THOMAS CREEK CONSERVATION AREA AND DUVAL COUNTY MITIGATION PARCELS
LAND MANAGEMENT PLAN

DUVAL AND NASSAU COUNTIES, FLORIDA

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

FEBRUARY 11, 2025


Northwest Florida
Water Management District
Suwannee River
Water Management
District
St. Johns
River Water
Management
District
Southwest
Florida Water
Management
District
South Florida
Water Management
District

EXECUTIVE SUMMARY

CONSERVATION AREA SIZE: Thomas Creek Conservation Area (TCCA or Property), 5,540 acres; Duval County Mitigation Parcels (DCMP or Parcels), 1,484 acres

DATE OF ACQUISITION: Acquisition of parcels within TCCA began in 1998. Acquisition of parcels within DCMP began in 1991.

DATE OF PLAN: February 11, 2025
MAJOR BASINS: Nassau River, Lower St. Johns River
PLANNING BASINS: Nassau River, Trout River, North Mainstem, Julington Creek

LOCATION: TCCA includes three disjunct tracts that generally follow Thomas Creek in northern Duval and southern Nassau counties. DCMP include four disjunct tracts located throughout Duval County.

FUNDING SOURCE: The acquisition funding sources for TCCA include Preservation 2000, Florida Department of Transportation (FDOT) mitigation, Florida Forever, The Nature Conservancy, City of Jacksonville (COJ), and other mitigation donations. The DCMP were acquired through mitigation donations and property exchanges.

MANAGEMENT PARTNERS: The St. Johns River Water Management District (District) is lead manager of daily operational management activities within the Nassau County parcels and natural and cultural resource related management activities at all parcels within TCCA. The COJ is lead manager of daily operational management activities at the Duval County parcels within TCCA.

The Florida Fish and Wildlife Conservation Commission (FWC) administers the Thomas Creek Wildlife Management Area–King's Road Unit located on the Kings Road/Logan parcels of the Property.

A Memorandum of Agreement defines management responsibilities between the District and the Florida Forest Service (FFS) on two parcels jointly purchased by the District and the Board of Trustees of the Internal Improvement Trust Fund (BTIITF) at TCAA and Cary State Forest in Duval and Nassau counties.

The District is the lead manager for the DCMP.

RESOURCE PROTECTION AND MANAGEMENT FOR TCCA:

- **WATER RESOURCES** – Water resources are largely undisturbed, though a canal traverses the Ogilvie/Betz parcels. Most water resource protection was accomplished with acquisition. Road maintenance is performed as needed to prevent erosion.
- **FOREST MANAGEMENT AND RESTORATION** – Forest management activities will include thinning and clearcut harvest of pine plantations, monitoring for disease and insect infestation, and re-establishing longleaf and slash pine where appropriate. The District

will utilize a combination of harvesting, mechanical and chemical vegetation management, and prescription burning to encourage optimal forest health.

- **FIRE MANAGEMENT** – The application of prescribed fire will occur in accordance with the annual burn plan and the TCCA Fire Management Plan. Challenges to prescribed fire application include proximity to federal highways and the Jacksonville International Airport.
- **FLORA AND FAUNA** – The Property provides habitat for numerous wildlife species including white-tailed deer and wild turkey. TCCA is within the core forage area for a wood stork (*Mycteria americana*) colony. Invasive plant and animal species occur on the Property. The District regularly monitors for the presence of invasive plants and animals and executes appropriate control actions.
- **CULTURAL AND HISTORICAL RESOURCES** – A review of the Department of State Division of Historical Resources Master Site File indicates one known and registered cultural site within the boundaries of the Property.

LAND USE MANAGEMENT:

- **ACCESS** – Three trailhead access points and an additional Wildlife Management Area (WMA) access point are located on the Property.
- **RECREATION** – The Property is open to the public for recreation including hiking, bicycling, horseback riding, hunting, and wildlife viewing.
- **SECURITY** – Maintenance of fence lines, parking areas, gates, and locks is conducted by the District and COJ. District staff coordinate with FWC and local law enforcement for security needs.

ADMINISTRATION:

- **REAL ESTATE ADMINISTRATION** – Over 4,700 acres have been identified as potential acquisitions to TCCA. In addition, the District may consider purchasing parcels near the Property that become available and will aid in the conservation of water resources within the Nassau River and Lower St. Johns River basins. Additionally, the District may pursue acquisition of small parcels, property exchanges, or access easements with adjacent landowners to provide additional/improved access to the Property.
- **COOPERATIVE AND SPECIAL USE AGREEMENTS, LEASES, AND EASEMENTS** – An intergovernmental cooperative management agreement exists between the District and COJ. There is a lease and a memorandum of agreement between the District, the Board of Trustees for the Internal Improvement Trust Fund and FFS for the management of several parcels within TCCA. Two perpetual conservation easements encumber the Ogilvie and Wright tracts. There are four deeded access easements and one utility easement. Three special use agreements are in place for the purpose of hog trapping. The District administers a revenue-generating apiary lease.
- **MANAGEMENT COSTS AND REVENUES** – Management costs at TCCA were $457,201 from 2008–2024 and are projected at $738,506 from 2024–2034. Revenues from timber sales and apiary leases were $1,755,685 from 2008-2024 and are projected at $1,445,164 from 2024–2034.

RESOURCE PROTECTION AND MANAGEMENT FOR DCMP:

- **WATER RESOURCES** – Water resources are largely undisturbed; most protection was accomplished with acquisition.
- **FOREST MANAGEMENT** – Forest management activities will include thinning of pine plantations, monitoring for disease and insect infestation, and re-establishing longleaf and slash pine where appropriate. Much of the acreage that comprises these parcels are wetlands, in which the District does not conduct forest management activities.
- **FIRE MANAGEMENT** – There are no planned fire management activities for DCMP as most are not fire-maintained natural communities or are in smoke sensitive areas. These parcels have limited access, making the application of prescribed fire challenging.
- **FLORA AND FAUNA** – DCMP provides habitat for numerous wildlife species. Invasive plant and animal species occur on the Property. The District sporadically monitors for the presence of invasive plants and executes appropriate control actions.
- **CULTURAL AND HISTORICAL RESOURCES** – A review of the Department of State Division of Historical Resources Master Site File indicates no known or registered cultural sites within the boundaries of the parcels.

LAND USE MANAGEMENT:

- **ACCESS** – Access is limited to the DCMP. Most are landlocked by non-District owned parcels or have a single access gate.
- **RECREATION** – There is no developed public access to the DCMP, but public access is not precluded except for Freedom Commerce Center.
- **SECURITY** – Maintenance of fence lines, parking areas, gates, and locks is conducted by the District. District staff coordinate with FWC and local law enforcement for security needs.

ADMINISTRATION:

- **REAL ESTATE ADMINISTRATION** – There are 434 acres identified within the optimal boundary of the Sample Swamp and Grover and Stone Mountain parcels of the DCMP, though any additional adjacent parcels that are nominated for acquisition by the District will be considered.
- **COOPERATIVE AND SPECIAL USE AGREEMENTS, LEASES, AND EASEMENTS** – There is one research special-use agreement (SUA) and one construction and maintenance easement.
- **MANAGEMENT COSTS AND REVENUES** – Management costs since acquisition for DCMP total $11,772. Revenues from a timber thinning at Sample Swamp and Grover Parcels total $55,257.

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INTRODUCTION

This land management plan combines the Thomas Creek Conservation Area (TCCA or Property) and mitigation parcels greater than 60 acres titled to the District located in Duval County, referred to as the Duval County Mitigation Parcels (DCMP or Parcels). The TCCA and the DCMP are proximate in location to each other, which allows for this combined land management plan and together will be referred to as the Properties. The regional aspects that affect the TCCA and DCMP will be addressed in this introduction. Specific land management goals for TCCA and DCMP will be treated as separate sections within this plan, with TCCA being addressed first.

COMBINED REGIONAL SIGNIFICANCE

TCCA and DCMP are integral components of a larger network of conservation lands of regional significance in and surrounding Duval County (Figure 1).

Table 1: Proximate Properties

Lead Manager	Conservation Area
City of Jacksonville	Cecil Field Conservation Corridor
City of Jacksonville	Seaton Creek Historic Preserve
District	Julington-Durbin Preserve
Florida Department of Environmental Protection (DEP)	Big Talbot/Little Talbot Island State Park
DEP	Pumpkin Hill Creek Preserve State Park
Florida Fish and Wildlife Conservation Commission	Guana River Wildlife Management Area
Florida Forest Service (FFS)	Cary State Forest
FFS	Four Creeks State Forest
FFS	Jennings State Forest
Jacksonville Electric Authority (JEA)	Miller Farm
Jacksonville Electric Authority (JEA)	Peterson Tract
St. John's River Water Management District	Hodges Conservation Easement/Pablo Creek Conservation Area
Private Landowner	Lower St. Johns Mitigation Bank
Private Landowner	Northeast Florida Mitigation Bank
Private Landowner	Thomas Creek/Three Rivers Mitigation Bank
US Dept. of the Interior, National Park Service	Timucuan Preserve Federally Managed Lands

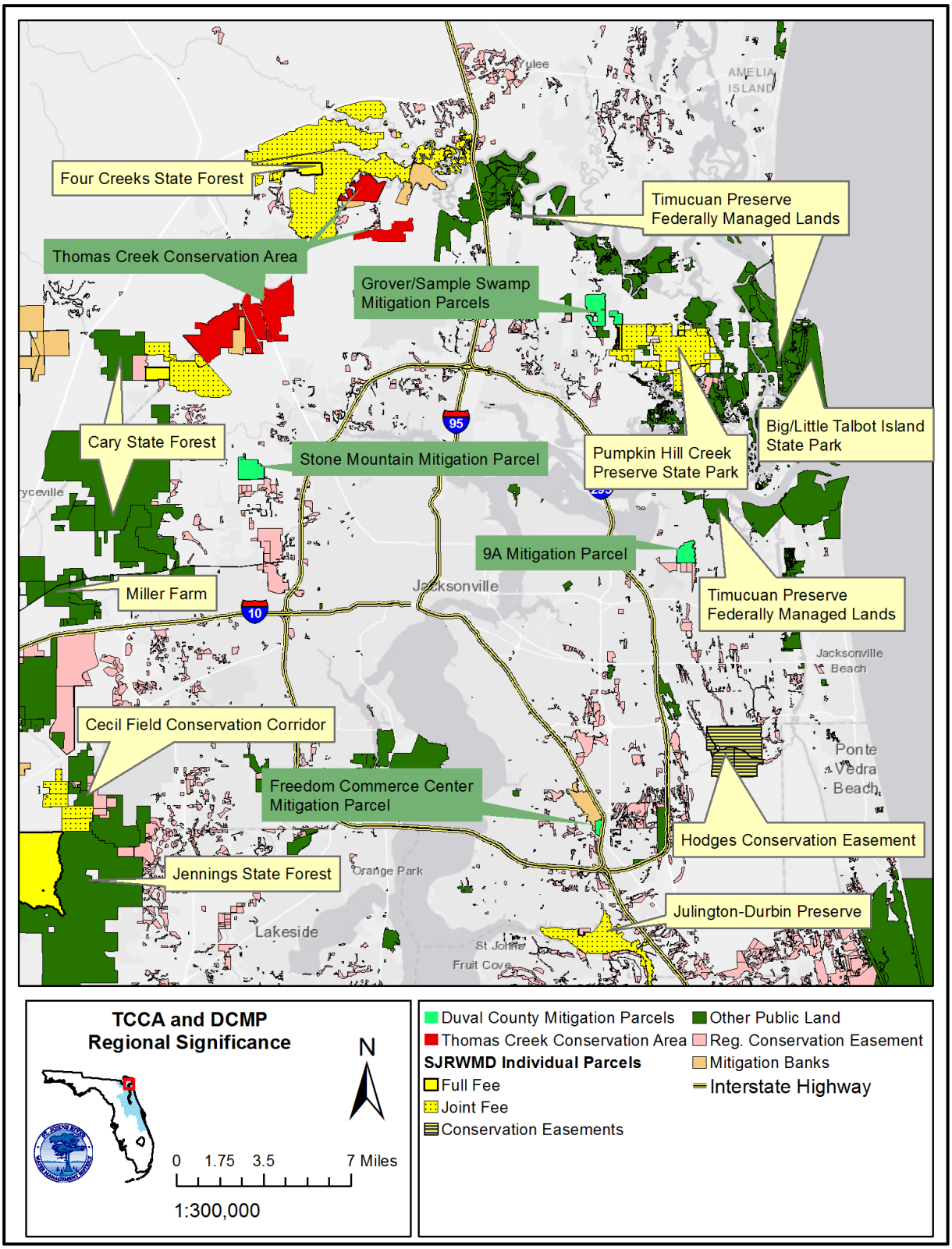

Figure 1: Combined regional significance

COMBINED WATER CHEMISTRY AND GEOMORPHOLOGY

The District monitors surface water quality at over 200 long-term sampling stations at rivers, streams, lakes, canals, and estuaries throughout the 18-county service area. Water quality status is an indication of the condition of a water body. The District's 2023 Status and Trends Report is a 15-year assessment that uses data from Jan. 1, 2008, to Dec. 31, 2022. Water quality trends indicate whether a water quality parameter is increasing or decreasing over time. (SJRWMD, 2023).

Water Chemistry

Basic water chemistry data are collected at four sites connected to the Properties watershed: (1) Nassau River at Lofton Point (NCBGD), located downstream of TCCA east of Thomas Creek's confluence with the Nassau River; (2) St. Johns River near Fort Caroline (JAXSJR04), located downstream of the both the Trout River, which connects to the Stone Mountain parcel of the DCMP, and Clapboard Creek, which connects to the Sample Swamp and Grover parcels of the DCMP; (3) Intracoastal Waterway at McCormick Bridge (NCB27010116), located downstream of the 9A North parcel of the DCMP; and (4) St. Johns River at Mandarin (MP72), located downstream of the Freedom Commerce Center parcel of the DCMP (Figure 2). Water chemistry data are typically collected on a bimonthly basis. Water chemistry parameters discussed in this section include total phosphorus (phosphorus), total nitrogen (nitrogen), salinity, dissolved oxygen (DO), hydrogen ion potential (pH), total suspended solids (TSS), and Chlorophyll-*a* (Chl-a). Field data including water temperature, pH, specific conductivity, and dissolved oxygen are collected, as well as grab samples analyzed for nutrients, minerals, and metals.

The following parameters are discussed in relative terms for the past 15-year period as described in the 2023 Status and Trends Report.

Station NCBGD
Phosphorous, DO, pH, and Chl-a are in the mid-range. Nitrogen is in the low range. Salinity and TSS are in the high-range. All parameters have insufficient data to establish a trend.

Station JAXSJR04
Phosphorous, DO, and pH are in the mid-range and stable. Nitrogen is in the low-range and increasing. Chl-a is in the mid-range and decreasing. Salinity and TSS are in the high-range and decreasing.

Station NCB27010116
Phosphorous, DO, pH, and Chl-a are in the mid-range. Nitrogen is in the low-range. Salinity and TSS are in the high-range. All parameters have insufficient data to establish a trend.

Station MP72
Phosphorous, Chl-a, TSS, and salinity are in the mid-range and decreasing. Nitrogen and pH are in the mid-range and stable. DO is in the high-range and stable.

Surface water chemistry data do not exist within the Properties, but these sites provide insight to water quality conditions in the watershed. The acquisition and protection of the Properties helps

protect water storage and quality for the Nassau River and Lower St. Johns River basins.

Geomorphology

The Properties encompass several geomorphologic provinces within the Barrier Island Sequence Geomorphology District. The Barrier Island Sequence District (BISD) occurs along and inland from the Atlantic Coast of Florida. Pliocene-Pleistocene and Holocene coastal processes formed extensive barrier islands, beaches, lagoons, embayments, and shallow water marine terraces. The estuarine coastlines consist of tidal marshes in the north, gradually changing to mangrove swamps to the south. The reaches of the St. Johns River Valley that are north of Palatka and south of Lake Monroe were once lagoons or embayments. Wetlands are commonly coast-parallel in the swales between the ridges of the strand plains and tidal marshes or mangrove swamps landward of the barrier islands. Inland, there are broad, relatively flat provinces that are Pliocene-Pleistocene marine terraces (Williams et al., 2022).

Elevations in the BISD range from sea level to approximately 260 feet (ft) mean sea level (msl) in the southwest portion of the BISD. Ninety percent of the elevations lie between 5 and 90 ft msl. The median elevation is approximately 25 ft msl. Digital elevation models of the TCCA and individual DCMPs will be provided in their respective sections (Williams et al., 2022).

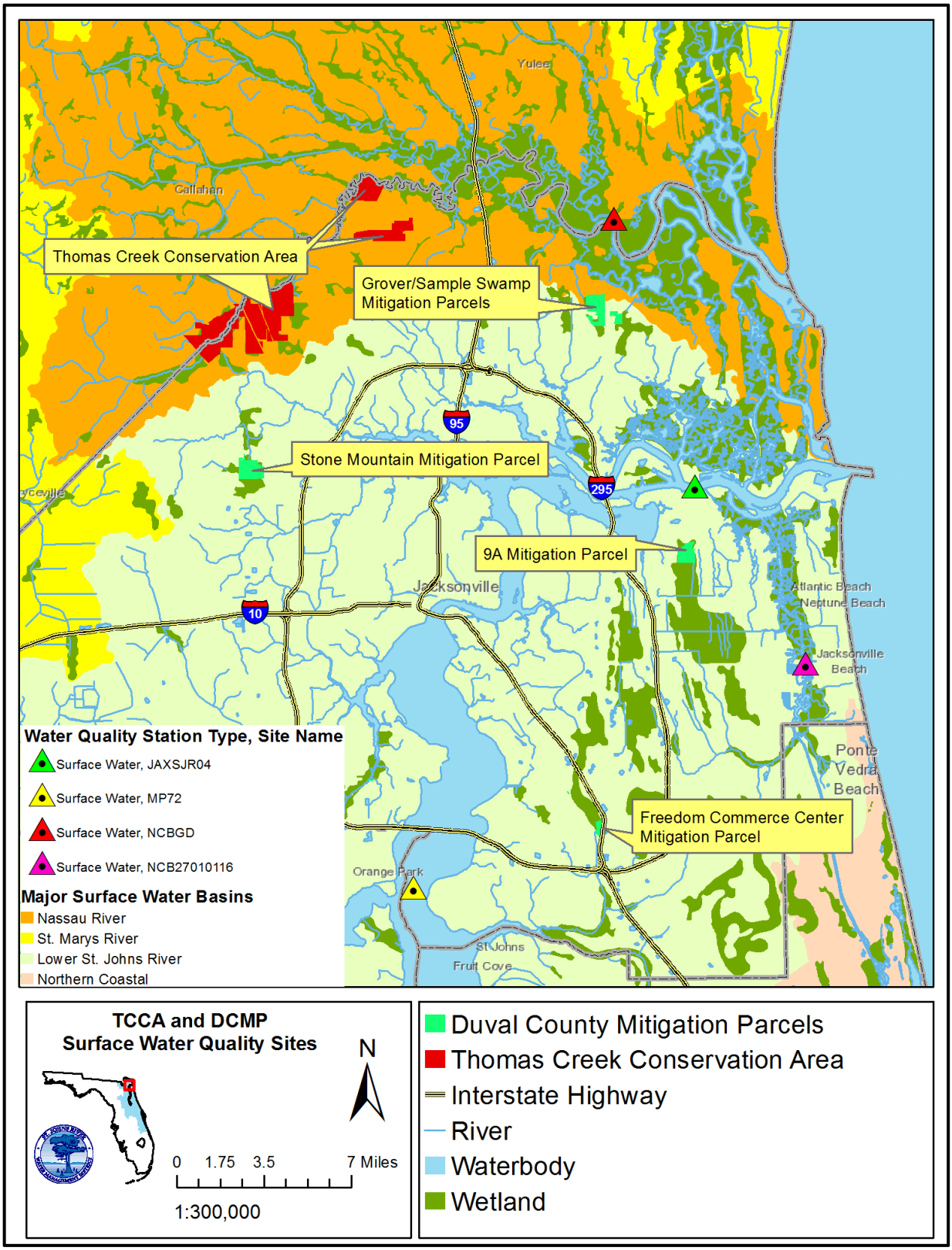

Figure 2: Combined Surface water quality

THOMAS CREEK CONSERVATION AREA LAND MANAGEMENT PLAN SECTION

OVERVIEW

This document provides the goals and strategies to guide land management activities at the TCCA over the next 10 years. This land management plan was developed in accordance with Section 373.1391 and Section 373.591, Florida Statutes (F.S.). This is the second land management plan for the Property.

The District owns an interest in nearly 780,000 acres of land across 18 counties, acquired for the purposes of water management, water supply, and the conservation and protection of water resources. The District is the lead manager of approximately 430,000 acres of these lands.

LOCATION

TCCA is comprised of 5,540 acres under District management in Duval and Nassau counties, within the Nassau River planning basin of the Nassau River major basin. The Property includes several tracts, located in numerous sections of Townships 1 and 2 north and Ranges 24, 25, and 26 east.

The Jacksonville International Airport is approximately 2 miles south of the Wright tract and approximately 3 miles east of the Kings Road/Logan tract. U.S. Highway 1 bisects the Kings Road tract. Interstate 95 is approximately 3 miles east of the Wright tract. Due to the disjunct nature of the parcels within the Property and divisions in ownership and management responsibilities, individual tract names are used in the discussions of specific management issues. Figure 3 depicts the general location of the Property and Figure 4 is a 2021 and 2023 aerial image of the Property.

The District is lead manager of daily operational management activities within the Nassau County parcels and natural and cultural resource related management activities at all parcels within TCCA. The COJ is lead manager of daily operational management activities at the Duval County parcels within TCCA.

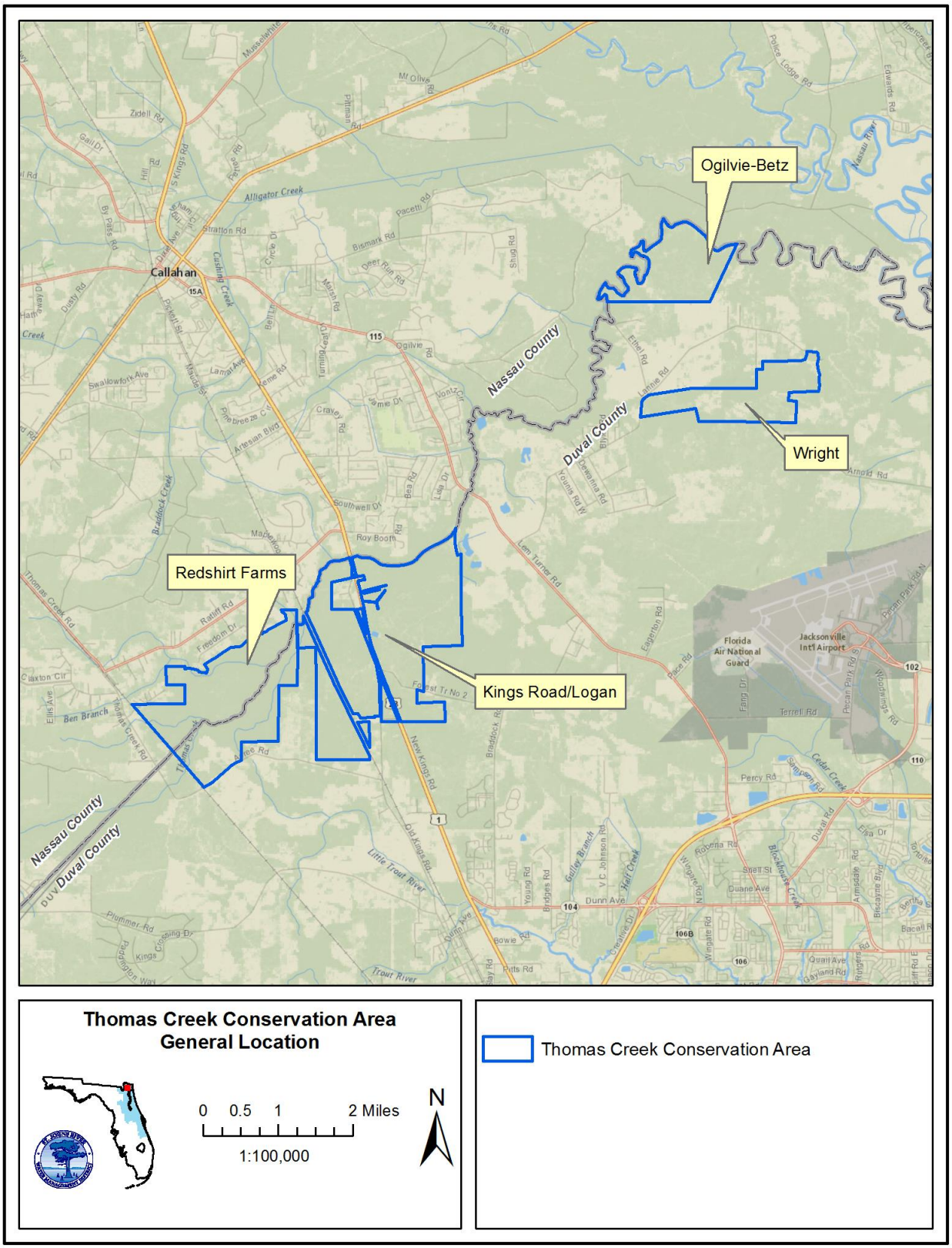

Figure 3: General Location

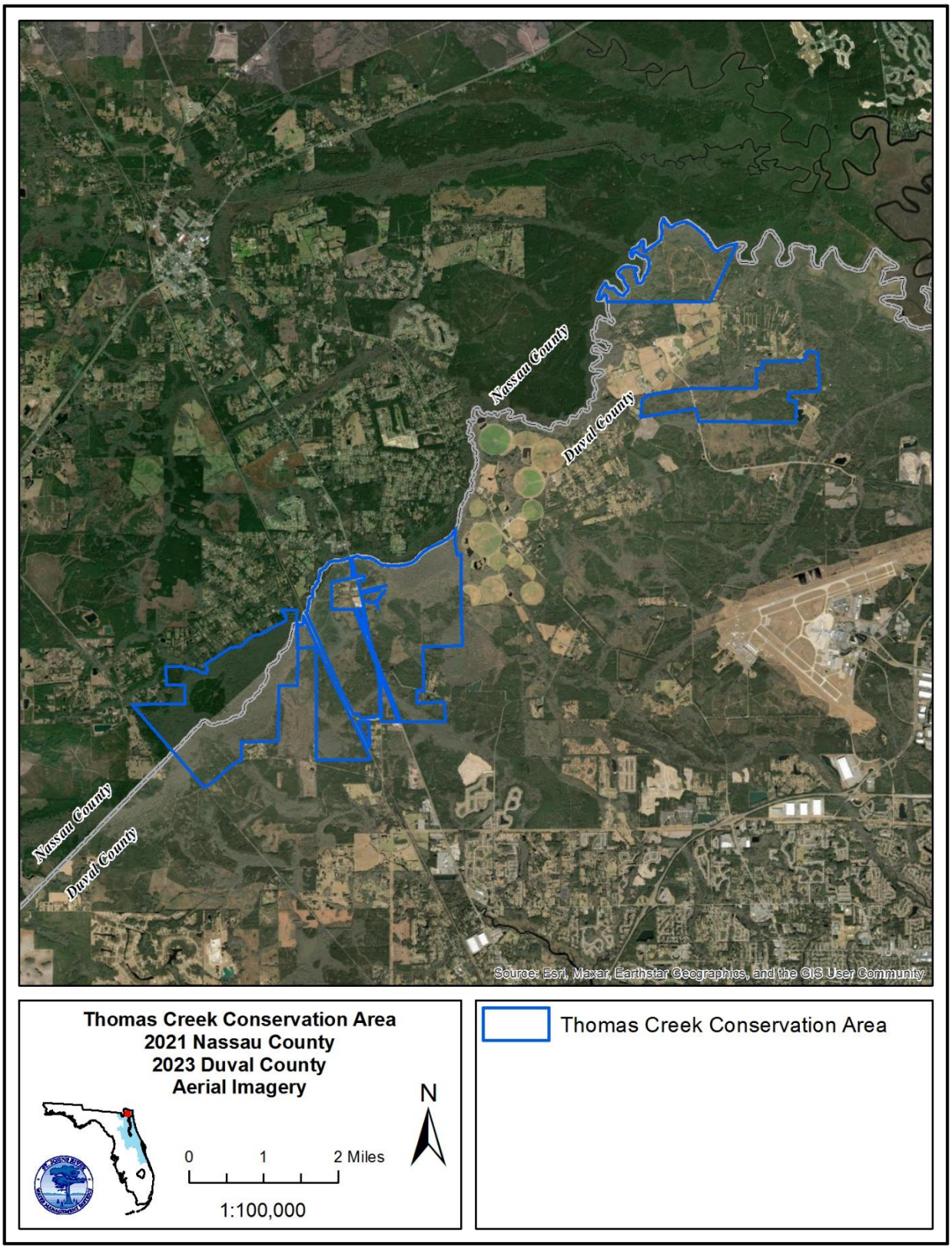

Figure 4: Aerial Imagery

ACQUISITION HISTORY

Acquisition of the parcels that comprise TCCA provides for the protection of important water resources and ecological functions. These acquisitions are consistent with the goals of the Lower St. Johns River and Nassau River basins projects as set forth in the District's Five-Year Strategic Plan and the mitigation goals for the Florida Department of Transportation (FDOT). These goals, as they apply to TCCA, include:

- Improve water quality, maintain natural hydrological regimes, and maintain flood protection by preserving important wetland areas
- Restore, maintain, and protect native natural communities and diversity
- Provide opportunities for recreation where compatible with the above listed goals

Additionally, the Property is within the Florida Forever–Northeast Florida Timberlands and Watershed Reserve Project. This project spans along the northeast-southwest diagonal along the west side of Duval County, stretching from the Nassau River north of Jacksonville to Trail Ridge in Clay County, near the town of Lawtey. Another section of the project makes a north-south connection, about 12 miles long, between the Camp Blanding Military Reservation and the Etoniah Creek State Forest. About 75 percent of this land is used, or has been used, for silviculture. It also includes mesic flatwoods, cypress, and hardwood swamps, sandhills, and associated plant communities. TCCA is an integral piece in this project.

TCCA comprises six parcels and five perpetual access easements totaling 5,428.5 deeded acres (Figure 5). This acreage calculation does not include a 125-acre parcel adjacent to the Wright parcel that is owned by COJ and with natural and cultural resources managed by the District as part of TCCA. It does include the access easement acreage as part of the deeded acreage calculation. Managed acres total 5,540.

Additional information on the access easements is included in the Administration section. The parcels that currently comprise TCCA are listed below, and all acreage reported is derived from deed information.

Ogilvie (251 acres) Land Acquisition No. 1998-074-P1. The Nature Conservancy (TNC) acquired this mitigation donation as part of the Cedar Bay Cogeneration Mitigation Project that was then transferred to the District on Nov. 16, 1999. This acquisition included a deeded 8-acre perpetual access easement providing access from Lannie Road.

Cherokee-Betz (470 acres) Land Acquisition No. 1998-075-P1. TNC acquired this mitigation donation as part of the Cedar Bay Cogeneration Mitigation Project that was then transferred to the District on Nov. 16, 1999. This acquisition included a deeded 0.8-acre perpetual access easement providing access from the perpetual access easement included with the Ogilvie parcel to this parcel.

Wright-Bear Branch Timberlands (590 acres) Land Acquisition No. 2001-001-P1. This parcel was acquired on June 26, 2001, using $380,957 in Preservation 2000 (P2000) funds, $380,957 in funds from COJ, and $925,000 in funds from TNC's Cedar Bay Cogeneration Mitigation Project. The District and COJ share undivided title interest in the parcel.

Kings Road/Logan/St. Joe Timberland (2,518 acres) Land Acquisition No. 2001-031-P1. The COJ acquired this parcel for $6,676,000 on Dec. 13, 2002. The District contributed $2 million in Florida Department of Transportation Funds on June 6, 2006. The District and COJ share undivided title interest in the parcel. The District manages the natural and cultural resources on the parcel. This acquisition included 4.7 acres in deeded perpetual access easements that provide access to the parcel.

Redshirt Farms (1,456 acres managed as part of TCCA) Land Acquisition No. 2002-012-P1. The original acquisition of the Redshirt Farms parcels included 1,780 acres for a total of $984,878 on April 22, 2003. The parcel spans Nassau and Duval counties, and 324 acres of this parcel is managed by FFS as part of the Cary State Forest under a management lease with the BTIITF. The District sold the portion of the parcel lying within Duval County (574 acres) to COJ for $363,750 on June 6, 2006, with natural and cultural resources managed by the District. Funding received for the Duval County portion of the parcel was credited toward the District's participation in the acquisition of the Kings Road/Logan parcel listed above. The Nassau County portion of the parcel (882 acres) was funded by the District with $621,128 in Florida Forever funds.

Rayonier Thomas Creek B East (130 acres) Land Acquisition No. 2003-026-P2. This parcel is a component of a 2,208-acre acquisition that the BTIITF and the District partnered which closed on July 20, 2005, for $5,184,519 using BTIITF, Florida Forever and District Land Acquisition Funds. The management of this parcel is codified in a management agreement between the District and the FFS.

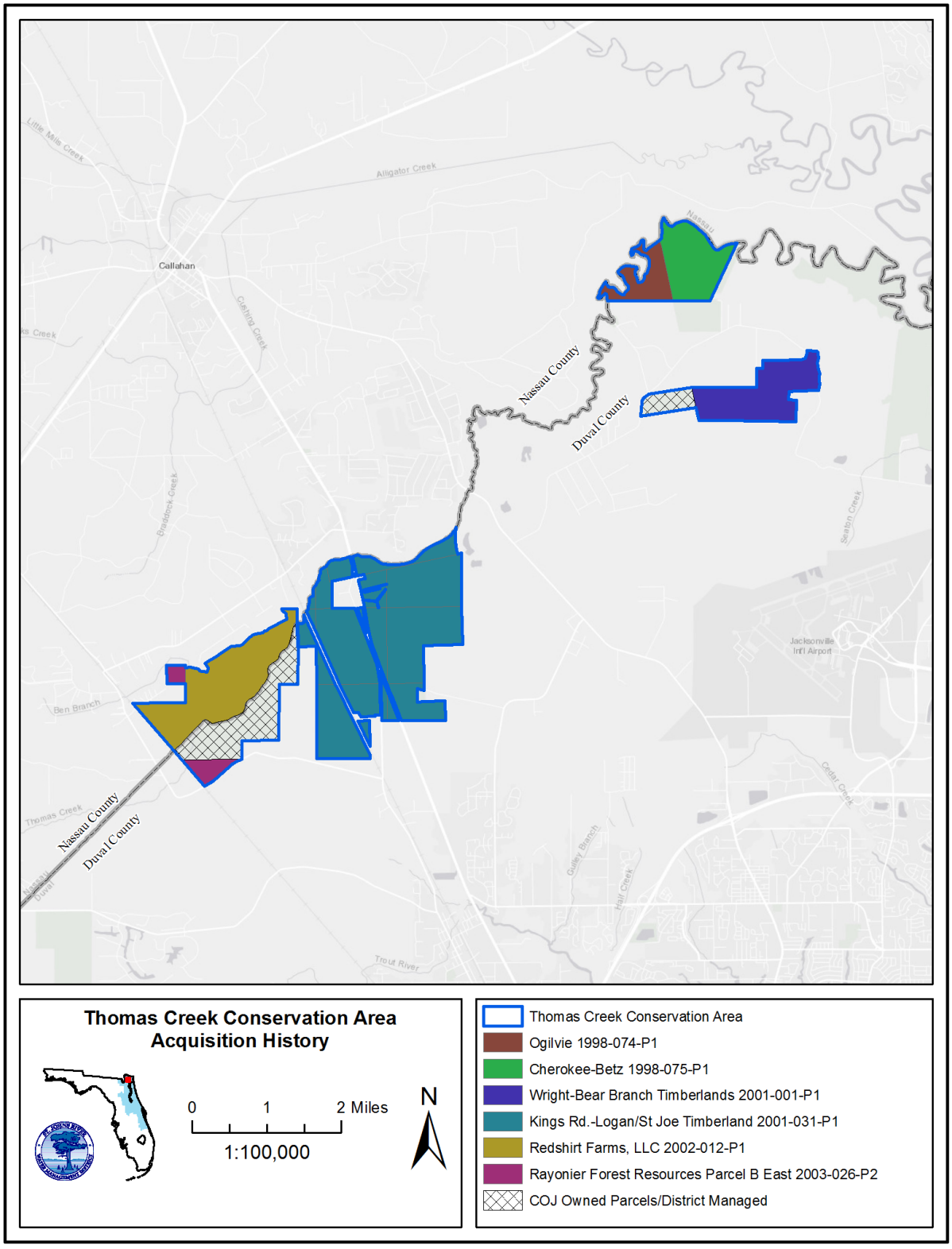

Figure 5: Acquisition

LOCAL GOVERNMENT LAND USE DESIGNATION

Duval County/City of Jacksonville

According to the 2024 update to the 2045 Duval County/City of Jacksonville Comprehensive Plan update (City of Jacksonville Planning and Development Department, 2024), the Future Land Use designations for TCCA are:

- Conservation – Conservation lands are areas with valuable environmental resources, such as sensitive vegetation, high value habitat, wetlands, high aquifer recharge potential, carbon sinks, and unique coastal areas. Some resource systems are highly sensitive and easily destroyed by indiscriminate human activity. These will be protected through public or private nonprofit ownership and management over time.
- Agriculture – The Agriculture designation is intended to provide for agricultural uses and to preserve the existing rural character of outlying areas of the COJ. Most agriculture lands are located in the rural area of the city where full urban services and facilities will not be provided by the city during the planning time frame. Accordingly, the principal activities allowed in these categories are agriculture and related uses, such as farming, horticulture, forestry and logging, storage, processing and wholesale distribution of farm supplies and products, and other resource-dependent uses. In order to preserve the rural character of these areas, residential uses are permitted at very low densities.
- Recreation and Open Space – This category includes lands used for activities associated with outdoor recreation. This future land-use depicts major existing recreational facilities only since neighborhood-scale recreational areas are allowed as secondary uses within the residential and commercial categories. The location of new recreational facilities will be guided by the provisions of this and other elements of the Comprehensive Plan. Recommendations in the more specific planning district, neighborhood, or functional plans will also be considered in siting future recreational facilities.
- Rural Residential – Rural Residential is a category intended to provide rural estate residential opportunities in the Suburban and Rural Development Areas of the city. Generally, single-family detached housing will be the predominant development typology in this category. The maximum gross density shall be two units per acre when both centralized potable water and wastewater are available to the site; and the minimum lot size shall be one unit per acre of unsubmerged property when centralized potable water and/or wastewater are not available to the site; and there shall be no minimum density.

The surrounding Future Land Use designations include the above as well as:

- Public Buildings and Facilities – This designation is a broad land-use category that is intended to accommodate major public use or community service activities.
- Light Industrial – Light Industrial (LI) is a category that provides for the location of industrial uses that are able to be performed in such a manner as to control the external effects of the process, such as smoke, noise, soot, dirt, vibration, odor, etc. Uses within this category, other than outside storage, shall be conducted within an enclosed building. Generally, light industrial uses involve materials that have previously been prepared, or raw materials that do not need refining. These uses do not create a noticeable amount of

noise, dust, odor, smoke, glare, or vibration outside of the building or on the site in which the activity takes place.

- Multi Use (Suburban Area) – The Multi-Use (MU) land-use category is intended to accommodate large-scale development and redevelopment projects pursuant to an approved conceptual long-term master plan and is implemented through one or more Planned Unit Development (PUD) or conventional zoning districts. The criteria provided within this category are based on a long-term planning strategy that results in a cohesive and compatible development pattern, the provision of adequate public facilities, utilities and infrastructure, and the protection of environmentally sensitive land and species. New designations under the MU category shall generally be for sites greater than 250 acres in size in the Suburban, Urban, and Urban Priority Development Areas.

Nassau County

According to the 2010–2030 Nassau County Comprehensive Plan update (Nassau County Planning Department, 2012), the Future Land Use designations for TCCA are:

- Conservation – This future land-use designation sets a goal to conserve, protect, and enhance the natural resources that are important to the economy, health, and quality of life of county residents, ensuring that adequate resources are available for future generations.

The surrounding Future Land Use designations include the above as well as:

- Low-Density Residential – Land designated low-density residential consists of areas that limit dwellings to no more than two per gross acre.
- Agriculture – Land designated Agriculture is intended for activities associated primarily with the cultivation of silviculture, crops, or other agricultural uses. Agriculture-designated land in parcels 320 acres or more in an area may be developed for residential use at a density not to exceed one unit per 20 acres. Agriculture-designated land in parcels of 320 acres or less in area may be developed for residential use at a density not to exceed one unit per 1 acre.

NATURAL RESOURCES

WATER RESOURCES

TCCA is not located within an Aquatic Preserve or an Area of Critical State Concern pursuant to Section 380.05, Florida Statutes. The Property is located within the Thomas Creek, Thomas Creek Tributary 1, Thomas Creek Tributary 5, Seaton Creek Tributary, and Ben Branch sub-basins in the Nassau River Surface Water Basin. The major waterbodies of this surface water basin include the surface water features of the Nassau River Surface Water Basin are indicated in Figure 6.

Figures 7 and 8 depict the topographic features of the TCCA and surrounding area using data from digital elevation models.

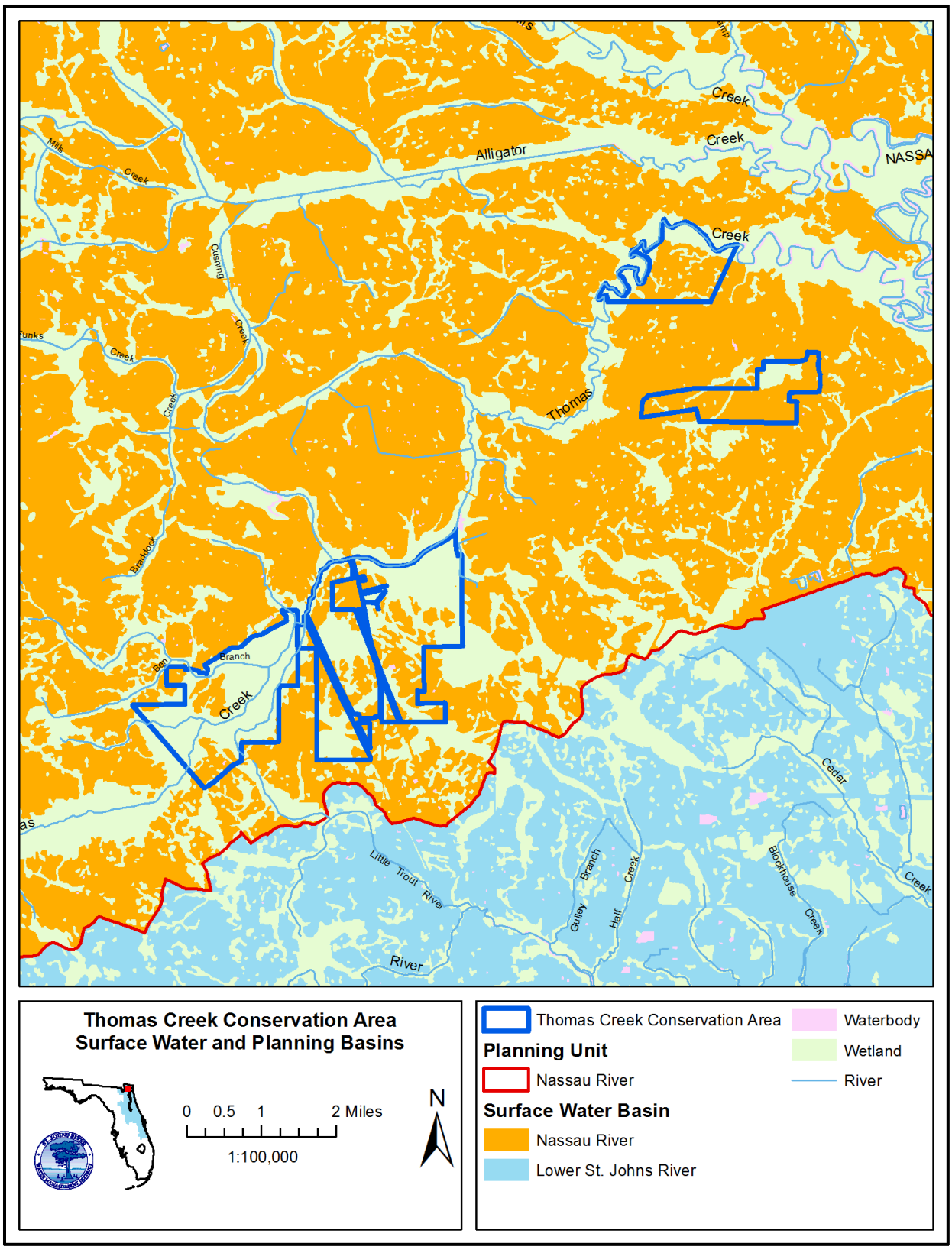

Figure 6: Location within Planning Basins

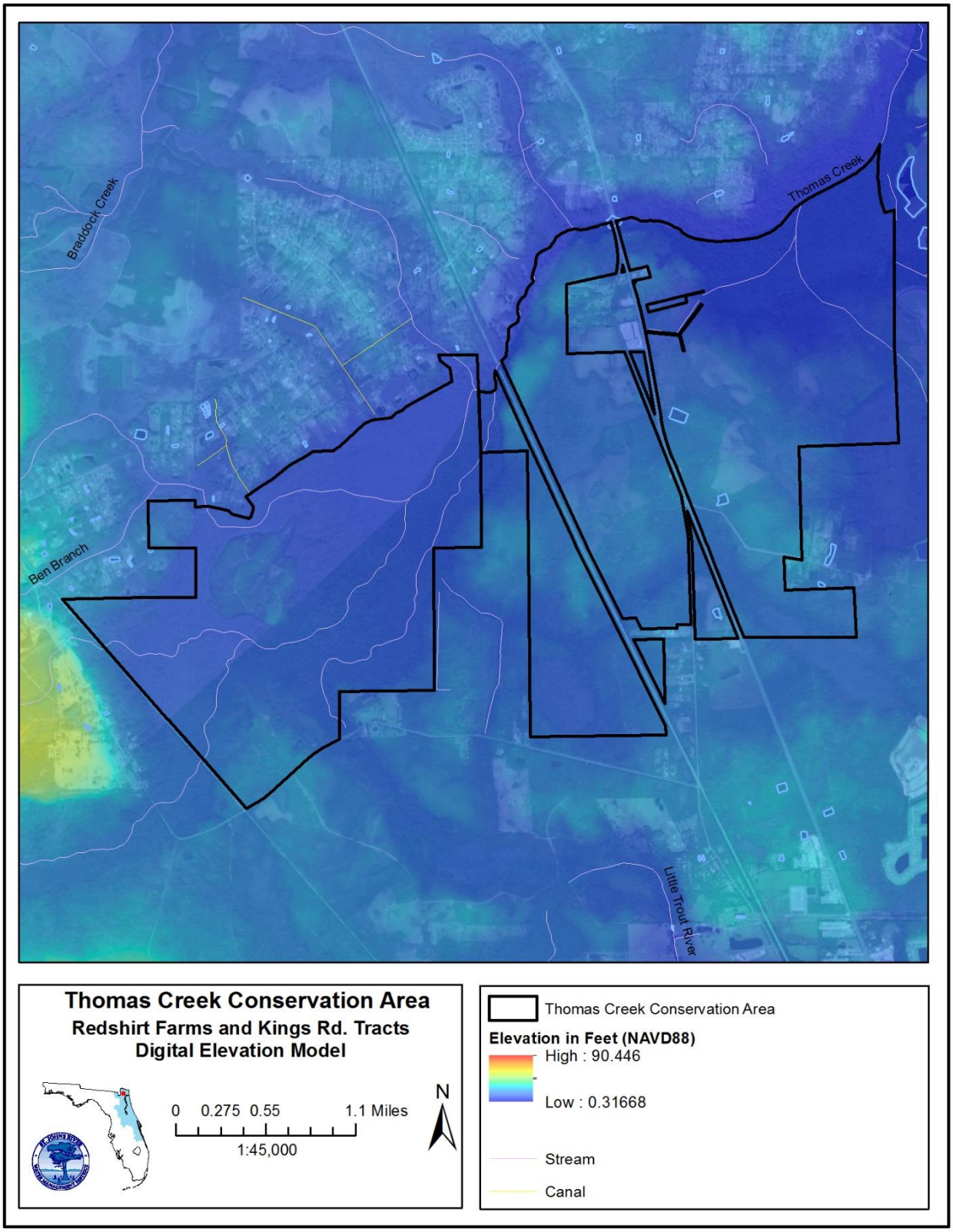

Figure 7: Redshirt Farms and Kings Road Tracts Topography

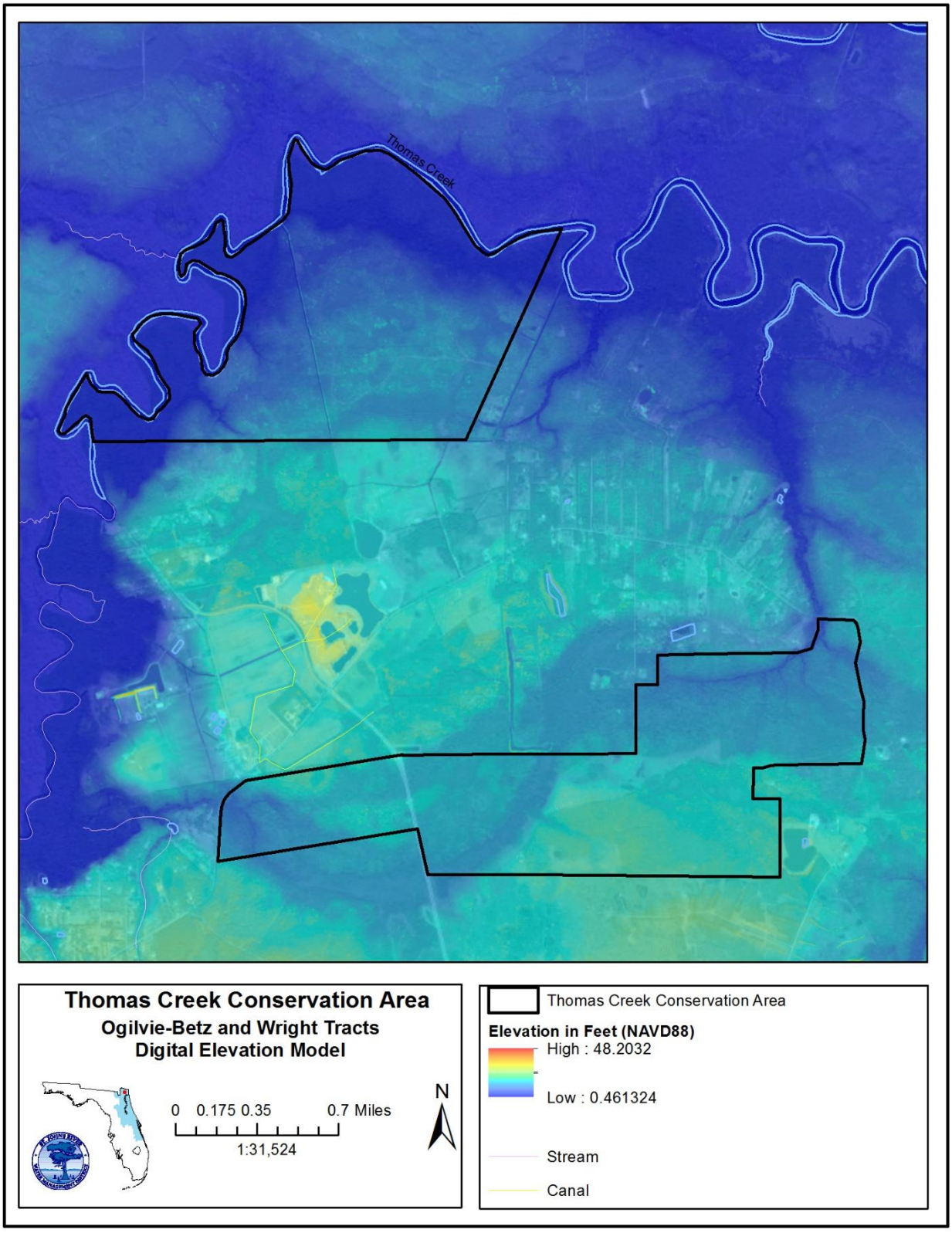

Figure 8: Ogilvie-Betz and Wright Tracts Topography

Water Levels

The District has two active groundwater monitoring well sites located on the Property. One is located on the Redshirt Farms tract with observation wells monitoring the surficial aquifer system (N-00309), the intermediate aquifer system (N-0310), and the Upper Floridan aquifer (N-311). The second site is located on the Wright tract with observation wells monitoring the surficial aquifer system (D-1494), the intermediate aquifer system (D-1496), and the Upper Floridan aquifer (D-1503). These sites have been automatically monitored daily since 2010 and are the most representative of aquifer conditions at TCCA.

