide array of native plant and animal species, including those that are considered imperiled. Numerous imperiled species are known to exist on the Preserve.

The FNAI Biodiversity Matrix Map Server is a screening tool which provides site specific lists of the rare species that are known to occur or are likely to occur on a given parcel of land. According to the FNAI Biodiversity Matrix Report for the Preserve, 8 federal and/or state listed wildlife species are likely to occur or have the potential on the property (Table 5). Additionally, numerous federal and state listed plant species are likely to occur or have the potential to occur there as well and are listed in Appendix A.

TABLE 5. IMPERILED WILDLIFE SPECIES KNOWN TO OR LIKELY TO OCCUR AT THE PRESERVE

Scientific Name	Common Name	Federal Status*	State Listing**
Alligator mississippiensis	American alligator	SA	SA
Antigone canadensis pratensis	Florida sandhill crane	N	ST
Drymarchon couperi	Eastern indigo snake	LT	FT
Egretta caerulea	Little blue heron	N	ST
Egretta tricolor	Tricolored heron	N	ST
Falco sparverius paulus	Southeastern American kestrel	N	ST
Gopherus polyphemus	Gopher tortoise	LC	ST
Mycteria americana	Wood stork	LT	FT

**N=Not federally listed, LT=Federally Threatened, LE=Federally Endangered, LC=Candidate species*
*** ST=State Threatened, FT=Federally Threatened, FE=Federally Endangered*

Arthropod Management

In compliance with Section 388.4111 Florida Statutes and in Section 5E-13.042, Florida Administrative Code, all lands in the Lower Hillsborough Wilderness Preserve in Hillsborough County have been evaluated and subsequently designated as environmentally sensitive and biologically highly productive. Such designation is appropriate and consistent with the previously documented natural resources and ecosystem values and affords the appropriate protection for these resources from arthropod control practices that could impose a potential hazard to fish, wildlife, and other natural resources existing on this property.

Recreation

Part of the District Policy governs the authority of the District to provide passive, natural resource dependent, recreational uses on its conservation lands, as well as appropriate public access. The compatibility for such recreational uses and public access points considers the environmental sensitivity and the suitability of the property. Compatible uses generally consist of outdoor recreation and educational activities, while public access points are minimal and only allow for walkthrough foot traffic. The District Governing Board holds authority to determine the compatibility of recreational uses on District conservation lands, as based upon the purpose of the property acquisition.

The types of recreation that are offered at the Preserve provide for passive, resource-based and expansive recreation, dependent upon the area of Preserve (Figure 11). The Preserve has nine areas within its boundaries: Dead River Park, Flatwoods Park, John B. Sargeant Park, Morris Bridge Park, Trout Creek Park, Wilderness Park Off Road Trails, Washburn Equestrian Area, Jefferson Equestrian Area, and Oak Ridge Equestrian Areas. The Preserve is subject to a cooperative agreement with Hillsborough County for the management of the five parks and the Wilderness Park Off Road Trails recreation area. The three equestrian areas are managed by the District.