Historic water levels for both sites are depicted in Figures 9 (Redshirt Farms) and 10 (Wright Tract). The three groundwater levels are plotted together to show the relative elevations (NAVD 1988) of the water levels in each aquifer. Data for these figures are compiled from the District's hydrological database (http://webapub.sjrwmd.com/agws10/hdsnew/map.html).

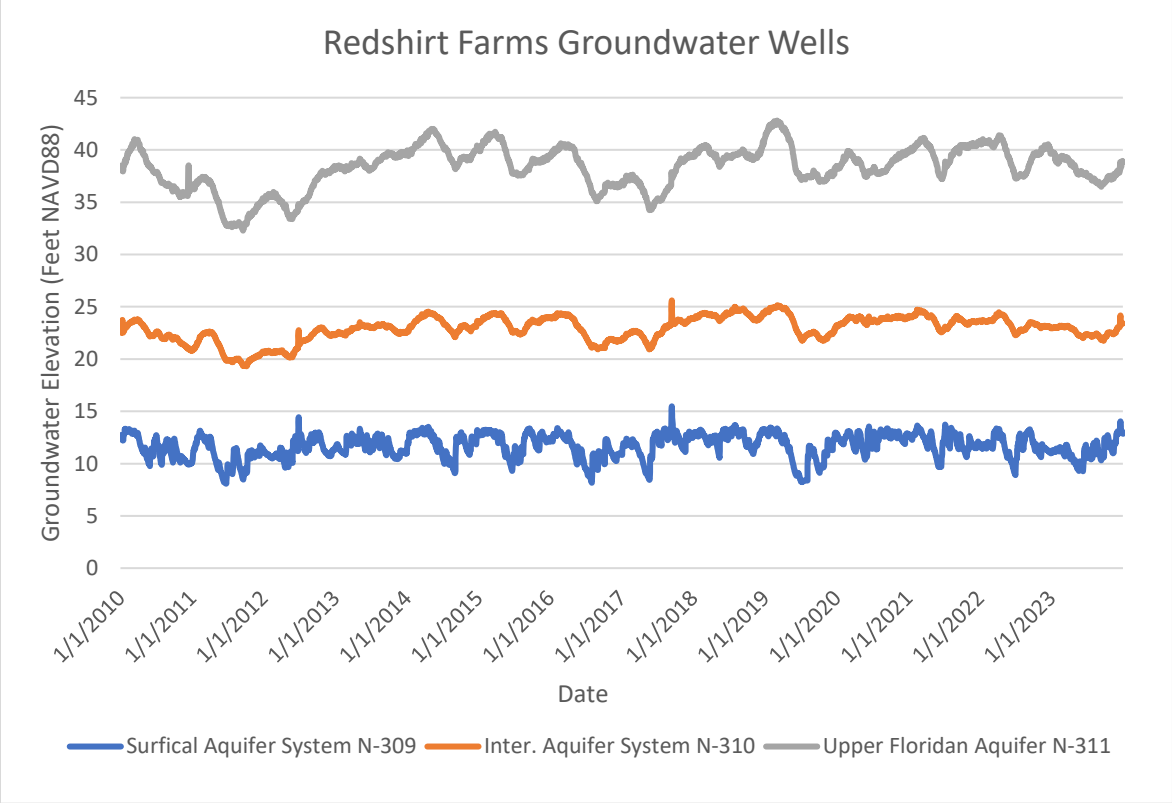

Figure 9: Thomas Creek Conservation Area Groundwater Observation Well Site at Redshirt Farms Tract

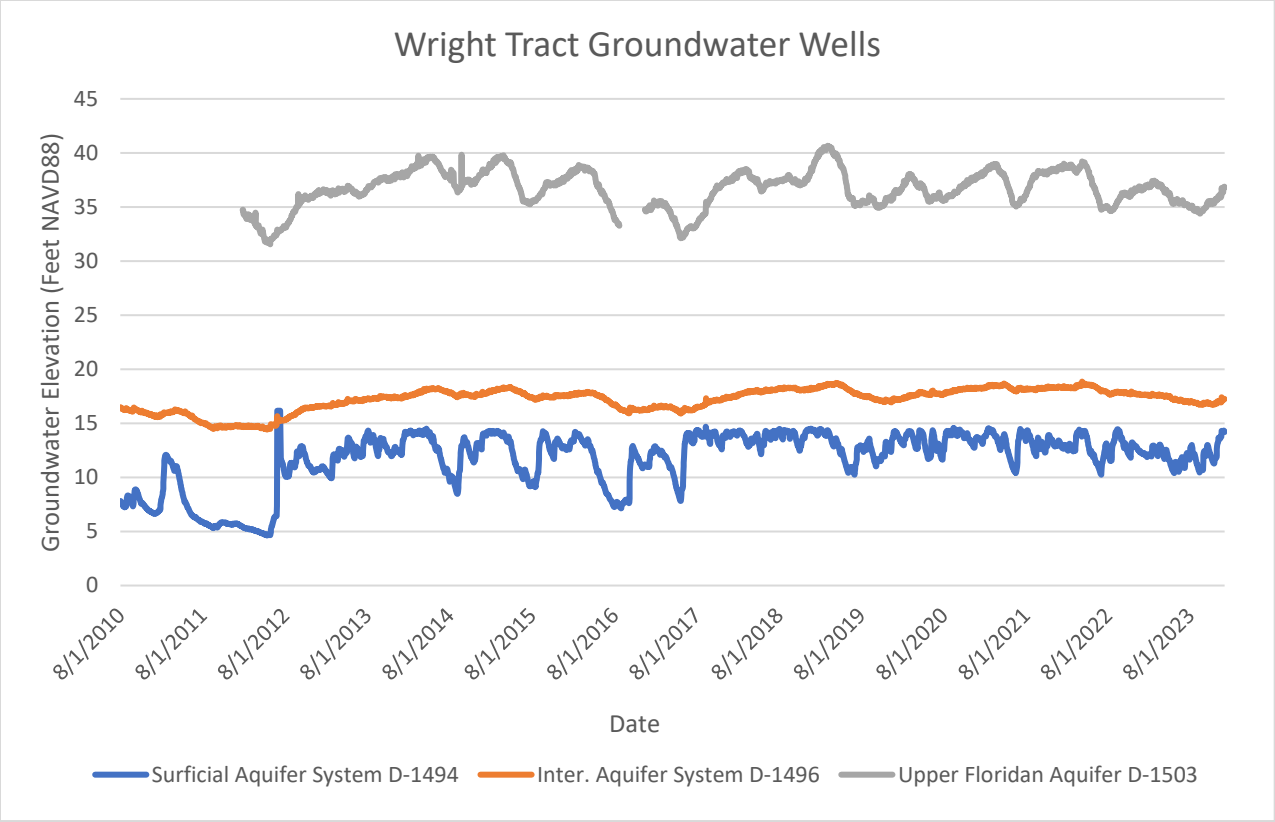

Figure 10: Thomas Creek Conservation Area Groundwater Observation Well Site at Wright Tract

NATURAL COMMUNITIES

The 5,540 acres that comprise TCCA consist primarily of basin swamp (1,809 acres), bottomland forest (940 acres), and pine flatwoods (1,999 acres) (Figures 11 and 12). The Property was mapped in 2024 for its natural communities by the Florida Natural Areas Inventory (FNAI).

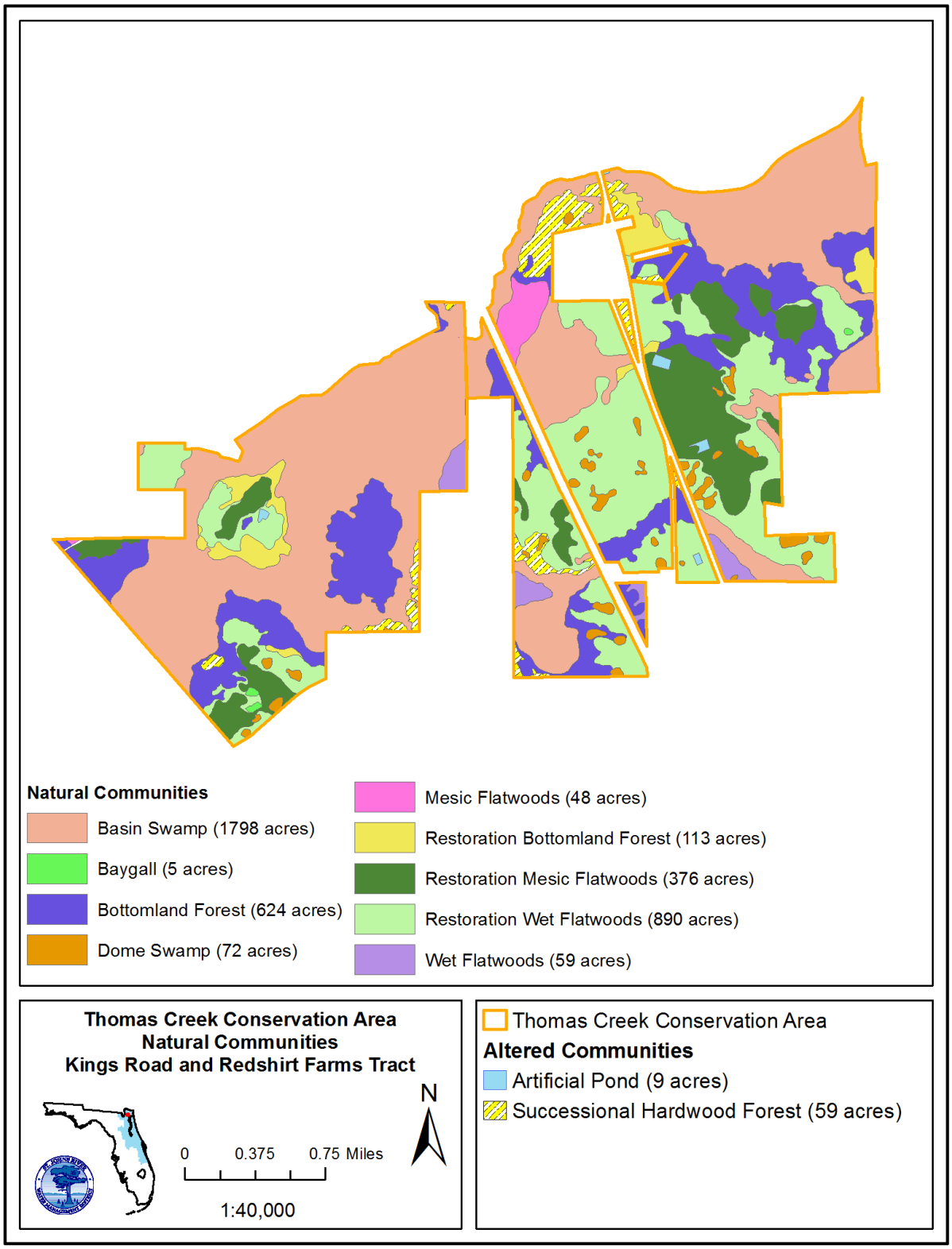

Figure 11: Natural Communities, Kings Road and Redshirt Farms Tracts

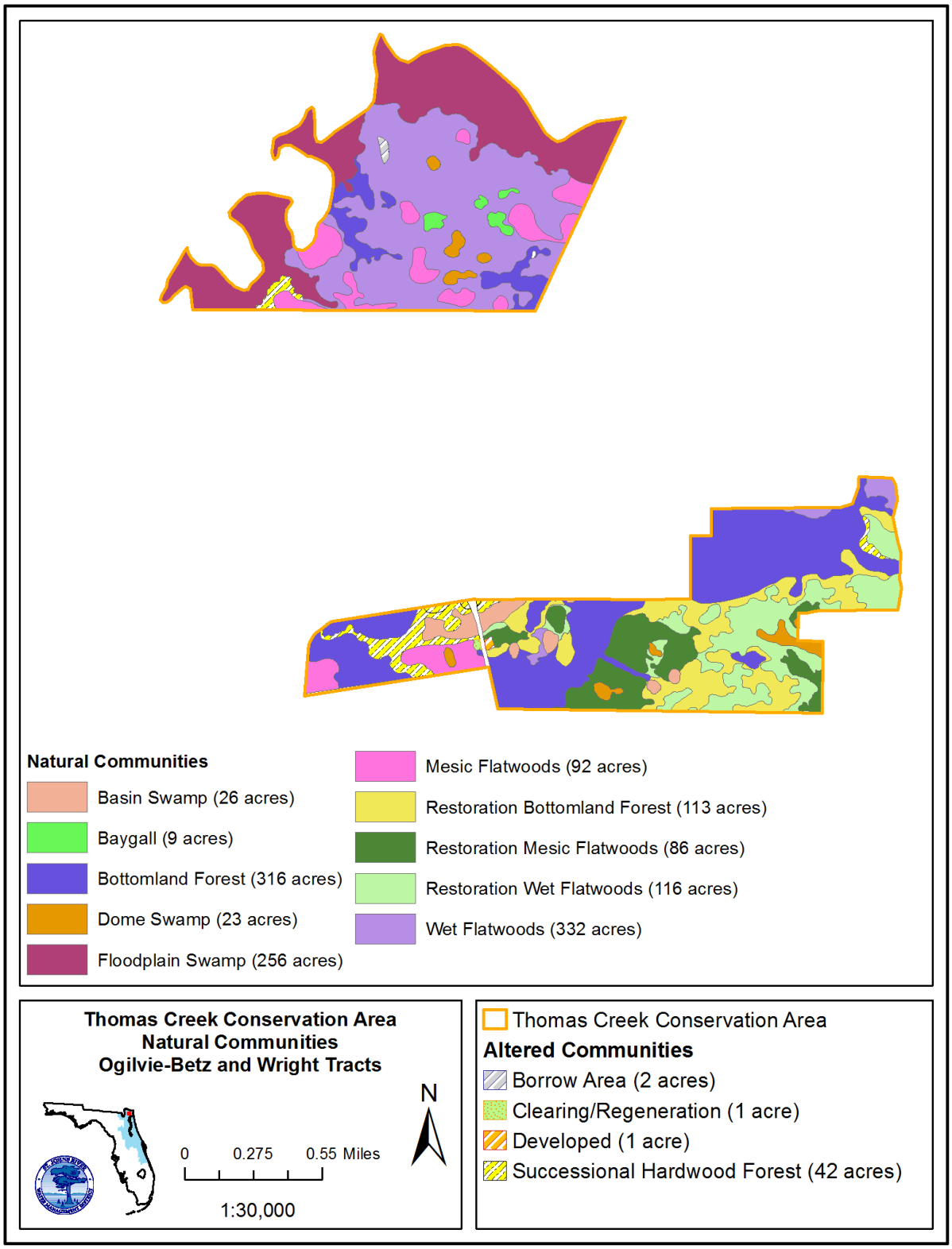

Figure 12: Natural Communities, Ogilvie-Betz and Wright Tracts

Basin Swamp (1,824 acres; 33%)
Basin swamps are forested depressions that are typically large and/or embedded in a non-pyrogenic community and thus are not heavily influenced by frequent fires in the surrounding landscape. The soils are generally acidic, nutrient-poor peats overlying an impervious soil layer. This community type is dominated by cypress and/or tupelo but may contain additional hydrophytic trees and shrubs that can withstand inundation for most or all of the year. Basin swamp dominates a large portion of the southernmost tract at TCCA. These swamps frequently grade into bottomland forests, which often occur between the swamps and adjacent flatwoods.

Basin swamps have a canopy of swamp tupelo (*Nyssa biflora*), pond cypress (*Taxodium ascendens*), with occasional red maple (*Acer rubrum*), and swamp laurel oak (*Quercus laurifolia*). Subcanopy trees include red maple, Carolina ash (*Fraxinus caroliniana*), sweetgum (*Liquidambar styraciflua*), sweetbay (*Magnolia virginiana* var. *australis*), and American elm (*Ulmus americana*). Subcanopy species are often present in the open shrub layer, along with common buttonbush (*Cephalanthus occidentalis*), dahoon (*Ilex cassine*), Virginia willow (*Itea virginica*), Southern bayberry (*Morella cerifera*), swamp bay (*Tamala palustris*), fetterbush (*Lyonia lucida*), and bluestem palmetto (*Sabal minor*). Herbs are sparse and include Virginia chain fern (*Anchistea virginica*), sedges (*Carex* spp.), woodoats (*Chasmanthium* sp.), string lily (*Crinum americanum* var. *americanum*), witchgrasses (*Dichanthelium* spp.), iris (*Iris* sp.), netted chain fern (*Lorinseria areolata*), and partridgeberry (*Mitchella repens*). Epiphytes such as Bartram's air-plant (*Tillandsia bartramii*) are occasional throughout. Occasional vines include muscadine (*Muscadinia rotundifolia*), fringed greenbriar (*Smilax bona-nox* var. *bona-nox*), laurel greenbriar (*Smilax laurifolia*), and Eastern poison ivy (*Toxicodendron radicans* var. *radicans*).

Fire intervals in basin swamps are highly variable. The lowest portions of basin swamps rarely, if ever, burn. Where it can be done safely, prescribed fires should be allowed to burn into basin swamp edges to restrict shrub encroachment into ecotones and promote the cypress component. Swamp tupelo and other hardwoods dominate areas that burn less often. If hydrology has been altered (i.e., ditches/canals), normal hydroperiod should be restored, if possible, since shortened hydroperiods can also allow devastating fire to enter, potentially altering the community. Heavy equipment that causes rutting will alter the micro-hydrology of the ecotone; use of heavy equipment, if necessary, should be limited to dry seasons. This community is thought to be very stable as long as hydrological conditions and water quality are maintained**.**

Baygall (14 acres; >1%)
Baygall is an evergreen, forested wetland characterized by a bay tree dominated canopy typically found at the base of sandy slopes where water seepage maintains a saturated peat substrate. It may form an ecotone between uplands and swamps, or it may develop as a bay swamp in isolated basins or broad areas of seepage.

Baygalls on TCCA occur mostly as small depressions within wet flatwoods. Canopy and subcanopy species include red maple, loblolly bay (*Gordonia lasianthus*), sweetbay, swamp tupelo, slash pine (*Pinus elliottii*), loblolly pine (*Pinus taeda*), and water oak (*Quercus nigra*). The shrub layer includes gallberry (*Ilex glabra*), fetterbush (*Lyonia lucida*), and hairy highbush blueberry (*Vaccinium fuscatum*). Herbs are sparse and limited to scattered shade-tolerant ferns.

Vines include laurel greenbriar. Pines are a natural part of the canopy structure of baygall communities, but past silvicultural activities have likely increased their frequency.

Baygalls should burn infrequently, perhaps only a few times each century in the deepest areas. Although the saturated soils and humid conditions within baygalls typically inhibit fire, droughts may create conditions that allow them to burn catastrophically. These fires not only destroy the canopy, but also may ignite the deep peat layers that can smolder for weeks, or even months. If it can be done safely, prescribed fires in adjacent uplands should be allowed to burn into baygall edges to maintain grassy ecotones and to kill bay shrubs encroaching into the uplands. Disked fire lines and ditches should be restored, and hydrology should be returned to its natural state where possible.

Bottomland Forest including Restoration (1,166 acres; 21%)
Bottomland forest is a deciduous, or mixed deciduous/evergreen, closed-canopy forest on terraces and levees within riverine floodplains and in shallow depressions. Found in situations intermediate between swamps (which are flooded most of the time) and uplands, the canopy may be quite diverse with both deciduous and evergreen hydrophytic to mesophytic trees.
Most bottomland forests on TCCA form a wide boundary between basin swamps and adjacent flatwoods. Bottomland forests are also embedded within these swamps, with some being delineated and others occurring as inclusions. A few bottomland forests are also present as isolated depressions within flatwoods. The closed canopy and subcanopy includes red maple, Southern magnolia (*Magnolia grandiflora*), sweetbay, red mulberry (*Morus rubra*), slash pine, loblolly pine, Carolina ash, sweetgum, swamp tupelo, swamp laurel oak, swamp chestnut oak (*Quercus michauxii*), water oak, live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), swamp bay, pond cypress, and American elm. Shrubs include young canopy/subcanopy trees along with common buttonbush (*Cephalanthus occidentalis*), titi (*Cyrilla racemiflora*), dahoon, gallberry, maleberry (*Lyonia ligustrina* var. *foliosiflora*), fetterbush, southern bayberry, sawtooth blackberry (*Rubus pensilvanicus*), and bluestem palmetto, saw palmetto (*Serenoa repens*), winged elm (*Ulmus alata*), hairy highbush blueberry, and possumhaw (*Viburnum nudum*). Herbs are sparse and include clustered sedge (*Carex glaucescens*), longleaf woodoats (*Chasmanthium sessiliflorum* var. *sessiliflorum*), woodoats, sawgrass (*Cladium jamaicense*), clustered bushmint (*Hyptis alata*), netted chain fern, taperleaf waterhorehound (*Lycopus rubellus*), partridgeberry, cinnamon fern (*Osmundastrum cinnamomeum*), and lizard's tail (*Saururus cernuus*). Epiphytes may be common with resurrection fern (*Pleopeltis michauxiana*) and Bartram's air-plant. Vines are sparse and include trumpet creeper (*Campsis radicans*), muscadine, Virginia creeper (*Parthenocissus quinquefolia*), and Eastern poison ivy.

Many areas in the bottomland, particularly the drier portions, have been logged in the past. The 1940s aerial photographs show evidence of clearing in bottomland forests, making the distinction between historic hardwood and pine communities very difficult to determine. Logged hardwoods tend to have a more heterogeneous signature on the 1943 aerials. Pine plantations are common throughout the flatwoods inclusions and adjacent flatwoods and often extend what was likely historic bottomland. These areas of altered bottomland forest are currently mapped as restoration bottomland forest. A restoration natural community is defined as former altered landcover type or successional natural community (pine plantation, xeric hammock, etc.) where active restoration is ongoing to return the community to its historic state.

Restoration bottomland forests may have a dense stand of loblolly or slash pines. Other canopy and subcanopy species include red maple, sweetgum, swamp tupelo, pond pine (*Pinus serotina*), swamp laurel oak, water oak, live oak, swamp bay, and pond cypress. The shrub layer includes switchcane (*Arundinaria gigantea*), peelbark St. John's wort (*Hypericum fasciculatum*), myrtleleaf St. John's wort (*Hypericum myrtifolium*), dahoon, large gallberry (*Ilex coriacea*), Southern bayberry, and saw palmetto. Herbs include clustered sedge, spadeleaf (*Centella erecta*), longleaf woodoats, Virginia buttonweed (*Diodia virginiana*), pink sundew (*Drosera capillaris*), sugarcane plumegrass (*Erianthus giganteus*), tenangle pipewort (*Eriocaulon decangulare*), Carolina redroot (*Lachnanthes caroliniana*), foxtail club-moss (*Lycopodiella alopecuroides*), orange milkwort (*Polygala lutea*), combleaf mermaidweed (*Proserpinaca pectinata*), fascicled beaksedge (*Rhynchospora fascicularis*), and sphagnum moss (*Sphagnum* sp.). Vines may be dense and include muscadine, cat greenbriar (*Smilax glauca*), and laurel greenbriar.

Dome Swamp (95 acres; 2%)
Dome swamp is an isolated, forested depression wetland occurring within a fire-maintained community such as mesic flatwoods. These swamps are usually small with a characteristic dome shape created by smaller trees that grow in the shallow outer edge, while taller trees grow in the deeper, more frequently inundated interior where there is often more organic accumulation. Dome swamps are usually dominated by pond cypress and/or swamp tupelo.

Dome swamps are common on TCCA, occurring as small, isolated depressions within mesic and wet flatwoods. The canopy is dominated by pond cypress or swamp tupelo with occasional slash pine. Less frequent canopy and subcanopy species include red maple, loblolly bay, sweetgum, sweetbay, swamp laurel oak, swamp chestnut oak, water oak, and swamp bay. Shrubs include titi, myrtleleaf St. John's wort, dahoon, myrtle-leaved holly (*Ilex myrtifolia*), fetterbush, Southern bayberry, saw palmetto, and hairy highbush blueberry. Typical herbs include Virginia chain fern, clustered sedge, woolly witchgrass (*Dichanthelium scabriusculum*), maidencane (*Hymenachne hemitoma*), iris (*Iris* sp.), pickerelweed (*Pontederia cordata*), and occasionally the state threatened hooded pitcherplant (*Sarracenia minor* var. *minor*).

Fire is essential to the maintenance of dome swamps; without fire, hardwoods will invade the otherwise open understory. Fires in the surrounding flatwoods should be encouraged to burn through the dome swamps periodically, and, where possible, hydrology restoration may improve natural wetland functions. As flatwoods restoration progresses and fire continues to be introduced in the surrounding landscape, these dome swamps should regain more of their natural function.

Floodplain Swamp (256 acres; 5%)
Floodplain swamps occur on flooded soils along stream and river channels and in low spots and oxbows within river floodplains. Dominant trees are usually buttressed hydrophytic trees such as cypress and tupelo; the understory and groundcover are generally very sparse. Canopy coverage is usually high but can be sparse as the community grades into open water or marsh areas. Shrub and herbaceous layers are often sparse and concentrated in open areas of the community and on included hummocks and stumps.

Floodplain swamps at TCCA occur on the northern tract along the floodplain of Thomas Creek. Some of the swamp contains inclusions of bottomland forest and wet flatwoods. The closed canopy is dominated by swamp tupelo and pond cypress. Other canopy/subcanopy trees include red maple, Carolina ash, sweetgum, and slash pine. Spanish moss (*Tillandsia usneoides*) is a common epiphyte.

Mesic Flatwoods including Restoration (602 acres; 11%)
Mesic flatwoods are open canopy upland communities of uneven aged pines with a low, diverse understory of herbs and shrubs maintained by frequent fires. On TCCA, mesic flatwoods were common throughout, occurring as large areas of uplands, often grading into wet flatwoods. Mesic flatwoods also occurred as small rises within wet flatwoods, basin swamps, and bottomland forests. Almost the entire conservation area has a history of silviculture, and the existing pine canopy is mostly planted, regenerating from planted, or remnants from prior logging of the site. The history of silviculture and fire exclusion in pine flatwoods on the Property has greatly altered the groundcover. Bedding and soil compaction make the determination of historic wet versus mesic flatwoods difficult. Also, repeated logging of the bottomland forest along with planting pine stands and altering hydrology have also blurred the line between hardwood forests and historic flatwoods.

Currently, the historic flatwoods areas are highly impacted by past silviculture. Stands range from densely planted pine stands, to cleared stands in active restoration, to more or less natural flatwoods albeit also with planted pines and often excluded from fire. Since the goal of management is to return these stands to a more natural state, historic mesic flatwoods impacted by silviculture, even stands in a very poor state, are classified as restoration, a designation for former altered landcover types or successional natural communities (pine plantation, xeric hammock, etc.) where active restoration is ongoing to return the community to its historic state.

A few isolated areas of good quality mesic flatwoods remain, mostly on the northernmost tract. These areas have an open canopy of slash pine and/or longleaf pine (*Pinus palustris*), with occasional pond pine. Shrub cover is moderate to dense with red chokeberry (*Aronia arbutifolia*), tarflower (*Bejaria racemosa*), wild olive (*Cartrema americanum*), dwarf huckleberry (*Gaylussacia dumosa*), blue huckleberry (*Gaylussacia tomentosa*), St. Peter's wort (*Hypericum crux-andreae*), fourpetal St. John's wort (*Hypericum tetrapetalum*), gallberry, hairy wicky (*Kalmia hirsuta*),), rusty staggerbush (*Lyonia ferruginea*), coastalplain staggerbush (*Lyonia fruticosa*), fetterbush, dwarf live oak (*Quercus minima*), water oak, mountain azalea (*Rhododendron canescens*), winged sumac (*Rhus copallinum* var. *copallinum*), saw palmetto, and shiny blueberry (*Vaccinium myrsinites*). Herbs are diverse but generally sparse, with Southern wiregrass (*Aristida beyrichiana*), bottlebrush threeawn (*Aristida spiciformis* var. *spiciformis*), coastalplain chaffhead (*Carphephorus corymbosus*), tall elephantsfoot (*Elephantopus elatus*), Mohr's thoroughwort (*Eupatorium mohrii*), slender flattop goldenrod (*Euthamia caroliniana*), Elliott's milkpea (*Galactia elliottii*), sandhill pinweed (*Lechea torreyi*), tailed bracken (*Pteridium pseudocaudatum*), pale meadowbeauty (*Rhexia mariana*), silkgrass (*Pityopsis* sp.), shortleaf rosegentian (*Sabatia brevifolia*), whitetop aster (*Sericocarpus tortifolius*), Chapman's goldenrod (*Solidago chapmanii*), lopsided Indiangrass (*Sorghastrum secundum*), Curtiss' dropseed (*Sporobolus curtissii*), vanillaleaf (*Trilisa odoratissima*), and Carolina yellow-eyed grass (*Xyris caroliniana*).

Restoration mesic flatwoods have a planted canopy of slash pine or longleaf pine. Subcanopy species may include red maple, loblolly bay, sweetgum, swamp laurel oak, water oak, live oak. Shrubs include groundsel tree (*Baccharis halimifolia*), tarflower, common persimmon (*Diospyros virginiana*), dwarf huckleberry, dwarf dangleberry (*Gaylussacia nana*), blue huckleberry, Andrew's cross (*Hypericum hypericoides*), fourpetal St. John's wort, gallberry, rusty staggerbush coastalplain staggerbush, fetterbush, Piedmont staggerbush (*Lyonia mariana*), Southern bayberry, dwarf live oak, winged sumac, swamp bay, Elliott's blueberry (*Vaccinium elliottii*), and shiny blueberry. Herbs are sparse and include Virginia chain fern, Southern wiregrass, savannah milkweed (*Asclepias pedicellata*), longleaf woodoats (*Chasmanthium sessiliflorum* var. *sessiliflorum*), small-leaved witchgrass (*Dichanthelium ensifolium*), dogfennel (*Eupatorium capillifolium*), Elliott's milkpea, St. Carolina redroot, cinnamon fern, coastalplain milkwort (*Polygala setacea*), tailed bracken, blackroot (*Pterocaulon pycnostachyum*), savannah meadowbeauty (*Rhexia alifanus*), fringed meadowbeauty (*Rhexia petiolata*), whip nutrush (*Scleria triglomerata*), saw palmetto, danglepod (*Sesbania herbacea*), Curtiss' dropseed, vanillaleaf. Vines may be common and include yellow jessamine (*Gelsemium sempervirens*), muscadine, earleaf greenbriar (*Smilax auriculata*), saw greenbriar, and cat greenbriar.

Management activities in natural and restoration mesic flatwoods should include growing season fires and continued pine thinning in dense stands, as well as continued reintroduction of longleaf pine. For the areas most impacted by timber operations, the groundcover will likely remain weedy and more similar to disturbed wet flatwoods for many years.

Wet Flatwoods including Restoration (1,397 acres; 25%)

Wet flatwoods are open pine-dominated communities with a short understory of hydrophytic herbs and shrubs, or they may have a thick shrubby understory and very sparse groundcover, depending on landscape and soils. On TCCA, wet flatwoods were historically the majority of flatwoods, occurring as large areas adjacent to bottomland forest or swamp, or occasionally embedded in these forested wetlands. Almost the entire conservation area has a history of silviculture, and the existing pine canopy is mostly planted, regenerating from planted, or remnants from prior logging of the site. The history of silviculture and fire exclusion in pine flatwoods on the Property has greatly altered the groundcover. Bedding and soil compaction make the determination of historic wet versus mesic flatwoods difficult. Repeated logging of the bottomland forest/flatwoods complex followed by site prep and planting of off-site pines and hydrology alteration has also blurred the line between hardwood forests and historic flatwoods.

Currently, the historic flatwoods areas are highly impacted by past silviculture. Stands range from densely planted pine stands, to former pine plantations in active restoration, to more or less natural flatwoods, albeit also with planted pines and mostly excluded from fire. Since the goal of management is to return these stands to a more natural state, historic wet flatwoods impacted by silviculture, even stands in a very poor state are classified as restoration. This is a designation for former altered landcover types or successional natural communities (pine plantation, xeric hammock, etc.) where active restoration is ongoing to return the community to its historic state.

Similar to mesic flatwoods on the Property, few remnant patches of wet flatwoods remain. The open canopy consists of slash pine, pond pine, and/or loblolly pine, with other less frequent

canopy and subcanopy species including red maple, sweetgum, loblolly bay, swamp tupelo, ogeechee tupelo, swamp laurel oak, water oak, and swamp bay. Shrubs may be dense and include red chokeberry (*Aronia arbutifolia*), switchcane (*Arundinaria gigantea*), blue huckleberry, St. John's wort (*Hypericum* sp.), dahoon, gallberry, myrtle-leaved holly, rusty staggerbush, coastalplain staggerbush, fetterbush, Southern bayberry, saw palmetto, and shiny blueberry. Herbs may be moderate to dense, depending on shrub cover, and include Virginia chain fern, Southern wiregrass, Florida threeawn (*Aristida rhizomophora*), clustered sedge (*Carex glaucescens*), Walter's sedge (*Carex striata* var. *striata*), spadeleaf (*Centella erecta*), pineland daisy (*Chaptalia tomentosa*), sawgrass, toothache grass (*Ctenium aromaticum*), woolly witchgrass, spikerush (*Eleocharis* sp.), early whitetop fleabane (*Erigeron vernus*), tenangle pipewort (*Eriocaulon decangulare*), maidencane, Carolina redroot, whitehead bogbutton (*Lachnocaulon anceps*), pine lily (*Lilium catesbyi*), primrosewillow (*Ludwigia* sp.), foxtail club-moss (*Lycopodiella alopecuroides*), grassleaf Barbara's buttons (*Marshallia angustifolia*), whitetop aster, cinnamon fern, butterwort (*Pinguicula* sp.), rosy camphorweed (*Pluchea baccharis*), combleaf mermaidweed, beaksedge, water cowbane (*Tiedemannia filiformis*), vanillaleaf, and occasionally the state-threatened crested fringed orchid (*Platanthera cristata*) and hooded pitcherplant.

Restoration wet flatwoods have a canopy of planted slash pine, longleaf pine, or loblolly pine, with occasional red maple, loblolly bay, sweetgum, swamp laurel oak, water oak, Southern magnolia, sweetbay, swamp tupelo, cabbage palm, swamp bay, and pond cypress in the canopy and subcanopy. Shrubs may be moderate to dense and include titi, blue huckleberry, roundpod St. John's wort (*Hypericum cistifolium*), peelbark St. John's wort (*Hypericum fasciculatum*), myrtleleaf St. John's wort, dahoon, gallberry, myrtle-leaved holly, coastalplain staggerbush, evergreen bayberry (*Morella caroliniensis*), Southern bayberry, sawtooth blackberry, saw palmetto, and hairy highbush blueberry. Herbs may be moderate to dense and include blue maidencane (*Amphicarpum muehlenbergianum*), Virginia chain fern, purple bluestem (*Andropogon cretaceus*), Southern wiregrass, Florida threeawn, clustered sedge, spadeleaf, longleaf woodoats, flatsedge (*Cyperus* sp.), woolly witchgrass, Mohr's thoroughwort (*Eupatorium mohrii*), umbrellasedge (*Fuirena breviseta*), maidencane, needlepod rush (*Juncus scirpoides*), Carolina redroot, whitehead bogbutton, netted chain fern, primrosewillow, foxtail club-moss, royal fern (*Osmunda spectabilis*), cinnamon fern, rosy camphorweed, tailed bracken (*Pteridium pseudocaudatum*), savannah meadowbeauty, pale meadowbeauty (*Rhexia mariana*), fringed meadowbeauty, bunched beaksedge (*Rhynchospora cephalantha* var. *cephalantha*), fascicled beaksedge (*Rhynchospora fascicularis*), narrowfruit horned beaksedge (*Rhynchospora inundata*), hooded pitcherplant, nutrush (*Scleria* sp.), water cowbane, and coastalplain yellow-eyed grass (*Xyris ambigua*). Vines may be sparse to dense and include yellow jessamine, muscadine, cat greenbriar, and laurel greenbriar.

Management activities should include growing season fires every 2–4 years, pine thinning in dense stands, and continued re-introduction of longleaf pine.

ALTERED COMMUNITIES

Artificial Pond (9 acres; >1%)
These consist of water retention ponds, cattle ponds, etc.

Borrow Area (2 acres; >1%)
Dry or wet depression resulting from past or present mining operations, such as phosphate pits and upland borrow pits (sand pits, clay pits, etc.). One borrow area is mapped on the Property, adjacent to a large canal, and is dominated by sawgrass.

Canal/Ditch (not mapped)
This includes artificial drainageways. No canals or ditches are delineated on the current natural community map, but multiple canals are present on the Property, some associated with the network of elevated roads, and others running through forested wetlands.

Clearing/Regeneration (1 acre; >1%)
This community includes recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community (old homesites, etc.), including clearings of unknown origins. One clearing is mapped on the Property for a partially developed parking area. Several other clearings were ground-truthed on the Property, mostly old logging decks.

Developed (1 acre; >1%)
This includes check stations, parking lots, buildings, maintained lawns (as part of recreational, business, or residential areas), botanical or ornamental gardens, campgrounds, recreational, industrial, and residential areas. One small, maintained parking area is delineated on the Property.

Pine Plantation (mapped within restoration natural communities)
Areas altered by silvicultural activities on the Property include lands where either 1) planted pines are having or will have an ongoing detrimental effect on native groundcover, 2) the history of planted pines has damaged groundcover to the point where further restoration beyond thinning and burning is required, and/or 3) the method of planting (e.g., bedding) has severely impacted groundcover. Pine plantations in Florida are often dominated by even-aged loblolly, sand (*Pinus clausa)*, or slash pine.

Almost the entire Property has a history of silviculture, and the existing pine canopy is mostly planted, regenerating from planted, or remnants from prior logging of the site. Often deep bedding creates a significant disturbance to former flatwoods and bottomland forests. Most of the conservation could be considered pine plantation. However, since the goal of management is to return planted pine stands to a more natural state, all areas impacted by silviculture are classified as restoration, a designation for former altered landcover types or successional natural communities (pine plantation, xeric hammock, etc.) where active restoration is ongoing to return the community to its historic state.

Road (5 acres; >1%)
Roads are areas that are paved or unpaved and intended for vehicular traffic. Roads less than 5 meters in width were not delineated.

Successional Hardwood Forest (168 acres; 7%)
Closed-canopied forest is dominated by fast growing hardwoods such as laurel oak (*Quercus hemisphaerica*), water oak, and/or sweetgum, often with remnant pines. These forests are either

invaded natural habitat (i.e., mesic flatwoods, sandhill, upland pine, upland mixed woodland) due to lengthy fire-suppression or old fields that have succeeded to forest. The subcanopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Successional hardwood forests can contain remnant species of the former natural community. Restoration of these forests includes mechanical tree removal and reintroduction of fire. Where characteristic herbaceous species (e.g., wiregrass) have been lost, reintroduction via seed or plants may be necessary to restore natural species composition and community function.

Several small patches of successional hardwood forest are mapped throughout the Property, mostly in former wet or, less frequently, mesic flatwoods. The closed canopy includes red maple, sweetgum, Southern magnolia, slash pine, loblolly pine, swamp laurel oak, water oak, and live oak. Shrubs include wild olive, coastalplain staggerbush, Southern bayberry, saw palmetto, and hairy highbush blueberry. Herbs include Virginia chain fern, netted chain fern, royal fern, and cinnamon fern.

SOILS

According to the U.S. Department of Agriculture (USDA) Soil and Conservation Service, 16 different soil types are within TCCA. The Duval and Nassau County Soil Survey (USDA, 2023) provided information used to develop descriptions of the predominant soil series found within the Property. The soil descriptions are in Appendix A.

CULTURAL AND HISTORICAL RESOURCES

A review by the Florida Department of State Division of Historical Resources indicates the presence of one registered cultural site within the boundaries of the Property. It is classified as a prehistoric mound. A site visit in December 2023 showed the site in poor condition due disturbance from silvicultural site preparation that occurred prior to District ownership. If any new sites are located, District staff will document and report the sites to the Division of Historical Resources.

IMPLEMENTATION

The following sections outline land management strategies for resource protection, land use, and administration on TCCA for the next 10 years.

RESOURCE PROTECTION AND MANAGEMENT

Water Resources

Goal: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition

Strategies:

- Maintain roads, culverts, and bridges to prevent erosion

While most wetland protection was accomplished through acquisition, portions of the wetlands within the Property have a history of disturbance. Hydrologic disturbances within the Property include roads, ditches, culverts, silvicultural beds, and a canal.

Roads and associated ditches, culverts, low water crossings, and bridges are located within the Property, which provide access for land management activities (Figures 13 and 14). The District has made improvements to and conducted maintenance on many of these features, helping to reduce the potential for erosion. In 2023, the bridge approach on the north side of the Redshirt Farms tract was repaired. In 2024, low water crossings on the Ogilvie-Betz tract were repaired and reshaped. These projects were completed by District staff. Additional culverts may be placed on the Wright tract to facilitate access. District staff will continue to inspect roads and culverts for erosion problems and maintenance/repair needs.

A canal, which bisects the Ogilvie-Betz tract, was dug sometime between 1940 and 1970, based on aerial photo interpretation. The canal banks are heavily wooded, and any restoration efforts should consider the level of disturbance to the surrounding natural communities.

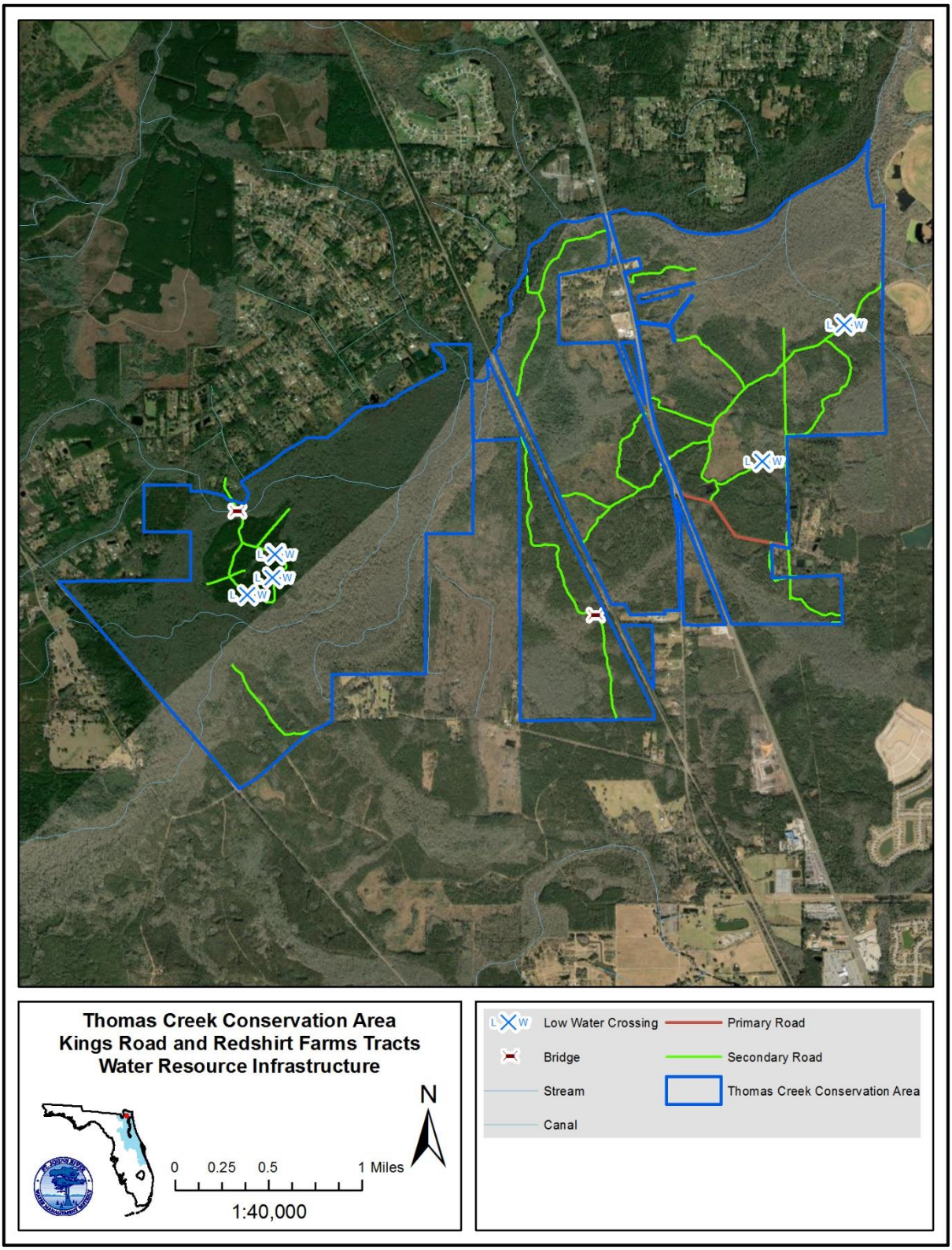

Figure 13: Kings Road and Redshirt Farms Tracts Water Resource Infrastructure

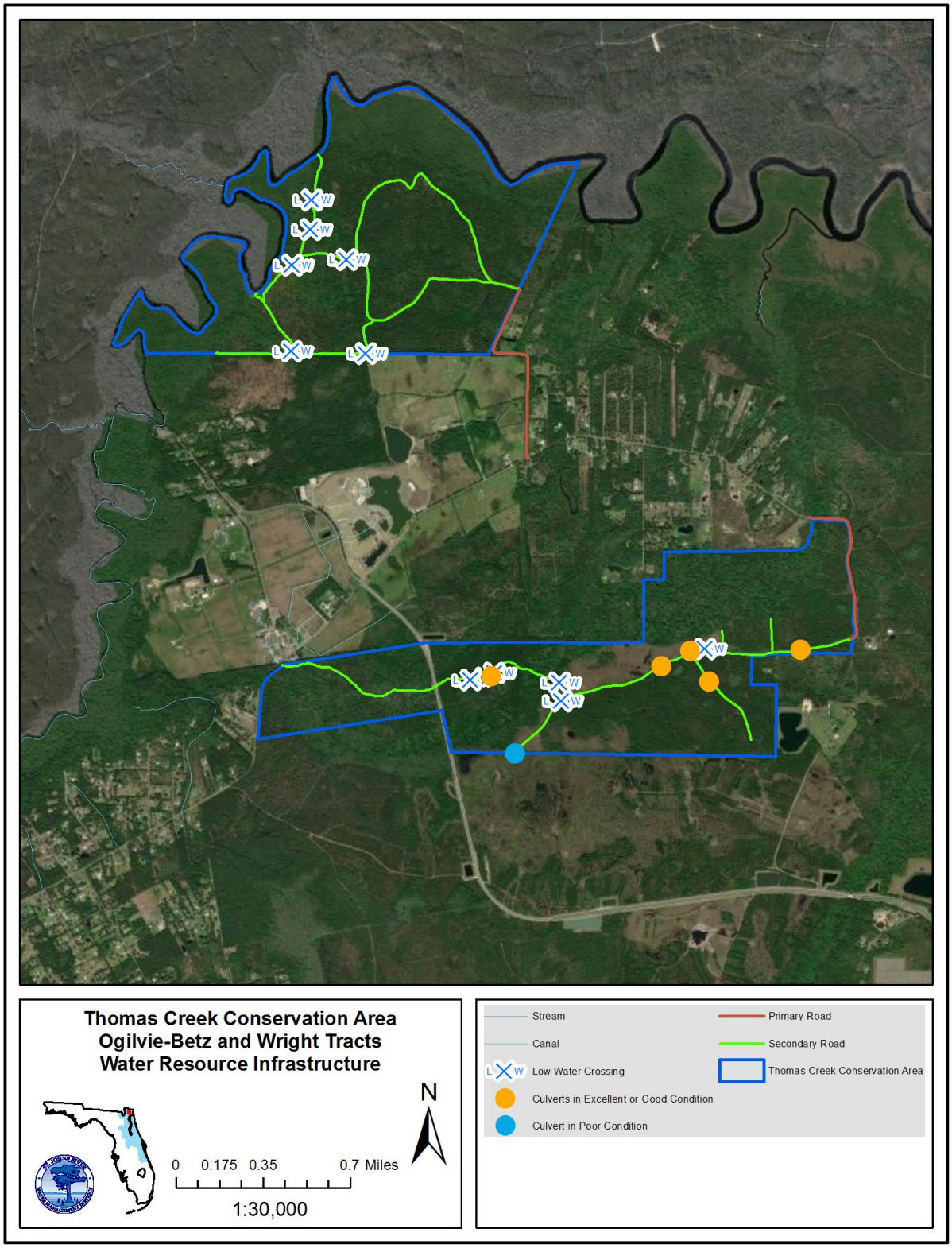

Figure 14: Ogilvie-Betz and Wright Tracts Water Resource Infrastructure

Forest Management

Goal: Maintain, improve, and restore forest resources

Strategies:

- Update forest management database
- Thin and/or clearcut harvest at least 1,303 acres of timber
- Reforest 696 acres with site appropriate pine species

The management objectives of the Property will require pine harvesting. In addition to planned forest management activities, the District will remove trees as needed in the case of insect infestations, disease, and damage from severe weather, wildfire, or other occurrences that could jeopardize the health of natural communities. Harvesting may also provide some protection against wildfires and pine beetle outbreaks. The District will abide by Florida Silviculture Best Management Practices and Florida Forestry Wildlife Best Management Practices for State Imperiled Species and will target the achievement of appropriate overstory species in proper stand densities as described in the District Forest Management Plan (Appendix B).

TCCA is partitioned into forest management compartments and each compartment is further divided into stands. Management decisions are made on the stand level. On properties like TCCA, where silvicultural management is an intrinsic component of the overall management of the upland portions of the Property, timber inventory is conducted on a small percentage of the Property on a regular, but not necessarily annual, basis. Stand-level values derived from the inventory include number of trees per acre, basal area, and volume of trees by product type and species. After each inventory cycle, growth and yield projections are calculated on all active plots. The inventory data output is then incorporated into the District's forest management database. Harvest operations and reforestation events that may occur over time are also recorded in the database. This information is used to help land management staff forecast needs and make forest management decisions.

Forest management activities anticipated during the scope of this plan include timber inventory, reforestation, clearcut harvesting, and thinning operations. Stocking evaluations are conducted to assess the need for replanting an area through the determination of the number of target trees per acre. Reforestation projects may be preceded by various site preparation techniques including mechanical treatments, such as harrowing and disking to remove silvicultural bedding, roller chopping and mowing, herbicide applications, and prescribed fire. These techniques may be used singularly or in combination as site conditions warrant. First thinning operations typically occur between the 15th and 17th year, and second thinning operations are conducted, on average, 10 years after the first. These times are largely dependent on ecological factors such as crown closure, basal area, diameter at breast height (dbh), height of the trees, and tree species. Figures 15 and 16 depict pine stands by species that are under silvicultural management across the Property.

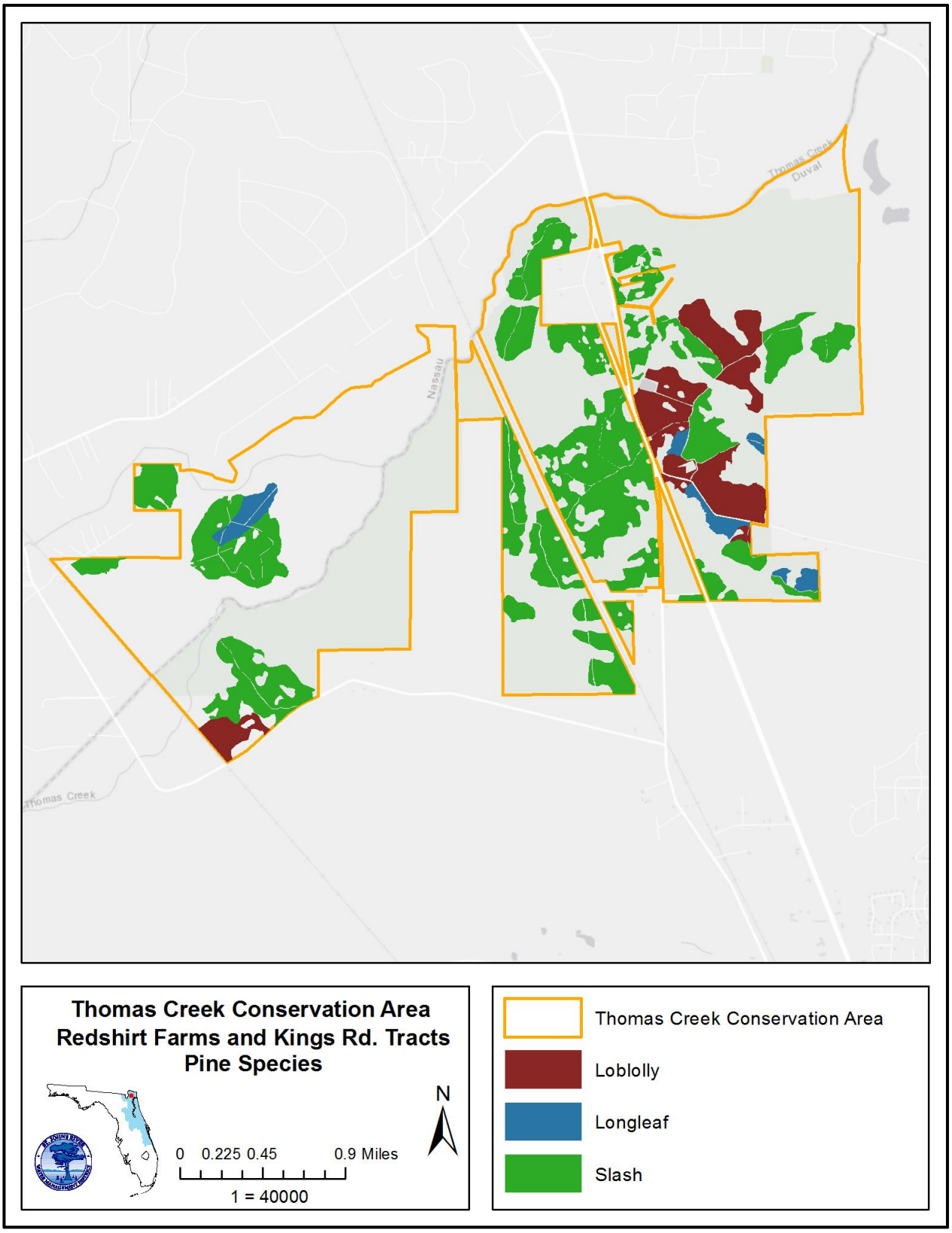

Figure 15: Redshirt Farms and Kings Road Tracts Pine Coverage by Species

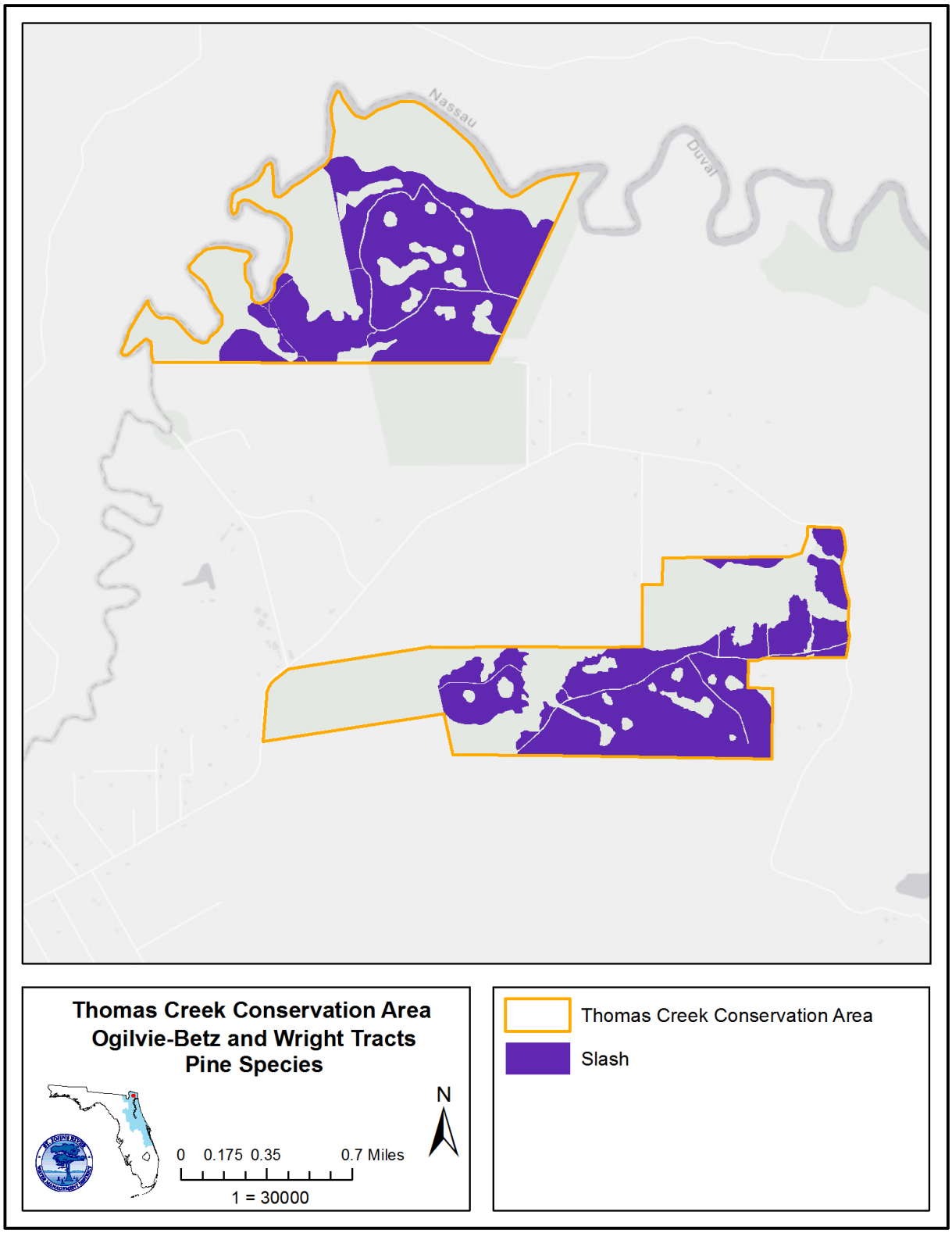

Figure 16: Ogilvie-Betz and Wright Tracts Pine Coverage by Species

Through periodic thinning, the District will remove the poorest trees to reduce crown density and allow the better trees to develop full, vigorous crowns. Since 2008, a total of 1,287 acres have been thinned. A total of 319 acres of clearcut harvest areas have been replanted with most of the species planted being slash pine. (Figures 17 and 18).

One planned pine first thinning within the planning period for 9 acres and four planned pine second thinnings will be conducted within the planning period, totaling 661 acres. Five planned clearcut harvests will be conducted within the planning period, totaling 633 acres (Figures 19 and 20). Clearcut harvests will be reforested with site-appropriate pine species of either longleaf or slash (Figures 21 and 22). Additional stands may be added to the forest management plan and harvest type modifications of planned harvest stands may occur at the discretion of the land manager and District forester.

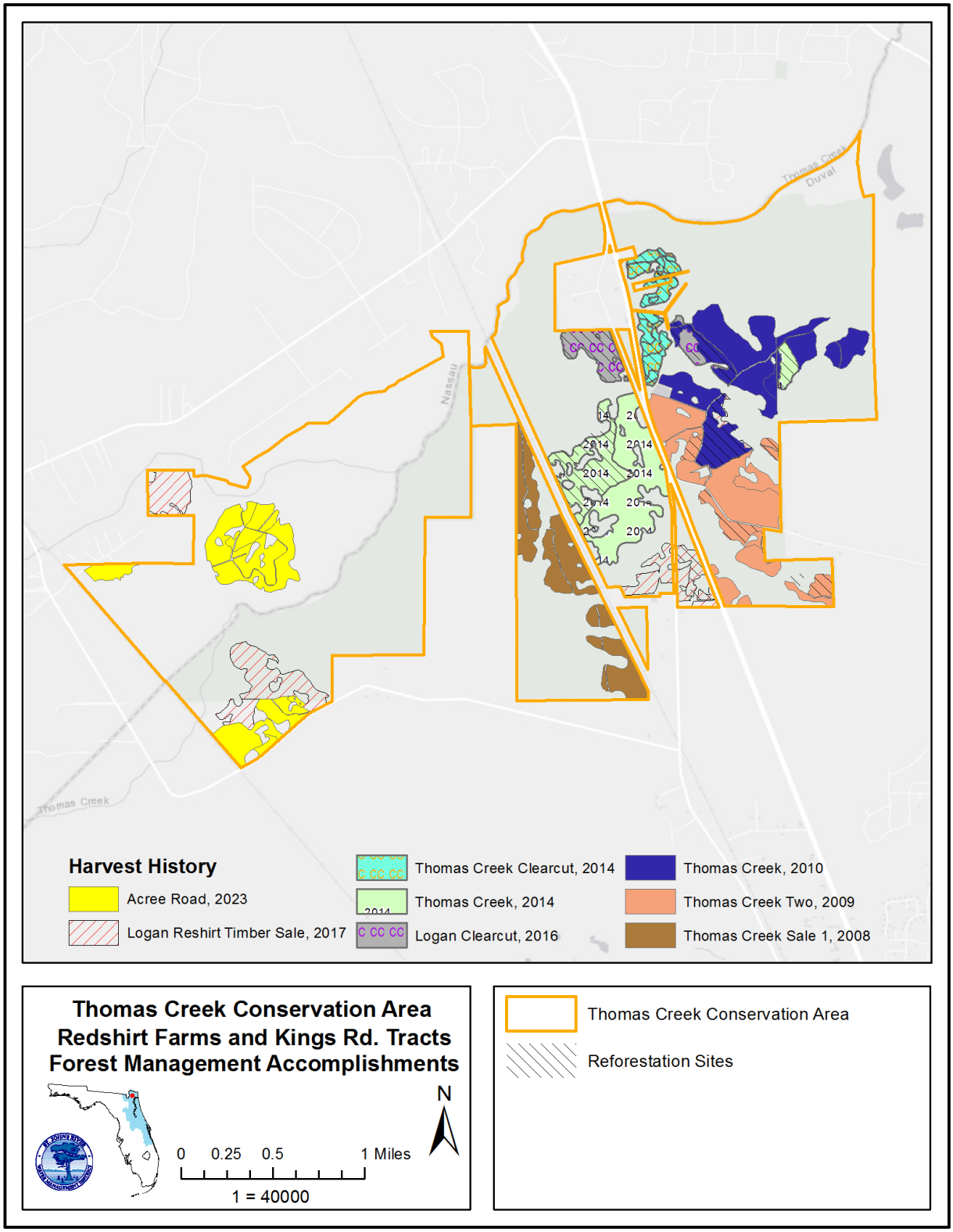

Figure 17: Redshirt Farms and Kings Road Tracts Forest Management Accomplishments

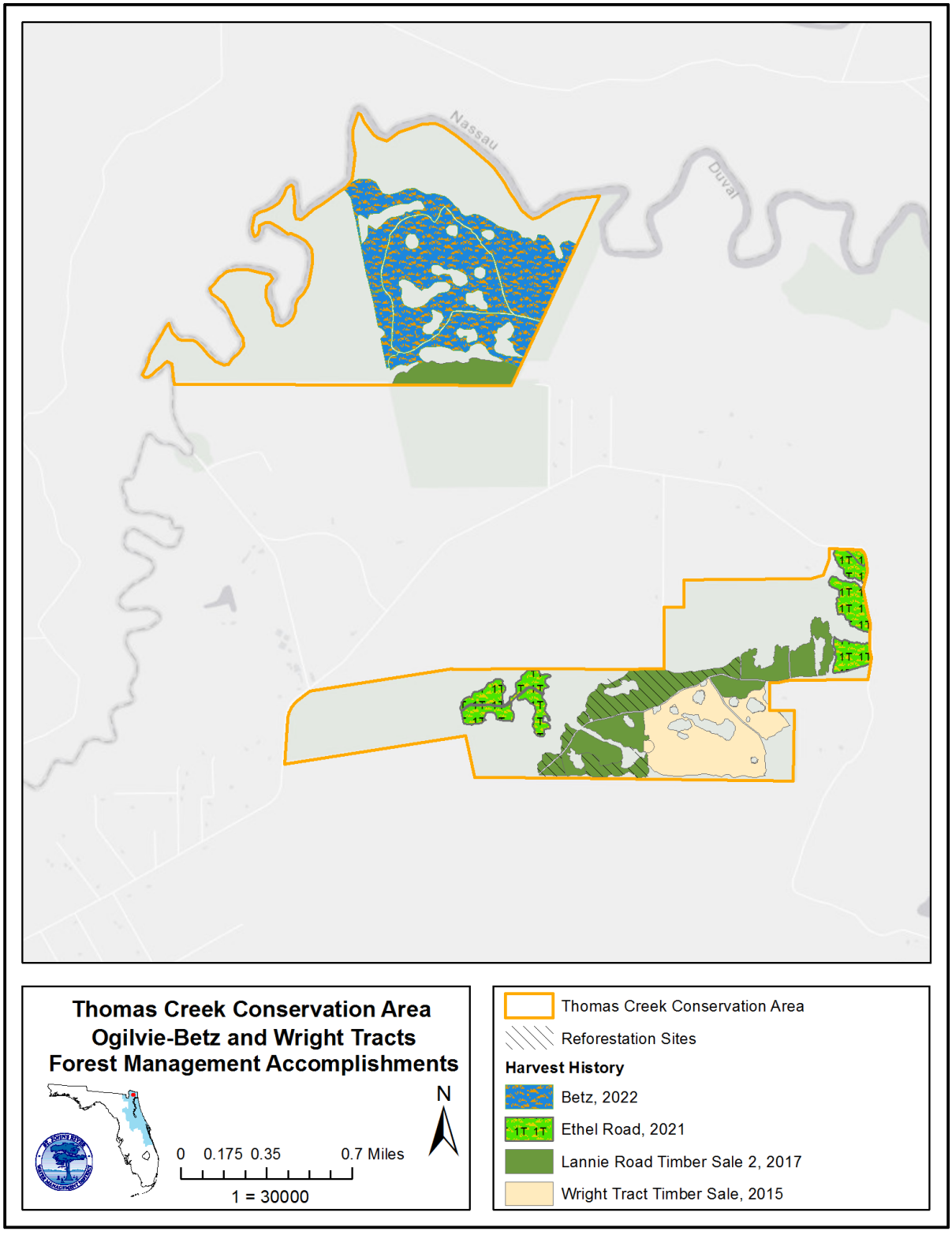

Figure 18: Ogilvie-Betz and Wright Tracts Forest Management Accomplishments

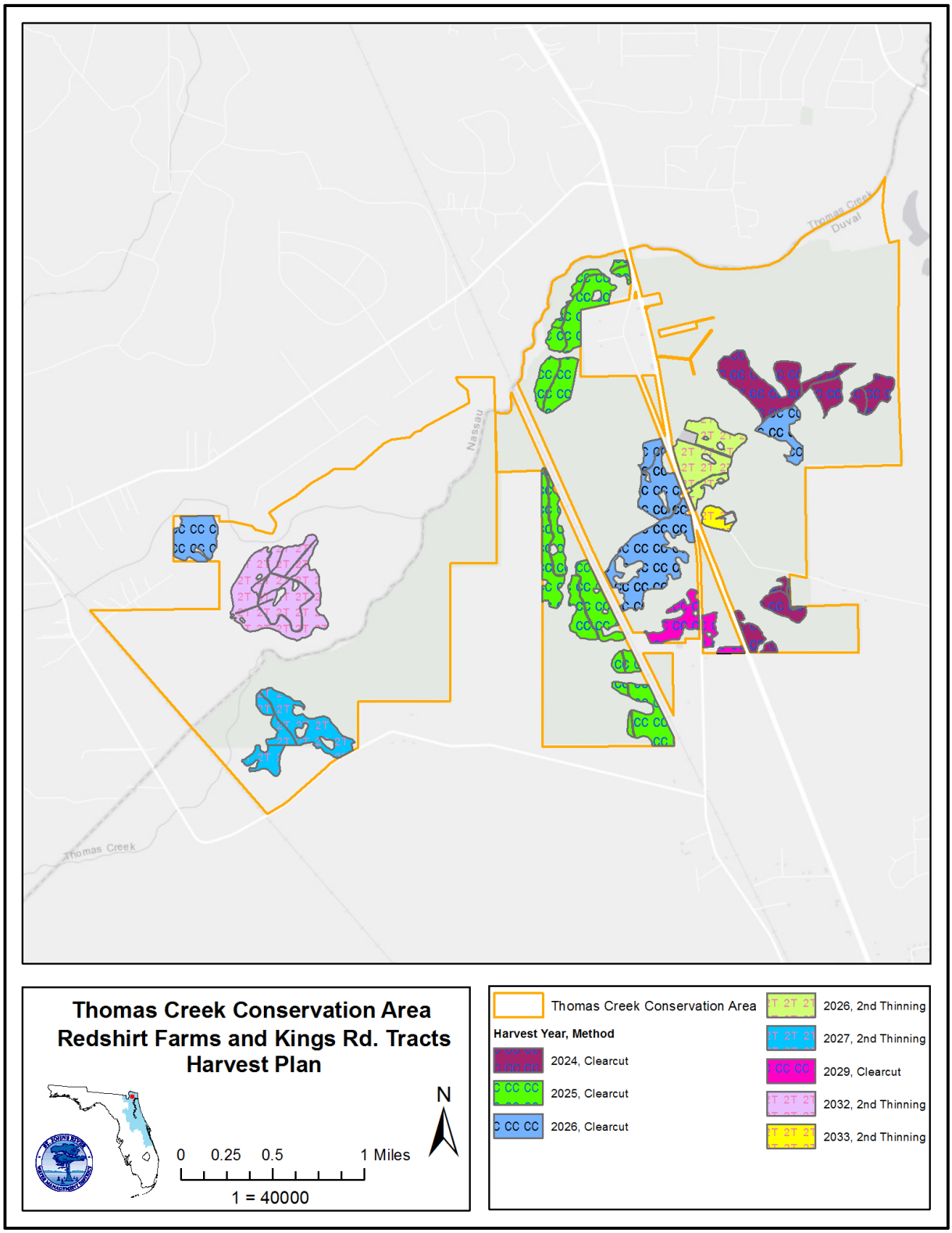

Figure 19: Redshirt Farms and Kings Road Tracts Harvest Plan

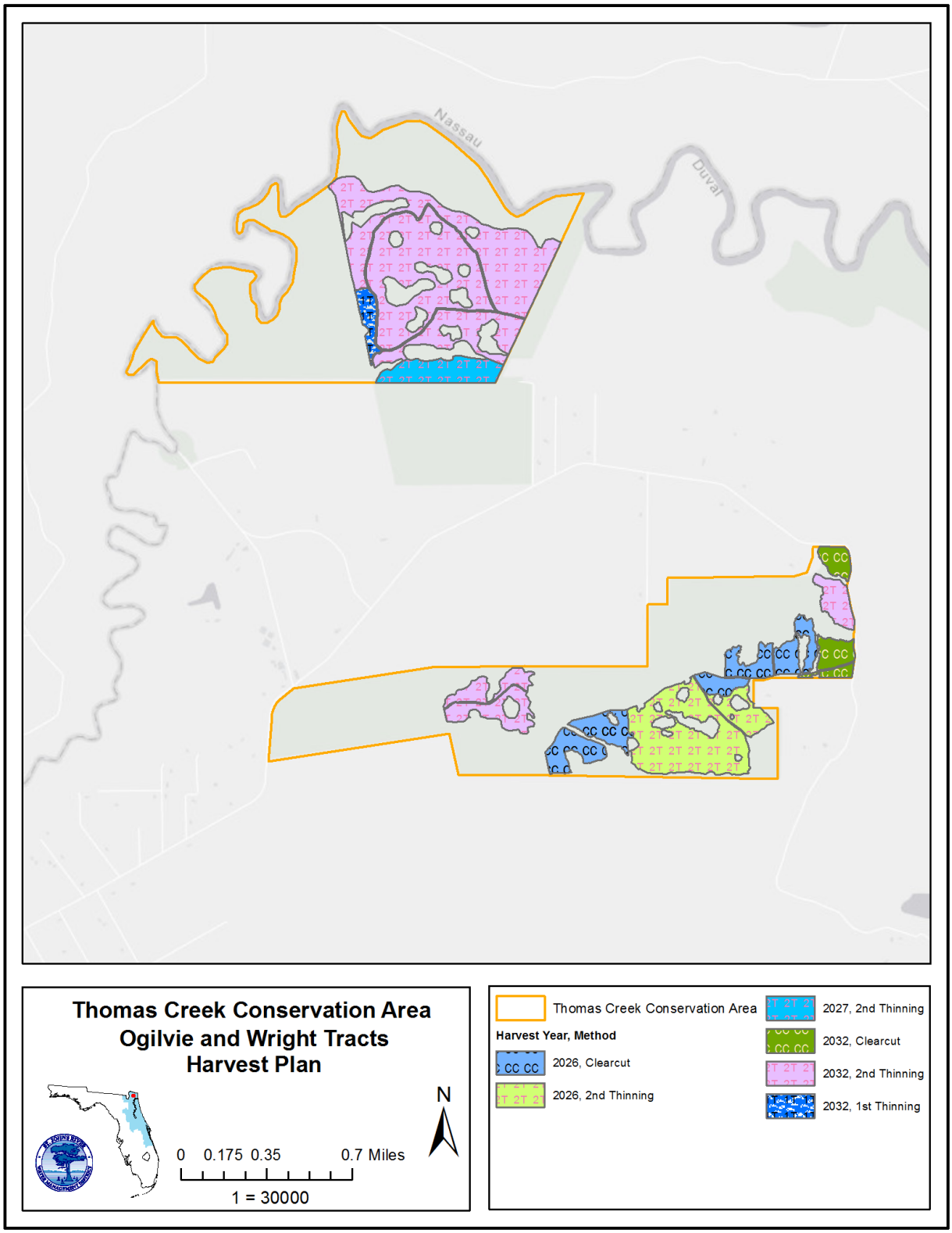

Figure 20: Ogilvie-Betz and Wright Tracts Harvest Plan

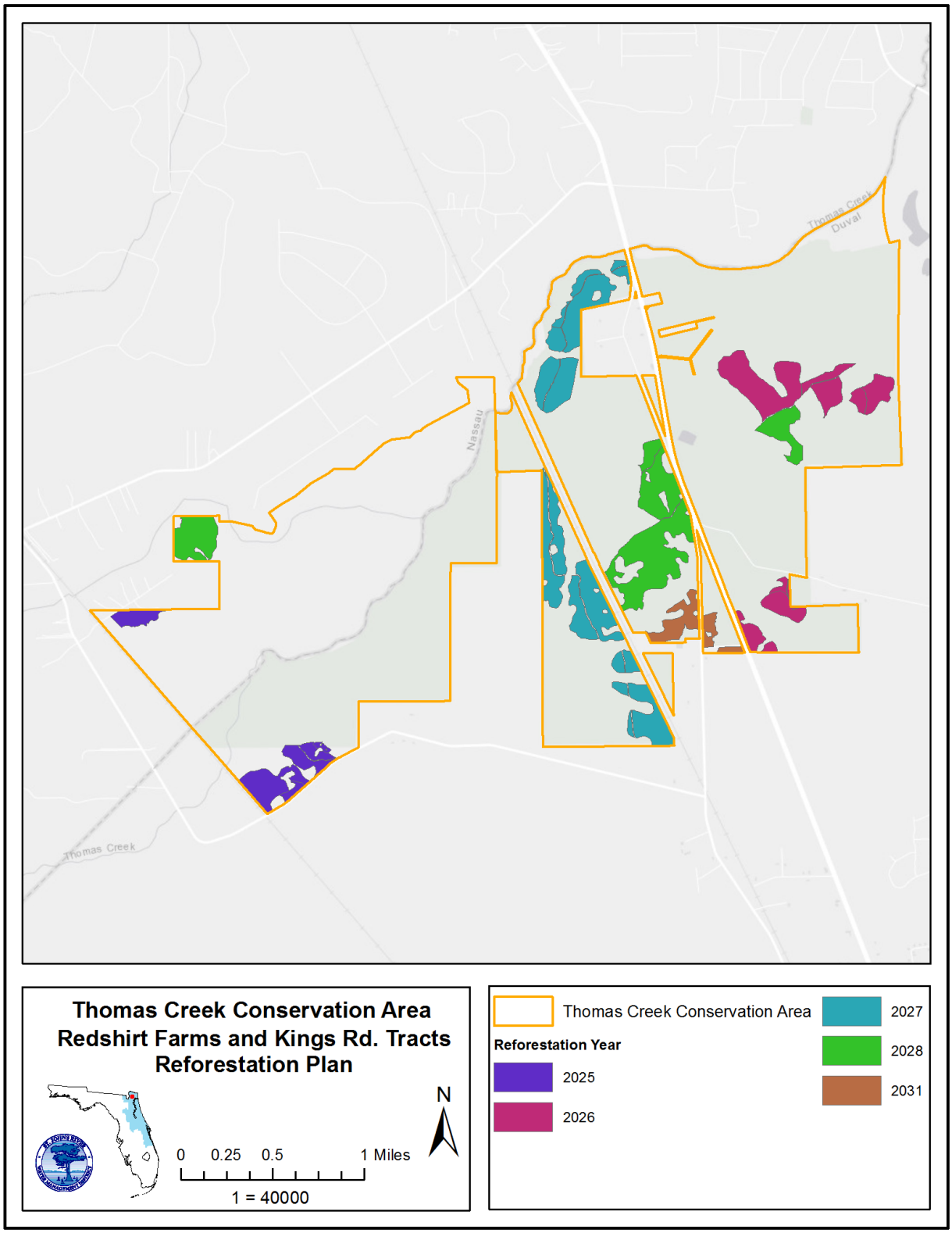

Figure 21: Redshirt Farms and Kings Road Tracts Reforestation Plan

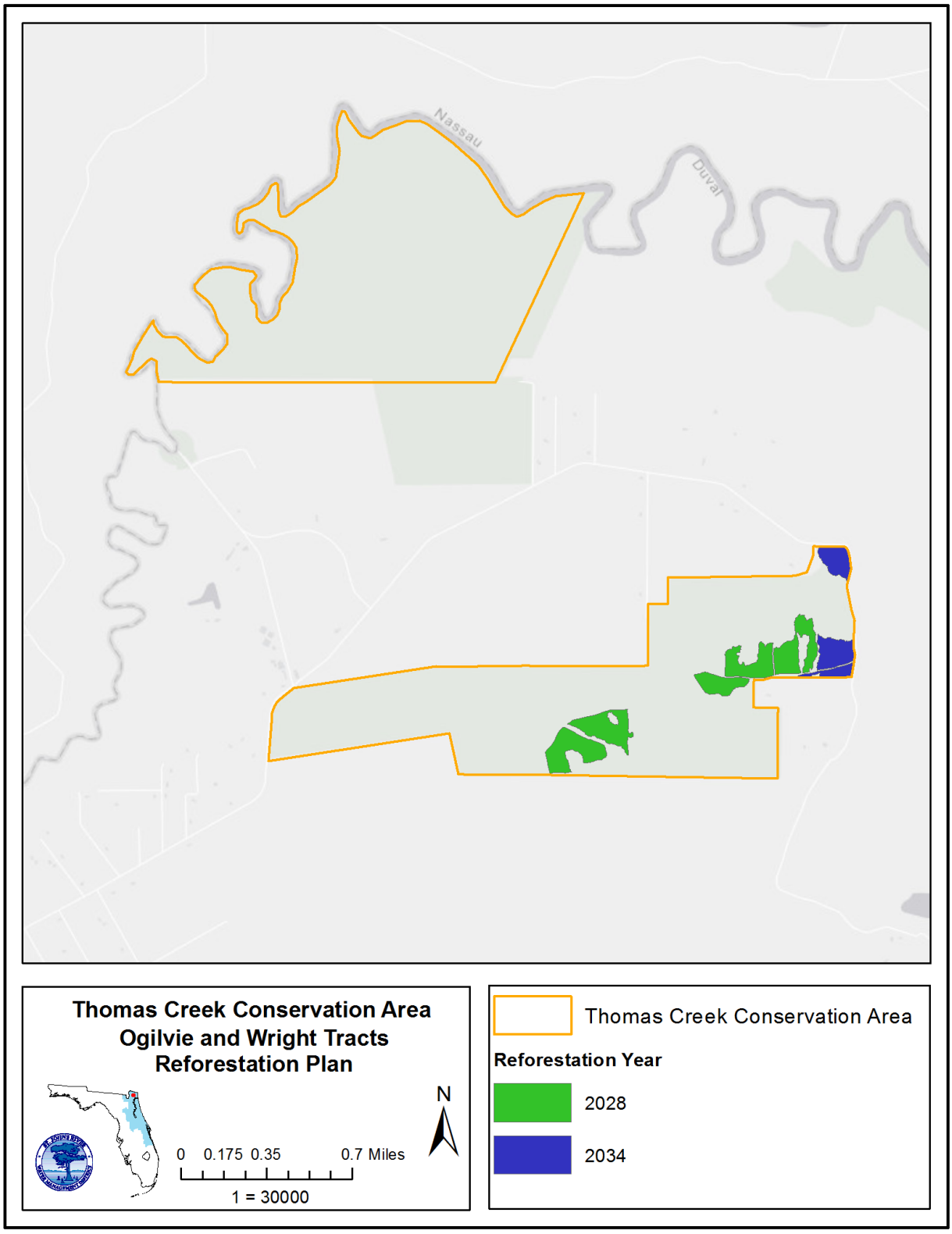

Figure 22: Ogilvie-Betz and Wright Tracts Reforestation Plan

Fire Management

Goal: Implement a prescribed burning program in accordance with District's Fire Management Guidelines and Protocols

Strategies:

- Apply fire to at least 129 acres annually, averaged over the 10-year planning period, using, at minimum, a 4-year fire return interval
- Maintain existing fire lines and create new fire lines as determined by land manager
- Use mechanical fuel reduction as a fire surrogate in areas where it is difficult to burn due to high fuel loads
- Develop annual burn plans and populate the fire management database on an annual basis

Forest and fire management activities within the Property are critically important and integrally linked. The planning and implementation of forest and fire management activities must be coordinated to achieve restoration and management goals.

Fire is a vital factor in managing the character and composition of vegetation in many natural communities in Florida. The District's primary use of fire is to mimic natural fire regimes to encourage the amelioration of native pyric plant communities and dependent wildlife. Additionally, the application of fire aids in the reduction of fuels and minimizes the potential for catastrophic and damaging wildfires. All the upland natural communities at the TCCA are fire adapted, making prescribed fire an important tool for use in the restoration and maintenance of plant communities within the Property. Since the writing of the last plan, approximately 1,618 acres have received prescribed fire, and 8 acres have burned in wildfires (Figure 23).

Historically, most fires occurring on what is now the TCCA would have been ignited by lightning or Indigenous people during the growing season (April–August). The District intends to reintroduce growing-season fires where possible, understanding that constraints in some areas, such as high fuel loading and proximity to smoke-sensitive areas, may predicate the use of dormant season burning.

Figure 24 shows the approximately 2,661 acres of fire-maintained natural communities, known as Fire Management Units (FMUs) within the Property (48 percent of TCCA). All FMUs on the Property are classified as flatwoods natural communities (which includes mesic and wet), for which a minimum 4-year fire return interval has been established. The annual burn goal for the Property, averaged over the 10-year planning period, is 129 acres, which is half the ecological objective of the natural community on the Property at 258 acres annually. Once FMUs have two or more burns, including wildfires, applied to them over the next 10 years, timing of future prescribed fires should focus on growing/lightning season (April–August) application but not exclude any opportunity to conduct a prescribed fire during the typical prescribed fire season of December–August.

The FMUs on the Property have a variety of natural communities embedded within them, which may or may not be fire dependent. Prescribed fires that are ignited in the FMUs may result in

patchy or mosaic patterns. These results should not be viewed as negative as they mimic what would have occurred in landscape level fires. Emphasis should be placed post-prescribed fire monitoring, as patches of unburned fuels could ignite or portions of the FMU could reburn. In addition, the utilization of natural fuel breaks, such as hammocks, wetlands, or drainages warrant additional monitoring as these breaks are heavily moisture dependent for their efficacy. If a dry period occurs after a fire utilizing such a fuel break, additional resources should be ordered to ensure control and extinguishment along natural fuel breaks.

The Property has 20.6 miles of pre-suppression fire lines to allow for access and control of prescribed and wildfires. These lines are disked or mowed one to two times a year to maintain the footprint. Fire lines may be retired, or new lines created, at staff's discretion.
While prescribed fire is the preferred tool for restoration and maintenance within the Property, it may be necessary, under certain circumstances, to implement alternative methods. During periods of extended drought conditions or in areas where implementing prescribed fire is not safely feasible at the time, the District may employ management methods such as selective herbicide treatments, mowing, roller chopping, and overstory manipulation through timber harvest. These activities change the fuel structure within FMUs thus moderating fire behavior.

Significant limiting factors narrow the window of opportunity for the application of prescribed fire on the Property, principally the proximity to smoke sensitive areas, including U.S. Highway 1 Jacksonville International Airport, and increasing residential development surrounding the Property. Smoke management is paramount, and any potential burns will be conducted to minimize off-site impacts by maneuvering smoke plumes away from smoke-sensitive areas based on wind direction and speed as well as by ensuring adequate smoke dispersal based on atmospheric stability and dispersion index values.

All implementation of prescribed fire within the Property will be conducted in accordance with the District's Fire Management Guidelines and Protocols, the TCCA Fire Management Plan (Appendix C), and the annual burn plan for the Property. Prescribed fires and wildfires will be reported in the Prescribed and Wildfire Report in Survey123.

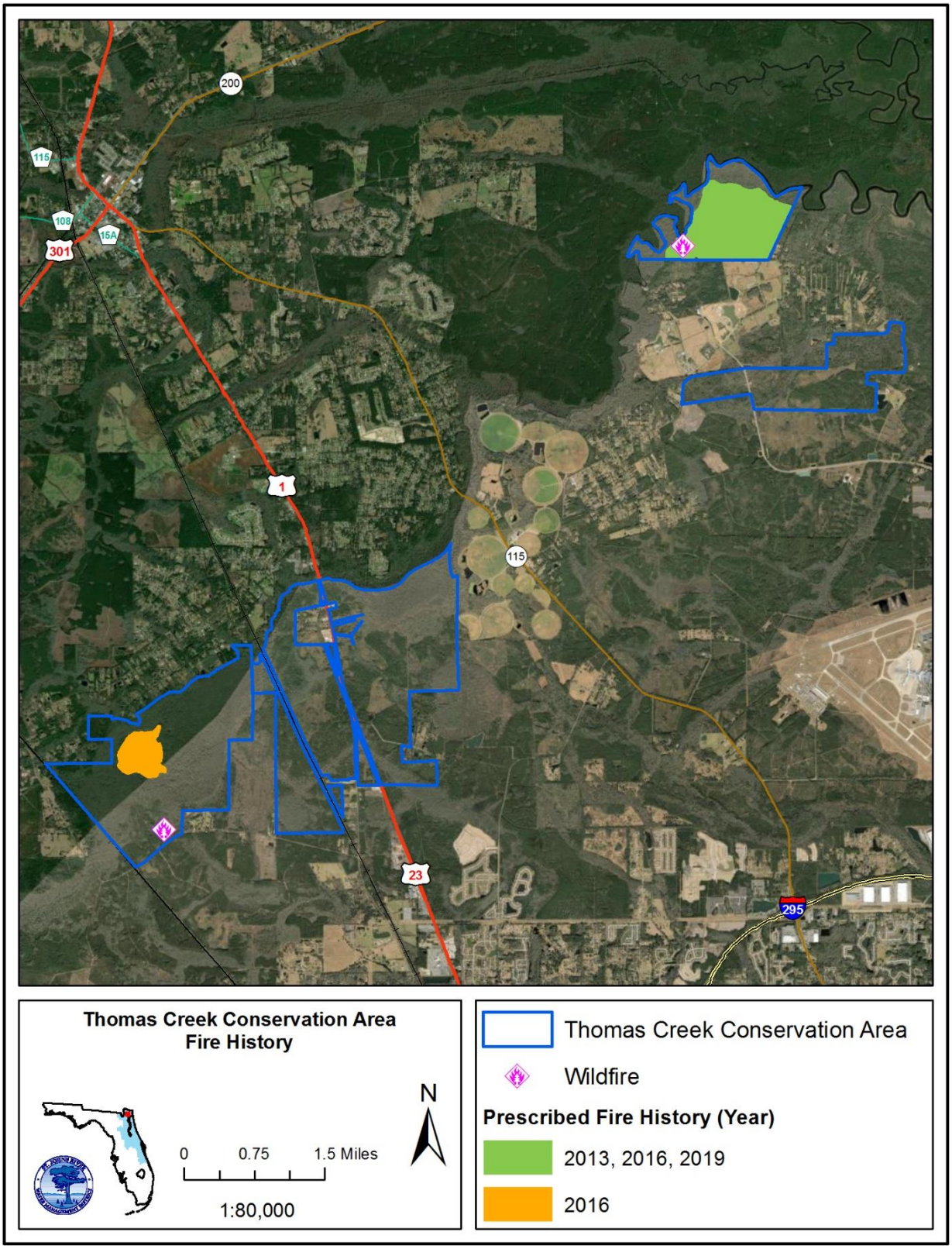

Figure 23: Fire History Map

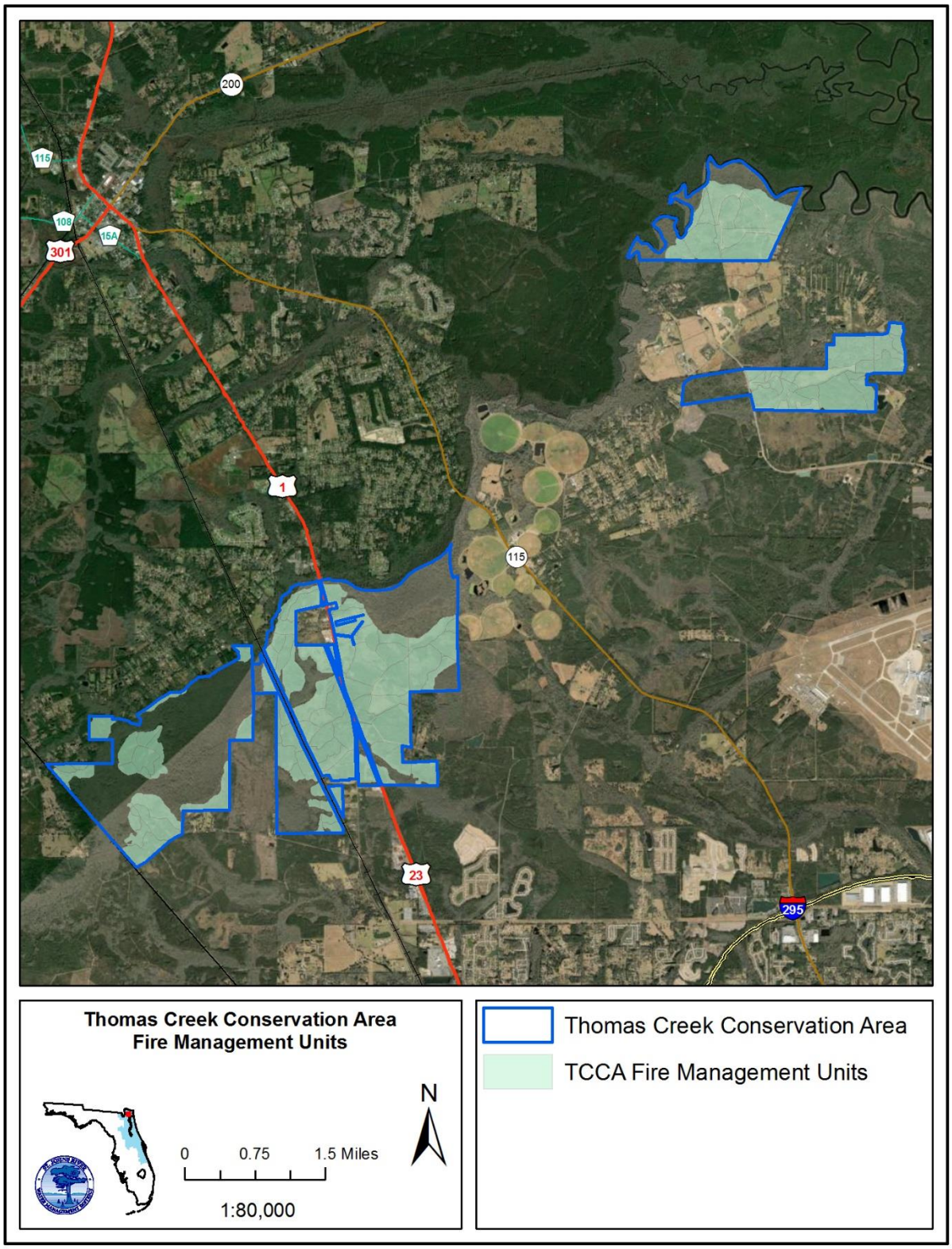

Figure 24: Fire Management Units

A system of Fire Regime Condition Class measures was originally developed by The Nature Conservancy and the USDA Forest Service in 2003, with an update in 2010, to assess ecosystem health. The system is based on a relative measure and describes the degree of departure from the historical natural fire regime of a given ecosystem (Barrett, et al., 2010). This departure results in changes to one or more of the following ecological components: species composition, structural stages, stand age, canopy closure, or mosaic pattern. The District adopted the system in 2008 to establish a reference for ecosystem health and land management effectiveness. While fire is the preferred disturbance that maintains most natural communities in Florida, other disturbances, such as timber harvest or mechanical fuels treatments, may serve to accomplish or aid in the accomplishment of management objectives. Annually, each burn zone is assigned a Condition Class score based upon the most recent disturbance and the fire frequency recommended for that plant community by FNAI. For example, if FNAI recommends a fire/disturbance return interval of 3–5 years, a plant community that has benefited from disturbance in the past 5 years is in Condition Class 1. If it has been more than 5 years but less than 15 years, or three cycles, the zone is in Condition Class 2. If it has been more than three times the fire return interval, but can still be recovered by fire, it would fall into Condition Class 3. If the plant community has gone without disturbance so long that fire alone can no longer restore the area, it is in Condition Class 4. Currently, TCCA has approximately 2,879 acres that are not maintained by fire or disturbance, such as floodplain swamp, and are not included in the Condition Class report.