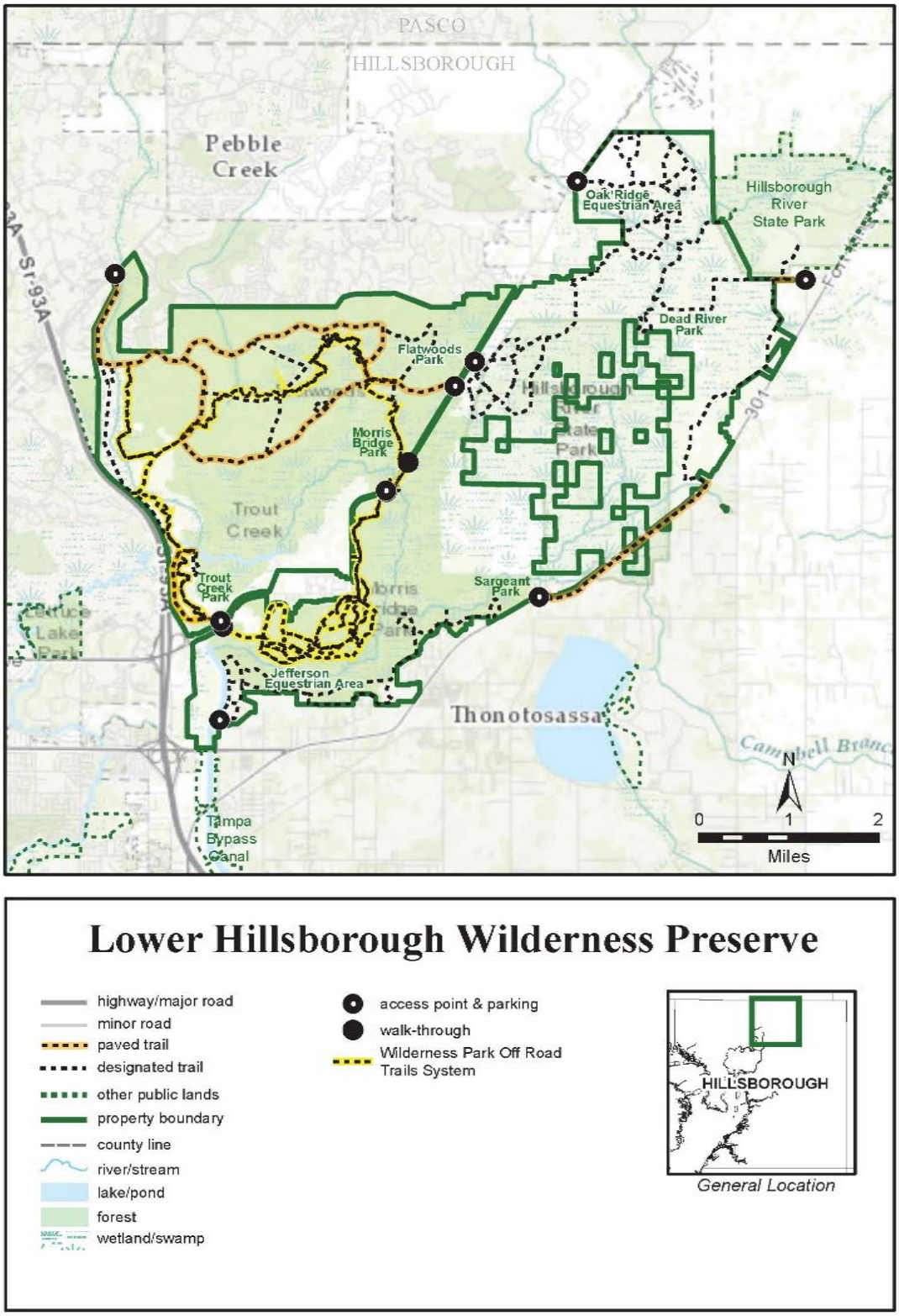

FIGURE 11. RECREATION TRAILS AT LOWER HILLSBOROUGH WILDERNESS PRESERVE

The parks provide for modern amenities, such as pavilions, picnic tables, an environmental education facility, and restrooms. The recreational uses at the parks include bicycling, inline skating, boating, fishing, birding, and hiking. The equestrian areas provide for a passive, resource-based outdoor experience with camping, horseback riding, fishing, hunting, and hiking opportunities in a natural setting.

The Preserve is accessible from a variety of locations. Every park other than Flatwoods, has one access location. Flatwoods has two access locations, one on Bruce B Downs and one on Morris Bridge Road. The equestrian areas have one access area. Access to the Washburn site requires a SUA or camping reservation. These access points (Table 6) generally provide for limited vehicle access into the property. The Preserve is open to the public during daylight hours only, and vehicular access and nighttime use of the property is limited to users holding special permits issued by the District for camping and other activities.

TABLE 6. ACCESS POINTS TO LOWER HILLSBOROUGH WILDERNESS PRESERVE

Area	Access Type	Access Location
Dead River	Trail Road Car Parking	SR 301
Flatwoods Park	Trail Road Car Parking	Bruce B. Down SR 579
J.B. Sargeant, Sr. Park	Car Parking Boat Trailers	SR 301
Morris Bridge	Car Parking Boat Trailers	SR 579
Trout Creek	Trail Road Car Parking Boat Trailers	SR 579
Jefferson Road	Car Parking Horse Trailers	Fowler Avenue
Oak Ridge; Washburn	Car Parking Horse Trailers	SR 579
Wilderness Park Off Road Trails Hole-in-the-fence Trailhead	Car Parking	SR 579

Trails

The Preserve offers a wide variety of trail types and uses throughout the property. Designated trails within the Preserve provide specific nature-based experiences while minimizing impacts to the lands and natural systems. During initial trail formalization within the Preserve, the District accommodated requests to separate uses onto different trail systems for equestrian and biking uses. The Morris Bridge Bicycling Area, Jefferson Equestrian Area, and the Oak Ridge and Washburn Equestrian areas were established to separate these uses. It is required that each equestrian must carry proof of their horse's current negative Coggins test results. All designated trails are available for hiking.

Dead River Park
The Dead River Park is situated at the confluence of the Dead River and the Hillsborough River. The park has a two-mile natural surface trail alongside the Hillsborough River that is available for both biking and hiking. There is also a two-mile entrance road trail. Dogs are allowed and must remain on a leash at all times.

Flatwoods Park
Flatwoods Park is best known for its seven-mile paved loop road, which serves as a multi-use trail. A two-mile paved extension connects Bruce B. Downs Boulevard with the loop road. Flatwoods Park Trail is a paved one-mile connection between Morris Bridge Road and the loop road. The loop road gives bicyclists and inline skaters a woods experience. Off-road cyclists can also enjoy a section of the Wilderness Park Off Road Trails that traverse this park. The one-mile segment of Levee Road from Bruce B. Downs Boulevard to north end of the loop road is a favorite for dogs and their owners. Dogs must remain on a leash. The nature trails are short, easy walks, and long-distance runners can also enjoy the loop road.

John B. Sargeant Park
The John B. Sargeant Park is at the confluence of Flint Creek and the Hillsborough River. A quarter-mile boardwalk takes hikers through a wetland forest to a rest area on the river. From this overlook Flint Creek is visible flowing in from the east, the Hillsborough River straight across on its way out of Seventeen Runs, and the merging of the two flowing off to the west. There is also a 6.7-mile trail (Old Fort King Trail) from John B. Sargeant Park trailhead to Model Dairy trailhead at Hillsborough River State Park.

Morris Bridge Park
There is a 0.75-mile shell trail on the south side of Morris Bridge Park, along an old tram road. On the north side, a 0.25-mile boardwalk circumnavigates an island in Hillsborough River. One additional primitive trailhead to the south runs along the river and winds through the forest to a gazebo. These short trails are best for hiking and dog walking. Dogs are allowed and must remain on a leash at all times.

Trout Creek Park
This park is located near the mouth of Trout Creek and offers hiking and dog walking opportunities. There is a short nature trail that is an easy walk on a firm surface suitable for families and strollers. At the end of the trail, a primitive trail loops back through floodplain forest to a parking area.

Wilderness Park Off Road Trails
This is a popular single-track woods trail that has a natural surface and shady canopy. The 20-mile main trail and 15 miles of side trails traverse the Trout Creek, Morris Bridge, and Flatwoods areas. Habitats along the trail vary from cypress swamp, hardwood floodplain forest, upland hardwood hammocks, pine flatwoods, oak scrub, dry prairie, wet prairie, and lakes. Some trails are seasonal and subject to temporary closure during the rainy season or maintenance and restoration activities. These trails are available for hiking, dog walking, and bicycling. Dogs must remain on a leash at

all times. Riders are required to stay on the marked trails and use proper trail etiquette on and off pavement.

Jefferson Equestrian Area
The Jefferson Equestrian Area is located in the southwest corner of the Preserve and is surrounded by urban development. This area offers canopied riding for local horse enthusiasts. There are approximately nine miles of trails which may be utilized by hikers and equestrians.