District staff will make annual condition class assessments and incorporate them into annual burn and work plans. The overall condition class distribution of the Property zones in 2023 was 48 percent Condition Class 1; 23 percent Condition Class 2; 21 percent Condition Class 3; and 8 percent Condition Class 4 (Figure 25).

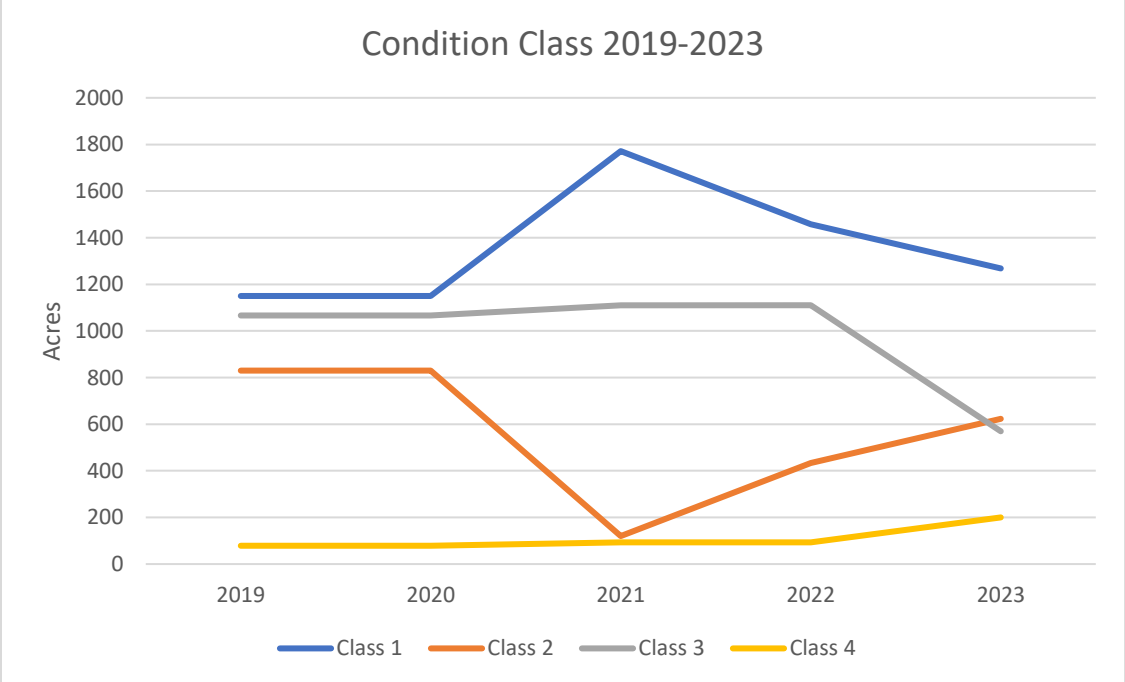

Figure 25: Condition classes.

Flora and Fauna

Goal: Maintain, improve, or restore native and listed species populations

Strategies:

- Conduct plant and wildlife surveys and develop species lists
- Monitor for the presence of listed species and adjust management actions appropriately

TCCA has a diverse assemblage of natural communities providing significant habitat for a variety of floral and faunal species. Numerous species of wading birds occur in the wetland portions of the Property, and it is within the core forage area for a wood stork (*Mycteria americana*) rookery located 11 miles to the southeast. FNAI, as part of the 2024 contracted natural communities mapping, also provided species occurrence data for TCCA.

Plant, insect, and animal lists are contained in Appendix F. Lists were compiled using observations gathered on site visits by District and FWC staff, FNAI species occurrence data, and crowd-sourced biological data websites. The Property will be managed to improve natural community biodiversity and quality, resulting in diverse wildlife habitat. There are 28 state and/or federally listed plant and animal species found on TCCA.

Gopher Tortoise
The gopher tortoise (*Gopherus polyphemus*) is a state-listed threatened species that occurs within TCCA. This species is typically found in dry upland habitats, such as sandhill, scrub, and pine flatwoods. Gopher tortoises excavate deep burrows and are considered a keystone species because their burrows provide refuge for more than 300 animal species. Management activities within the pine flatwood communities of the Property will focus on restoring species composition and natural fire return intervals, which will benefit gopher tortoise. Any management activities will occur in accordance with the FWC's Gopher Tortoise Management Plan (FWC, 2012).

Invasive Species Management

Goal: Manage invasive plants and animals

Strategies:

- Scout and treat invasive species annually to maintain coverage less than 1 percent
- Continue feral hog removal activities, as needed
- Locate, map, and treat any new infestations of invasive plant species

The most prevalent invasive plants known to occur within the Property include Japanese climbing fern (*Lygodium japonicum*) and Chinese tallow tree (*Triadica sebifera*). Invasive species control is necessary to inhibit the continued proliferation of invasive plants and integral in the maintenance and restoration of natural plant communities. The District uses a variety of techniques including fire, mechanical, and chemical treatments. Herbicide is applied per label rates using the most appropriate method of application for the target species.

While it is unlikely that the District will eradicate invasive plants within the Property, achieving maintenance control of such species is targeted within the scope of this plan. Invasive plant infestations are light across the Property, and the Property is regularly monitored and treated as necessary. All known occurrences of Florida Invasive Species Council (FISC) Category I and II invasive plants at TCCA are currently at a maintenance level. District staff have scouted and treated approximately 197 acres of invasive vegetation within the Property since 2017. An annual goal of scouting and treating at least 43 acres of invasive plants will be established to maintain the coverage goal of less than 1 percent.

Invasive wildlife species known to occur within the Property include feral hogs (*Sus scrofa*), brown anole (*Anolis sagrei*), and nine-banded armadillos (*Dasypus novemcinctus*). The District currently utilizes feral hog removal agents through a special use authorization (SUA) process to assist in the control of feral hogs. The District keeps records of hog removal from the Property. Since its implementation in 2009, feral hog removal agents have removed 354 hogs from TCCA.

Cultural Resource Protection

Goal: Identify, protect, and maintain any cultural resources found on the Property

Strategies:

- Monitor single site at least once every 5 years
- Identify and report sites to the Florida Division of Historical Resources (DHR)
- Identify and report any detrimental activities to the sites to the DHR and law enforcement

A review of the DHR data indicates one documented Florida Master Site File cultural site within the Property. It is classified as a prehistoric mound. A site visit was conducted in December 2023 and found the mound destroyed by silvicultural site preparation practices conducted by the previous owner. The site will be monitored at least once every 5 years.

If any new sites are located, District staff will document and report sites to the DHR. District land management activities that may affect or impact these resources will be evaluated and modified to reduce the potential for disturbance of the identified sites. Additionally, detrimental activities discovered on these sites will also be reported to the DHR and appropriate law enforcement agencies. Due to District and state policy, the locations of such cultural sites are not identified on public maps.

LAND USE MANAGEMENT

Access

Goal: Maintain access to and around the Property to facilitate both and land management and resource protection

Strategies:

- Maintain roads and associated swales/ditches

- Update District database on maintenance of existing and creation of new signs, gates, trails, and roads

Currently, 31 gates provide management access to and across the Property. Additional gates will be added with the opening of two parking areas at the Wright tract. Gates are monitored regularly for maintenance and/or repair needs. Approximately 24 miles of interior management roads traverse the Property. To manage road maintenance, the District utilizes a roads classification system. This system includes the following classifications:

A. Paved Road – any road that is paved (there are no paved roads on the Property)
B. Primary Road – any road that requires routine maintenance of any kind
C. Secondary Road – any road that does not require routine maintenance, only periodic or no maintenance

Approximately 3 miles within the Property are classified as primary roads, and 21 miles are classified as secondary roads, with the majority consisting of grass surface without stabilization material. District staff will update the roads database to reflect changes to the road network within the Property, as necessary.

Roads will be regularly inspected and receive maintenance and repair, as necessary. Figures 26 and 27 depict the locations of the roads and gates on the Property.

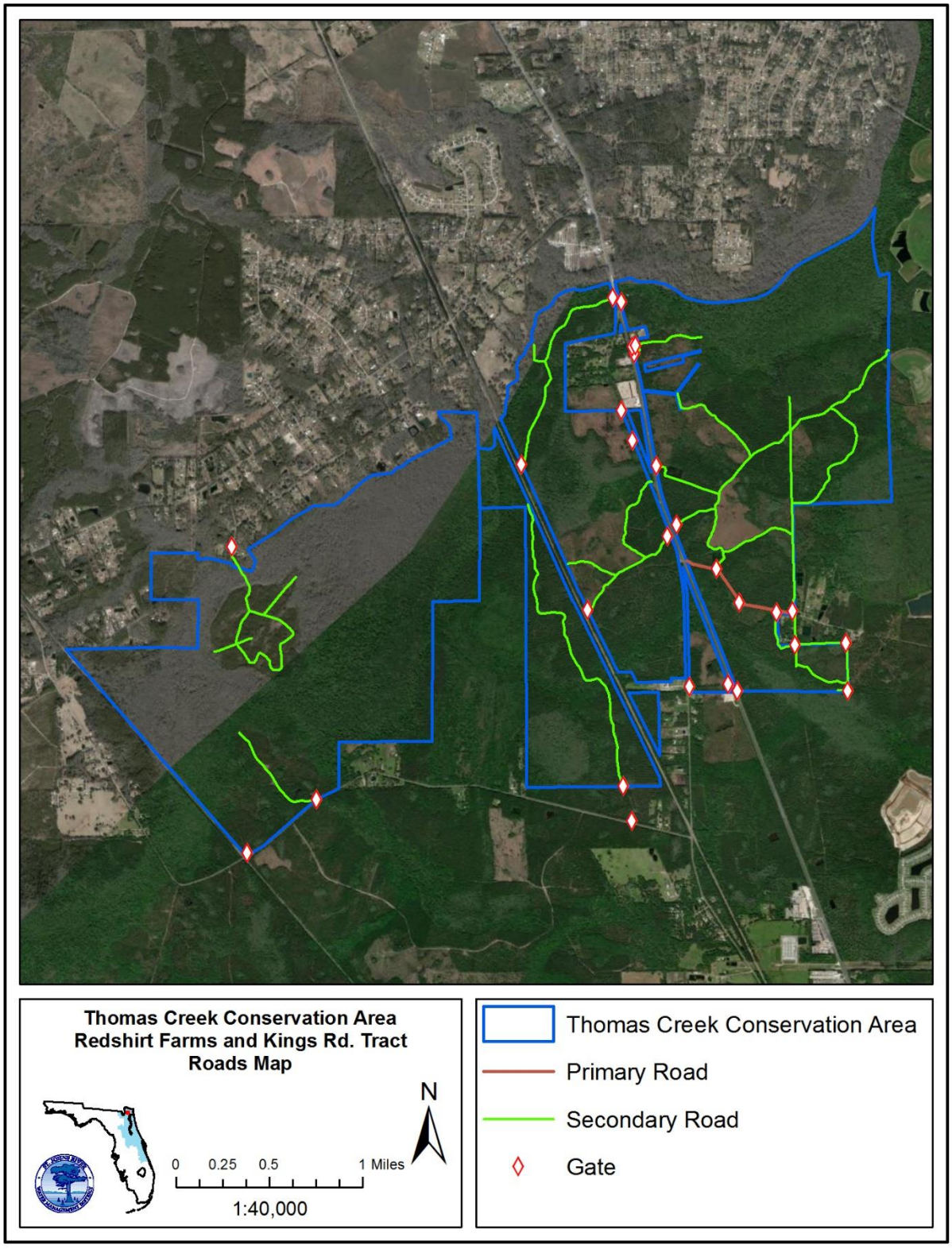

Figure 26: Redshirt Farms and Kings Road Tracts Road Infrastructure

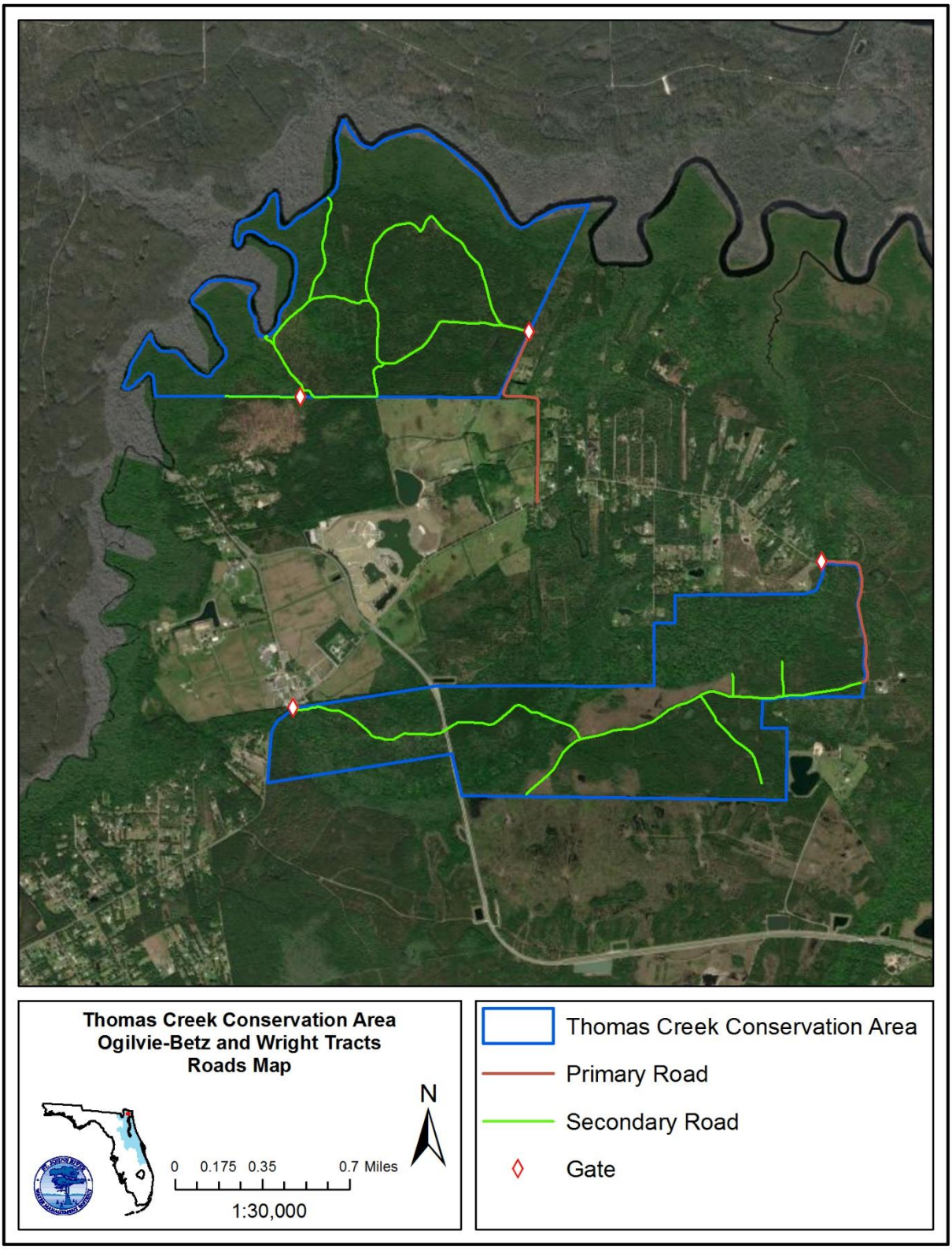

Figure 27: Ogilvie-Betz and Wright Tracts Road Infrastructure

Recreation

Goal: Provide public recreation opportunities on the Property

Strategies:

- Maintain 4.4 miles of trails and two parking areas, managed by COJ under agreement
- Develop 2.5-mile trail extension and two new parking areas on Wright tract, managed by COJ under agreement
- Develop public access and trail system on the Ogilvie-Betz tract
- Develop campsite on Ogilvie-Betz tract
- Develop small boat landing on Ogilvie-Betz tract
- Evaluate expansion of hunting opportunities to the Ogilvie-Betz tract

Recreation at TCCA includes bicycling, hiking, horseback riding, hunting, and wildlife viewing. Day-to-day management, including recreation, on the Kings Road, Redshirt Farms, and Wright tracts is the responsibility of COJ as outlined in an intergovernmental management agreement between the District and COJ, which commenced in 2003. This includes maintenance of the two parking areas on the Kings Road tract located on U.S. 1/23, their associated kiosks, fencing, and the 4.4 miles of multi-use trails (Figure 28). The planned expansion of recreation amenities at the Wright tract, with the assistance of COJ, will include two parking areas, located on Gold Star Family Parkway, and 2.5 miles of multi-use trail (Figure 28). There is one parking area for the Redshirt Farms tract located on Acree Road to facilitate access for the WMA.

Recreation on the Ogilvie-Betz tract is being considered. Recreation plans include development of a parking area, trail system, and reservable campsite. A small boat landing is planned along Thomas Creek (Figure 29). The sole vehicle access to this tract is via an access easement that does not provide for public access. Development of these amenities is contingent on the amendment of the easement to provide public access. This tract can currently be accessed from the water.

Hunting opportunities are provided on 2,429 acres of the Property as the Kings Road Unit of the Thomas Creek Wildlife Management Area (WMA) (Figure 28). The WMA is administered by FWC with input from the District. The WMA regulations allow for drive-in quota hunts during deer and turkey seasons, while the small game season is walk-in only with no hunter quota. Hunt access is via the parking areas on U.S. 1/23 as well as the parking area on Acree Road. Driving access is limited to the roads indicated as such on the WMA map. Through consultation with District and FWC staff, the footprint of the WMA may be expanded within the scope of this plan pursuant to Section 379.3001(5), F.S., with particular focus on expanding the WMA to the Ogilvie-Betz tract. For specific hunt dates, regulations and maps, access FWC's website, https://myfwc.com/hunting/regulations/.

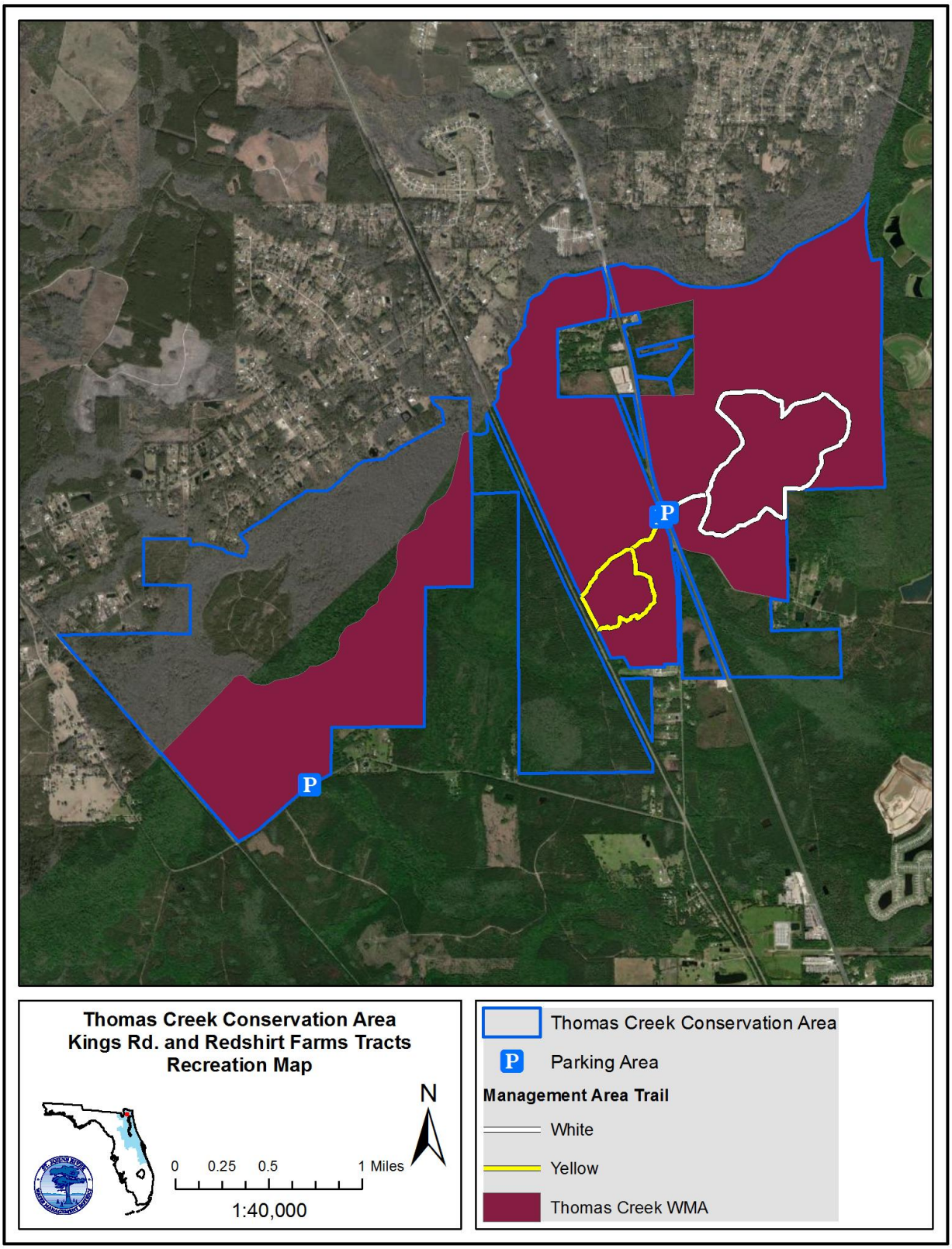

Figure 28: Redshirt Farms and Kings Road Tracts Recreation Amenities Map

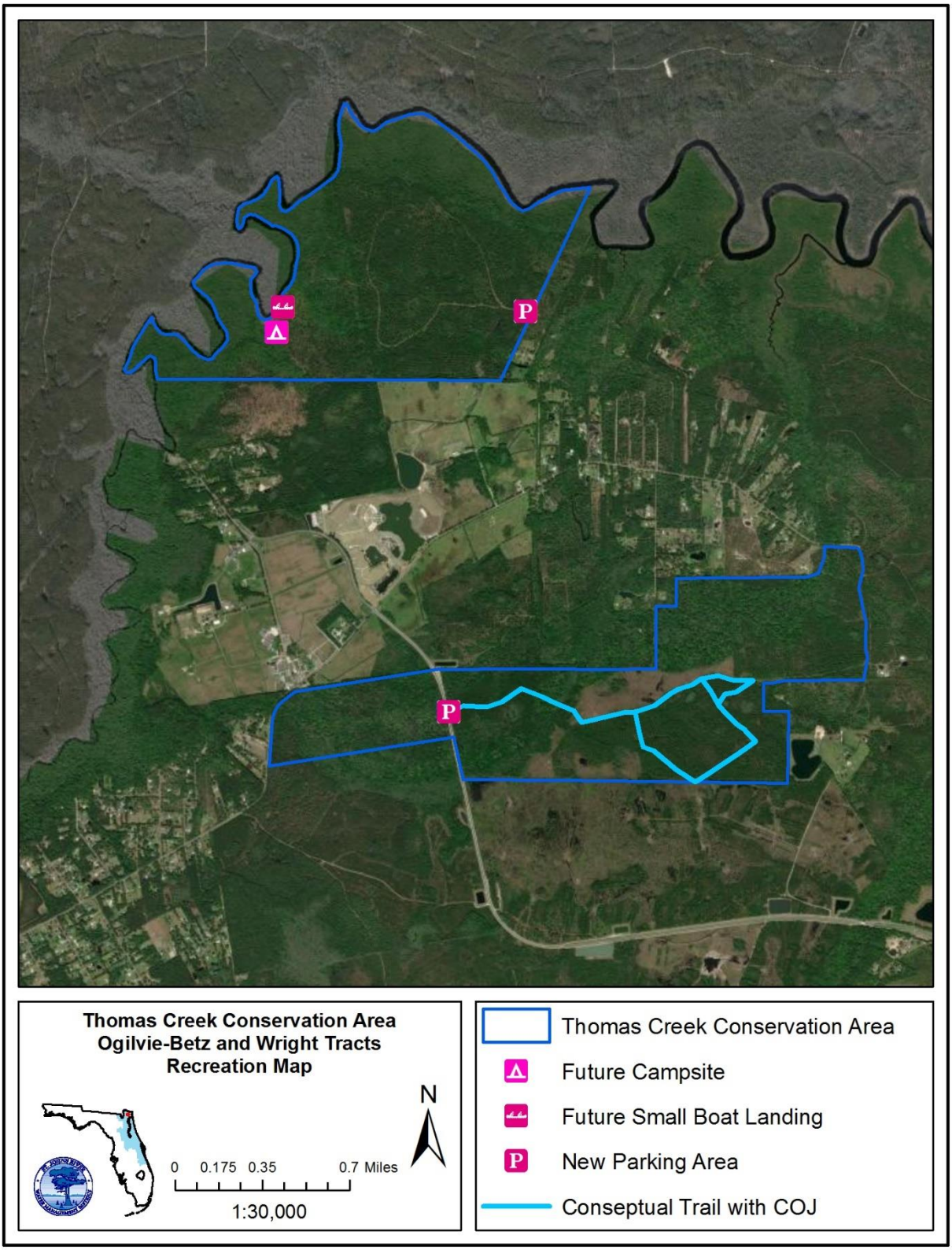

Figure 29: Ogilvie-Betz and Wright Tracts Recreation Amenities Map

Security

Goal: Provide and maintain the site's security

Strategies:

- Maintain boundary signage, fences, gates, and locks
- Continue coordination with FWC and local law enforcement

Security concerns within the Property include illegal motorized vehicle access, poaching, and dumping. The District coordinates with FWC and local law enforcement to administer security within the Property.

ADMINISTRATION

Real Estate Administration

Goal: Explore opportunities for adjacent property acquisition, transfer, or surplus

Strategy:

- Evaluate adjacent properties for potential acquisition
- Consider surplus of 17 acres with no legal access

A total of 4,553 acres adjacent to the Property have been identified as potential acquisitions as part of TCCA's optimum boundary (Figure 30). If these or other neighboring parcels become available, they will be evaluated for acquisition by District staff to increase continuity between the Property and the surrounding conservation easements, provide additional protection for Thomas Creek and other tributaries of the Nassau River, or allow for restoration of impacted land.

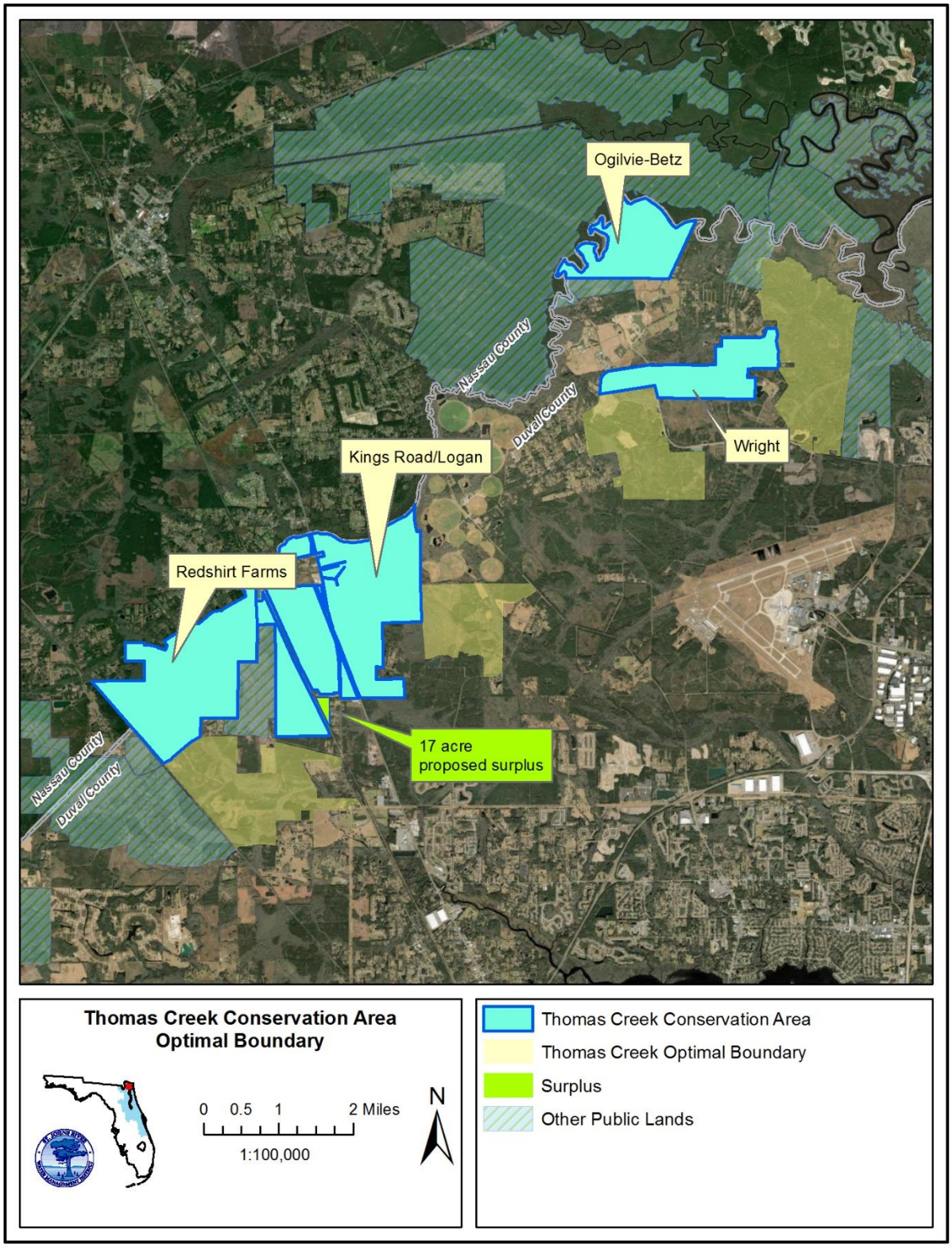

Figure 30: Optimal Boundary

Pursuant to Section 373.089, F.S., the District may explore and pursue the surplus of portions of its land. The District's interest in surplusing land may arise from a variety of considerations, including but not limited to:

- A property purchased as part of a larger acquisition and the surplus portion is not needed for District purposes but was included to complete a larger acquisition
- Original project for which a property was purchased was ultimately not built
- A property is part of a patchwork of conservation ownership, managed by another agency or local government and the surplus is to transfer the ownership to the entity managing the property for conservation purposes
- Actions by adjacent owners that lower a property's conservation values or increase management costs

Any surplus of District-owned property requires the approval of the District's Governing Board. If the property in question was originally purchased for conservation purposes, the Governing Board shall determine that the land is no longer needed for conservation purposes, which requires a two-thirds vote (§ 373.089, F.S.).

If it is found to be in the public interest and for the public convenience and welfare, and for the public benefit, the District may also convey land or rights of land owned to any governmental entity. When transferring lands, the District may retain a conservation easement over the property and/or include a reverter provision in the deed. This provides for the future conservation of the property and to insure the property remains in public ownership.

In 2012, the District's Governing Board approved the Lands Assessment and Implementation Plan. That plan identified one parcel, totaling 17 acres, for surplus. There is no legal access to this parcel, making management highly restrictive. This parcel is bound by private residences, a work release center, and a railroad (Figure 30).

Cooperative Agreements, Leases, Easements, and SUA

Goal: Evaluate, pursue, and manage cooperative opportunities

Strategies:

- Maintain and evaluate for renewal apiary lease
- Maintain BTIITF perpetual conservation easements
- Maintain Cooperative Management Agreements with COJ, FFS, and FWC
- Maintain five access easements and a permissible use agreement
- Maintain AT&T utility easement
- Evaluate new lease and Special Use Authorization opportunities for compatibility with conservation and management goals
- Continue to cooperate with researchers and universities as appropriate

Section 373.1391, F.S., authorizes and encourages the District to enter into cooperative land management agreements with state agencies or local governments to provide for the coordinated and cost-effective management of lands to which the water management districts, the Trustees, or

local governments hold title. District Policy #820 promotes the District entering into agreements with other agencies and private parties for cooperation and coordination of management of the District's lands.

In addition, the District is authorized to enter into cooperative agreements, cooperative management leases, leases, easements and special use authorizations to protect the District's water management interests and to enhance the management and public value of the land. Leases can be a useful tool to accomplish land management objectives and will be evaluated and implemented where appropriate. Common examples include cattle grazing and apiaries, and the District remains open to considering other types of leases that help achieve management goals. Table 2 details the agreements, leases, and SUAs in effect during the writing of this plan.

Table 2: Cooperative Agreements, Leases, and Special Use Authorizations

Agreement Number	Type/Purpose	Agreement Name	Term
2346	Lease/Apiary	Wendy Latner – Santa Fe Queens	August 2027
2212	Easement/Utility	AT&T Utility Easement at Thomas Creek CA	Perpetual
2087	Easement/Conservation	Ogilvie Perpetual Conservation Easement to BTIITF	Perpetual
2207	Easement/Conservation	Wright Perpetual Conservation Easement to BTIITF	Perpetual
302	Intergovernmental Agreement/ Land Management	City of Jacksonville Cooperative Management Agreement Thomas Creek	August 2028; 5-year auto renew
1008	Intergovernmental Agreement	Cooperative Agreement with FWC for WMA's	May 2034
2422	Intergovernmental Agreement/ Land Management	FFS Thomas Creek Severed Parcels	March 2059
2122	Permissible Use Agreement (PUA)	Lester Frank Smith Access for Land Management	Terminates 30 days after request
1498	SUA/Hog Removal	Larry Propper Hog Removal	September 2028
2119	SUA/Hog Removal	Ortagus Hog Removal	January 2026

2255	SUA/Hog Removal	John C Anderson Hog Removal	September 2026
2432	SUA/Hunting in exchange for access PUA	Lester Smith Hog Trapper	January 2028
2529	SUA/Research	U.S. Fish and Wildlife Services	May 2025

The Property currently hosts a District-administered, revenue-generating apiary lease (Figure 31). There are four 0.25-acre sites located across the Property. The annual lease payment is $203 per site for a total annual payment of $812. This lease expires Aug. 31, 2027. The District intends to rebid the lease after expiration.

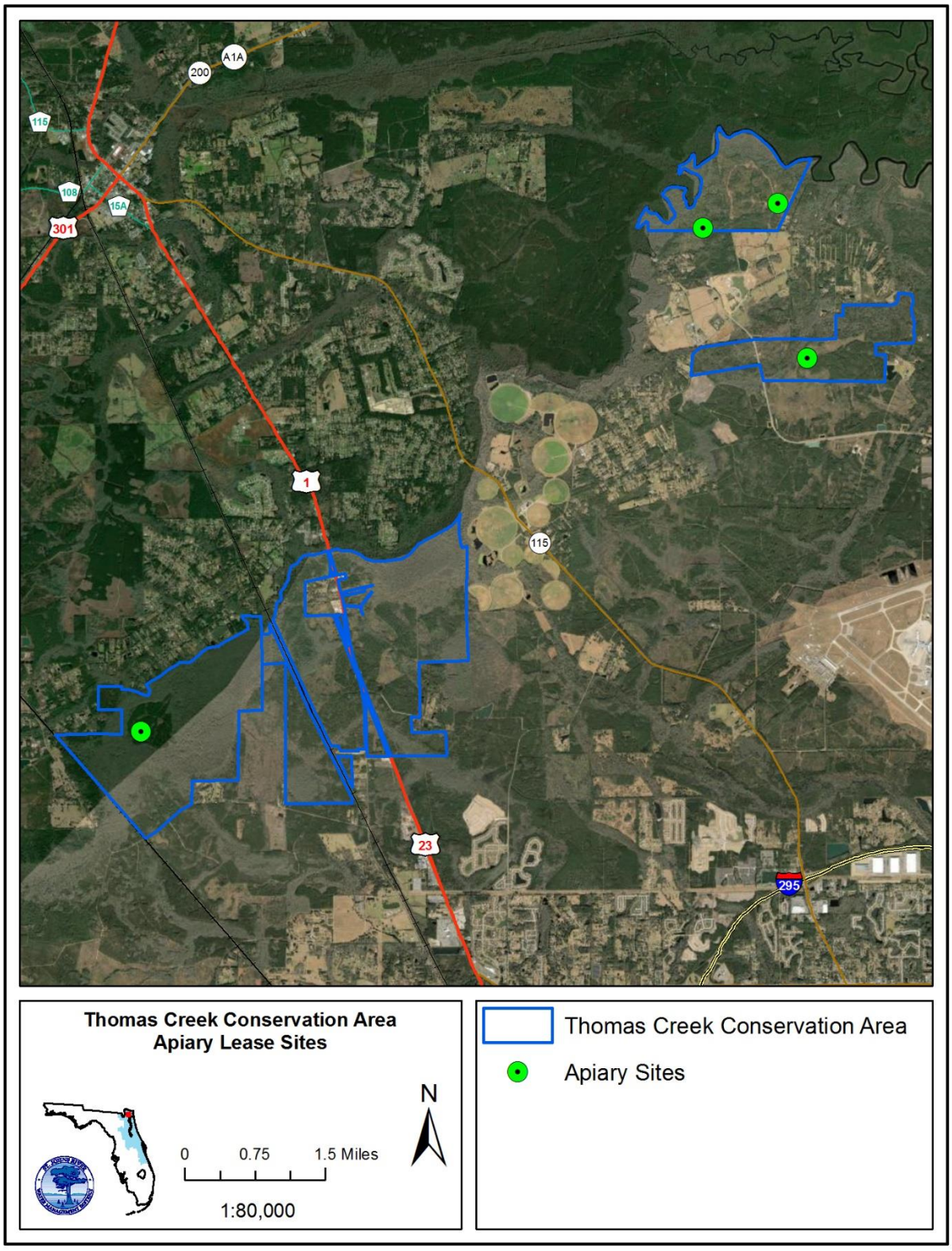

Figure 31: Apiary Lease Sites

There are two perpetual conservation easements that incumber the Ogilvie, Cherokee-Betz, and Wright-Bear Branch Timberlands parcels of the Property. The easements are held by BTIITF and were entered into as part of the mitigation agreement for the Cedar Bay Cogeneration Project. These easements are included in Appendix D. Overall, they preclude dumping and structure construction but allow for public access for nature-based, passive outdoor recreation and natural resource management. The easement covering the Wright-Bear Branch Timberlands parcel precludes leasing of hunting or fishing rights on, or associated with, the Property.

The Property is subject to three intergovernmental management agreements. The District and COJ entered into an intergovernmental cooperative management agreement on Aug. 29, 2003, to define management responsibilities on the Property. This agreement includes all parcels of the Property located in Duval County. Under the agreement, COJ is responsible for recreation management and the District is responsible for natural resource management. The District and FFS entered into a management agreement on April 5, 2023, to define management responsibility areas between Cary State Forest and TCCA. Under this agreement, the parcels included in the Rayonier Thomas Creek acquisitions that lie west of the Norfolk-Southern railroad-Acree Road intersection will be managed by FFS and those that lie east of that intersection will be managed by the District. The District and FWC maintain a cooperative agreement allowing for the establishment of WMAs and management of public recreational hunting programs on District lands. The Thomas Creek-Kings Road Unit WMA is covered under this agreement. In addition to WMA management, FWC has a responsibility to conduct periodic law enforcement patrols on WMAs.

There are five access easements that are associated with the Property. Two perpetual deeded, but conjoined, access easements provide access to the Ogilvie and Cherokee-Betz parcels via Black Cow Trail from Lannie Road (Figure 32). In addition to the District, the BTIITF is also included as grantees on this easement to allow for monitoring of the conservation easement that encumbers these parcels. A third deeded access easement provides access to the southern portion of the Kings Road-Logan parcel via Forest Trail No. 2. A fourth perpetual deeded access easement provides access to the western portion of the Kings Road-Logan parcel via Acree Road. The last easement is a recorded access easement between the District and AT&T Corp., which provides access along a separated portion of the Property within the Kings Road-Logan parcel, south of the Dinsmore Work Release Center. While this easement provides access between the CSX railroad and the Property’s boundary, there is no access easement or agreement across the Dinsmore Work Release Center to gain access to the easement from a public road (Figure 33). This portion of the parcel is the sole surplus parcel identified within this plan, largely due to lack of legal access. A Permissive Use Agreement (PUA) between the District and a neighboring landowner provides the District management access to the northern portion of the Rayonier Thomas Creek B East parcel from Ratliff Road. In exchange for the PUA, an SUA was issued to the landowner to allow hunting by the landowner on the 40-acre parcel that the PUA benefits (Figure 34).

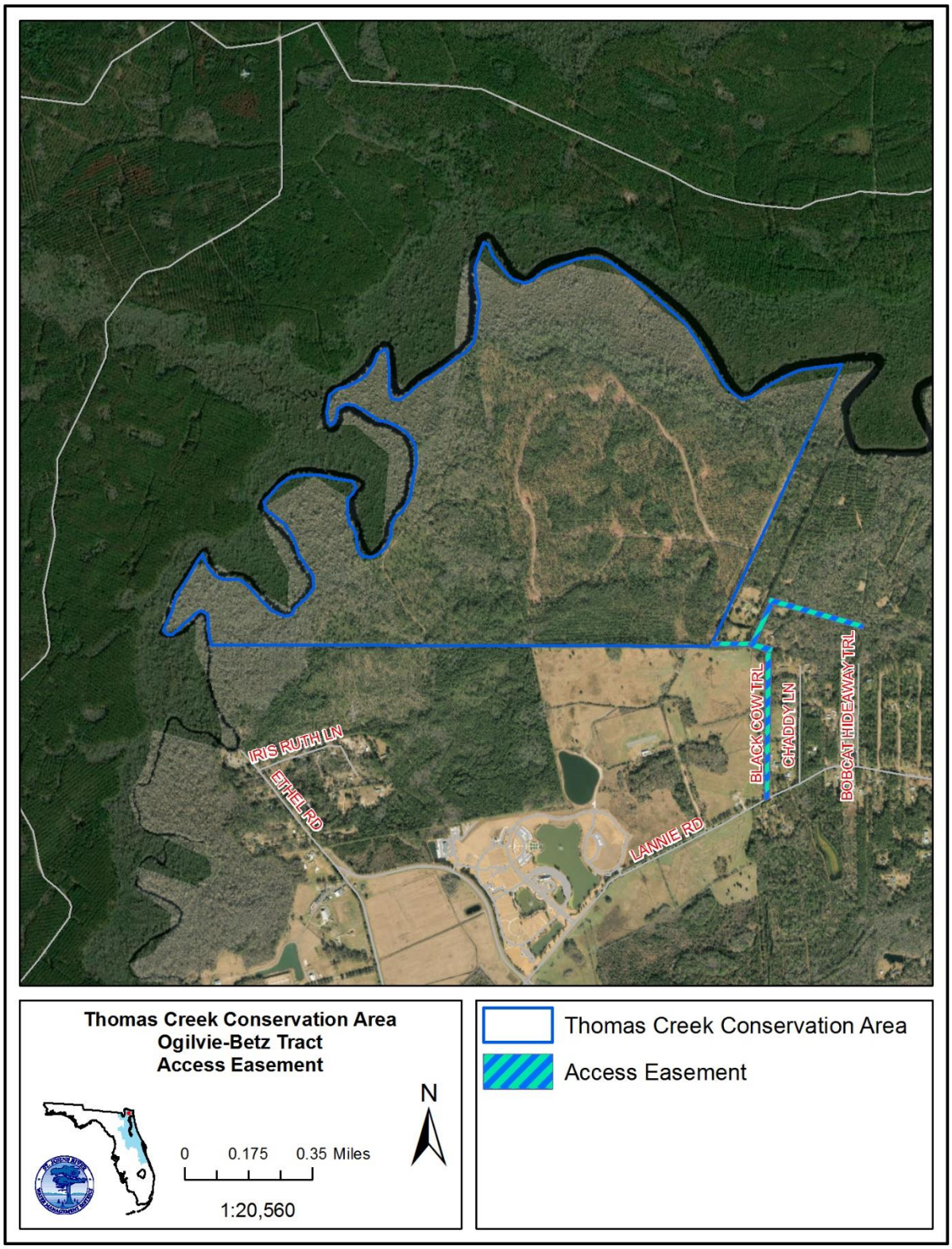

Figure 32: Ogilvie-Betz Tract Access Easements

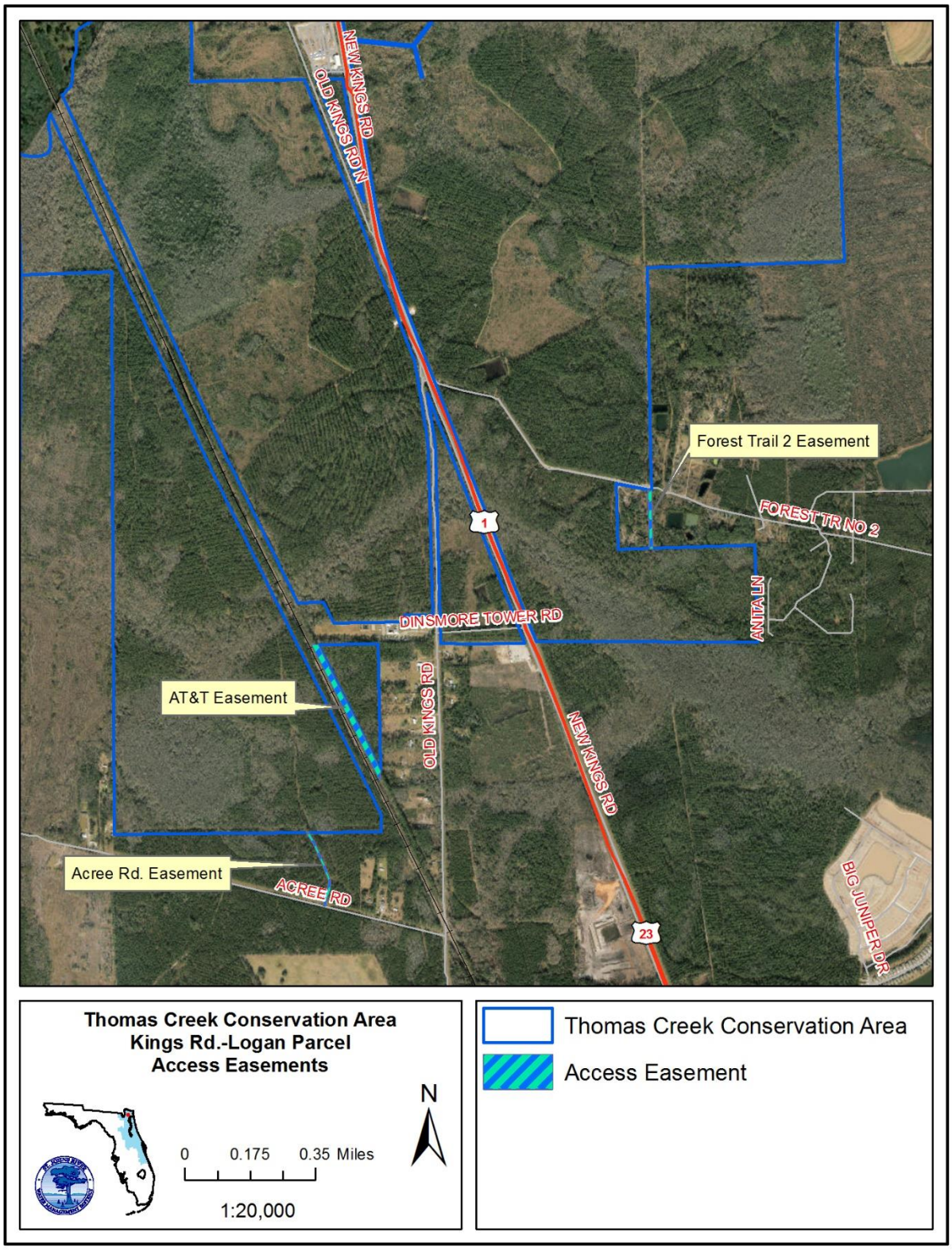

Figure 33: Kings Road-Logan Tract Access Easements

Figure 34: Rayonier Parcel PUA

There is a utility easement held by AT&T on the separated portion of the Kings Road-Logan parcel. This utility easement was granted in exchange for the aforementioned access easement benefiting the District. The buried fiber-optic cable was mistakenly trenched on TCCA and not in the footprint of the utility right-of-way owned by AT&T, necessitating this utility easement due to encroachment of the buried cable on District land (Figure 35).