Oak Ridge and Washburn Equestrian Areas
The Oak Ridge and Washburn Equestrian Area is situated in the northeast corner of the property. The trails are shaded within a forested wetland and open through pine flatwoods. This area provides both equestrian and hiking options. There are approximately 16 miles of multi-use trails. Riders must carry proof of horse's current negative Coggins test, and horse-drawn buggy riding requires a free day-use reservation for buggy access. For hiking, visitors should prepare for wet conditions, as some trails are excessively wet during certain times of year.

Camping

The Oak Ridge and Washburn Equestrian Area have equestrian and primitive camping available. Sites have picnic tables, fire rings and/or grills. A free reservation is required, and reservations may be made at WaterMatters.org/Reservation.

Wildlife Viewing, Hunting, Fishing, and Boating

The Preserve provides an excellent opportunity for wildlife viewing and allows visitors a chance to enjoy the natural beauty of this suburban woodland. There are boating and canoeing opportunities that allow visitors to paddle the waters of the Hillsborough River amongst wading birds, turtles, alligators, lilies, and cypress swamps. The Preserve is located on the western section of the Great Florida Birding and Wildlife Trail, providing ample bird watching opportunities from any of the parks. There are also fishing opportunities from multiple riverside boardwalks. Fishing is regulated by the FWC and a license may be required. Specific hunting, fishing, and boating opportunities are listed below based on parks within the Preserve providing these specific recreational opportunities.

Dead River Park
Dead River Park has a canoe launch near the parking area, and a canoe landing upstream one mile at the old Reagan homesite.

John B. Sargeant Park
The John B. Sargeant Park is best known for boating access to the Hillsborough River. Downriver, the Hillsborough River Canoe Trail is a winding, verdant jungle of hardwood trees, lilies, and birds. Upstream, the river widens to flow through the broad hardwood swamp known as the Seventeen Runs. A boat ramp, boat dock, canoe launch, and trailer parking are provided. Fishing is an option from boats on the river or from the fishing dock at the end of the boardwalk trail.

Morris Bridge Park
Alligators, turtles, water snakes, frogs, fish, hawks, and wading birds are all commonly seen on this property. Morris Bridge Park is located on the Hillsborough River, and is best known for its river fishing. A boat ramp, canoe launch, boat dock, and trailer parking are all available on the north side of the park. This section of the Hillsborough River Canoe Trail immerses visitors in a native habitat rich with wildlife and large bald cypress trees. Fishing docks are also on each side of the park, including two covered shelters. A boardwalk under Morris Bridge Road along the Hillsborough River connects two sides of the park and provides access for fishing. A primitive fishing trail runs south of the park along the river.

Trout Creek Park
The Trout Creek Park is on the Hillsborough River near the mouth of Trout Creek, making it a popular spot for fishing, canoeing, and group picnics. Canoes or small boats must be hand carried to the river. A canoe launch provides access to the Hillsborough River Canoe Trail. To get to Trout Creek, it is a short upstream paddle to the opening. The water is usually not high enough to navigate far. For fishing, options include fishing from the river boardwalk, along the riverbank, by boat on the Hillsborough River or Trout Creek, and on the banks of the lakes.

Jefferson Equestrian Area
The Jefferson Equestrian Area offers bank fishing from public access points.

Oak Ridge and Washburn Equestrian Area
The Oak Ridge and Washburn Equestrian Areas are one of the only places within the Preserve that offers FWC hunting opportunities. For additional hunting opportunities, FWC must be contacted for information regarding license requirements and permits. FWC rules and regulations must be observed throughout the year.

Americans with Disabilities Act

The District does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs, services, and activities. Anyone requiring reasonable accommodation, or who would like information as to the existence and location of accessible services, activities, and facilities as provided for in the Americans with Disabilities Act should contact the Human Resources Office Chief, at 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4747; or email ADACoordinator@WaterMatters.org. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at WaterMatters.org/ADA.

Environmental Education

The Preserve contains the Nature's Classroom, which is governed by a cooperative agreement between the District and the School Board of Hillsborough County for the purposes of providing an outdoor education program for school-aged children. Additionally, there are scientific research

studies that are conducted by environmental consultants, state agencies, and universities. These additional types of activities require a SUA, which is discussed below.