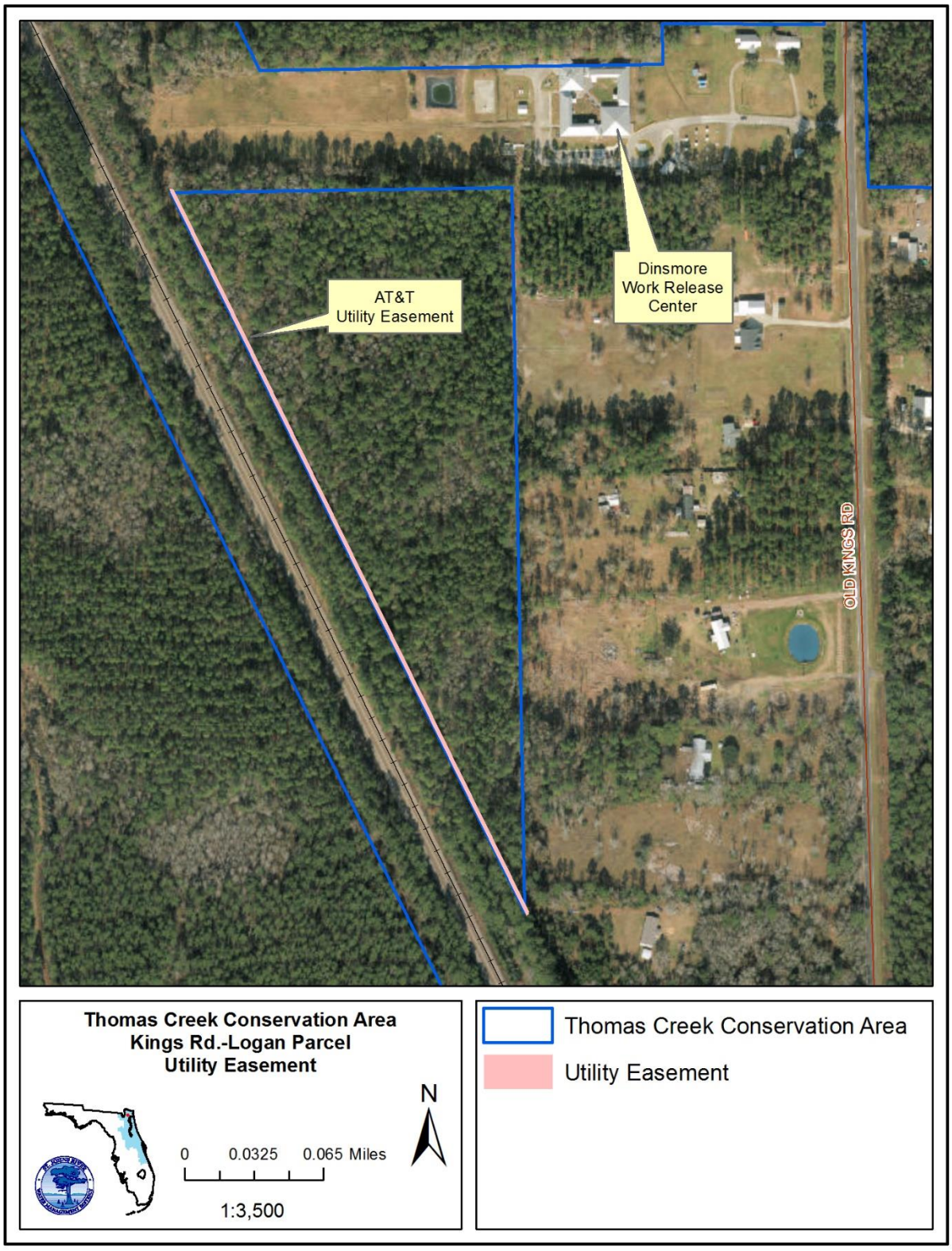

Figure 35: Utility Easement

Management Revenues and Costs

Goal: Analyze and report projected and actual costs and revenues

Strategies:

- Analyze and report revenues
- Analyze and report land management costs

This section reviews costs and revenues since the last land management plan update (2008–2024) as well projects costs and revenues for the upcoming planning period (2024–2034). All generated revenue will be applied toward the District's land management budget to offset management costs for the Property.

Tables 3 and 4 provide the received revenue and land management costs for TCCA since the last land management plan update in 2008. Most of the revenue was produced by timber sales while the greatest costs were associated with reforestation site preparation and planting.

Revenues and Cost Since Last Land Management Plan Update (2008)

Revenues since the last land management plan update, 2008–2024, total $1,755,685 (Table 3). Costs between 2008 and 2024 have totaled $457,201 (Table 4).

Table 3 Revenues from 2008-2024

Activity	Revenue Year(s)	Revenue
2009 Timber sale	2009–2010	$82,288
2010 Timber sale	2010	$88,262
2011 Timber sale	2011	$113,054
2014 Timber sale	2014	$134,417
2015 Timber sale	2015–2016	$296,442
2016 Timber sale	2016	$96,881
2017 Timber sale (Redshirt)	2017–2020	$223,424
2017 Timber sale (Logan)	2017	$144,980
2017 Timber sale (Lannie Road)	2017–2018	$219,672
2021 Timber sale	2021–2022	$52,265
2022 Timber sale	2022	$126,739
2023 Timber sale	2023	$174,414
Apiary lease	2009–2013	$1,000
Apiary lease	2015–2016	$255
Apiary lease	2022–2023	$1,592
Total		**$1,755,685**

Table 4: Management Costs from 2008 to 2024

Recurring Annual Costs

Activity	**Annual Number of Units**	**Units**	**Annual Cost**	**Total Cost (Since 2008)**
Staff time	120	Hours	$3,000	$45,000
Invasive plant control	58	Acres	$4,079 (average)	$61,185
Fire line disking	20.6	Miles	$6,180	$92,700
Mowing (roads)	24	Miles	$2,596	$31,154
Forest inventory	47	Plot	$ 940	$14,100
Total Annual Costs 2008–2024				*$244,139*

One Time Activity Cost

Activity	**Total Number of Units**	**Units**	**Total**
2013 Prescribed fire	495	Acres	$12,890
2013 Site prep and reforestation	38	Acres	$11,627
2016 Prescribed fire	628	Acres	$15,221
2016 Site prep and reforestation	41	Acres	$7,834
2018 Site prep and reforestation	32	Acres	$4,871
2019 Prescribed fire	500	Acres	$15,225
2019 Site prep and reforestation	97	Acres	$43,257
2020 Site prep and reforestation	112	Acres	$54,591
2021 Road repair material			$22,039
2024 Site prep for reforestation	62	Acres	$18,837
2024 Bridge redeck			$6,670
Total One Time Activity Cost 2008–2024			*$213,062*
Total Cost Since 2008			**$ 457,201**

Projected Land Management Revenues and Costs (2024–2034)

Costs and revenues for TCCA are projected into the future. However, prices of timber fluctuate depending on the markets. Projected revenue generated by timber sales, shown in Table 5, is an estimate based on 2024 market prices.

The projected revenues from the apiary lease and forest management activities at TCCA between 2024–2034 are $1,445,164 (Table 5). Apiary lease revenues are projected beyond 2027 lease expiration at the current rent of $203 per site over the four sites on the Property; the District intends to rebid the lease. All revenue generated during this planning period will be applied toward the District's land management budget to offset management costs for the Property. Projected management costs for TCCA from 2024–2034 are $738,506 (Table 6). Years in which activities take place are estimated.

Table 5: Projected revenues between 2024 to 2034

Activity	Year	Revenue
Timber sale	2024	$182,425
Timber sale	2025	$384,350
Timber sale	2026	$499,974
Timber sale	2027	$53,003
Timber sale	2029	$37,660
Timber sale	2032	$274,210
Timber sale	2033	$5,422
Apiary lease	2024–2034	$8,120
Total		**$1,445,164**

Projected Management Costs

Table 6: Projected Management costs from 2024-2034

Recurring Annual Costs

Activity	**Number of Units (annual)**	**Units**	**Annual Cost**	**10-Year Total Cost**
Staff time	120	Hours	$3,360	$33,600
Invasive plant control			$1,575	$15,752
Prescribed fire	129	Acres	$3,483	$34,830
Fire line Disking	9.3	Miles	$3,255	$72,100
Road Maintenance	21	Miles	$4,500	$51,429
Mowing (roads)	24	Acres	$8,811	$75,523
Forest inventory	47	Plots	$1,034	$10,340
Total Annual Costs 2024-2034				*$293,574*

One Time Activity Cost

Activity	**Total Number of Units**	**Units**	**Total**
2025 Reforestation	62	Acres	$37,052
2026 Reforestation	124	Acres	$73,160
2027 Reforestation	214	Acres	$126,260
2028 Reforestation	239	Acres	$141,010
2030 Fuels reduction mowing	100	Acres	$35,000
2031 Reforestation	32	Acres	$18,880
2034 Reforestation	23	Acres	$13,570
Total One Time Activity Cost 2024–2034			*$444,932*

Total cost over 10 years	**$738,506**

LAND MANAGEMENT PLAN IMPLEMENTATION SCHEDULE

Table 7: Land Management Plan Implementation Schedule

RESOURCE PROTECTION AND MANAGEMENT

Water Resources

Goal	**Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition**	**Measure**	**Planning Period**
Strategy A	Maintain roads and culverts to prevent erosion	Roads and culverts maintained	Annually by September

Forest Management and Restoration

Goal	**Maintain, improve, and restore forest resources**	**Measure**	**Planning Period**
Strategy A	Update forest management database	Updated forest management database	Annually by November
Strategy B	Thin and/or clearcut harvest at least 1,303 acres of timber	Acres of timber thinned and/or clearcut	10 Years
Strategy C	Reforest 696 acres with site appropriate pine species	Acres of area reforested	10 Years

Fire Management

Goal	**Implement a prescribed burning program in accordance with District's Fire Guidelines and Protocols**	**Measure**	**Planning Period**
Strategy A	Apply fire to at least 129 acres annually, averaged over the 10-year planning period, using, at minimum, a 4-year fire return interval	Acres prescribed fire applied	10 Years
Strategy B	Maintain existing fire lines and create new fire lines as determined by land manager	Miles maintained	Annually by October for maintenance; 1–5 Year for creation
Strategy C	Use mechanical fuel reduction as a fire surrogate in areas where it is difficult to burn due to high fuel loads	Acres treated	10 Years

Strategy D	Develop annual burn plans and populate the fire management database on an annual basis	Burn plan and reports	Annually by September

Flora and Fauna

Goal	**Maintain, improve, or restore native and listed species populations**	**Measure**	**Planning Period**
Strategy A	Conduct plant and wildlife surveys and develop species lists	Updates to species list	Ongoing
Strategy B	Monitor the presence of listed species and adjust management actions appropriately	Updates to species list and adjusted management actions	Ongoing

Invasive Species Management

Goal	**Manage invasive plants and animals**	**Measure**	**Planning Period**
Strategy A	Scout and treat invasive species annually to maintain coverage less than 1%	Acres treated	Annually by September
Strategy B	Continue feral hog removal activities, as needed	Number of hogs removed	Annually by September
Strategy C	Locate, map, and treat any new infestations of invasive plant species	Mapping and treatment of new infestations	Ongoing

Cultural Resource Protection

Goal	**Identify, protect, and maintain any cultural resources found on the Property**	**Measure**	**Planning Period**
Strategy A	Monitor single site at least once every 5 years	Times monitored	10 Years
Strategy B	Identify and report sites to the Florida Department of Historical Resources (DHR)	Sites identified and reported	Ongoing
Strategy C	Identify and report any detrimental activities to the sites to the DHR and law enforcement	Sites identified and reported	Ongoing

LAND USE MANAGEMENT

Access

Goal	**Maintain access to and around the Property to facilitate both and land management and resource protection**	**Measure**	**Planning Period**
Strategy A	Maintain, gates, roads, and associated swales/ditches	Gates, roads, and swales/ditches maintained	Ongoing
Strategy B	Update District database on maintenance of existing and creation of new signs, gates, trails, and roads	Database updated	Ongoing

Recreation

Goal	**Provide public recreation opportunities on the Property**		
Strategy A	Maintain 4.4 miles of trails and two parking areas, managed by COJ under agreement	Miles maintained	Annual, ongoing
Strategy B	Develop 2.5-mile trail extension and new parking areas on Wright tract, managed by COJ under agreement	Miles developed	1–5 Years
Strategy C	Develop public access and trail system on the Ogilvie-Betz tract	Access developed	10 Years
Strategy D	Develop campsite on Ogilvie-Betz tract	Campsite developed	10 Years
Strategy E	Develop small boat landing on Ogilvie-Betz tract	Boat landing developed	10 Years
Strategy F	Evaluate expansion of hunting opportunities to the Ogilvie-Betz tract	Options evaluated	10 Years

Security

Goal	**Provide and maintain the site's security**	**Measure**	**Planning Period**
Strategy A	Maintain boundary signage, gates, and locks	Signs, fences, gates, and locks maintained	Ongoing
Strategy B	Continue coordination with FWC and local law enforcement	Secure property	Ongoing

ADMINISTRATION

Real Estate Administration

Goal	Explore opportunities for adjacent property acquisition	Measure	Planning Period
Strategy A	Evaluate adjacent properties for potential acquisition	Properties evaluated	Annually by September
Strategy B	Consider surplus of 17 acres with no legal access	Surplus evaluated	10 Years

Cooperative Agreements, Leases, Easements, and Special Use Authorizations (SUA)

Goal	Evaluate, pursue, and manage cooperative opportunities	Measure	Planning Period
Strategy A	Maintain and evaluate for renewal apiary lease	Lease administered	Ongoing; 1–5 Years
Strategy B	Maintain BTIITF perpetual conservation easements	Easement administered	Ongoing
Strategy C	Maintain Cooperative Management Agreements with COJ, FFS, and FWC	Agreements administered	Ongoing
Strategy D	Maintain five access easements and a permissible use agreement	Easement administered	Ongoing
Strategy E	Maintain AT&T utility easement	Easement administered	Ongoing
Strategy F	Evaluate new lease and Special Use Authorization opportunities for compatibility with conservation and management goals	Leases and SUAs evaluated	Ongoing
Strategy G	Continue to cooperate with researchers and universities as appropriate.	Research SUAs evaluated	Ongoing

Management Revenues and Costs

Goal	Analyze and report projected and actual costs and revenues	Measure	Planning Period
Strategy A	Analyze and report revenues	Annual report	Annually by November
Strategy B	Analyze and report land management costs	Annual report	Annually by November

DUVAL COUNTY MITIGATION PARCELS LAND MANAGEMENT PLAN SECTION

OVERVIEW

This document provides the goals and strategies to guide land management activities at the DCMP over the next 10 years. This land management plan was developed in accordance with Section 373.1391 and Section 373.591, Florida Statutes (F.S.). This is the first land management plan for the Parcels.

DCMP is comprised of 1,484.75 acres under District management in Duval County. There are four disjunct parcels that make up DCMP: Stone Mountain, Sample Swamp and Grover, 9A Mitigation Parcel, and Freedom Commerce Center. Each section of the plan will address the parcels individually within that section.

The St. Johns River Water Management District (District) owns an interest in nearly 780,000 acres of land across 18 counties, acquired for the purposes of water management, water supply, and the conservation and protection of water resources. The District is the lead manager of approximately 430,000 acres of these lands.

LOCATIONS

Stone Mountain Mitigation Parcel (SMMP) is located 3.5 miles east of U.S. Highway 17 and 4.5 miles northeast of Naval Outlying Field Whitehouse, between the unincorporated communities of Bryceville and Dinsmore. The SMMP lies within Sections 21 and 22 of Township 1 south, Range 25 east. SMMP contains 466 acres. Figure 36 depicts the general location; Figure 37 is a 2023 aerial image of the Property. There is no developed access to this parcel.

Sample Swamp and Grover is located 3.5 miles west of U.S. 17 and is adjacent to Pumpkin Hill Creek Preserve State Park. Grover and Sample Swamp lies within Sections 24 and 38 of Township 1 north, Range 27 east. Grover and Sample Swamp contains 599 acres. Figure 38 depicts the general location and Figure 39 is a 2023 aerial image of Sample Swamp and Grover.

The 9A Mitigation Parcel is located 2 miles northeast of I-295 and is adjacent to Craig Municipal Airport. The 9A Mitigation Parcel lies within Section 39 of Township 2 south, Range 28 east. The parcel contains 325 acres. Figure 40 depicts the general location and Figure 41 is an aerial image of 9A Mitigation Parcel. There is no developed access to this parcel.

Freedom Commerce Center is located adjacent to I-95 and U.S. 1. The Freedom Commerce Center lies within Sections 27, 35, 54, and 55 of Township 3 and sections 50, 51 of Township 4 south, Range 27 east. Freedom Commerce Center contains 93 acres. Figure 42 depicts the general location; Figure 43 is an aerial image of Freedom Commerce Center.

The District is the manager for the all the DCMP, though no active management takes place on Stone Mountain, 9A Mitigation Parcel, and Freedom Commerce Center due to lack of developed access.

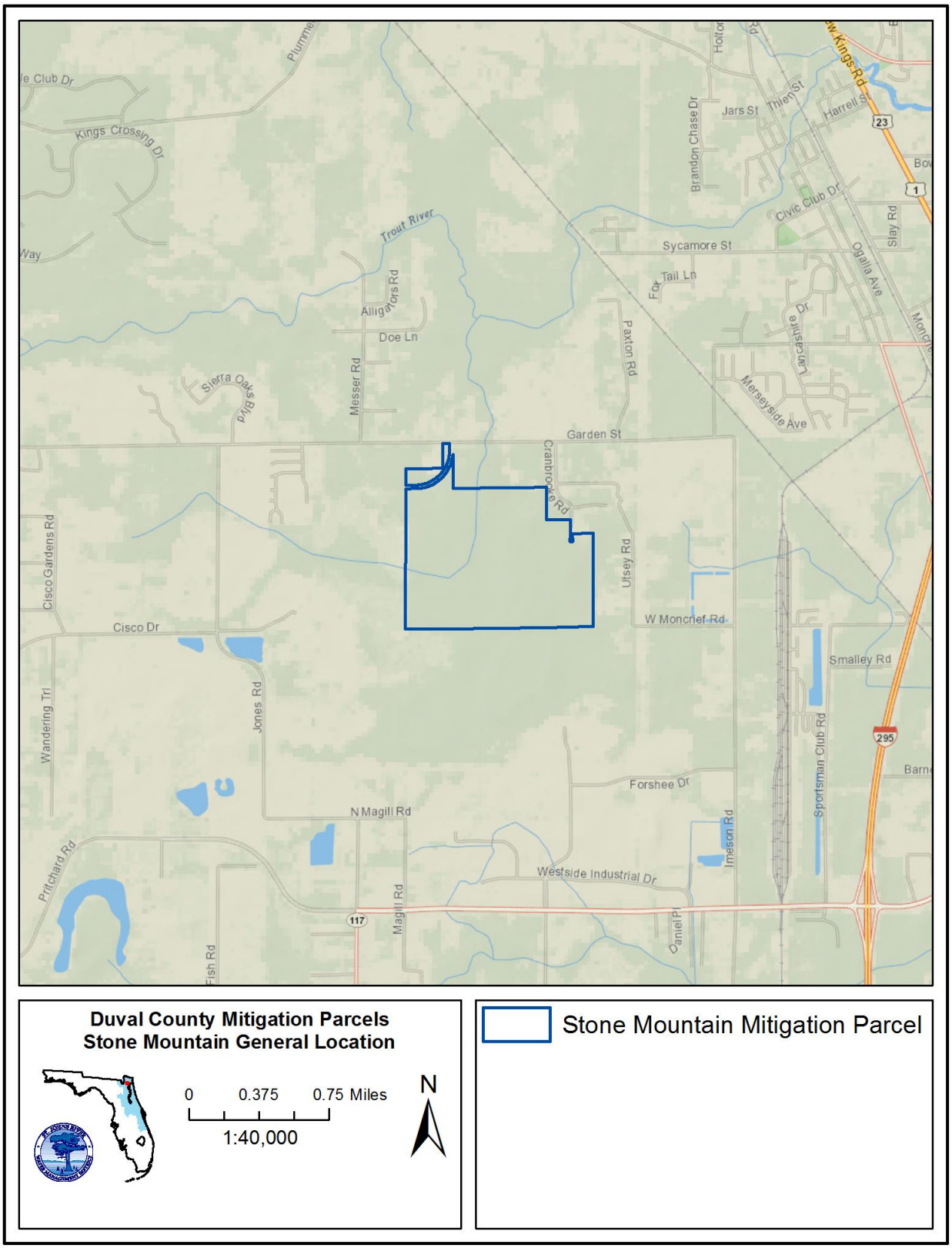

Figure 36: Stone Mountain General Location

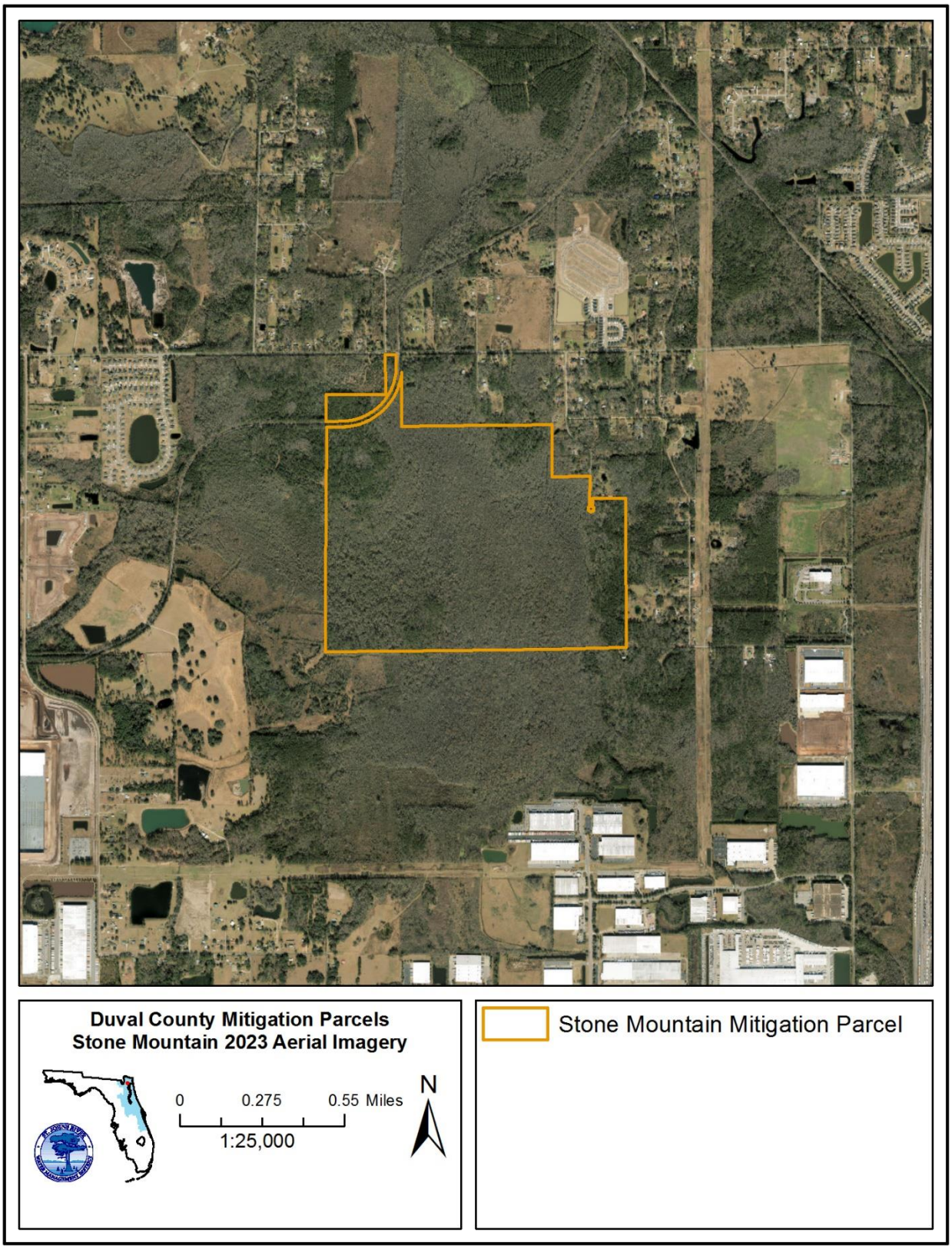

Figure 37: Stone Mountain 2023 Aerial Imagery

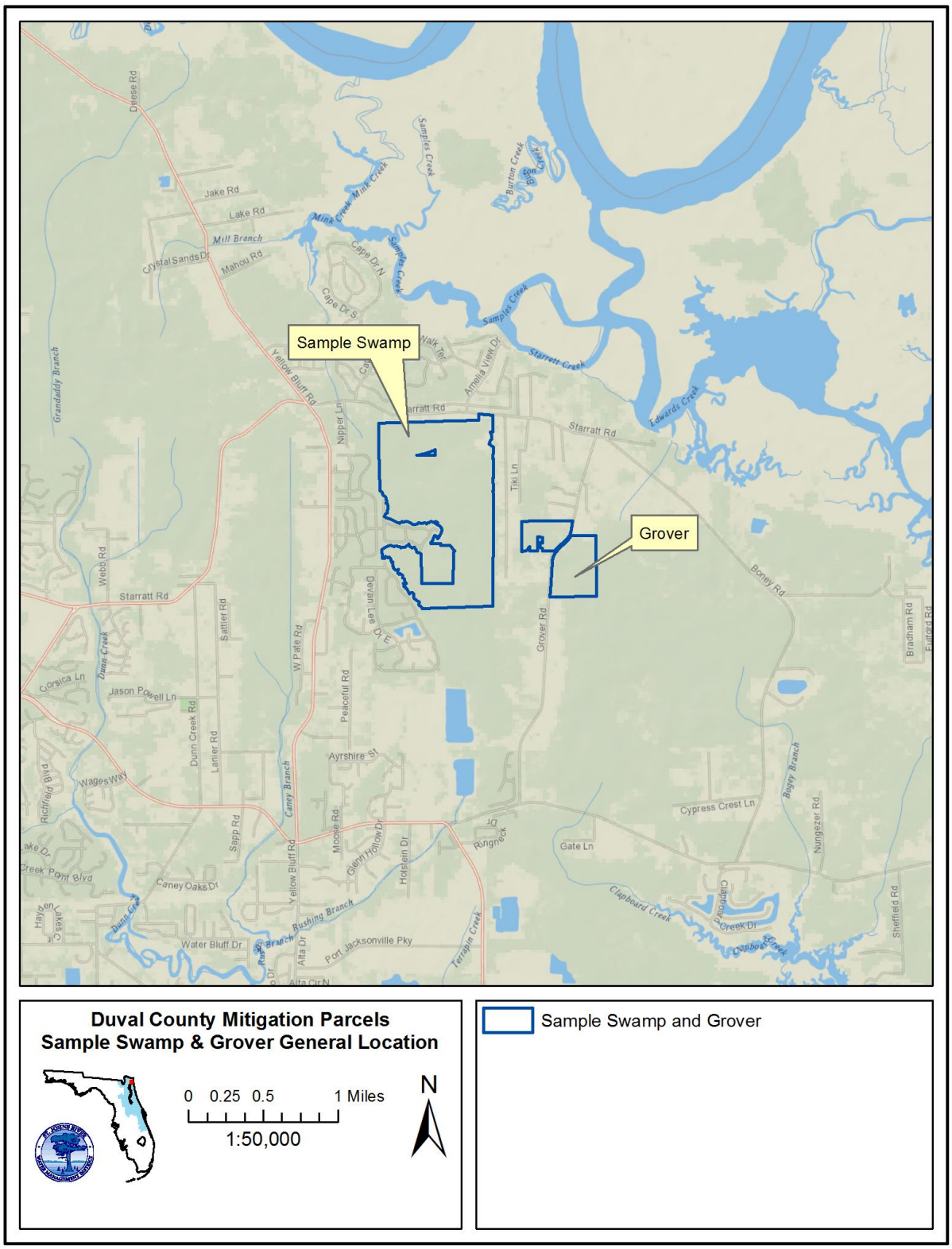

Figure 38: Sample Swamp and Grover General Location

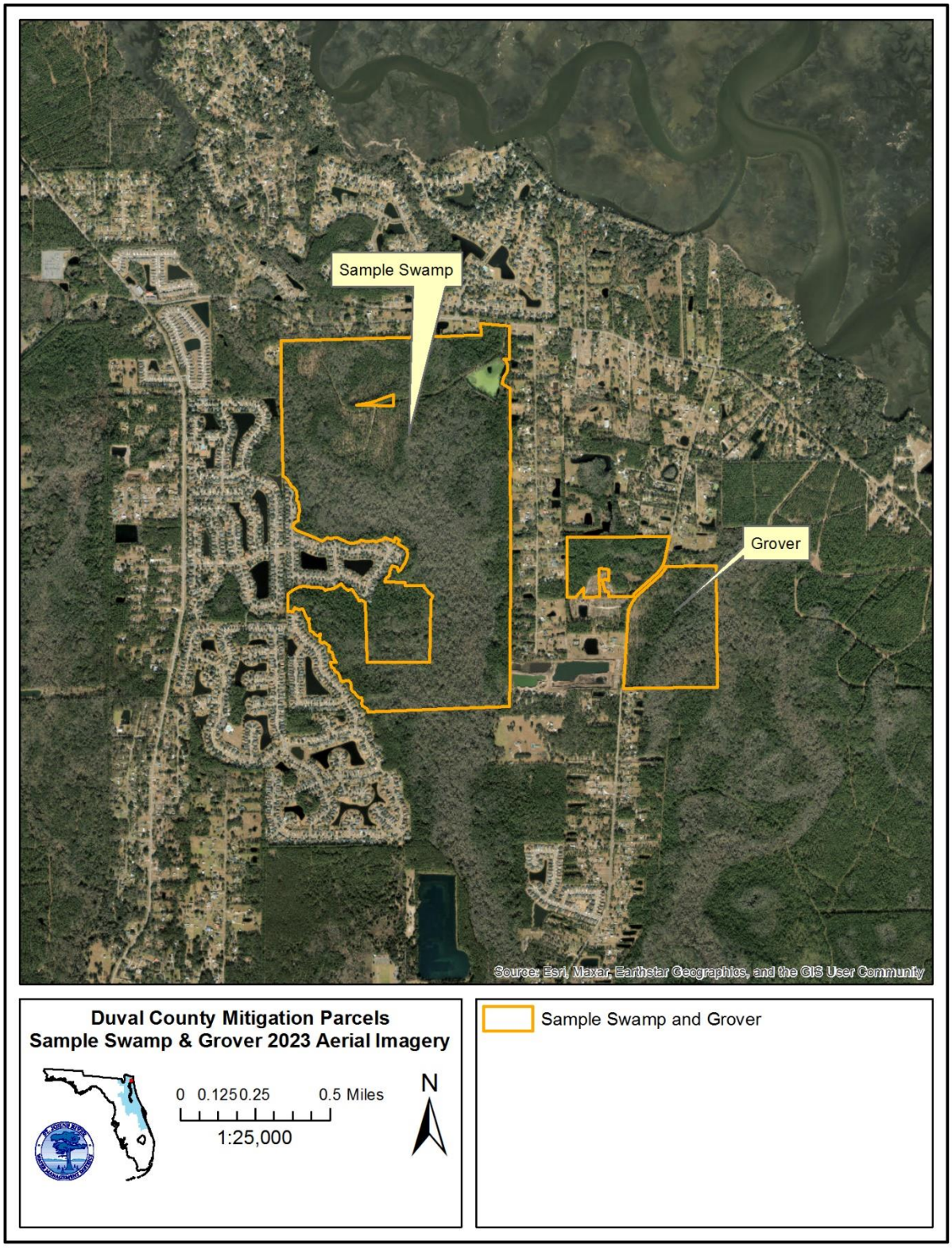

Figure 39: Sample Swamp and Grover 2023 Aerial Imagery

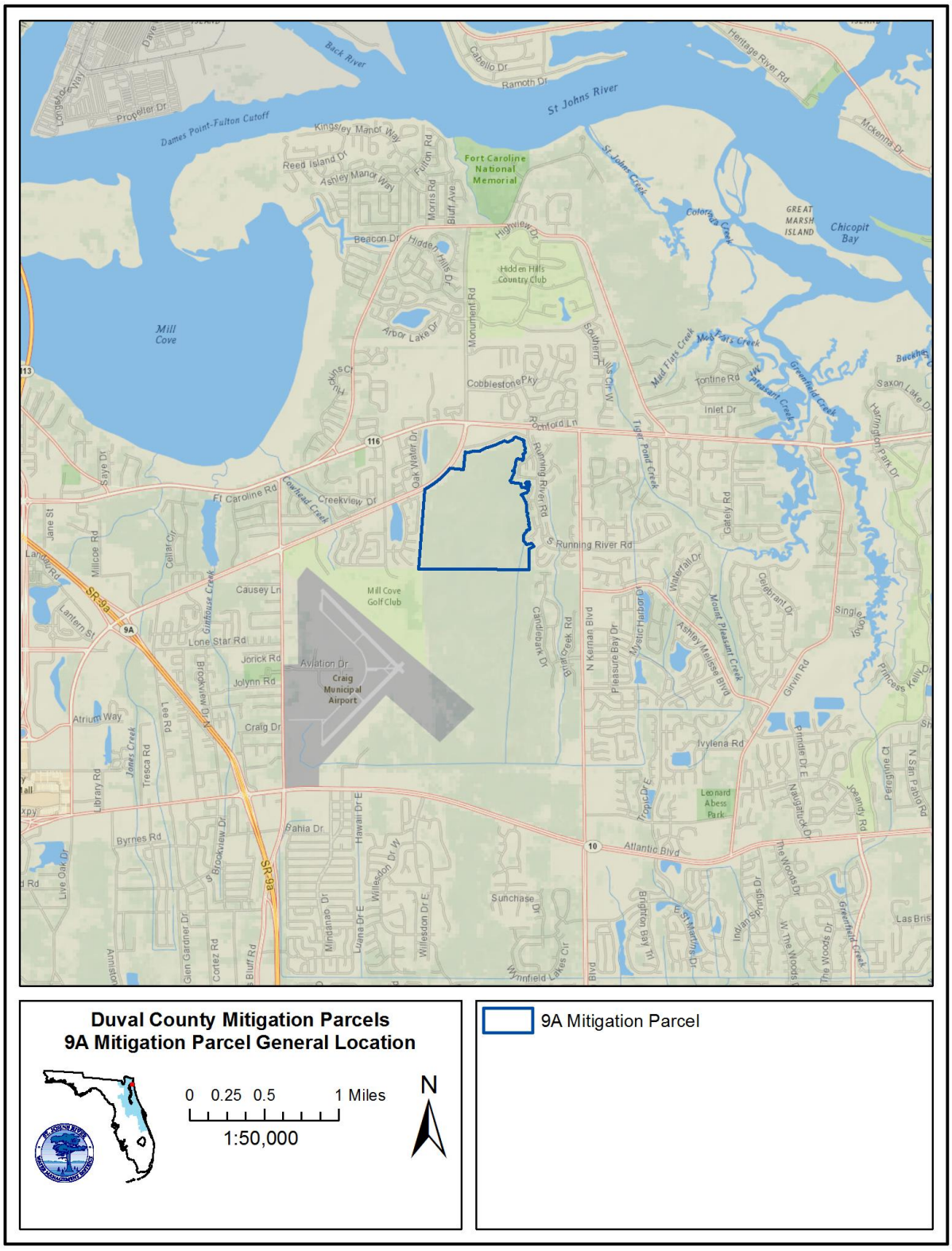

Figure 40: 9A Mitigation Parcel General Location

Figure 41: 9A Mitigation Parcel 2023 Aerial imagery

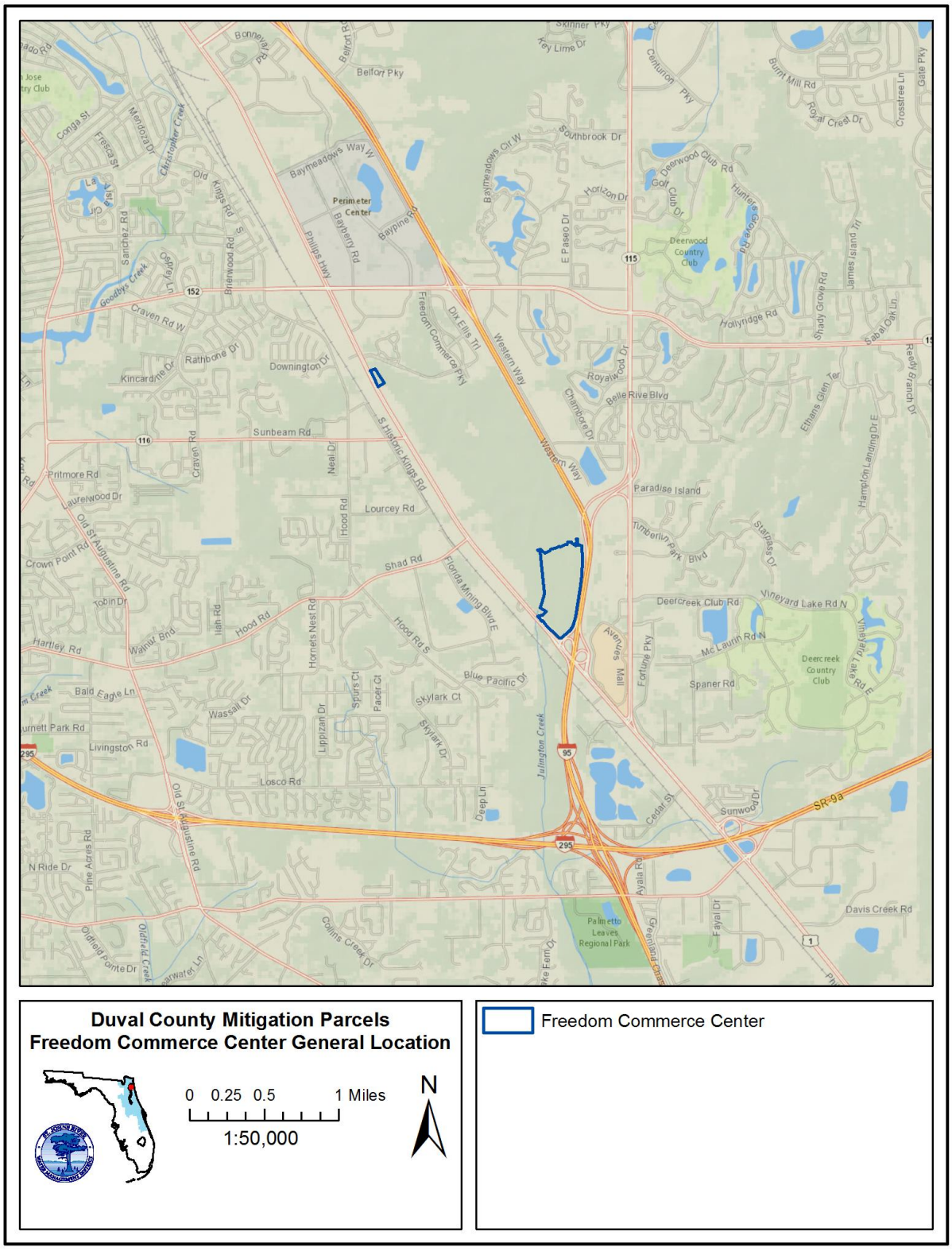

Figure 42: Freedom Commerce Center General Location

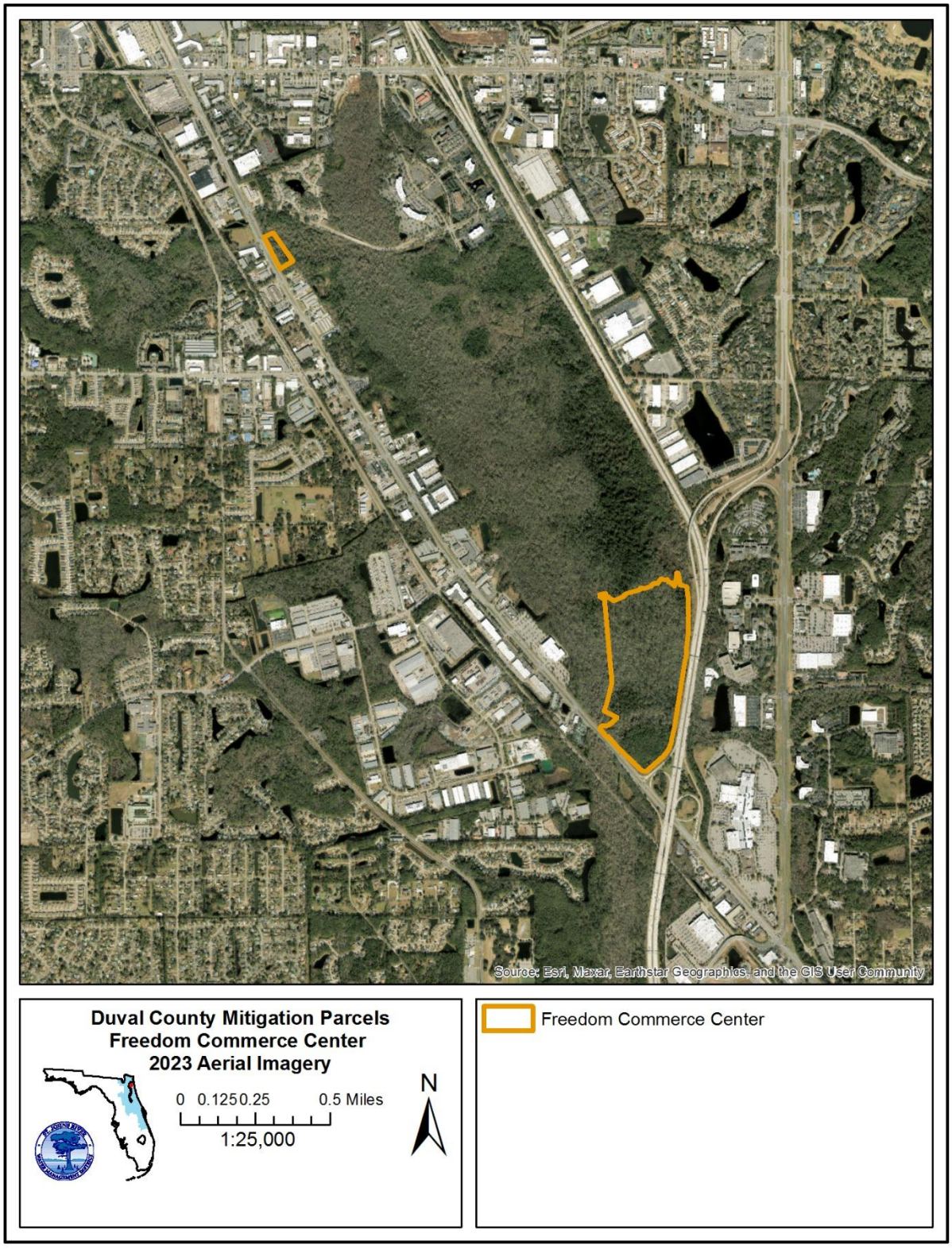

Figure 43: Freedom Commerce Center 2023 Aerial Imagery

ACQUISITION HISTORY

Acquisition of the parcel that comprises Stone Mountain fulfills District-required mitigation in connection with the permitting of the Stone Mountain Industrial Park, located to the south of the parcel. Stone Mountain is one parcel totaling 466.85 deeded acres (Figure 44), donated to the District in 1991. The District incurred no cost for the acquisition of this parcel.

Acquisition of the parcels that comprises Sample Swamp and Grover fulfills District required mitigation in connection with the permitting of several developments within Duval County. Sample Swamp and Grover are subdivided into 32 parcels, totaling 599.15 deeded acres (Figure 45), which were donated to the District from 2000–2006 for specific projects where mitigation was required, brokered by an environmental consulting firm. The District incurred no cost for the acquisition of these parcels.

Acquisition of the parcel that comprises the 9A Mitigation Parcel fulfills required mitigation in connection with the impacts caused by the construction of State Road 9A by FDOT within Duval County. The 9A Mitigation Parcel is one parcel, totaling 325.83 deeded acres (Figure 46), which was donated to the District in 1998 by FDOT. The District incurred no cost for the acquisition of this parcel.

Acquisition of the parcels that comprises Freedom Commerce Center fulfills mitigation in connection with the permitting of developments within Duval County. Freedom Commerce Center comprises two disjunct parcels, totaling 92.92 deeded acres (Figure 47), which were exchanged for surplus lands owned by the District in 2008.

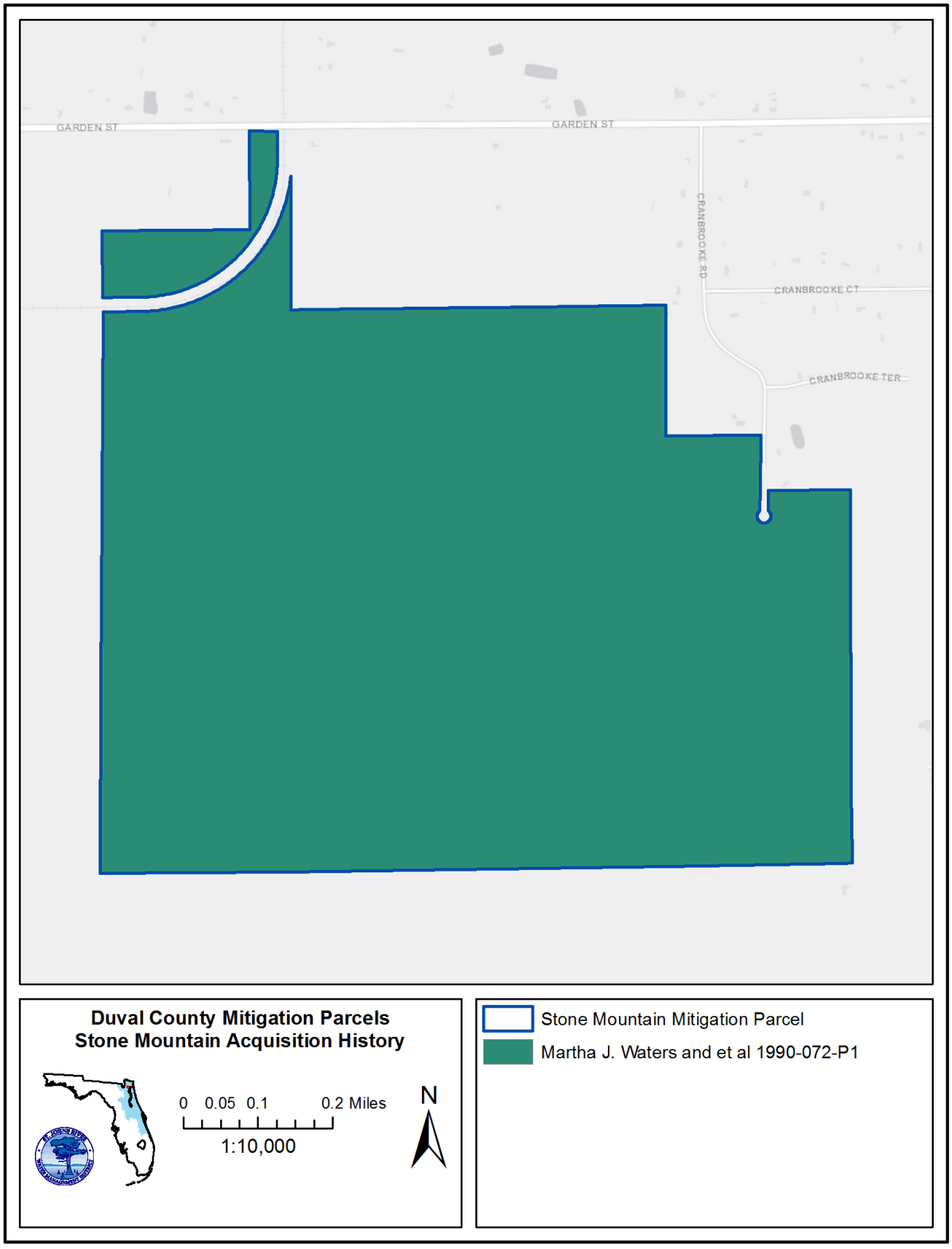

Figure 44: Stone Mountain Acquisition

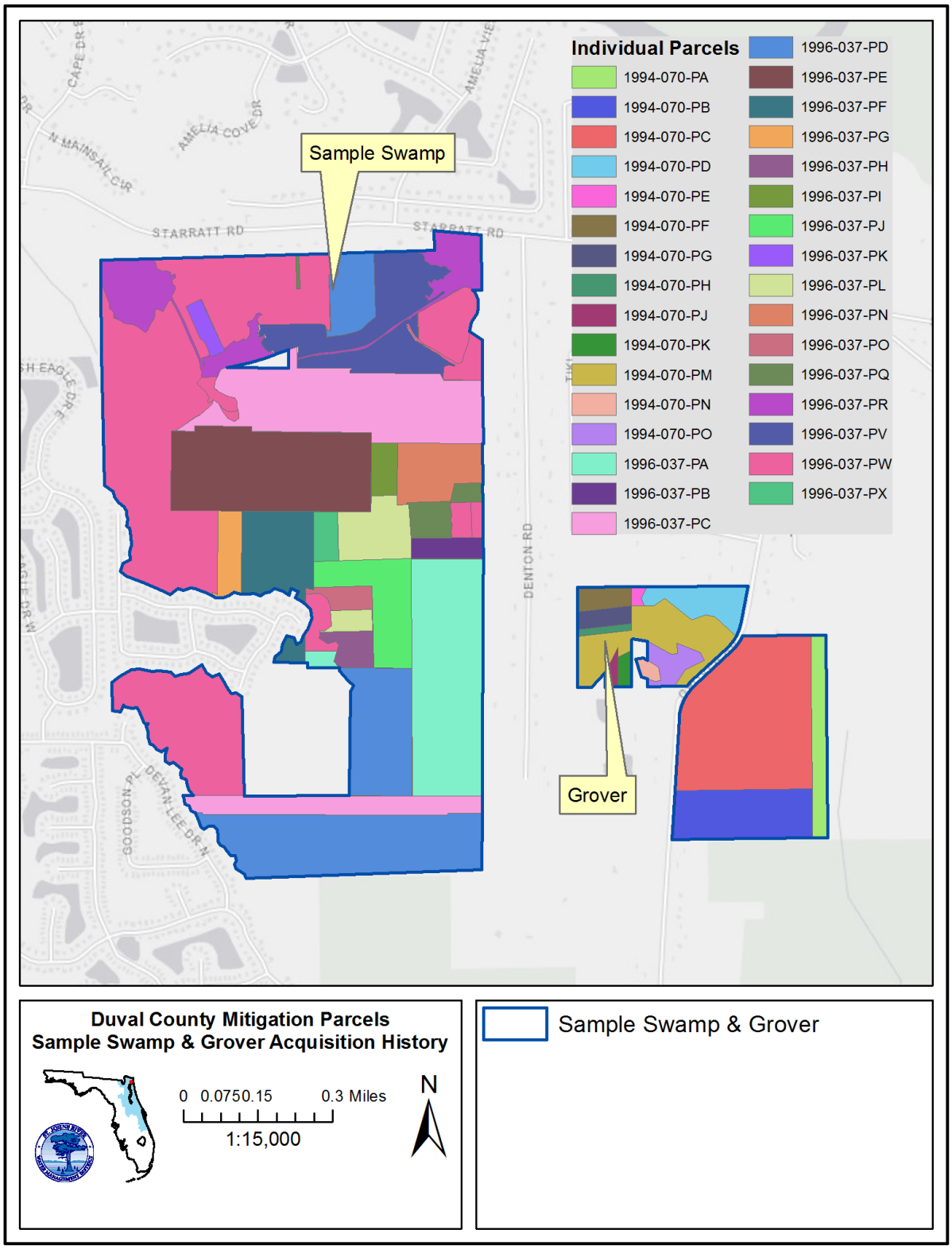

Figure 45: Sample Swamp and Grove Acquisition

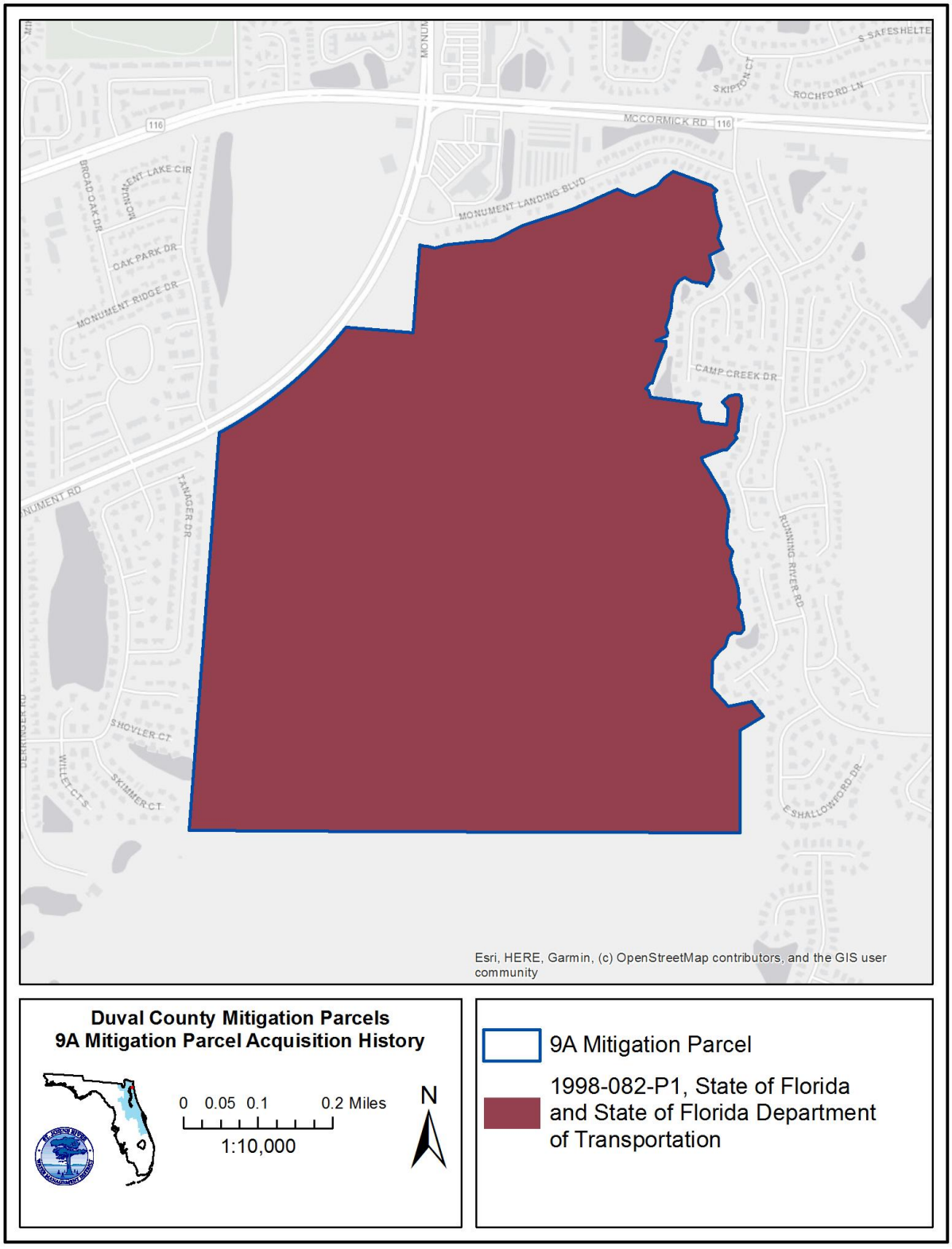

Figure 46: 9A Mitigation Parcel Acquisition

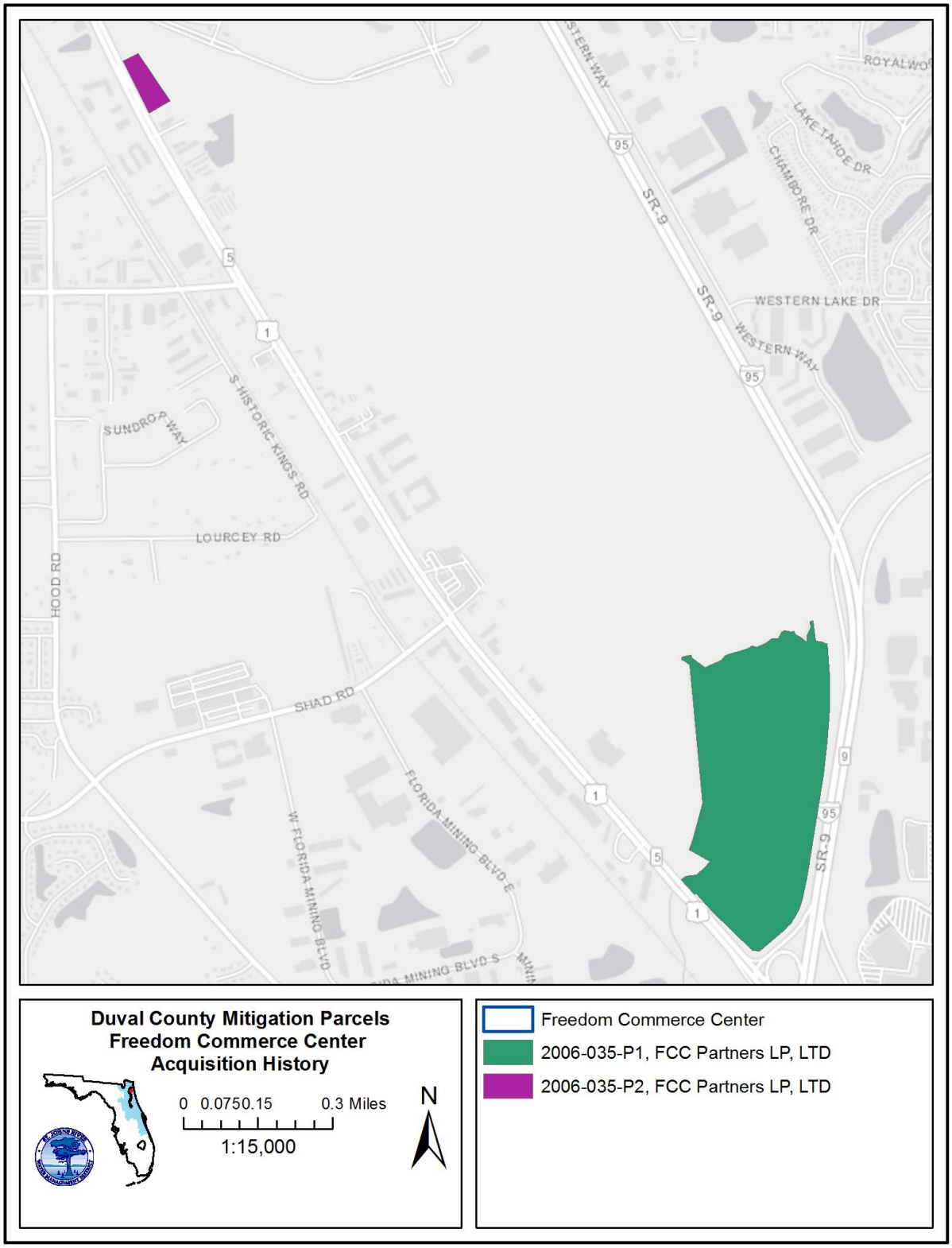

Figure 47: Freedom Commerce Center Acquisition

LOCAL GOVERNMENT LAND USE DESIGNATION

Duval County/City of Jacksonville

According to the 2024 Duval County/City of Jacksonville Comprehensive Plan update (City of Jacksonville Planning and Development Department, 2024), the Future Land Use designations for each parcel are:

- Stone Mountain:
    - Conservation – Conservation lands are areas with valuable environmental resources, such as sensitive vegetation, high value habitat, wetlands, high aquifer recharge potential, carbon sinks, and unique coastal areas. Some resource systems are highly sensitive and easily destroyed by indiscriminate human activity. These will be protected through public or private nonprofit ownership and management over time.
- Sample Swamp and Grover:
    - Rural Residential – Rural Residential is a category intended to provide rural estate residential opportunities in the Suburban and Rural Development Areas of the city. Generally, single-family detached housing will be the predominant development typology in this category. The maximum gross density shall be two units per acre when both centralized potable water and wastewater are available to the site; and the minimum lot size shall be one unit per acre of unsubmerged property when centralized potable water and/or wastewater are not available to the site; and there shall be no minimum density.
- 9A Mitigation Parcel:
    - Conservation – Conservation lands are areas with valuable environmental resources, such as sensitive vegetation, high value habitat, wetlands, high aquifer recharge potential, carbon sinks and unique coastal areas. Some resource systems are highly sensitive and easily destroyed by indiscriminate human activity. These will be protected through public or private nonprofit ownership and management over time.
- Freedom Commerce Center
    - Multi-Use (Suburban Area) – The Multi-Use (MU) land use category is intended to accommodate large-scale development and redevelopment projects pursuant to an approved conceptual long-term master plan and is implemented through one or more Planned Unit Development (PUD) or conventional zoning districts. The criteria provided within this category are based on a long-term planning strategy that results in a cohesive and compatible development pattern, the provision of adequate public facilities, utilities, and infrastructure, and the protection of environmentally sensitive land and species. New designations under the MU category shall generally be for sites greater than 250 acres in size in the Suburban, Urban, and Urban Priority Development Areas.

The surrounding Future Land Use designations for each parcel are:

- Stone Mountain:

    - Agriculture – The Agriculture (AGR) designation is intended to provide for agricultural uses and to preserve the existing rural character of outlying areas of the City. Most AGR lands are located in the rural area of the city where full urban services and facilities will not be provided by the City during the planning timeframe. Accordingly, the principal activities allowed in these categories are agriculture and related uses, such as farming, horticulture, forestry and logging, storage, processing and wholesale distribution of farm supplies and products, and other resource-dependent uses. In order to preserve the rural character of these areas, residential uses are permitted at very low densities.
- Sample Swamp and Grover:
    - Low-Density Residential – Low-Density Residential designation allows for single-family dwellings with specific lot size and yard requirements. Structures must be below 35 ft. high.
- 9A Mitigation Parcel:
    - Low-Density Residential – Low-Density Residential designation allows for single family dwellings with specific lot size and yard requirements. Structures must be below 35 ft. high.
    - Medium-Density Residential – Medium-Density Residential designation allows for single and multiple family dwellings as well as townhomes with specific lot size and yard requirements. Structures must be below 45 ft. high.
    - Public Building and Facilities – Public Building and Facilities designation allows for structures that support local government functions. For this parcel, the adjacent Craig Municipal Airport is zoned this designation.
- Freedom Commerce Center
    - Multi-Use (Suburban Area) – The MU land use category is intended to accommodate large-scale development and redevelopment projects pursuant to an approved conceptual long-term master plan and is implemented through one or more Planned Unit Development (PUD) or conventional zoning districts. The criteria provided within this category are based on a long-term planning strategy that results in a cohesive and compatible development pattern, the provision of adequate public facilities, utilities and infrastructure, and the protection of environmentally sensitive land and species. New designations under the MU category shall generally be for sites greater than 250 acres in size in the Suburban, Urban, and Urban Priority Development Areas.
    - Transportation Corridor – This designation provides for the expansion of transportation infrastructure, in this case U.S. 1.

NATURAL RESOURCES

WATER RESOURCES

Stone Mountain is not located within an Aquatic Preserve or an Area of Critical State Concern pursuant to Section 380.05, Florida Statutes. Stone Mountain is located within the Bay Drain sub-basin in the Trout River planning basin of the Lower St. Johns River Surface Water Basin. The

major waterbodies of this planning basin include the Trout River and Six Mile Creek, (Figure 48). Figure 49 depicts the topographic features of Stone Mountain and surrounding area using data from digital elevation models.

Sample Swamp and Grover is not located within an Aquatic Preserve or an Area of Critical State Concern pursuant to Section 380.05, Florida Statutes. Sample Swamp and Grover is located within the Rushing Branch and Clapboard Creek sub-basins in the North Mainstem planning basin of the Lower St. Johns River major basin as well as the Mink Creek sub-basin in the Nassau River planning and major basin. The major waterbodies of these planning basins include Starratt Creek, Clapboard Creek, and Dunn Creek (Figure 50). Figure 51 depicts the topographic features of Sample Swamp and Grover and surrounding area using data from digital elevation models.

The 9A Mitigation Parcel is not located within an Aquatic Preserve or an Area of Critical State Concern pursuant to Section 380.05, Florida Statutes. The 9A Mitigation Parcel is located within the Cedar Swamp sub-basin in the North Mainstem planning basin of the Lower St. Johns River major basin. The major waterbodies of this planning basin include Cedar Swamp Creek, Tiger Pond Creek, and Cowhead Creek (Figure 52). Figure 53 depicts the topographic features of the 9A Mitigation Parcel and surrounding area using data from digital elevation models.

Freedom Commerce Center is not located within an Aquatic Preserve or an Area of Critical State Concern pursuant to Section 380.05, Florida Statutes. Freedom Commerce Center is located within the Pottsburg Creek Swamp sub-basin in the Julington Creek planning basin of the Lower St. Johns River major basin. The major waterbodies of this planning basin include Julington Creek and Pottsburg Creek (Figure 54). Figure 55 depicts the topographic features of Freedom Commerce Center and surrounding area using data from digital elevation models.

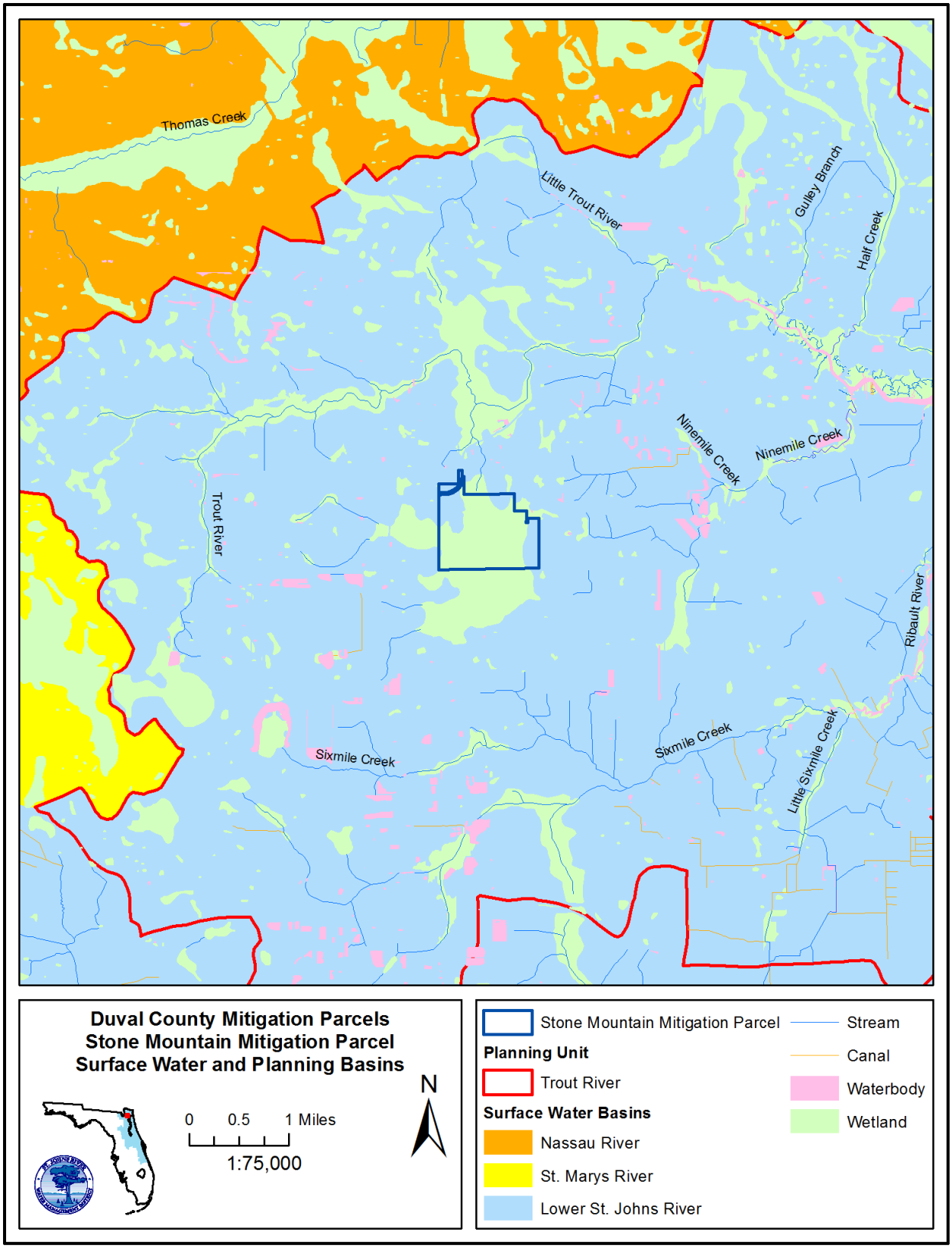

Figure 48: Stone Mountain Location within Planning Basins

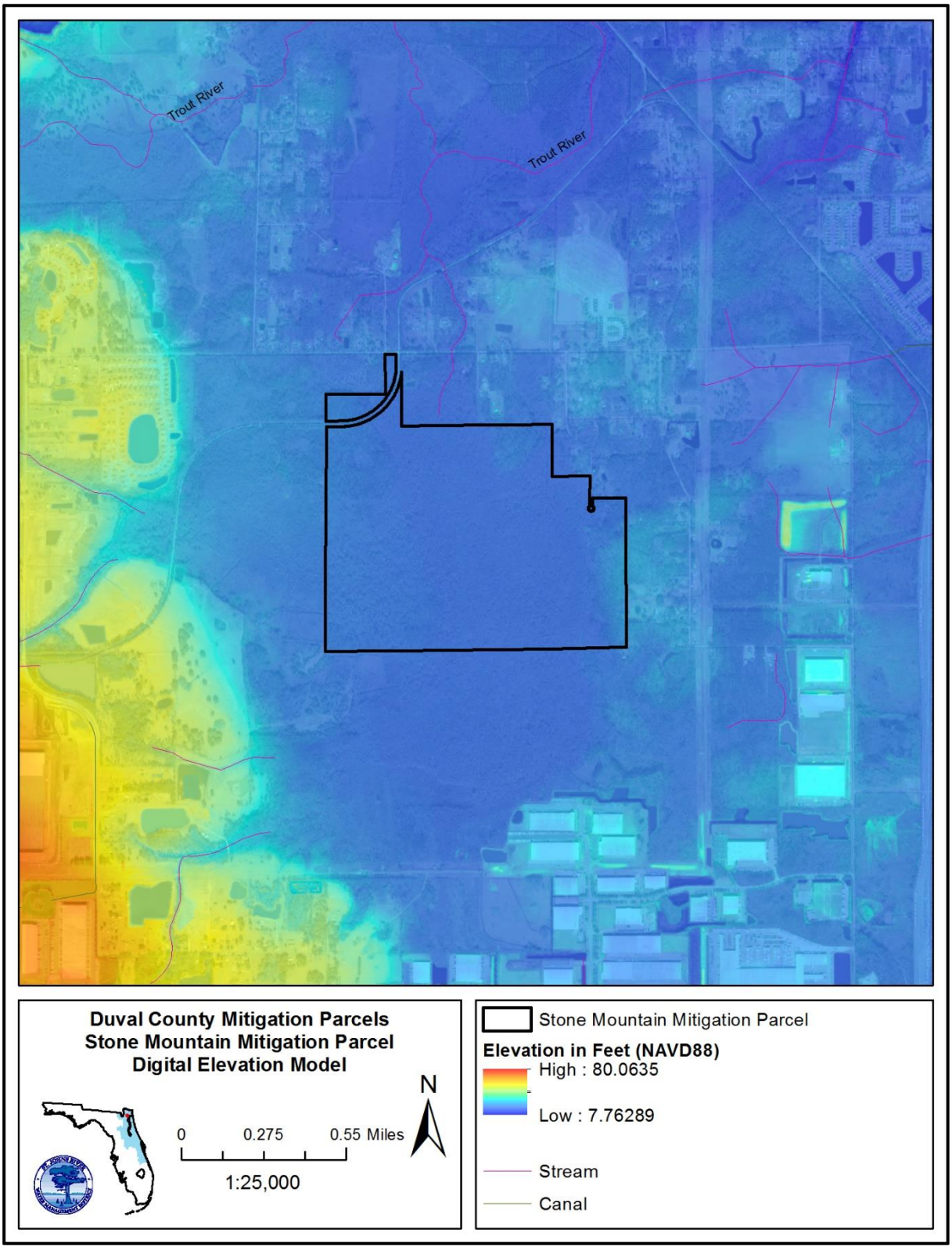

Figure 49: Stone Mountain Elevation

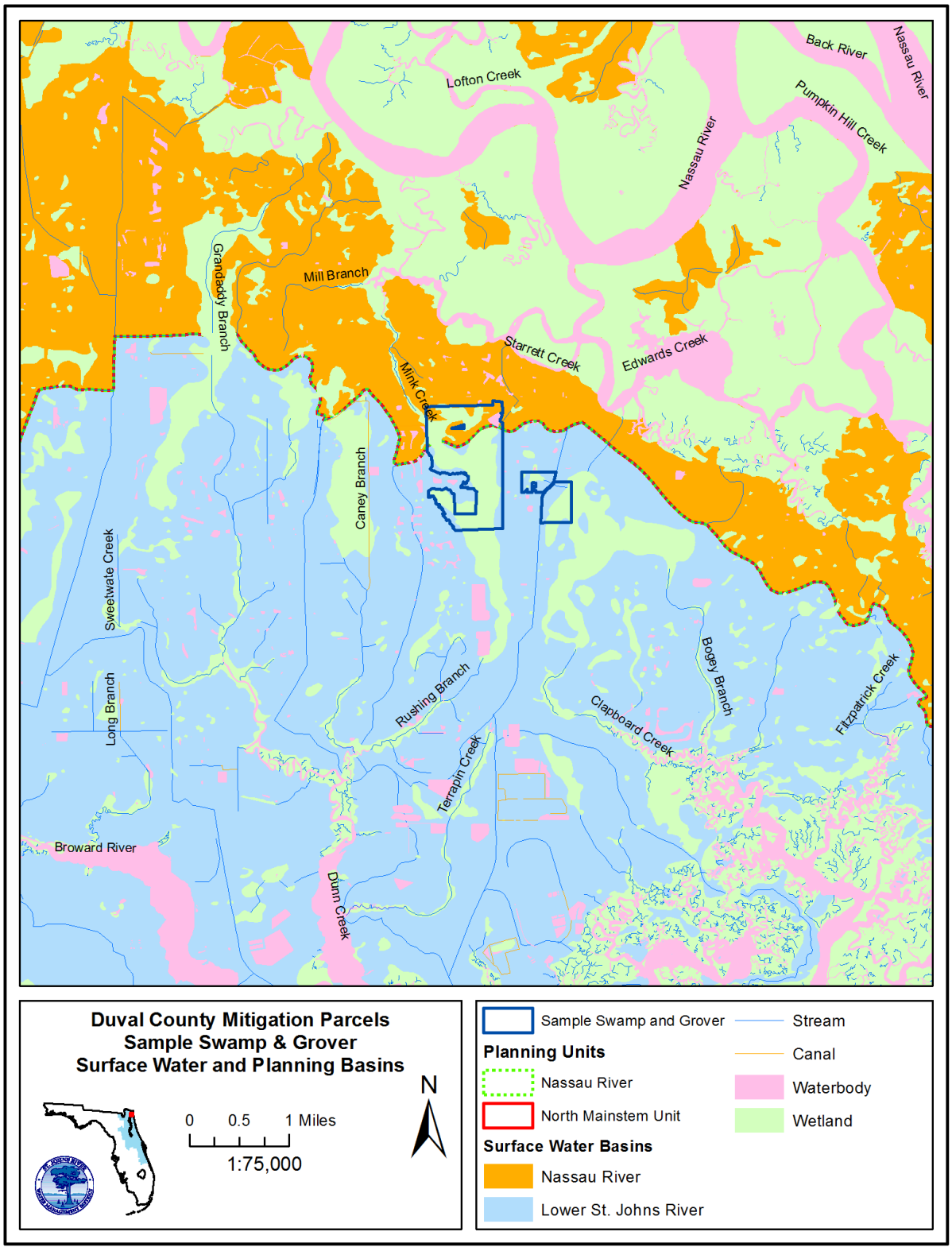

Figure 50: Sample Swamp and Grove Location within Planning Basins

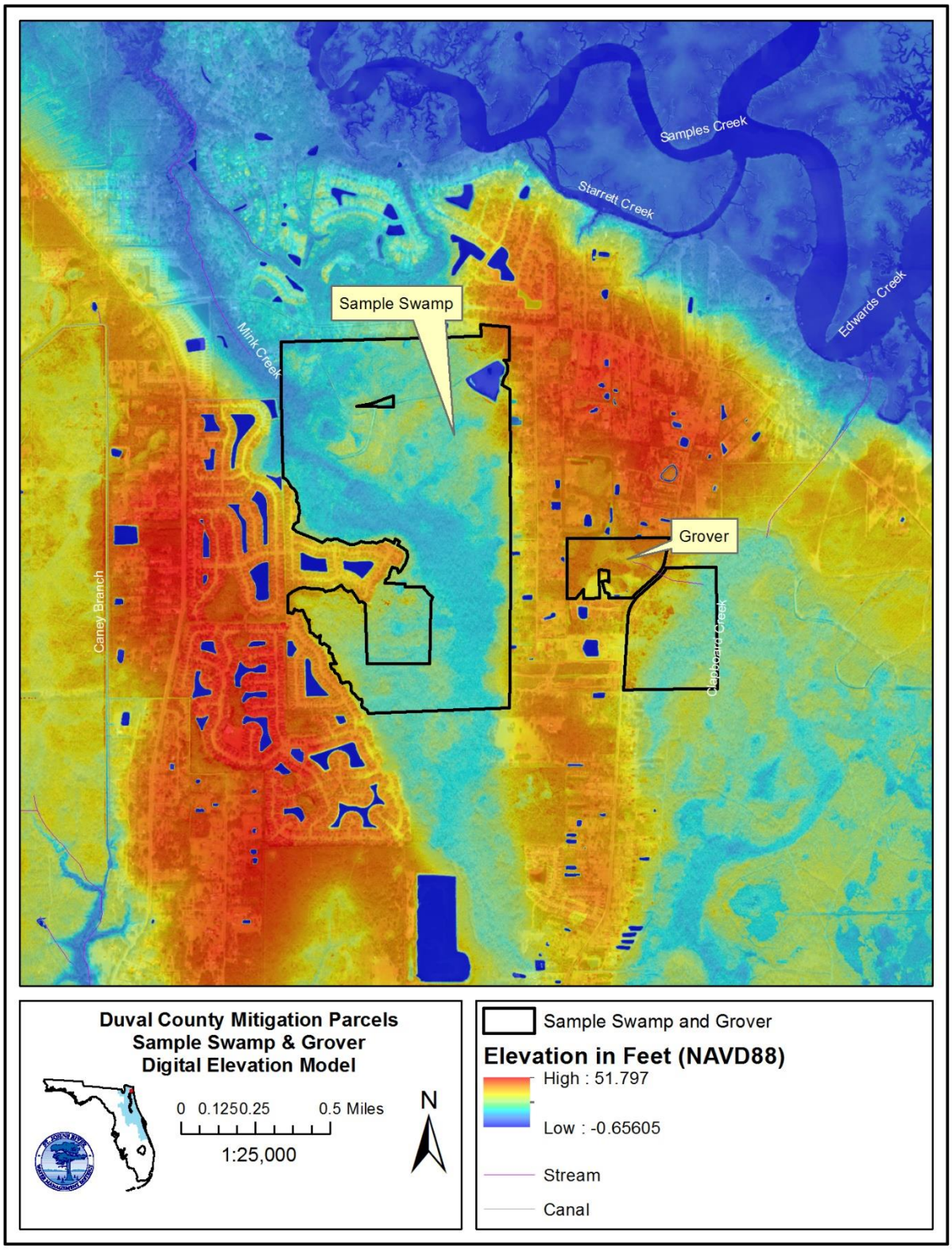

Figure 51: Sample Swamp and Grover Elevation

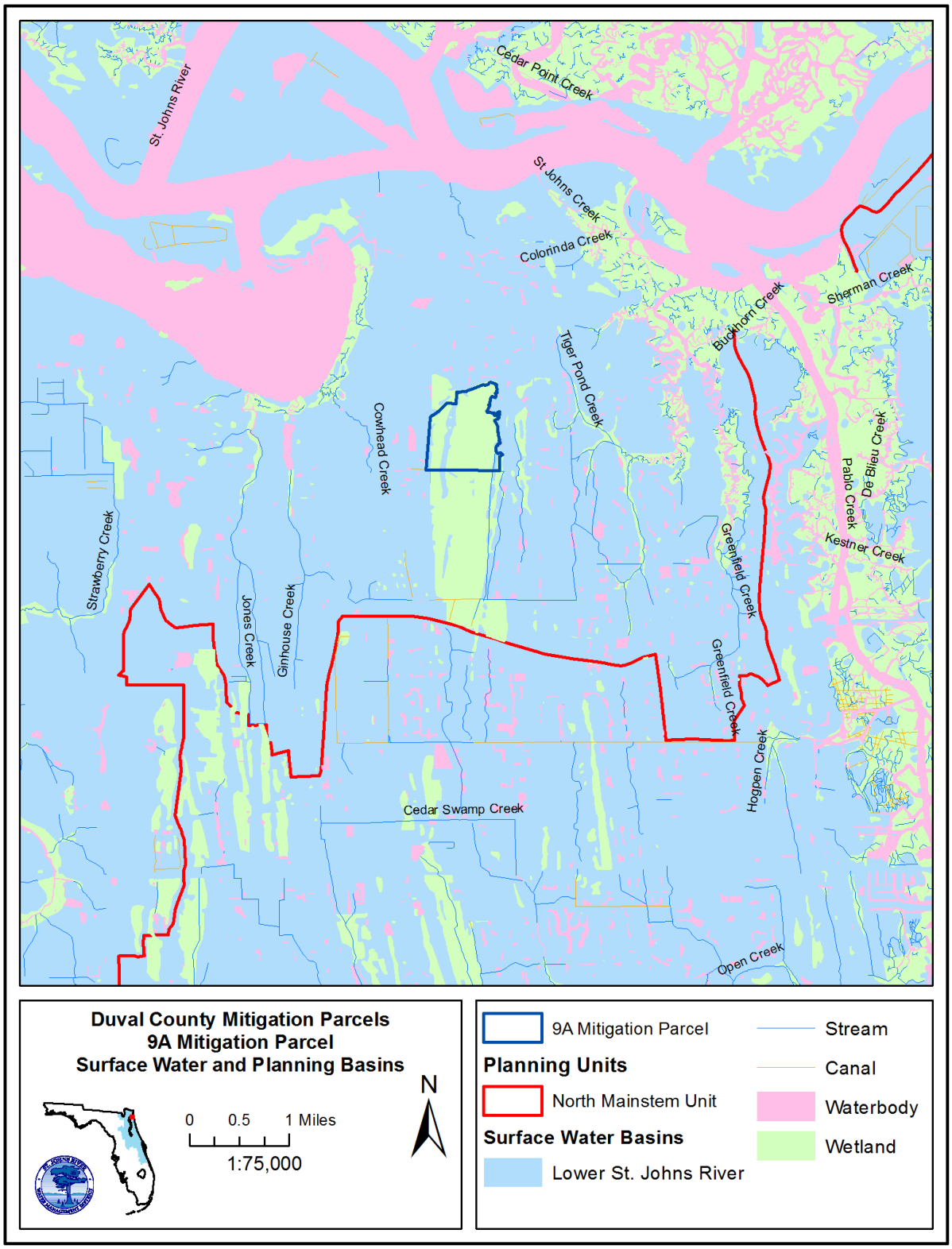

Figure 52: 9A Mitigation Parcel Location within Planning Basin

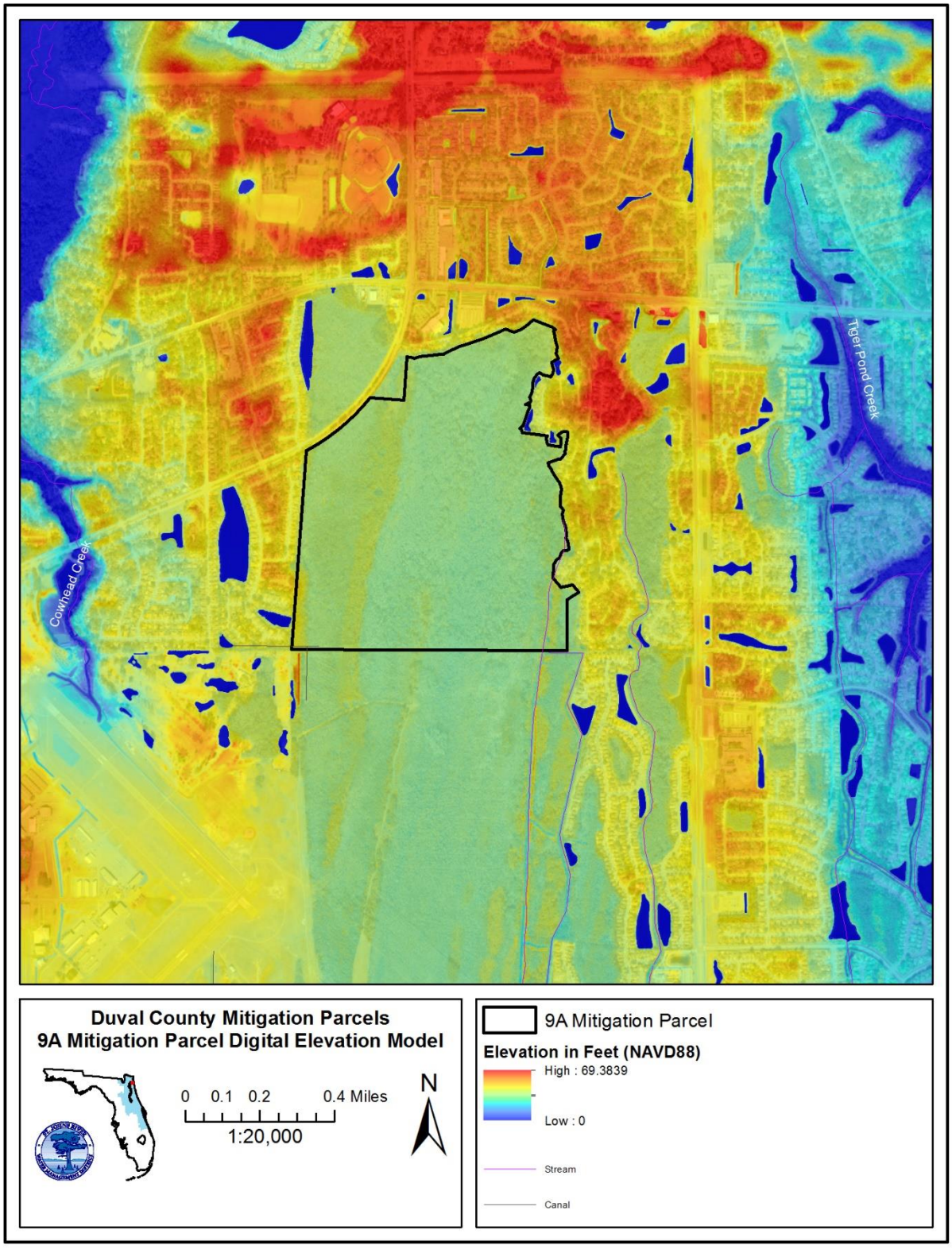

Figure 53: 9A Mitigation Parcel Elevations

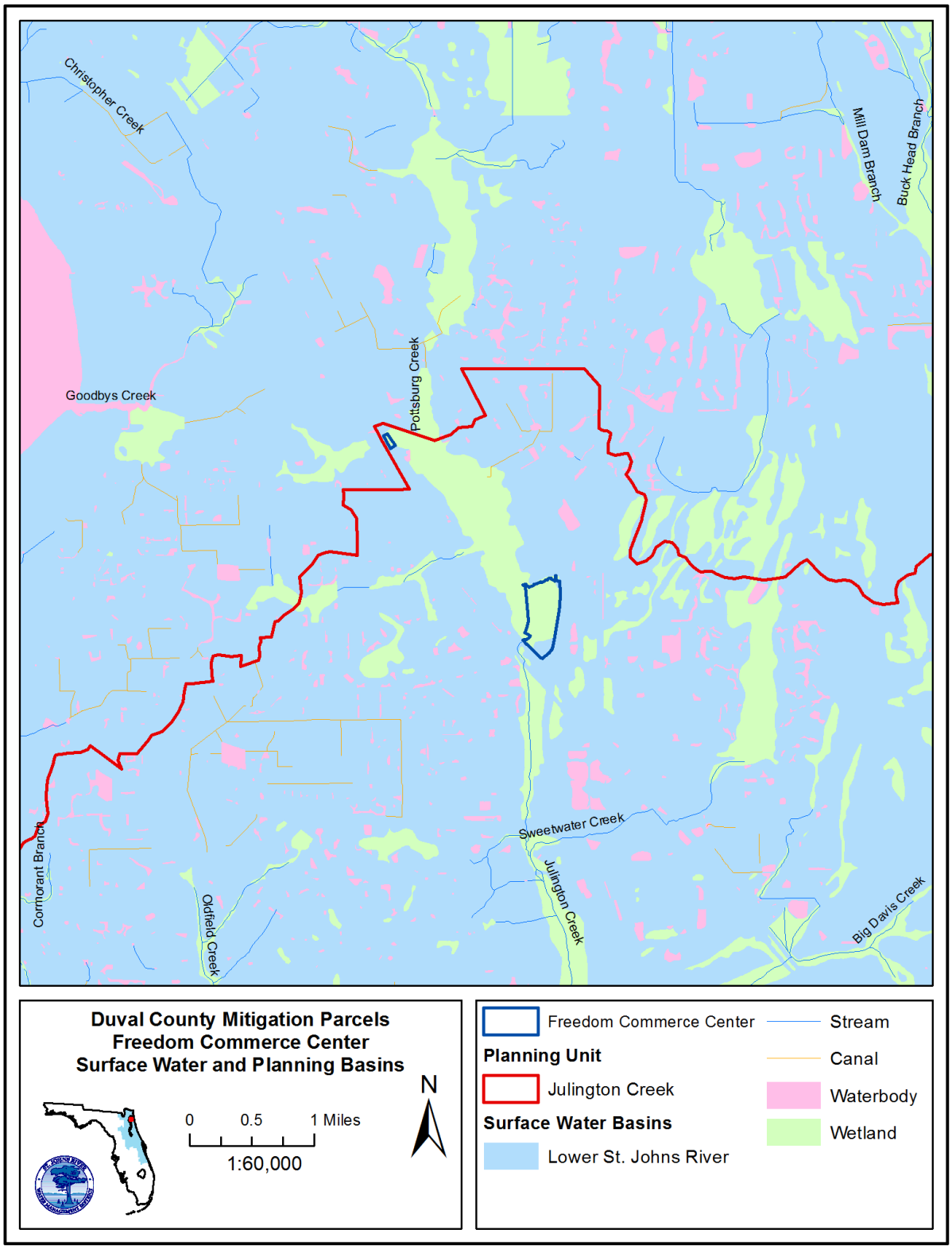

Figure 54: Freedom Commerce Center Location within Planning Basin

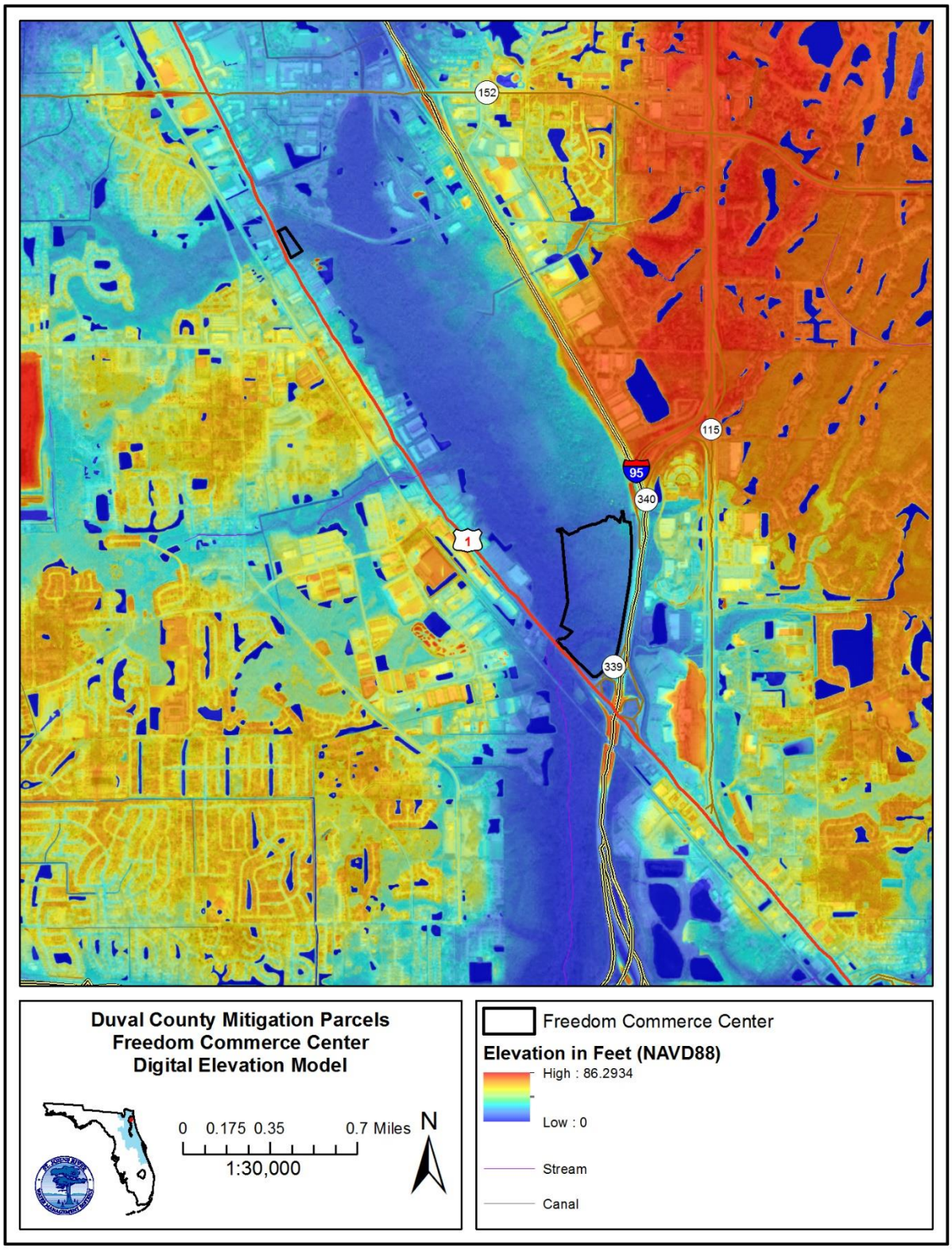

Figure 55: Freedom Commerce Center Elevations

NATURAL COMMUNITIES

Each parcel's natural communities are characterized using descriptions published in the FNAI 2010 *Guide to the Natural Communities of Florida* and mapped based off FWC's Cooperative Land Cover.