Land Use Administration

The land uses administered on District conservation lands are governed by the District Policy. According to District Policy, appropriate land use types are separated into two categories: public recreation use and non-recreational public use. Public recreation uses vary by property, and compatibility is based upon the environmental sensitivity and suitability of the property. Furthermore, some District conservation lands are subject to cooperative agreements with other public agencies to administer the responsibilities for any expansive recreational opportunities that the District may deem as compatible on its conservation land. Cooperative agreements meet the District's Core Mission of protecting water resource and providing nature-based recreation to the greatest extent practicable. The specific public recreation uses at the Preserve are discussed in the previous Section. Non-recreational public uses include, but are not limited to, linear facilities, scientific research opportunities, water resource development projects, sustainable forestry, and environmental education. Like cooperative agreements for expansive recreational uses, the District is a party to a variety of agreements with private entities and various agencies for the allowance of the aforementioned use types. The administration of non-recreational and recreational public uses for the Preserve is discussed in the subsequent sections.

Partnerships and Cooperative Management

The District is a party to a management agreement with the County for the management of the Lower Hillsborough Wilderness Park which includes Dead River Park, Flatwoods Park, John B. Sargeant Park, Morris Bridge Park, Trout Creek Park, and the Wilderness Park Off Road Trails System within the confines of the Preserve. There is a cooperative agreement with the City of Tampa for the New Tampa Nature Park to allow the trails within the New Tampa Nature Park to connect to the trail system within Flatwoods Park. As mentioned, there is a land use agreement with the School Board of Hillsborough County for the Nature's Classroom for the purpose of providing environmental education to specific school-aged children.

The District also has granted multiple easement types which are assigned to utility companies, State of Florida agencies, and local municipalities, such as the City of Tampa, TBW, Tampa Electric Company, Hillsborough County, GTE Florida, Duke Energy, Florida Department of Transportation, and Florida Gas Transmission.

The District is a party to a land use agreement with FWC for the purposes of providing a Wildlife Management Area which designates hunting opportunities east of Morris Bridge Road within the confines of the Preserve. Additionally, there is a designation agreement with the Florida Department of Environmental Protection for the designation of the recreation trails on the Preserve that provides recognition as part of the Office of Greenways and Trails trail network. Finally, the District is a party to license agreements with TBW for public water supply purposes, an apiary farmer for the purposes of private honey production, and the Back to Basics Charter School for the purposes of providing an outdoor classroom and educational opportunities on a portion of the Preserve.

Research Opportunities

District properties provide for a variety of research opportunities for the benefit of natural resource conservation and preservation efforts and advancements. These opportunities can consist of wildlife surveys, soil sampling, or wetland studies. Overall, District properties provide an abundance of research opportunities due to the proper management of healthy ecosystems. The Preserve has been a frequent location for a wide range of wildlife species studies, hydrogeological research, and several types of vegetation surveys.

Special Use Authorizations (SUAs)

For any requests for undesignated uses on District property, it is required to apply for an SUA from the District's Land Resources Bureau. The SUA application will be reviewed by the District to determine the compatibility of the requested use on District conservation lands. The types of approved SUAs on the Preserve can be categorized under recreational uses, research opportunities, and training.

Future Land Conservation

The District will continue to consider opportunities to purchase lands adjacent to the Preserve with the goal of promoting the District's Mission of protecting the natural features of conservation lands for the benefit of flood protection, water quality, and water supply. With the Preserve becoming pressured by urban sprawl, it would be advantageous to seek possible opportunities for acquiring simple fee and less-than-fee properties to further promote protections of the natural features within the region.

Land Maintenance and Operations

Roads and Boundaries

The District is responsible for managing the roads and trails on District lands to conduct management activities, provide public access, and provide access for recreational opportunities. This network of roads and trails require periodic maintenance which occurs throughout the year. Well-maintained roads will provide quick access for wildfire protection and serve as firelines for prescribed fires. Continuous observation will ensure that roads remain clear and that they are vehicle worthy for management and public use.