The 466 acres that comprise Stone Mountain consists of basin swamp and wet flatwoods (Figure 56).

Basin Swamp (391 acres; 83%)

Basin swamps are large irregularly shaped basins not associated with rivers. Basin swamps are thought to have developed in oxbows of former rivers or in ancient coastal swales and lagoons that existed during higher sea levels. This plant community is generally characterized by the presence of buttressed and hydrophytic trees, such as pond cypress and swamp tupelo. Other typical canopy and subcanopy trees include slash pine, red maple, dahoon, and loblolly bay. Soils that support basin swamp communities are acidic, nutrient-poor peats often overlying a clay lens or other impervious layer. This clay lens or impervious layer may cause a perched water table above that of the adjacent uplands, causing standing water for most of the year. While basin swamps are not associated with rivers, they may contain streams and sloughs that flow during periods of high water (FNAI, 2010).

Wet Flatwoods (75 acres; 17%)

Wet flatwoods is an open pine-dominated community with a short understory of hydrophytic herbs and shrubs or may have a thick shrubby understory and very sparse groundcover, depending on landscape and soils (FNAI 2010). Based upon historic aerial photos, the wet flatwoods onsite were cleared at the time the photos were taken in the 1940s and have naturally regenerated since.

Figure 56: Stone Mountain Natural Communities

The 599 acres that comprise Sample Swamp and Grover consists primarily of floodplain swamp, as well as mesic and wet flatwoods (Figure 57).

Basin Swamp (380 acres; 63%)
Basin swamps are large irregularly shaped basins that are thought to have developed in oxbows of former rivers or in ancient coastal swales and lagoons that existed during higher sea levels. Soils that support basin swamp communities are acidic, nutrient-poor peats often overlying a clay lens or other impervious layer. This clay lens or impervious layer may cause a perched water table above that of the adjacent uplands, causing standing water for most of the year. While basin swamps are not associated with rivers, they may contain streams and sloughs that flow during periods of high water (FNAI, 2010).

The basin swamps of Sample Swamp and Grover are relatively intact and show little change from aerial photographs taken in the 1940s. There is little evidence of hydrologic modifications aside from roadside ditching.

Borrow Area (7 acres; 1%)
The borrow area on the Sample Swamp parcel was excavated between the mid-1980s and 1990s to provide fill for area development. The excavation created a pond that is utilized by waterfowl and wading birds. There are no plans to fill this borrow area or remove additional material.

Bottomland Forest (5 acres, 1%)
Bottomland forest is a deciduous, or mixed deciduous/evergreen, closed-canopy forest on terraces and levees within riverine floodplains and in shallow depressions. Found in situations intermediate between swamps (which are flooded most of the time) and uplands, the canopy may be quite diverse with both deciduous and evergreen hydrophytic to mesophytic trees.
The understory is either dense shrubs with little groundcover, or open, with few shrubs and a groundcover of ferns, herbs, and grasses. Bottomland forest on the Grover parcel appear unchanged from the 1940s aerial photographs.

Bottomland forest, while not as prone to prolonged growing season inundations as alluvial forest, is nevertheless influenced by high water tables and peak seasonal flooding as well as irregular high flood events. Variations in seedling establishment are often caused not only by flooding regimes, but also by windthrows and treefall gaps that allow for the establishment of shade-intolerant species. Organic debris from bottomland forests is an important nutrient source for downstream ecosystems. Fire is not a significant factor in bottomland forest and is primarily limited to individual trees affected by lightning strikes (FNAI, 2010).

Clearing/regeneration (6 acres; 1%)
This area on the Grover parcel was formally dense pine plantation that was clearcut in the early 2000s to facilitate wetland restoration associated mitigation requirements. The area was historically a wetland, likely basin marsh. This site holds water ephemerally; during dry periods, unauthorized vehicle access trails can be seen from aerial photos.

Dome Swamp (3 acres, 1%)
Dome swamp communities typically occur embedded within well-maintained pyric plant communities such as flatwoods. Dome swamps are typically found on flat terraces, where they develop when the overlying sand has slumped into a depression in the limestone underlayment. Soils that support dome swamp communities are variable but may include a layer of peat that thickens toward the center. The peat layer is typically underlain with acidic sands or marl and then limestone or a clay lens. An important physical factor associated with the shaping and maintenance of the dome swamp is the hydroperiod. Water levels in dome swamps fluctuate seasonally with rainfall changes. Normal dome swamp hydroperiods are from 180–270 days per year. Without frequent fire, cypress may become less dominant, being replaced by hardwood or bay species, and may exhibit an increase in peat accumulation. Fire frequency within these communities is greatest around the edges (FNAI, 2010).

One dome swamp is located on the Sample Swamp parcel. It has a dense shrub edge, but the interior appears to retain the structure and composition of a well-functioning dome swamp.

Mesic Flatwoods (109 acres, 18%)
Soils that support mesic flatwoods communities are generally poorly drained, acidic, and sandy soils deposited on ancient, shallow seabeds. Many flatwoods communities have a clay or organic hardpan. Hardpan soils become saturated during the rainy season causing the accumulation of surface water. These soils are often droughty during dry periods. The presence of the hardpan translates to seasonal fluctuations in the amount of water available to support plant life. These seasonal hydroperiods are essential in the maintenance of the flatwoods system. Intact mesic flatwoods typically have a layered appearance, with a distinct, high, discontinuous canopy, low shrub layer, and diverse herbaceous layer (FNAI, 2010).

The majority of the mesic flatwoods on the Sample Swamp parcel have upon them slash pine plantations established in the 1990s. The District manages these stands using timber stand improvement activities. Their understory is dense, owing to decades of fire suppression. It is doubtful that fire will be reintroduced to this natural community due to a lack of a smokeshed.

Wet Flatwoods (89 acres; 15%)
Soils that support wet flatwoods communities are generally very poorly drained sandy soils that may have a mucky texture in the upper horizons. Wet flatwoods occur as ecotonal areas between the drier mesic flatwoods and wetter areas, such as bogs or swamps. They may also occur in broad, low flatlands embedded within these communities. Well-maintained wet flatwoods exhibit a relatively open-canopy forest of scattered pine trees with either a sparse or absent midstory and a dense groundcover of grasses, herbs, and low shrubs. The variations in structure and composition may be attributed to subtle differences in soil characteristics as well as hydrologic and fire regimes. The wet flatwoods plant community is fire dependent with return intervals ranging from 1–3 years in grassy systems and 5–7 years in shrubbier systems (FNAI, 2010).

The wet flatwoods on the Grover parcel along the east side Grover Road is a slash pine plantation established in the 1990s. The District manages these stands using timber stand improvement activities. The balance of the wet flatwoods on Sample Swamp and Grover are natural stands that

have limited access for management. While fire dependent, it is doubtful that fire will be reintroduced to this natural community due to a lack of a smokeshed.

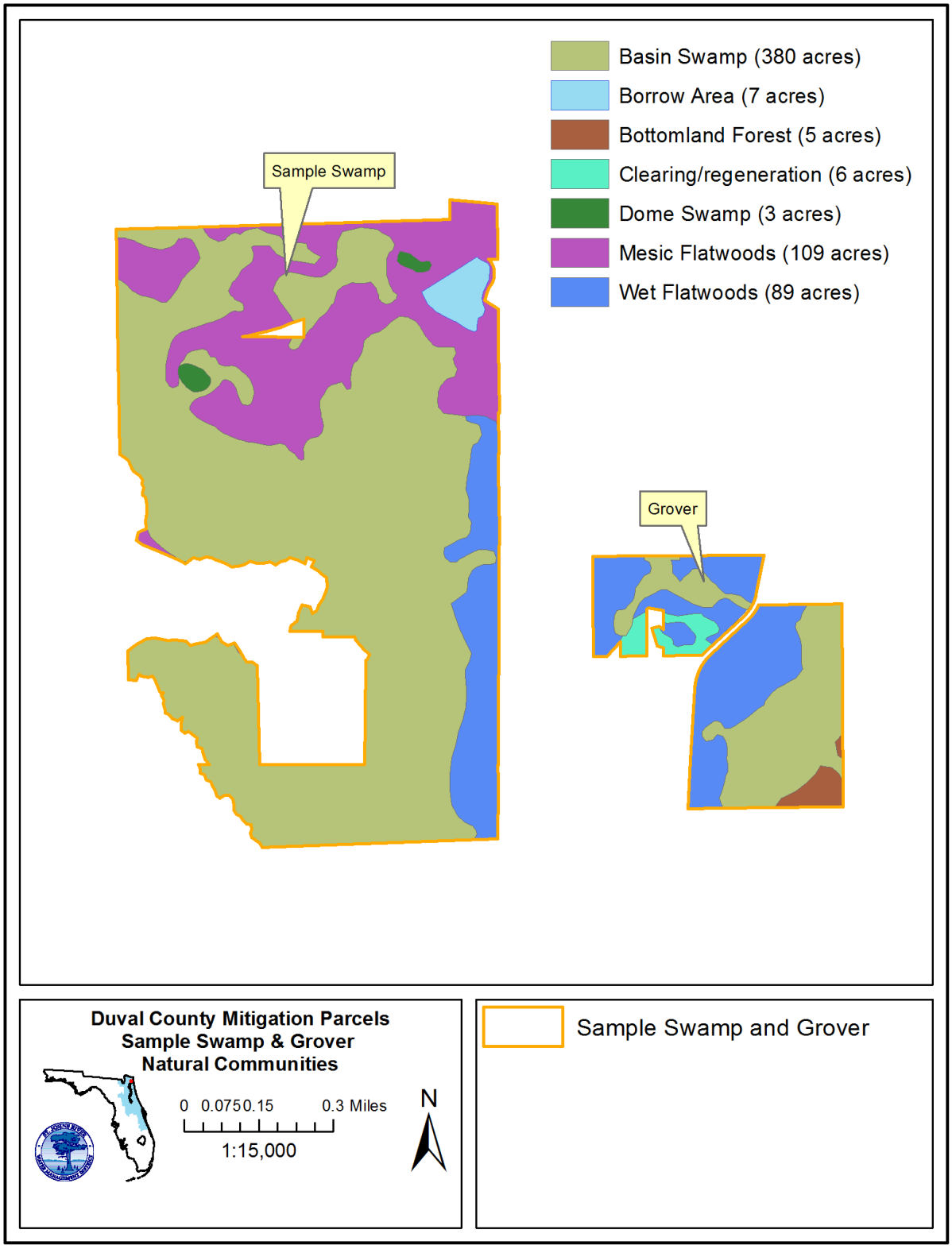

Figure 57: Sample Swamp and Grover Natural Communities

The 326 acres that comprise 9A Mitigation Parcel consists primarily of basin swamp and baygall (Figure 58).

Basin Swamp (205 acres; 63%)
Basin swamps are large irregularly shaped basins not associated with rivers. Basin swamps are thought to have developed in oxbows of former rivers or in ancient coastal swales and lagoons that existed during higher sea levels. This plant community is generally characterized by the presence of buttressed and hydrophytic trees. Soils that support basin swamp communities are acidic, nutrient-poor peats often overlying a clay lens or other impervious layer. This clay lens or impervious layer may cause a perched water table above that of the adjacent uplands, causing standing water for most of the year. While basin swamps are not associated with rivers, they may contain streams and sloughs that flow during periods of high water (FNAI, 2010).

The basin swamp at 9A Mitigation Parcel appears largely intact and unchanged based on aerial imagery taken in the 1940s.

Baygall (58 acres; 18%)
Baygall is an evergreen, forested wetland of bay species situated at the base of a slope or in a depression. Baygalls have organic/peat soils, are acidic, and are typically dominated by a dense overstory of bay trees. This natural community does not burn often, as the peat soils stay relatively wet. When soils dry out, baygalls will readily burn.

The baygall at 9A Mitigation Parcel appears largely intact and unchanged based on aerial imagery taken in the 1940s. There does appear to be a ditch between the neighboring development and the eastern baygall. This ditch is apparent in aerial imagery taken in 1984.

Bottomland Forest (26 acres; 8%)
Bottomland forest is a deciduous, or mixed deciduous/evergreen, closed-canopy forest on terraces and levees within riverine floodplains and in shallow depressions. Found in situations intermediate between swamps (which are flooded most of the time) and uplands, the canopy may be quite diverse with both deciduous and evergreen hydrophytic to mesophytic trees. The understory is either dense shrubs with little ground cover, or open, with few shrubs and a groundcover of ferns, herbs, and grasses.

Bottomland forest, while not as prone to prolonged growing season inundations as alluvial forest, is nevertheless influenced by high water tables and peak seasonal flooding as well as irregular high flood events. Variations in seedling establishment are often caused not only by flooding regimes, but also by windthrows and treefall gaps that allow for the establishment of shade intolerant species. Organic debris from bottomland forests is an important nutrient source for downstream ecosystems. Fire is not a significant factor in bottomland forest and is primarily limited to individual trees affected by lightning strikes (FNAI, 2010).

The bottomland forest at 9A Mitigation Parcel appears largely intact and unchanged based on aerial imagery taken in the 1940s.

Wet Flatwoods (37 acres; 11%)
Soils that support wet flatwoods communities are generally very poorly drained sandy soils that may have a mucky texture in the upper horizons. Wet flatwoods occur as ecotonal areas between the drier mesic flatwoods and wetter areas such as bogs or swamps. They may also occur in broad, low flatlands embedded within these communities. Well-maintained wet flatwoods exhibit a relatively open-canopy forest of scattered pine trees with either a sparse or absent midstory and a dense groundcover of grasses, herbs, and low shrubs. The variations in structure and composition may be attributed to subtle differences in soil characteristics as well as hydrologic and fire regimes. The wet flatwoods plant community is fire dependent with return intervals ranging from 1–3 years in grassy systems and 5–7 years in shrubbier systems (FNAI, 2010).

The wet flatwoods at 9A Mitigation Parcel appears largely intact and unchanged based on aerial imagery taken in the 1940s. There is no evidence of pine plantation establishment. There is a relic access road that runs north-south on the western wet flatwoods as shown in aerial imagery from 1984 and digital elevation models. These flatwoods are fire-suppressed with a dense understory. There are no plans to introduce prescribed fire due to lack of access as well as proximity to development and Craig Municipal Airport.

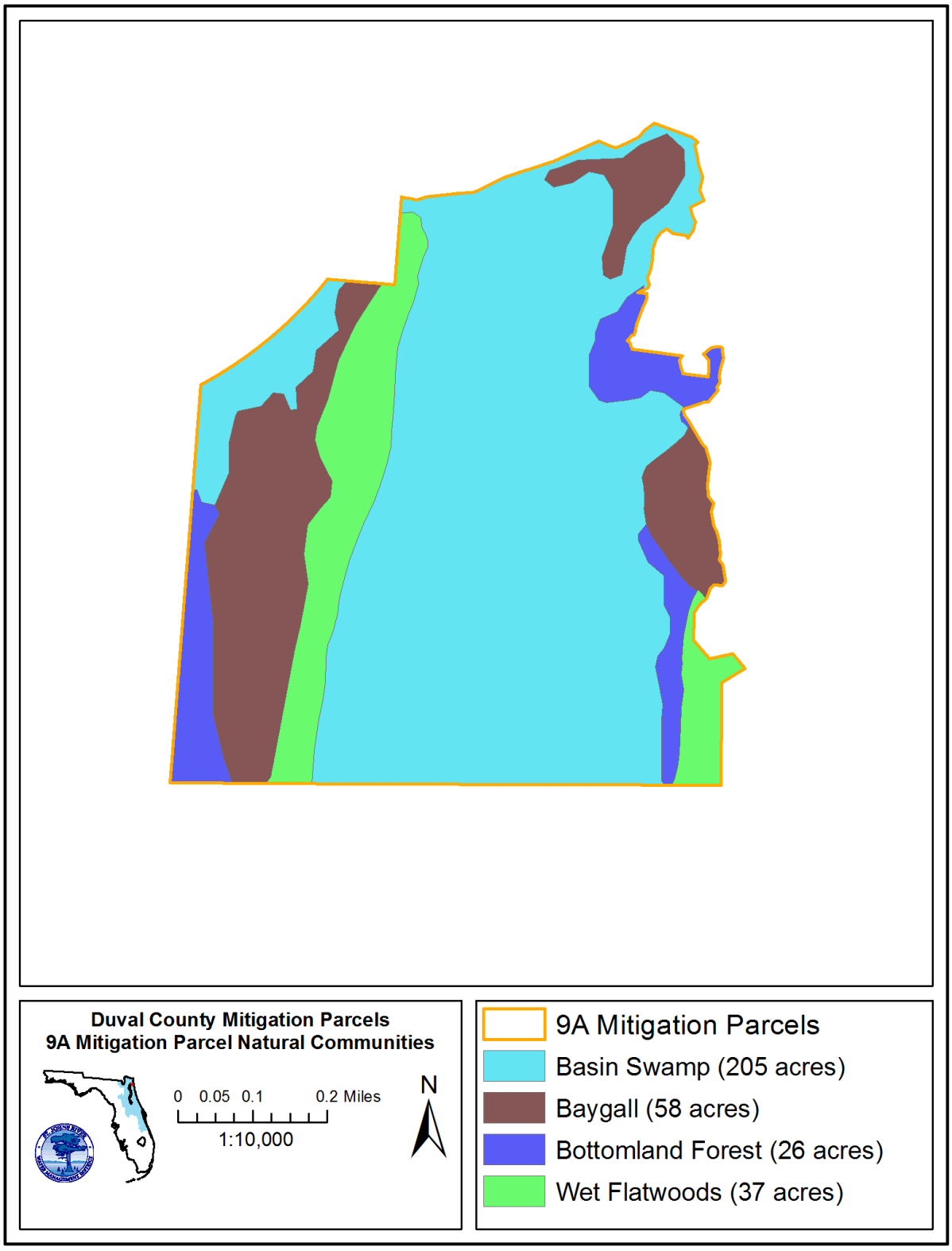

Figure 58: 9A Mitigation Parcel Natural Communities

The 93 acres that comprise Freedom Commerce Center consist of floodplain swamp and wet flatwoods (Figure 59).

Floodplain Swamp (73 acres; 78%)
Floodplain swamp communities typically occur on flooded soils along stream channels and within river floodplains. The floodplain swamp communities within Freedom Commerce Center are associated with Julington and Pottsburg creeks. Soils that support floodplain swamp communities are variable but may include a mixture of sand, organic, and alluvial material. Peat soils may be present in floodplain swamps associated with smaller streams or in areas of low stream velocity. The most important physical factor associated with the shaping and maintenance of the floodplain swamp is the hydroperiod. Extended periods of inundation, which may last for most of the year, are common in the floodplain swamp environment. Alterations to the hydrology within the floodplain swamp, particularly a reduction in the duration of inundation periods, may have damaging consequences to the creek system and associated flora and fauna. Since this community type is maintained by hydrologic regimes, it is not fire dependent (FNAI, 2010).

The floodplain swamp on Freedom Commerce Center appears unchanged based on aerial imagery taken in the 1940s.

Wet Flatwoods (20 acres; 22%)
Soils that support wet flatwoods communities are generally very poorly drained sandy soils that may have a mucky texture in the upper horizons. Wet flatwoods occur as ecotonal areas between the drier mesic flatwoods and wetter areas such as bogs or swamps. They may also occur in broad, low flatlands embedded within these communities. Well-maintained wet flatwoods exhibit a relatively open-canopy forest of scattered pine trees with either a sparse or absent midstory and a dense groundcover of grasses, herbs, and low shrubs. The variations in structure and composition may be attributed to subtle differences in soil characteristics as well as hydrologic and fire regimes. The wet flatwoods plant community is fire dependent with return intervals ranging from 1–3 years in grassy systems and 5–7 years in shrubbier systems (FNAI, 2010).

The wet flatwoods on Freedom Commerce Center appear cleared in aerial imagery taken in the 1940s. It has sense naturally established into a mature, though fire-suppressed stand. There are no plans to introduce prescribed fire due to proximity to development and transportation corridors.

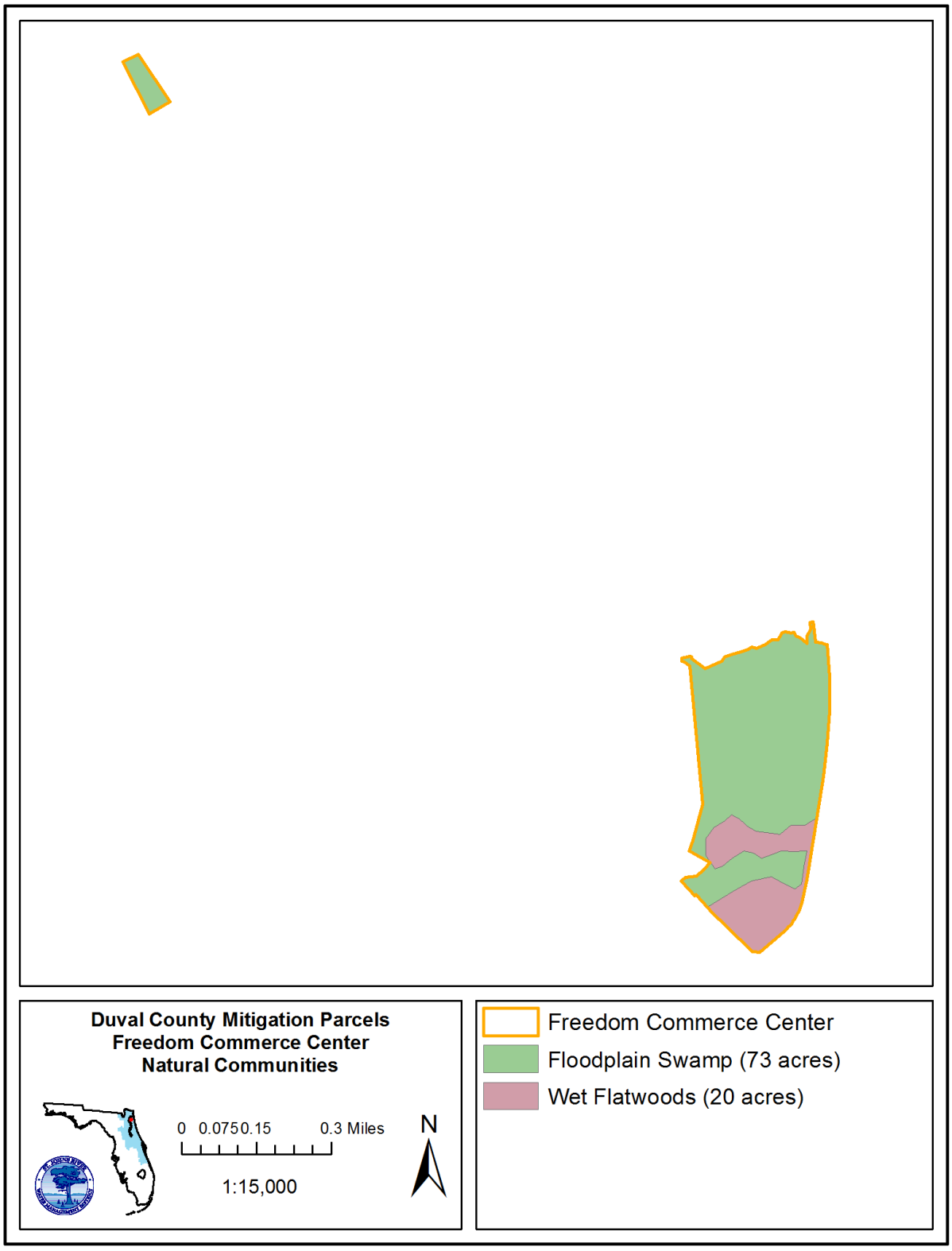

Figure 59: Freedom Commerce Center Natural Communities

SOILS

According to the U.S. Department of Agriculture (USDA) Soil and Conservation Service, several soil types are within DCMP. The Duval County Soil Survey (USDA, 2024) provided information used to develop descriptions of the predominant soil series found within SMMP.

CULTURAL AND HISTORICAL RESOURCES

A review of the Florida Department of State Division of Historical Resources indicates there are no registered cultural sites within the boundaries of the DCMP. If any new sites are located, District staff will document and report the sites to the Division of Historical Resources.

IMPLEMENTATION

The following sections outline land management strategies for resource protection, land use, and administration on SMMP for the next 10 years. Implementation items will be identified but no goals and strategies will be developed due to the parcel's lack of developed access.

RESOURCE PROTECTION AND MANAGEMENT

Water Resources

Wetland protection was accomplished through acquisition. Based on historical aerial photo interpretation, no noticeable disturbances have occurred on the DCMP wetlands. There are no roads or ditches onsite that alter hydrology. If there are any water quality or quantity violations near the parcels, the District will respond to ensure these violations are not impacting DCMP.

Forest Management

Most of DCMP, apart from Sample Swamp and Grover, is comprised of wetlands that are not managed for timber production. In addition, the lack of developed access on these parcels precludes the use of timber harvest as a management tool. The forested natural communities of DCMP shall be monitored for structural and biotic changes. Where these changes occur, appropriate actions shall be undertaken in consultation with the District forester.

The planted pine on the flatwoods of Sample Swamp and Grover provides an opportunity for forest management on DCMP. In 2021, a total of 48 acres was thinned to 60 square feet of basal area (Figure 60). These stands were selected due to road access, timber stand improvement for these 20-year-old stands, and to provide wildland fuels reduction. A second thinning or clearcut harvest/replanting will likely occur on these stands within the planning period.

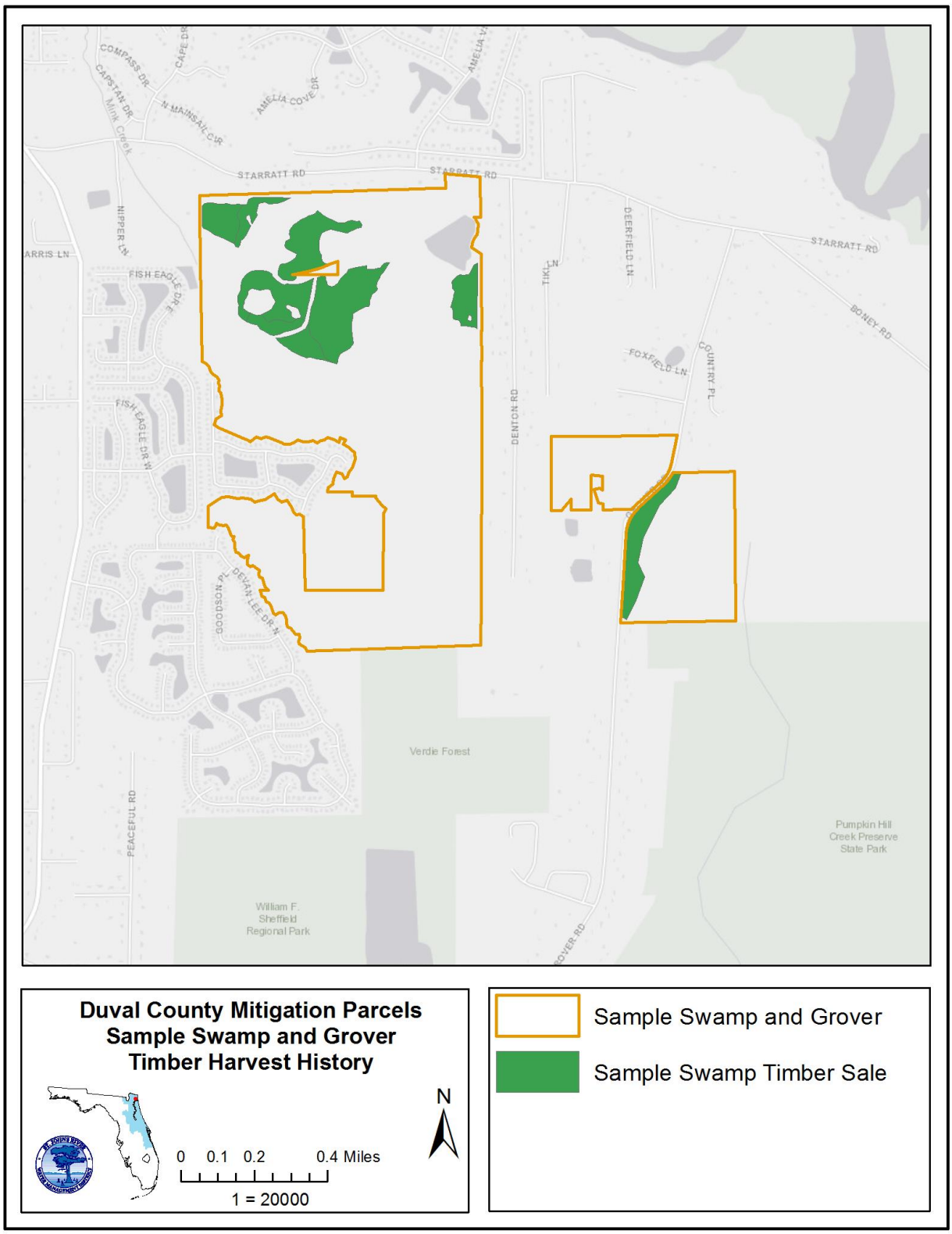

Figure 60: Sample Swamp and Grover Timber Harvest History

Fire Management

No prescribed fire management is planned for DCMP due to the lack of pyric natural communities, lack of developed access, and proximity of development.

On Sample Swamp and Grover, which have access and pyric communities, fire surrogates will be used to reduce wildland fuel loads. Approximately 50 acres may be mowed to reduce the structure wildland fuels on this parcel within the scope of this plan.

Flora and Fauna

DCMP provides habitat for a myriad of flora and fauna. There are two inactive bald eagle (*Haliaeetus leucocephalus*) nests documented on the 9A Mitigation Parcel. The last year of recorded activity was 2004. All of DCMP except for Stone Mountain are within the core foraging areas for two wood stork colonies, which are designated Dee Dot Ranch and Jacksonville Zoo and Gardens. There are no other documented FNAI-tracked species on DCMP. A large bald cypress (*Taxodium distichum)* is located on Freedom Commerce Center, which has been evaluated for consideration to the Florida Champion Tree program but failed to meet the criteria. Species lists have not been developed for DCMP.

Invasive Species Management

Overall, the status of the invasive species populations on DCMP is unknown, due to the lack of developed access on most of the parcels. A total of 28 acres on Sample Swamp and Grove have been scouted and treated for Chinese tallow (*Sapium sebiferum*) within the past 5 years. Areas with access that have previously been scouted and treated for invasive species will continue to be during the scope of this plan.

Cultural Resource Protection

A review of the DHR data indicates no documented Florida Master Site File cultural sites within DCMP. If any sites are located, District staff will document and report sites to the DHR. District land management activities that may affect or impact these resources will be evaluated and modified to reduce the potential for disturbance of the identified sites. Additionally, detrimental activities discovered on these sites will also be reported to the DHR and appropriate law enforcement agencies. Due to District and state policy, the locations of such cultural sites are not identified on public maps.

LAND USE MANAGEMENT

Access

Overall, management access is limited to most of the DCMP due to lack of developed or legal access.

Stone Mountain has no gates or internal roads and lacks developed access. Stone Mountain benefits from a private, platted ingress/egress easement as part of the Cranbrooke unrecorded subdivision (locally known as Cranbrooke Road), which was included with the donation. The easement terminates into the parcel's basin swamp, making any access improvements impractical as it would have to cross a large wetland.

Sample Swamp and Grover have legal access to public roads, Starratt and Grover roads. This allows for management actions to occur, as well as the possibility of developed public access in the future. The Grover portion of this parcel has Grover Road bisecting it. For a portion of this road right-of-way, no maintenance responsibility has been claimed by any entity. As noted in Note #1 of the survey of the Grover parcel dated Sept. 13, 2000, Grover Road is shown in City of Jacksonville's right-of-way map dated June 18, 1979, but internal City of Jacksonville memorandums indicate that the City has no maintenance responsibilities. There are 1.5 miles of internal roads on the Sample Swamp parcel (Figure 61) that are maintained by the District, principally by contract road mowing.

On the 9A Mitigation Parcel, there is property frontage on Monument Road but no developed access to the parcel. The north, east, and south sides of the parcel have no legal access through the surrounding private property. There are no plans to develop access.

Freedom Commerce Center has two gates along U.S. 1 but there are no internal roads on the parcel. There are no plans to develop access.

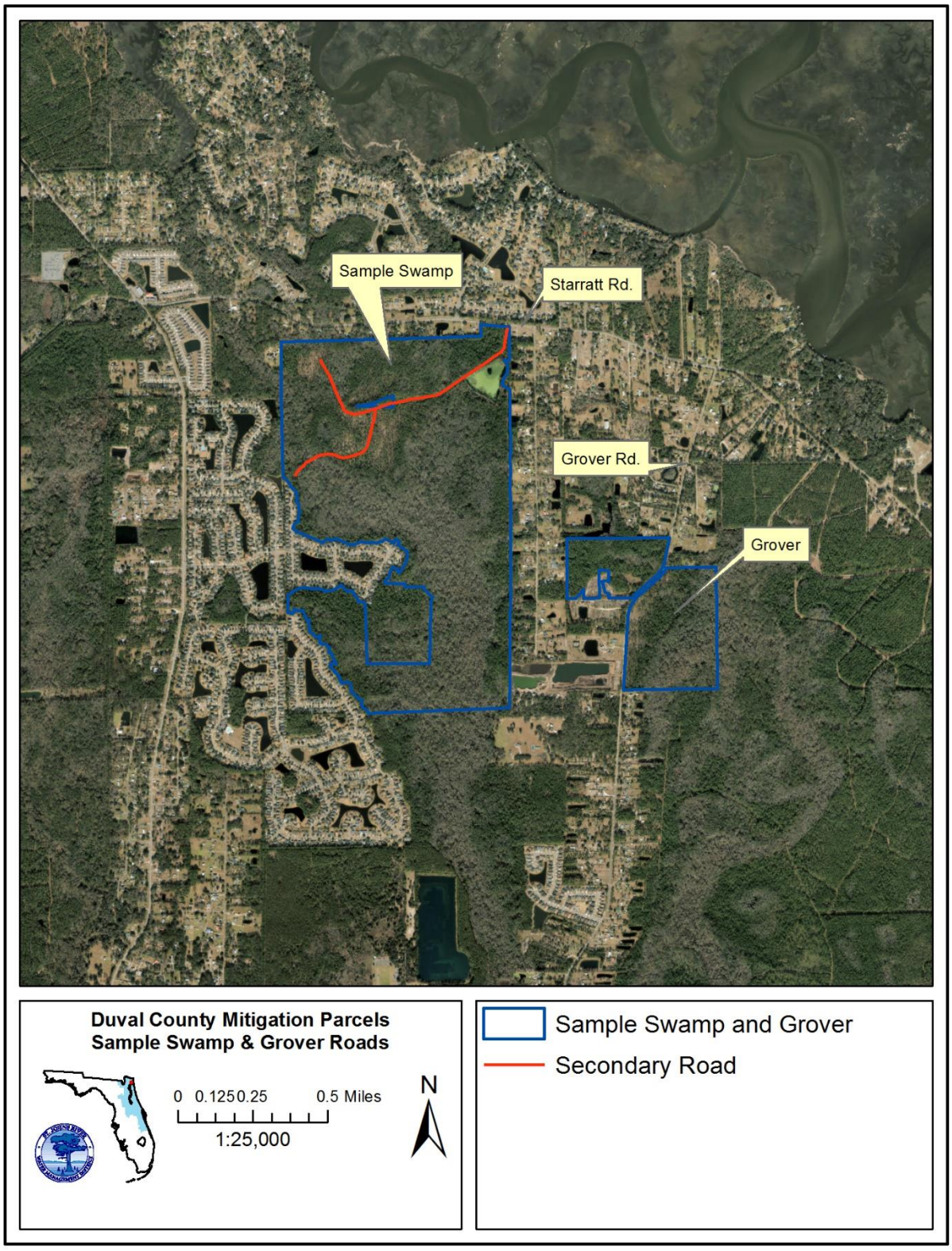

Figure 61: Sample Swamp and Grover Road Infrastructure

Recreation

Currently, there is no developed recreation on the DCMP. Public access is not precluded on the DCMP except for Freedom Commerce Center, which is closed to the public due to security concerns (detailed in the Security section below). The 9A Mitigation Parcel and Stone Mountain have limited legal access, which does not facilitate the development of recreational amenities.

Recreational amenities may be developed on the Sample Swamp parcel during the scope of this plan. This includes the development of a quarter- to half-acre parking area on Starratt Road, a multi-use trail system along the parcel's roads and fire lines, and a wildlife overlook located on the borrow area pond. Consideration is also being given to including this parcel in a special opportunity hunt.

Security

Security concerns on DCMP include illegal motorized vehicle access, unauthorized encampments, wildlife poaching, and dumping. Overall, enforcement is difficult due to lack of developed access.

Beginning in 2022, neighboring landowners of the 9A Mitigation Parcel contacted the District regarding potential boundary encroachment. District staff investigated the complaints and found vegetation clearing, fill material, and permanent structures built within the 9A Mitigation Parcel. These encroachments were also built upon a jurisdictional wetland. After several attempts to remedy the encroachment with the neighboring landowner were unsuccessful, legal action was taken by the District resulting in the removal of the encroachments in 2024 at the landowner's expense.

In early 2024, District staff conducted a routine site visit to Freedom Commerce Center and found an extensive unhoused persons encampment with waste covering several acres of the parcel. Staff worked with Jacksonville Sheriff's Office Blight Abatement Unit to determine steps to remedy this situation. The Sheriff's Office recommended closing the property to the public as a first step to allow the Blight Abatement Unit to trespass the violators and begin the cleanup process. The property closure process and posting were being completed in 2024.

ADMINISTRATION

Real Estate Administration

The 9A Mitigation Parcel and Freedom Commerce Center have no optimal boundary established because the surrounding parcels are developed or encumbered by conservation easements.

Most of the parcels that surround Stone Mountain are developed, though there are two parcels totaling 156 acres to the west of Stone Mountain to include in its optimal boundary (Figure 62). These parcels would provide additional access to uplands and protection for the wetlands on Stone Mountain.

Sample Swamp and Grover is bordered by development or conservation land, though there are three parcels totaling 278 acres to include in its optimal boundary (Figure 63). Acquisition of these parcels would fill an inholding, create a simpler boundary, and provide additional protection to wetlands in the vicinity.

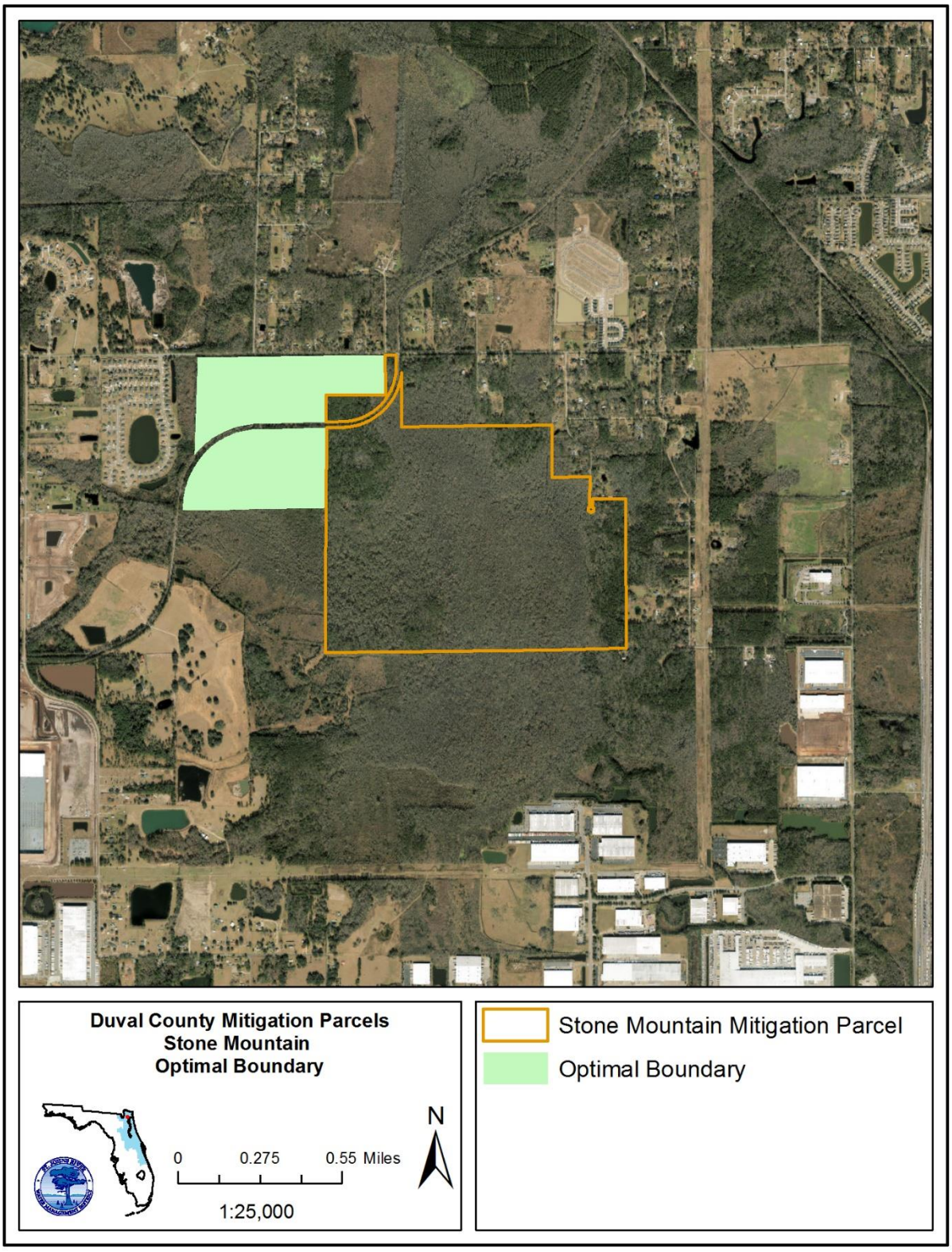

Figure 62: Stone Mountain Optimal Boundary

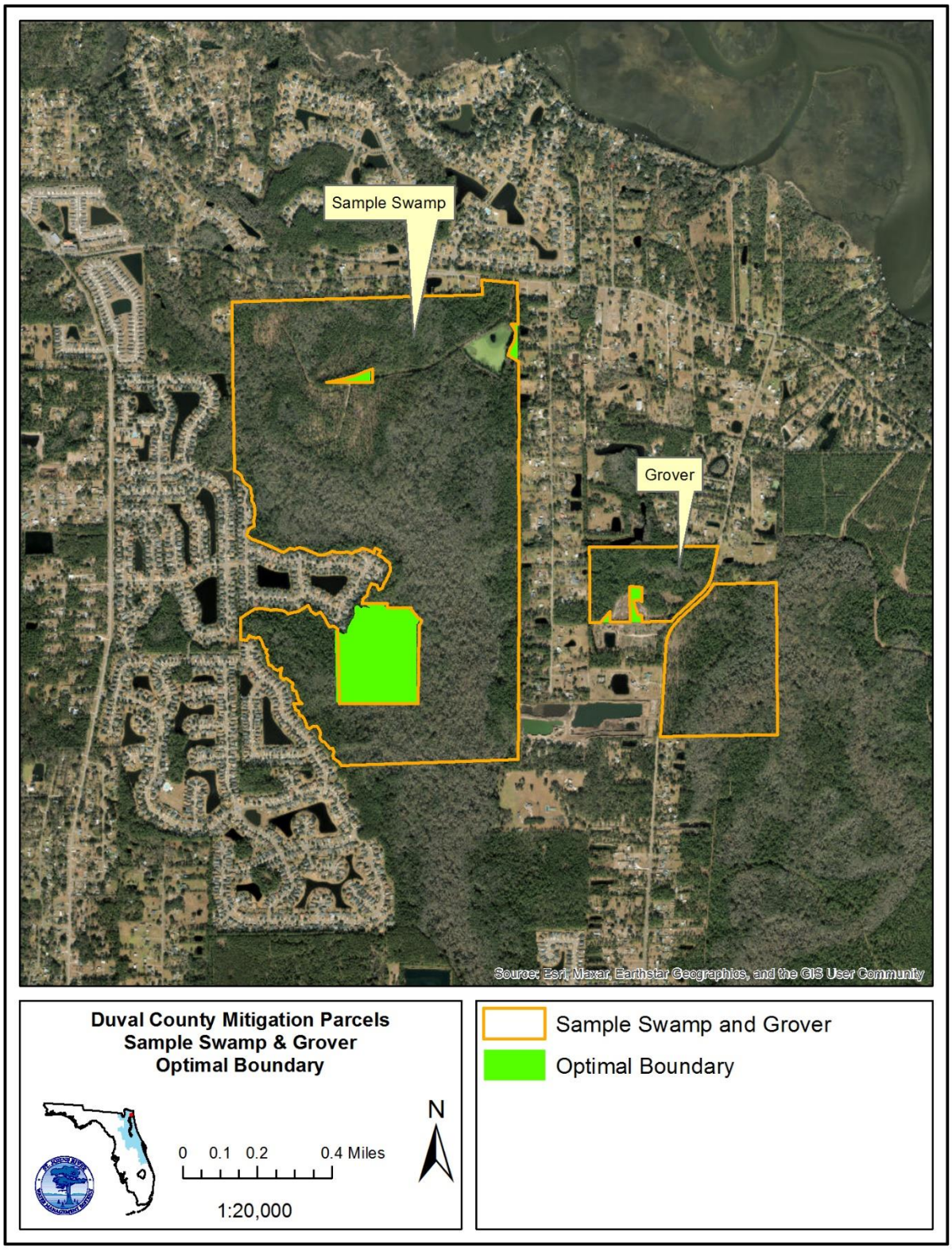

Figure 63: Sample Swamp and Grover Optimal Boundary

Cooperative Agreements, Leases, Easements, and SUA

Section 373.1391, F.S., authorizes and encourages the District to enter into cooperative land management agreements with state agencies or local governments to provide for the coordinated and cost-effective management of lands to which the water management districts, the Trustees, or local governments hold title. District Policy #820 promotes the District entering into agreements with other agencies and private parties for cooperation and coordination of management of the District's lands.

In addition, the District is authorized to enter into cooperative agreements, cooperative management leases, leases, easements and special use authorizations to protect the District's water management interests and to enhance the management and public value of the land. Leases can be a useful tool to accomplish land management objectives and will be evaluated and implemented where appropriate. Common examples include cattle grazing and apiaries, and the District remains open to considering other types of leases that help achieve management goals. There is one research SUA (#2529) on Freedom Commerce Center, a platted access easement on Stone Mountain, and a construction, maintenance and drainage easement (#2198) on the 9A Mitigation Parcel. There are no leases on DCMP.

Management Revenues and Costs

This section reviews costs and revenues from 2007–2024 as well projects costs and revenues for the upcoming planning period (2024–2034). The first cost was incurred in 2007 on the DCMP, which was road mowing on Sample Swamp and Grover. All generated revenue will be applied toward the District's land management budget to offset management costs for the Property.

Tables 3 and 4 provide the received revenue and land management costs for DCMP in the past. Revenue came from a timber sale in 2021.

Past Revenues and Cost

Past revenues total $55,257 (Table 8). Costs from 2007-2024 total $19,601 (Table 9).

Table 8: Past revenues

Activity	Revenue Year(s)	Revenue
2021 Timber sale	2021–2022	$55,257
Total		**$55,257**

Table 9: Past management costs (2007-2024)

Annual Costs

Activity	Annual Number of Units	Units	Annual Cost	Total Cost (Since 2007)
Staff time	30	Hours	$750	$11,250
Invasive plant control	28	Acres	$260 (average beginning from 2019)	$1,301
Mowing (roads)	1.5	Miles	$720	$10,800
Total Cost Since 2007				**$23,351**

Projected Land Management Revenues and Costs (2024–2034)

Costs and revenues for DCMP are projected into the future. Projected revenue generated by timber sales, shown in Table 5, is an estimate based on 2024 market prices and scope of the future timber sale.

The projected revenues from forest management activities at DCMP between 2024–2034 are $50,000 (Table 10). All revenue generated during this planning period will be applied toward the District's land management budget to offset management costs for the Property. Projected management costs for DCMP from 2024–2034 are $51,000 (Table 11). Years in which activities take place are estimated.