Motorized access on the Preserve is restricted to authorized personnel only. The main access road into Flatwoods is paved and maintained by TBW to support access and management of the MBW. It also serves as a multiple-use trail within the recreational trails network. Several management roads are utilized as service roads to support management activities. Since the acquisition of the Preserve, most of the unnecessary roads have been closed and are being allowed to revegetate naturally.

As part of the general road maintenance, the District maintains a network of culverts and low water crossings to ensure the conveyance of water. Culverts are periodically replaced based on the results from a culvert inspection process which identifies culverts that are damaged or are nearing the end of their expected service life. Low water crossings are utilized, where feasible, to mimic the natural conveyance of water and to provide limited disturbance in wet areas. These low water crossings are typically at ground level and are improved with rock or some other material to limit erosion while allowing for the natural flow of water.

Properly marked and maintained boundaries will minimize disputes, encroachments, trespassing, and other unwanted impacts from adjoining properties. Well-marked boundaries will also aid in proper placement of firelines for wildfire protection and prescribed fire use. Boundaries on the Preserve are identified by District boundary signs.

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 Preserve supports a number of public facilities and utilities lines. A Duke Energy right-of-way power transmission corridor bisects the Preserve near Trout Creek Park, crosses Morris Bridge Road, and exits at US 301. The USACE was responsible for the design of the FRB project, funded most of its construction, and prepared operations manuals for the flood control facilities.

The USACE continues to play a critical role in the flood protection function of the Lower Hillsborough Flood Detention Area (LHFDA). Formal agreements exist between the District and the USACE related to the operation of flood control structures on the site, which includes monitoring and a procedure for altering operation schedules or programs, if needed. The Florida Gas Transmission Company (FGTC) maintenances a pipeline that parallels the TBC. This concentration of linear infrastructure is the basis for the District's concept of co-location. The co-location of these utility lines provides benefits to both the environment and to the utility companies. This concept reduces environmental impacts by decreasing the amount of lands that have to be crossed, thereby decreasing disruption to natural communities and associated flora and fauna, and also reduces the financial impacts to companies that must piece together corridors to accommodate such facilities.

TBW maintains 20 production wells, in the MBW which tap into the Upper Floridan aquifer and have been operational since 1978. An extensive monitoring program is required on the MBW by the Consolidated Permit for TBW. Monitoring efforts have occurred on the site since the initiation of the water withdrawals in 1978 and include hydrological monitoring and ecological monitoring at a variety of sites.

The District provides public access in the most efficient, cost-effective manner with minimal impact on the natural resources. Development and construction of recreational facilities on the Preserve will be kept to the minimum required to provide access for resource-based recreational activities and to administer and manage the Preserve. Utility lines on the property provide service exclusively to on-site facilities. Utility easements, which enter the property, provide service to the on-site facilities.

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: Manage the Preserve compatible with the FRB project to protect the City of Tampa, City of Temple Terrace, and surrounding urbanized areas.
- Objective 4: Protect water resources during management activities by continued implementation of Silvicultural Best Management Practices.

Goal: Continue to support regional watershed initiatives and maintain agreements with regional water authorities for water supply functions.

- Objective 1: Coordinate with TBW on mitigation projects within the wellfield to enhance hydrologic conditions in wetlands.
- Objective 2: Maintain existing agreement with TBW for operation of the MBW for public water supply.

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 establish strategic internal management lines supporting the seasonal needs of the prescribed fire program.

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.

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 EDRR 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: Continually inspect boundary fencing and gates to assure adequate protection of District 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 inholding parcels to complete project boundary and improve management.
- Objective 2: Evaluate opportunities to acquire fee interests in parcels within the District's optimal boundary and Florida Forever work plan.
- Objective 3: Pursue acquisition of less-than-fee interests through strategic conservation easements that complement the District's existing network of fee interests 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 necessary.
- Objective 2: Review special requests and issue SUAs 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 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.
- Objective 3: Continue cooperation with FWC to provide guidance on seasonal hunts.
- Objective 4: Continue cooperation with the County to provide multi-use 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 sites from potential impacts resulting from 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 6,290 acres.
- Completed approximately 145 acres of mechanical treatments for hazardous fuel reduction and habitat maintenance.
- Maintained perimeter firelines on an annual basis for prescribed fire and wildfire mitigation.
- Performed maintenance of internal roads and trails along with mowing twice per year on primary and secondary roads.
- Removed 1,379 feral hogs.
- Conducted a timber harvest of the Oak Ridge Plantation in 2017 on 135 acres.
- Over 9,700 acres surveyed for invasive exotic plants and treated all invasive exotics found within the surveyed area.

Water Resources

- Loop Road in Flatwoods is paved and maintained by TBW to support access and management of the Morris Bridge Wellfield.
- Water quality monitoring conducted within the Morris Bridge Wellfield by TBW and at several locations along the Hillsborough River by the United States Geological Survey.
- District staff activated the Lower Hillsborough Flood Detention area to divert the Hillsborough River away from the cities of Temple Terrace and Tampa to help alleviate flooding risks.

Recreation

- The parks accommodate approximately 475,000 visitors a year.
- Approximately 1,170 camping reservations were made in the Oak Ridge and Washburn campgrounds between 2018-2020.
- There were 46 volunteer hours which include trail maintenance and trash cleanup on District managed recreation areas.
- Provided Family and Youth Hunt opportunities through the FWC WMA portion of the Preserve.

Administration

- Authorized 40 SUAs for recreational uses, research opportunities, and training.
- University of Florida conducted research on Cuban tree frog populations at the Morris Bridge Wellfield.
- Tall Timbers Research Station conducted a Bachman's Sparrow sampling on the Preserve.

- University of Tampa conducted research for amphibian marking techniques at the Morris Bridge Wellfield.
- Florida Natural Area Inventory conducted a Gopher Tortoise survey.

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Appendix A

Imperiled Plant Species known to occur or could occur at Lower Hillsborough

Scientific Name	Common Name	Status	Habitat Type
Centrosema arenicola	Sand butterfly pea	SE	Upland hammock, sandhill, scrub
Encyclia tampensis	Florida butterfly orchid	CE	Mesic/hydric hammocks
Epidendrum conopseum	Green-fly orchid	CE	Mesic/hydric hammocks
Garberia heterophylla	Garberia	ST	
Glandularia tampensis	Tampa vervain	E	Hardwood hammocks and pine flatwoods
Lilium catesbaei	Catesby's lily	ST	Pine flatwoods and wet prairies
Litsea aestivalis	Pondspice	ST	Cypress strands and swamps
Lobelia cardinalis	Cardinal flower	ST	Forested creek and river edges
Ophioglossum palmatum	Hand fern	E	Mesic-hydric hardwood forests
Orthochilus ecristatus	Giant orchid	ST	Sandhill, scrub, pine flatwoods
Osmunda cinnamomea	Cinnamon fern	CE	Forested wetlands
Osmunda regalis	Royal fern	CE	Forested wetlands
Pecluma plumula	Plume polypody	SE	Mesic hardwood hammocks, cypress swamp
Pecluma ptilodon	Swamp plume polypody	E	Mesic hammock
Pinguicula lutea	Yellow butterwort	ST	Wet prairie, saturated soils
Platanthera cilaris	Yellow-fringed orchid	T	Pine flatwoods, herbaceous wetlands
Rhapidophyllum hystirx	Needle Palm	CE	Forested wetlands
Sarracenia minor	Hooded pitcher plant	ST	Flatwoods/cypress dome econtones
Spiranthes laciniata	Lacelip ladiestresses	ST	Pine flatwoods, wet/dry prairies
Spiranthes longilabris	Longlip ladiestresses	ST	Low pinewoods, wet prairies
Tillandsia balbisiana	Northern needleleaf	T	Mesic hammock
Tillandsia fasciculata	Cardinal airplant	E	Mesic hammock, riverine swamp, cypress swamp
Tillandsia utriculata	Spreading airplant	SE	Mesic/hydric hammocks, cypress swamp
Zamia pumila	Coontie	CE	Mesic flatwoods, mesic hammock
Zephyranthes atamasca	Treat's rainlily	ST	Flatwoods, wet prairie, wet roadside ditches