Table 10: Projected revenues between 2024 to 2034

Activity	Year	Revenue
Timber sale	Between 2031–2034	$50,000
Total		**$50,000**

Projected Management Costs

Table 11: Projected Management costs from 2024-2034

Annual Costs

Activity	Number of Units (annual)	Units	Annual Cost	10-Year Total Cost
Staff time	30	Hours	$840	$8,400
Invasive plant control			$260	$2,600
Mowing (roads)	1.5	Miles	$8,811	$15,000
2030 Fuel reduction mowing	50	Acres	N/A	$15,000
Wildlife overlook				$10,000
Total cost over 10 years				**$51,000**

LAND MANAGEMENT PLAN IMPLEMENTATION SCHEDULE

There is no implementation schedule as no goals or strategies have been developed for DCMP due to their small size and limited access, as well as distance from each other and other larger conservation areas.

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APPENDIX A: SOILS SERIES DESCRIPTIONS FOR THOMAS CREEK CONSERVATION AREA AND DUVAL COUNTY MITIGATION PARCELS

Thomas Creek Conservation Area

Below is a description of the soils and accompanying maps (Figures A1 and A2) at TCCA (USDA, 2024).

Buccaneer
The Buccaneer series consists of very poorly drained, very slowly permeable soils that formed in thick deposits of clayey sediments of marine origin. These soils are in well-defined drainageways, broad, nearly level swamps and low hammocks on floodplains. They are flooded for six months or more during most years. Dominant vegetation within this series includes cabbage palm, red maple, cypress, willow oak, sweetgum, water tupelo, wax myrtle, dwarf palmetto, loblolly pine, water and laurel oak, southern magnolia, and sawgrass.

Chaires
The Chaires series consists of deep and very deep, poorly drained and very poorly drained, moderately slow to slowly permeable soils on flatwoods and in depressions on the Lower Coastal Plain. This series formed in sandy and loamy marine sediments. Native vegetation may include longleaf pine, slash pine, scattered water oaks and laurel oaks, saw palmetto, greenbrier, fetterbush, gallberry, wax myrtle, running oak, pineland threeawn, panicums, paspalums, indiangrass, and chalky bluestem.

Dorovan
The Dorovan series consists of very poorly drained, moderately permeable soils on densely forested flood plains, hardwood swamps, and depressions. This series formed in highly decomposed acid-organic materials. The native vegetation is blackgum, bald cypress, sweetbay, swamp tupelo, titi, greenbrier, red maple, and scattered pine. The ground cover is ferns, mosses, and other hydrophytic plants.

Elabelle
The Ellabelle series consists of deep, very poorly drained soils of coastal plain depressions and drains. The common forest vegetation supported by this soil type includes blackgum, cypress, red maple, water oak, willow, with a few pond and slash pines and an understory of fetter bush, southern wax myrtle, and gallberry.

Goldhead
The Goldhead series consists of poorly drained and very poorly drained soils and are associated with flatwoods and depressions. This series formed in thick beds of stratified unconsolidated loamy and sandy marine sediments. Forest species are mixed stands of slash, loblolly, and longleaf pine, and blackgum with cypress occurring in the wettest places. The understory consists dominantly of inkberry, wax myrtle, pineland threeawn, pitcher plants, and bracken fern.

Kingsferry

The Kingsferry series consists of deep, poorly drained sandy soils. This series formed in thick deposits of sandy marine sediments. They are on nearly level, broad low flats on the flatwoods. Natural vegetation in this series may include sweetbay, longleaf and slash pine with an understory of wax myrtle, large gallberry, inkberry, saw palmetto, ferns, and pondweed. The most common native grass is pine and threeawn.

Mascotte
The Mascotte series consists of very deep, poorly and very poorly drained, moderately slowly permeable soils on areas of flats, depressions, and on low stream terraces of the lower coastal plain. They formed in sandy and loamy marine sediments. Longleaf pine, slash pine, saw palmetto, gallberry, fetterbush, and wax myrtle are the dominant woody plants on flatwoods sites. Depressional areas are dominated by cypress, slash pine, sand pine, loblolly bay, black gum, red bay, red maple, and sweetbay. The understory includes chalky bluestem, pineland threeawn, cinnamon fern, club moss, yelloweyed grass, pitcher plant, greenbriar, and sedges.

Maurepas
The Maurepas series consists of very deep, very poorly drained, rapidly permeable organic soils that formed in woody plant remains. This soil series commonly has a sparse stand of bald cypress trees and encroaching marsh grasses or open water.

Meggett
The Meggett series consists of nearly level and gently sloping, poorly drained soils formed in sandy, loamy and clayey sediments. They are commonly associated with floodplains and flats. Dominant vegetation, where wooded, consists of water oak, maple, pines, and sweetgum with an understory including cabbage palmetto, wax myrtle, and gallberry.

Pelham
The Pelham series consists of very deep, poorly drained, moderately permeable soils that formed in unconsolidated coastal plain sediments. These soils are on nearly level broad flats, toe slopes, depressions and drainageways. The native vegetation consists of slash pine, loblolly pine, and longleaf pine together with sweetgum, blackgum, water oak, and cypress. The understory is composed of gallberry, myrtle, swamp holly, and scattered palmettos, and ground cover is wiregrass and other water-tolerant grasses.

Sapelo
The Sapelo series consists of nearly level, poorly drained, acid soils. These soils formed in thick deposits of loamy and sandy sediments. They are on broad flatwoods and are moderately slowly permeable. Where wooded, the natural vegetation consists of longleaf pine, loblolly pine, pond pine, blackgum, and water oak. Understory plants are gallberry, sawtooth palmetto, and dwarf huckleberry.

Stockade
The Stockade series consists of very poorly drained soils that formed in loamy sediments on marine terraces. These soils are on low-lying drainageways and depressions. This soil is in native vegetation of sweetgum, blackgum, water oak, swamp chestnut oak, scattered pine and cypress,

and an understory of cinnamon fern, wax myrtle, greenbrier, scattered maidencane, and other perennial forbs and shrubs.

Surrency
The Surrency series consists of nearly level, poorly drained, acid soils that formed in marine deposits of sandy and loamy sediments. Dominant vegetation among this series includes loblolly pine, slash pine, bald cypress, sweetgum, black gum, red maple, sweetbay magnolia, and water oak; shrubs are inkberry, southern wax myrtle, and titi.

Yonges
The Yonges series consists of very deep, poorly drained, moderately slowly permeable soils that formed in thick loamy sediments on the Lower Coastal Plain. Dominant overstory vegetation of the Yonges soil series is sweetgum, loblolly pine, water oak, live oak, willow oak, and minor species such as holly and blackgum with undergrowth of shrubs and vines.

Yulee
The Yulee clay series are very poorly drained soils that formed in loamy and clayey sediments on marine terraces. These soils are on low-lying drainageways and depressions. Typical native vegetation supported by Yulee soils includes sweetgum, blackgum, water oak, fern, and scattered pine and cypress, and an understory of cinnamon fern, wax myrtle, greenbrier, scattered maindencane, and other perennial forbs and shrubs.

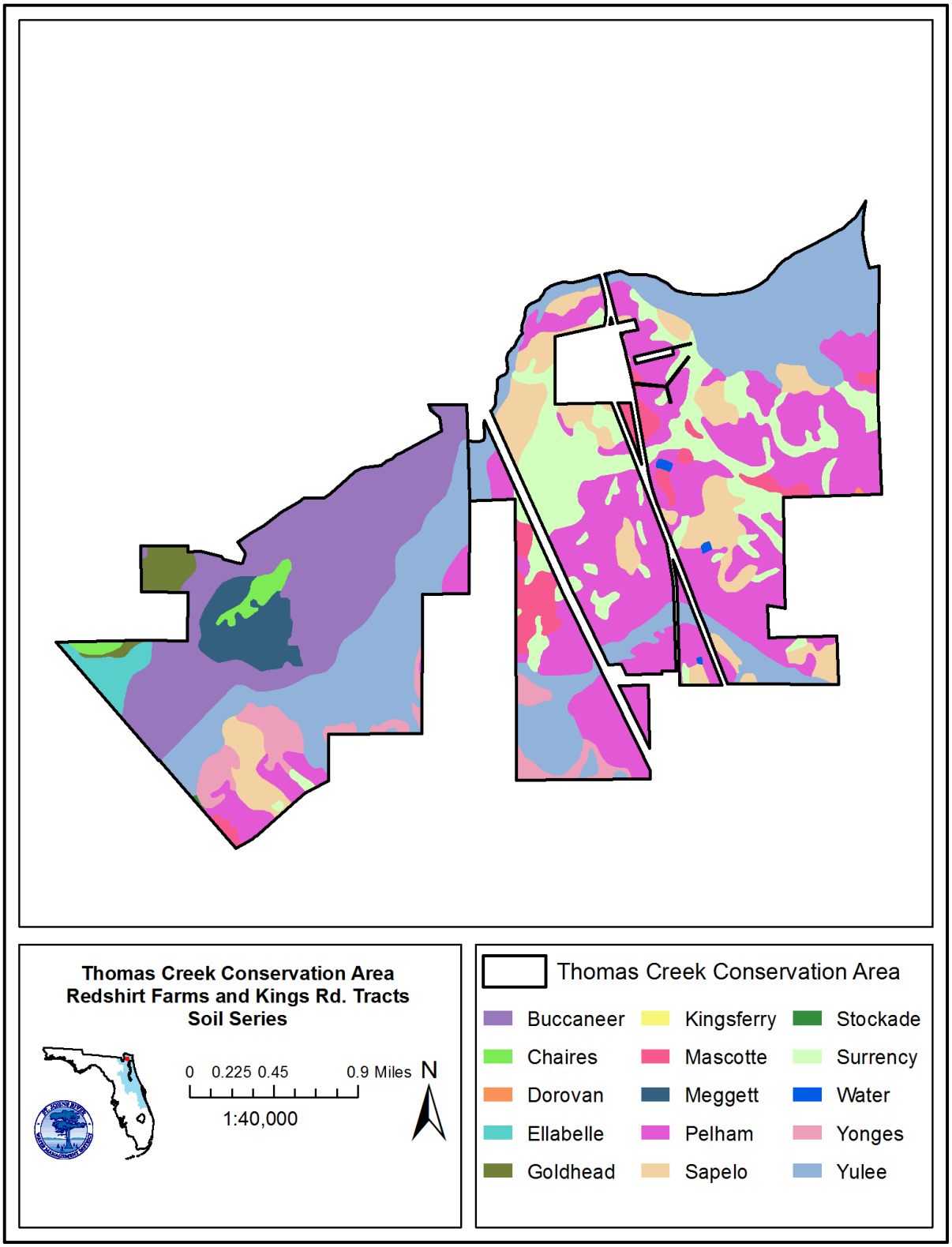

Figure A1: Soil types at Thomas Creek Conservation Area Redshirt Farms and Kings Road Tracts

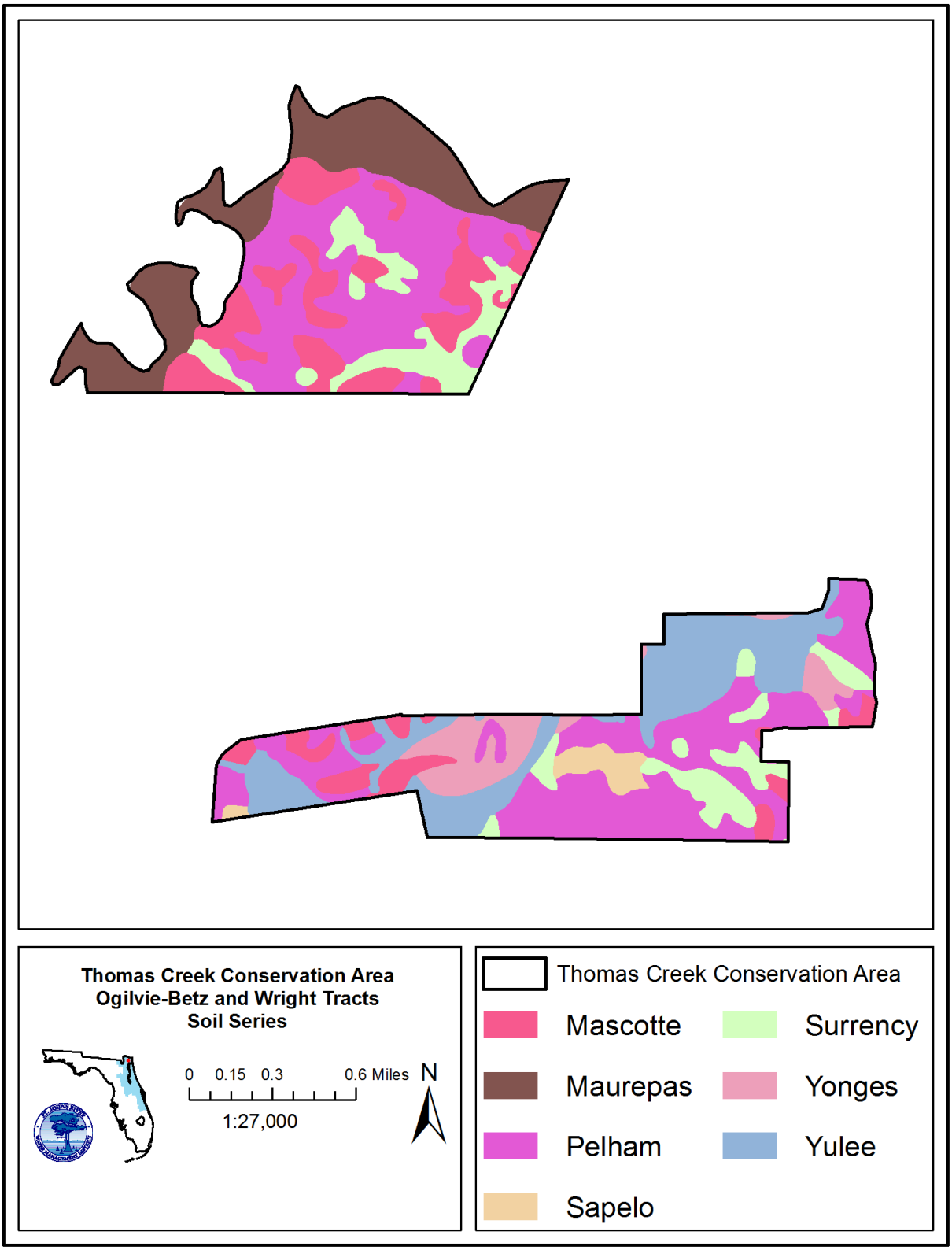

Figure A2: Soil types at Thomas Creek Conservation Area Ogilvie-Betz and Wright Tracts

Stone Mountain Mitigation Parcel

Below is a description of the soils and an accompanying map (Figures A3) at the Stone Mountain Mitigation Parcel of the Duval County Mitigation Parcels (USDA, 2024).

Lynchburg
The Lynchburg series consists of very deep, somewhat poorly drained soils that formed in fine, loamy sediments on marine terraces. Typical vegetation in this soil type includes oaks, sweetgum, blackgum, longleaf pine, slash pine, loblolly pine, and an understory of gallberry and pineland threeawn.

Pelham
The Pelham series consists of very deep, poorly drained, moderately permeable soils that formed in unconsolidated Coastal Plain sediments. These soils are on nearly level broad flats, toe slopes, depressions and drainageways. The native vegetation consists of slash pine, loblolly pine, and longleaf pine together with sweetgum, blackgum, water oak, and cypress. The understory is composed of gallberry, myrtle, swamp holly, and scattered palmettos, and ground cover is wiregrass and other water-tolerant grasses.

Surrency
The Surrency series consists of nearly level, poorly drained, acid soils that formed in marine deposits of sandy and loamy sediments. Dominant vegetation among this series includes loblolly pine, slash pine, bald cypress, sweetgum, black gum, red maple, sweetbay magnolia, and water oak; shrubs are inkberry, southern wax myrtle, and titi.

Yonges
The Yonges series consists of very deep, poorly drained, moderately slowly permeable soils that formed in thick loamy sediments on the Lower Coastal Plain. Dominant overstory vegetation of the Yonges soil series is sweetgum, loblolly pine, water oak, live oak, willow oak, and minor species such as holly and blackgum with undergrowth of shrubs and vines.

Yulee
The Yulee clay series are very poorly drained soils that formed in loamy and clayey sediments on marine terraces. These soils are on low-lying drainageways and depressions. Typical native vegetation supported by Yulee soils includes sweetgum, blackgum, water oak, fern, and scattered pine and cypress, and an understory of cinnamon fern, wax myrtle, greenbrier, scattered maidencane, and other perennial forbs and shrubs.

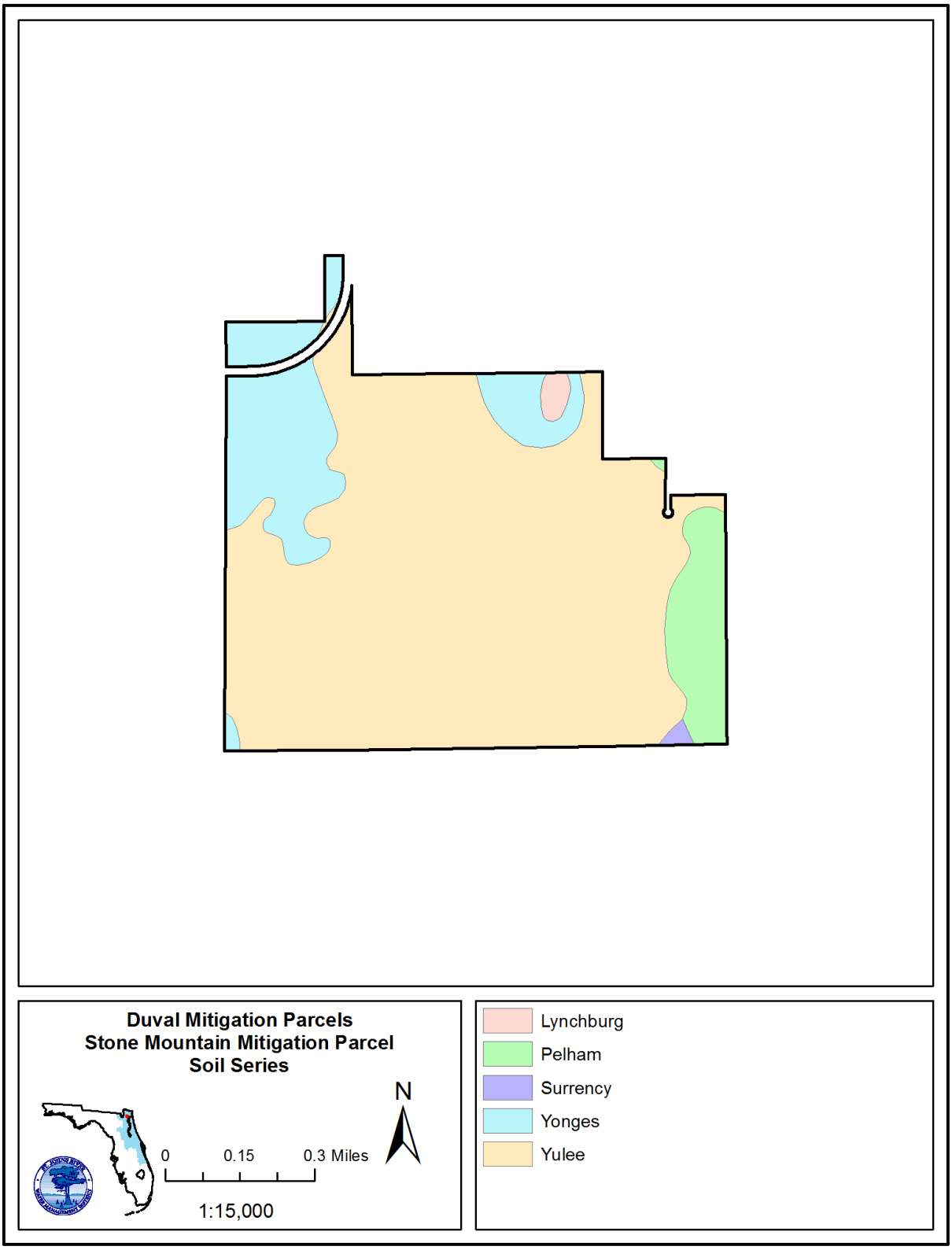

Figure A3: Soil types at Duval County Mitigation Parcels, Stone Mountain Mitigation Parcel

Grover and Sample Swamp Mitigation Parcels

Below is a description of the soils and an accompanying map (Figure A4) at the Grover and Sample Swamp Mitigation Parcels of the Duval County Mitigation Parcels (USDA, 2024).

Boulogne
The Boulogne series consists of nearly level, very deep, poorly drained soils underlain by sandy marine sediments. Natural vegetation is longleaf and slash pines, water oaks, wax myrtle, and undergrowth of saw palmetto, running oak, fetterbush, inkberry, chalky and creeping bluestems, and pineland threeawn.

Evergreen
The Evergreen series consists of nearly level, very poorly drained soils that formed in thin decomposed organic materials underlain by sandy marine sediments. This series is found in depressions within flatwoods. Natural vegetation is baldcypress, sweetgum, sweetbay, water oak, gallberry, greenbriar, and fern and smooth sumac.

Leon
The Leon series consists of very deep, very poorly and poorly drained, moderately rapid to moderately slowly permeable soils on upland flats, depressions, stream terraces and tidal areas. This series in sandy marine sediments. The natural vegetation consists of longleaf pine, slash pine, water oak, myrtle, with a thick undergrowth of saw palmetto, running oak, fetterbush and other lyionia, gallberry, wax myrtle, goldenrod, ligustrina, dog fennel, chalky bluestem, lowbush blueberry, creeping bluestem, and pineland threeawn.

Lynn Haven
The Lynn Haven series consists of very deep, poorly and very poorly drained, moderate or moderately rapid permeable soils in low areas and depressions in flatwoods. This series is formed in thick deposits of sandy marine sediments. The native vegetation consists of slash pine, longleaf pine, or cypress and bay trees with an undergrowth of saw palmetto, gallberry, fetterbush, huckleberry, and pineland threeawn. In depressions, cypress and bay trees are denser along with blackgum and red maple.

Surrency
The Surrency series consists of nearly level, poorly drained, acidic soils that formed in marine deposits of sandy and loamy sediments. Dominant vegetation among this series includes loblolly pine, slash pine, bald cypress, sweetgum, black gum, red maple, sweetbay magnolia, and water oak; shrubs are gallberry, southern wax myrtle, and titi.

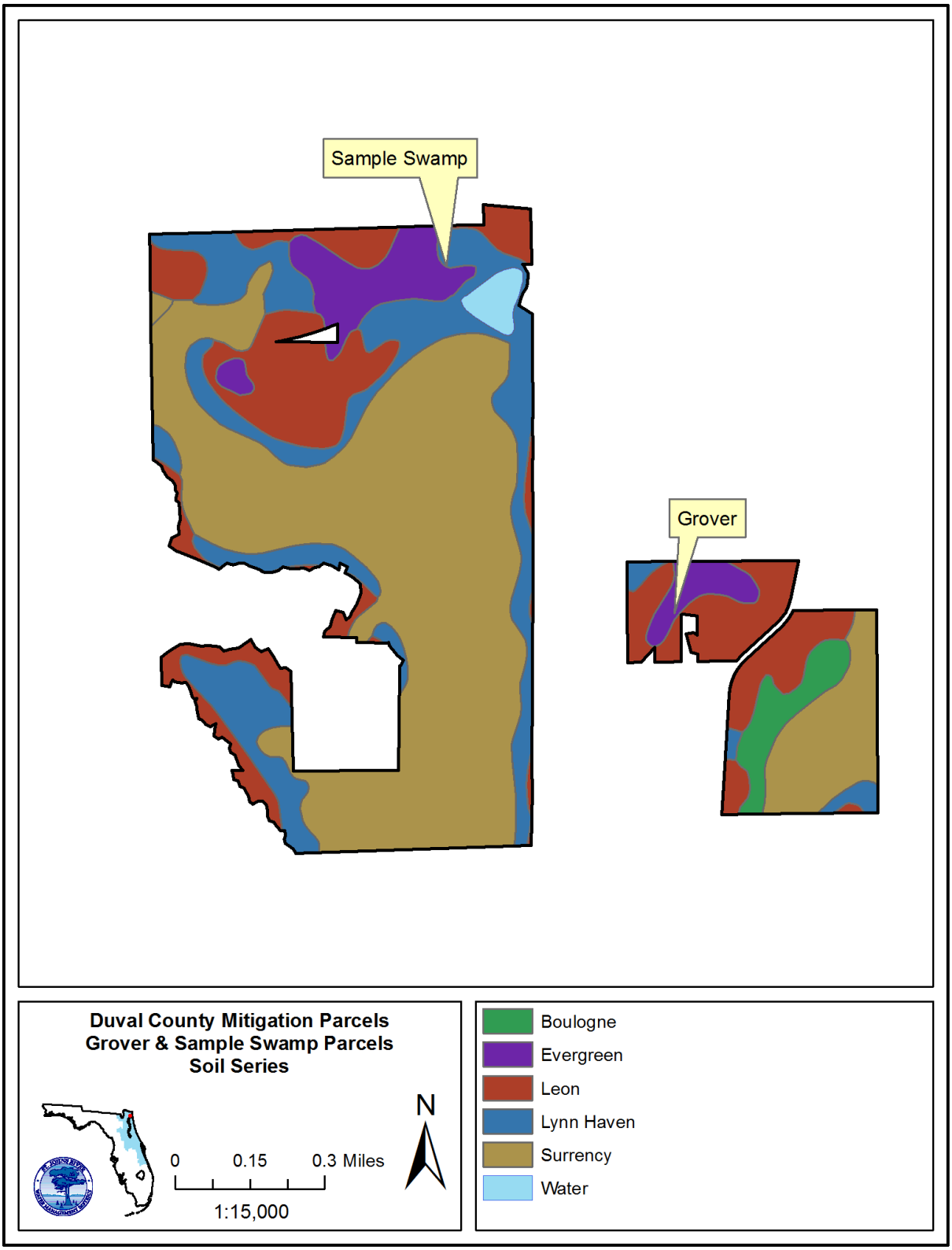

Figure A4: Soil types at Duval County Mitigation Parcels, Grover and Sample Swamp Parcels

9A Mitigation Parcel

Below is a description of the soils and an accompanying map (Figures A5) at the 9A Mitigation Parcel of the Duval County Mitigation Parcels (USDA, 2024).

Dorovan
The Dorovan series consists of very poorly drained, moderately permeable soils on densely forested flood plains, hardwood swamps, and depressions. This series formed in highly decomposed acid-organic materials. The native vegetation is blackgum, bald cypress, sweetbay, swamp tupelo, titi, greenbrier, red maple, and scattered pine. The groundcover is ferns, mosses, and other hydrophytic plants.

Evergreen
The Evergreen series consists of nearly level, very poorly drained, soils that formed in thin decomposed organic materials underlain by sandy marine sediments. This series is found in depressions within flatwoods. Natural vegetation is baldcypress, sweetgum, sweetbay, water oak, gallberry, greenbriar, and fern and smooth sumac.

Hurricane
The Hurricane series consists of very deep, somewhat poorly drained, moderately rapid permeable soils on broad areas that are slightly higher than the adjacent flats on the southern coastal plain and flatwoods. Native vegetation consists of slash pine, longleaf pine, bluejack oak, turkey oak, and post oak with an understory of saw palmetto, gallberry, broomsedge, bluestem, and pineland threeawn.

Leon
The Leon series consists of very deep, very poorly and poorly drained, moderately rapid to moderately slowly permeable soils on upland flats, depressions, stream terraces and tidal areas. This series formed in sandy marine sediments. The natural vegetation consists of longleaf pine, slash pine, water oak, myrtle, with a thick undergrowth of saw palmetto, running oak, fetterbush and other lyionia, gallberry, wax myrtle, goldenrod, ligustrina, dog fennel, chalky bluestem, lowbush blueberry, creeping bluestem, and pineland threeawn.

Lynn Haven
The Lynn Haven series consists of very deep, poorly and very poorly drained, moderate or moderately rapid permeable soils in low areas and depressions in flatwoods. This series is formed in thick deposits of sandy marine sediments. The native vegetation consists of slash pine, longleaf pine, or cypress and bay trees with an undergrowth of saw palmetto, gallberry, fetterbush, huckleberry, and pineland threeawn. In depressions, cypress and bay trees are denser along with blackgum, and red maple.

Ortega
The Ortega series consists of very deep, moderately well drained soils that formed in a sandy deposit on marine terraces. These soils are on nearly level to strongly sloping upland landscapes. Native vegetation consists of second growth slash and longleaf pine, turkey and blackjack oak,

and scattered saw palmetto with an understory of pineland threeawn, low panicums, and grassleaf goldaster.

Pamlico
The Pamlico series consists of very poorly drained soils that formed in decomposed organic material underlain by dominantly sandy sediment. The soils are on nearly level flood plains, bays, and depressions of the coastal plain. Native vegetation consists of pond pine, tupelo gum, sweetbay, gumtrees, cypress, greenbrier, wax myrtle, with undergrowth of gallberry.

Stockade
The Stockade series consists of very poorly drained soils that formed in loamy sediments on marine terraces. These soils are on low-lying drainageways and depressions. This soil is in native vegetation of sweetgum, blackgum, water oak, swamp chestnut oak, scattered pine and cypress, and an understory of cinnamon fern, wax myrtle, greenbrier, scattered maidencane, and other perennial forbs and shrubs.

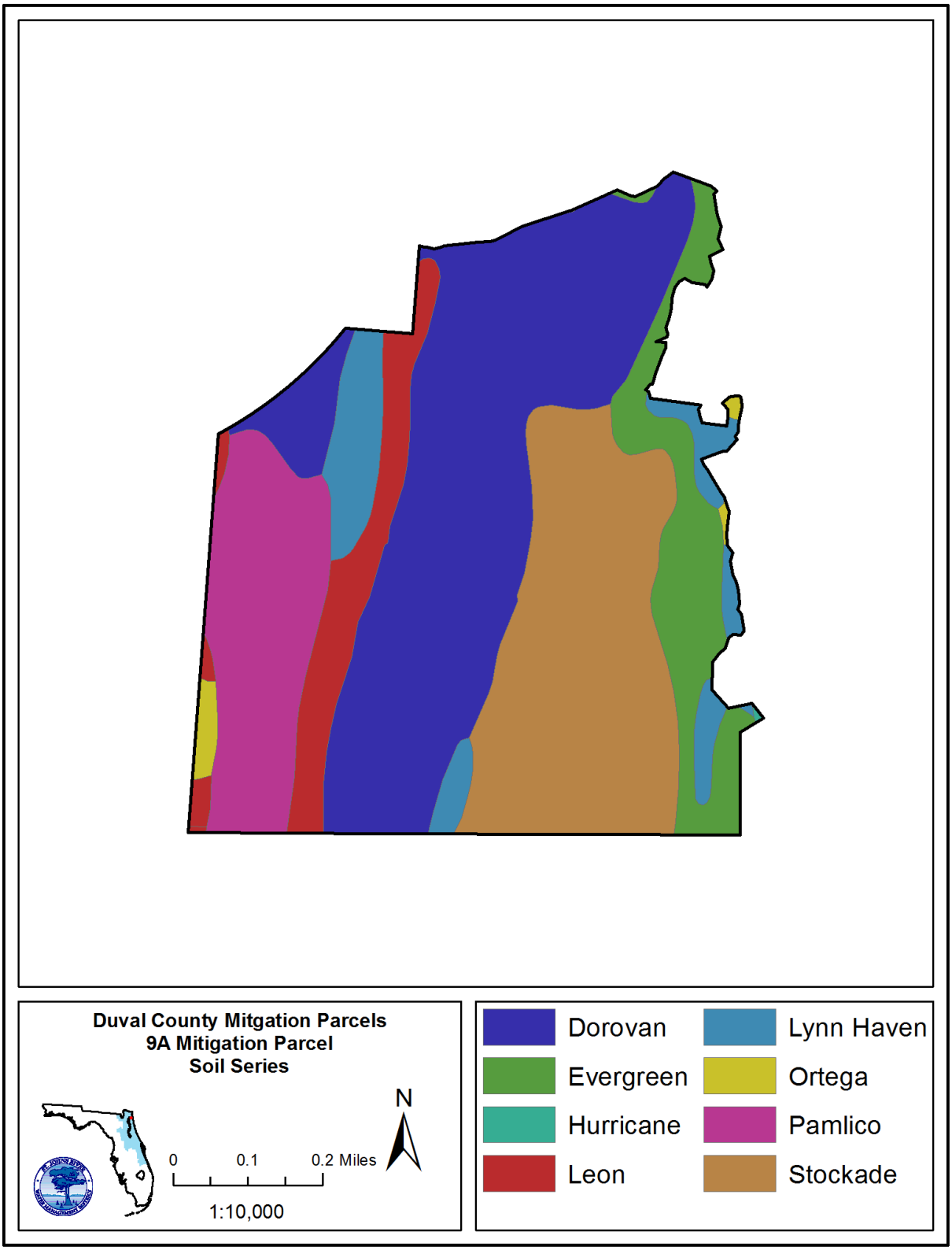

Figure A5: Soil types at Duval County Mitigation Parcels, 9A Mitigation Parcel

Freedom Commerce Center Mitigation Parcel

Below is a description of the soils and an accompanying map (Figures A5) at the Freedom Commerce Center Mitigation Parcel of the Duval County Mitigation Parcels (USDA, 2024).

Evergreen
The Evergreen series consists of nearly level, very poorly drained, soils that formed in thin decomposed organic materials underlain by sandy marine sediments. This series is found in depressions within flatwoods. Natural vegetation is baldcypress, sweetgum, sweetbay, water oak, gallberry, greenbriar, fern and smooth sumac.

Stockade
The Stockade series consists of very poorly drained soils that formed in loamy sediments on marine terraces. These soils are on low-lying drainageways and depressions. This soil is in native vegetation of sweetgum, blackgum, water oak, swamp chestnut oak, scattered pine and cypress, and an understory of cinnamon fern, wax myrtle, greenbrier, scattered maidencane, and other perennial forbs and shrubs.

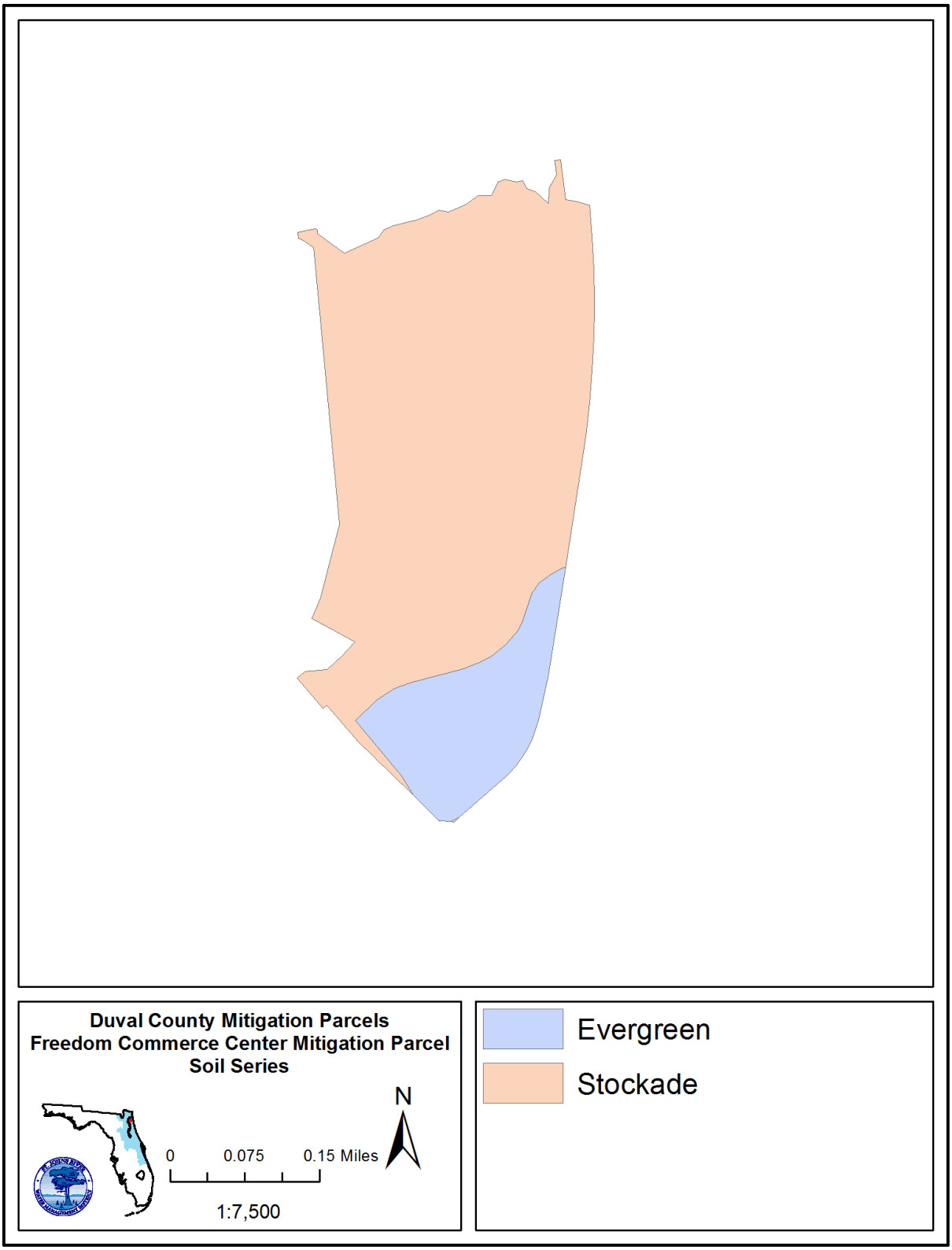

Figure A6: Soil types at Duval County Mitigation Parcels, Freedom Commerce Center Mitigation Parcel

APPENDIX B: DISTRICT FOREST MANAGEMENT PLAN

In 1998, the Florida Legislature charged all state land management agencies with managing the forest resources on the lands they have acquired. To date, the St. Johns River Water Management District (District) has acquired over 775,000 acres of land. Approximately 43 percent of these acres are forested. Prior to 2000, no overall long-term plan existed to provide guidance and coordination for the management of the District's forest resources. This plan will provide that guidance and continuity.

Even prior to the legislative directive, the District had been managing its forest resources. Timber sales began in 1991 with a salvage sale at Lake George Conservation Area following a wildfire. From 1991-2023, nearly 200 timber sales have been completed.

PURPOSE OF FOREST MANAGEMENT

The District manages forest resources for the:

1) Restoration of natural communities
2) Maintenance of the health and vigor of natural communities
3) Generation of revenues to counterbalance the cost of land management activities

Restoring Natural Communities

The District acquires its land from a variety of private owners, and each owner had their own vision for the land. Many times in fulfilling their vision, private owners altered the natural communities by clearing for agricultural purposes or for planting trees. Whenever practicable, the District is charged with maintaining and/or restoring the land to its natural state and condition.

Thinning, clearcutting, and planting are all tools used to restore natural communities, but in almost all cases they are used in conjunction with fire. The combinations of overstory control and fire management are the primary restoration tools in forested communities.

In forested communities, controlling or manipulating the overstory serves as the primary tool to maintain or restore the natural community. The density of the overstory dictates the health and diversity of understory species. If the overstory becomes too dense, both the overstory and understory species begin to suffer. In cases where the overstory remains crowded too long, individual understory plants begin to disappear. Often, seeds of these plants will remain dormant in the soil. Thinning individual trees from an overcrowded stand allows more light, moisture, and nutrients to be available for groundcover plants. This allows dormant plants to reoccupy their former sites, thereby restoring the natural state and condition.

In some cases, private owners planted a species of tree that did not naturally occupy the site. In these cases, the District will clearcut the undesired tree species and replant with the more appropriate species.

In cases where the previous owner cleared the site, the District will prepare the site and plant the appropriate tree species. Since longleaf pine occupies approximately 5 percent of the area it did in 1900, and since longleaf offers a suite of wildlife benefits greater than most other pines, the District will emphasize planting of longleaf on all sites where longleaf is suited for the site.

Maintenance of the Health and Vigor of the Natural Communities

The health or quality of a forested natural community is maintained by three primary factors: 1) the availability of water, 2) the frequency of fire, and 3) the density and species composition of the overstory.

In few cases do the activities of the District affect the availability of water on District forestlands. One exception is where sites are restored through the plugging of ditches or rehydration of historically wetland systems. Weather is the primary factor influencing the availability of water.

Fire influences the health of forested communities by altering the process of succession. Fire holds natural communities in an intermediate stage of succession that is referred to as a fire climax community. If fire is removed, these natural communities follow the path of succession to become some other community. In Florida, most natural communities historically experienced fire on a frequent basis. In fact, most communities are dependent upon frequent fire for their continued existence. Because of its importance as a management tool, fire is addressed in detail in the District's Fire Guidelines and Protocols.

The third factor influencing the health and/or quality of forested natural communities is the overstory density and species composition. In a truly natural system, wildfire, climatic disturbances, along with insects and diseases, combined to control the composition of the overstory, which in turn controls the composition of the understory. Wildfire, insects, and disease kill trees as individuals or groups, which reduces the density of the overstory and alters the species composition. These events or outbreaks would often impact large areas, especially areas where the stand density was high, weakening the overstory trees and increasing their susceptibility to pathogens. Prior to human intervention, there were huge expanses of natural land that could easily absorb large-scale alterations of the overstory so that no plant or animal species could be extirpated. Today, Florida is fast approaching a condition where natural areas are becoming islands. Plants and animals have fewer areas to populate, and it is more difficult to transfer their genetic material between isolated areas of ideal habitat. Therefore, we can no longer rely entirely on large-scale disturbances to control overstory density and species composition. By managing the overstory with selective harvesting, the density and species composition can be controlled to maintain a healthy natural community while minimizing the potential for large-scale impacts.

As land managers, the District also has an obligation to protect neighboring landowners from any large-scale wildfire, insect or disease outbreaks that may originate on District land and spread to adjacent lands. This obligation prohibits the District from employing a truly natural management system to control overstory species, density, and composition and requires the District to utilize a more interactive management program.

Generation of Revenues

The Florida Legislature has directed public land managers to manage forest resources for an economic return. The District generates revenue when implementing sound overstory management practices to maintain the health of the natural community. These practices include but are not limited to thinning operations, removal of undesired species (clearcuts), and salvage cuts to remove trees damaged from wildfires, insect infestations and/or disease outbreaks. The revenue generated from these operations can be used to fund restoration and other land management activities.

FOREST RESOURCES INVENTORY

Following legislative directive and seeking to keep its land management efficient, the District has sought management partners. The following chart illustrates the lead manager status of District-owned lands (Figure 1).

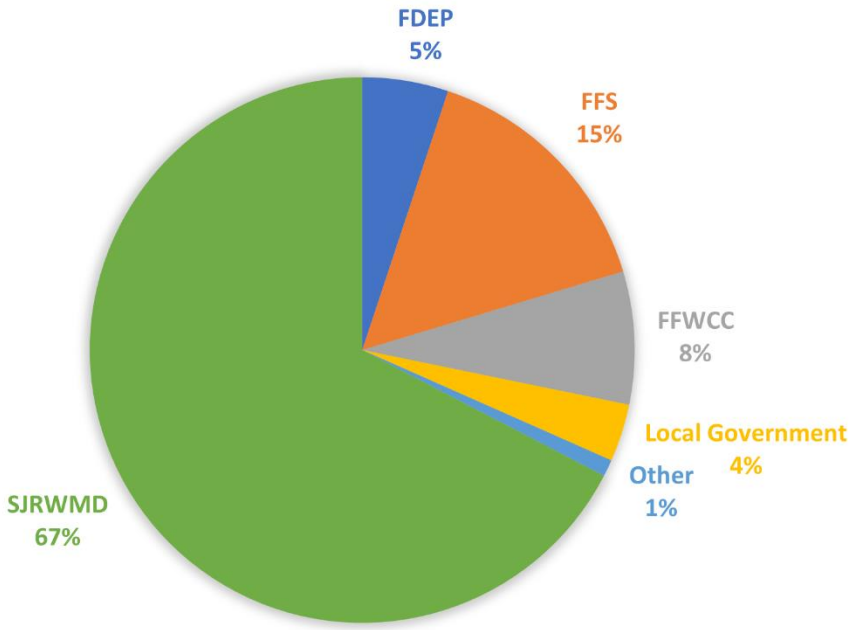

Figure 1: District Owned Land by Lead Manager. Updated January 2020

The District's Land Management Rule, agreements and philosophy call for the lead manager's rules and policies to direct the management of the affected lands, therefore this plan will be focused on the lands where the District is identified as the lead manager. The District serves as the lead manager on 430,000 acres. These acres managed by the District are broken down as follows (Figure 2).

Twenty-seven percent of the District-managed lands are forested, with 12 percent being forested uplands and 15 percent forested wetlands.

OBJECTIVES OF FOREST MANAGEMENT

The District's forest management objectives are to:

- Maintain the health and diversity of forested communities on District lands
- Provide for older aged forest conditions. As public landowners we have the opportunity to provide habitat for species requiring older age classed trees.
- Provide for an array of forest stand structures and age classes. Each species of plant and animal has an age-class of forest stand that is most desirable. By providing the array of structures and age-classes, the District can provide habitat for a wide variety of species.

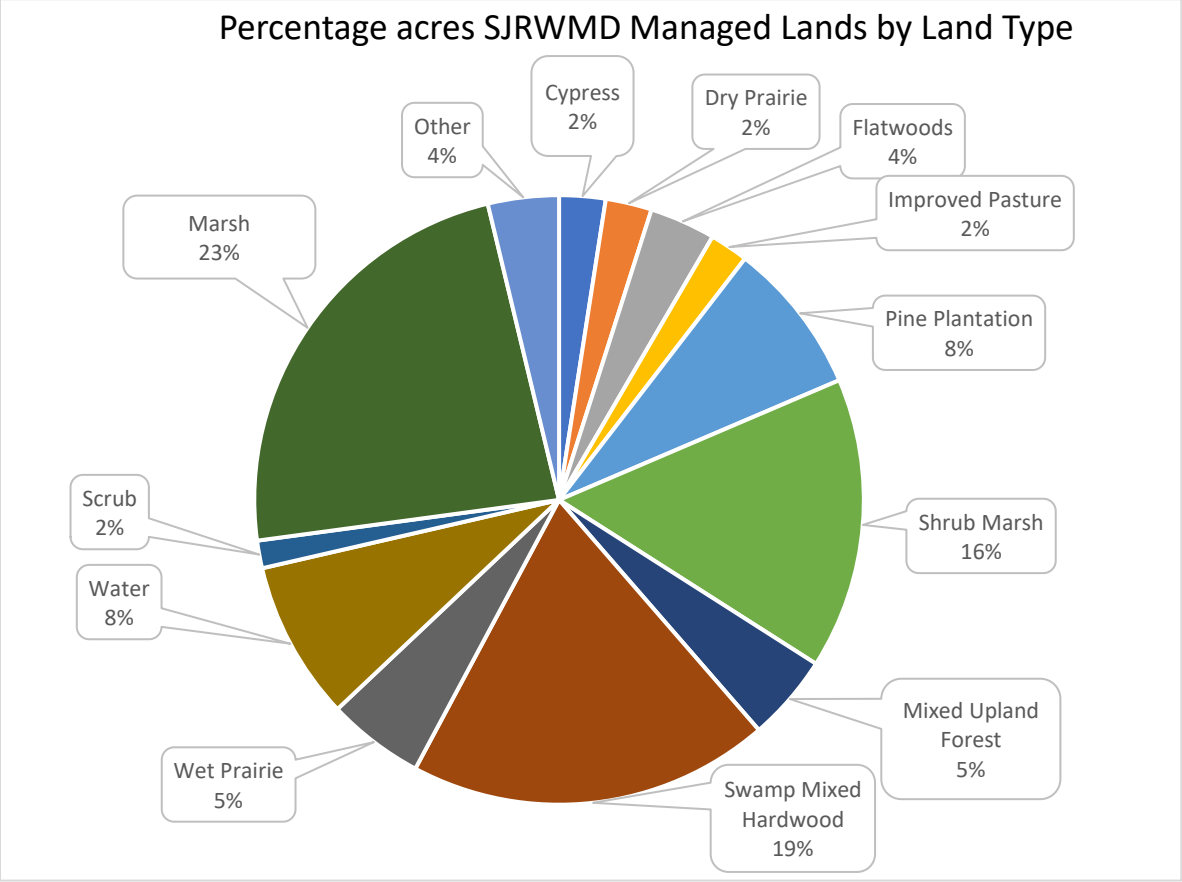

Figure 2: Percentage acres SJRWMD Managed Lands by Land Type. Updated January 2020

Techniques of Forest Management

Inventory

The District is currently developing a timber management database that will directly link timber volume information with the GIS lands database. The database will incorporate inventory data collected at acquisition and track changes overtime. Changes resulting from harvests, wildfires, insect infestations, disease outbreaks and reforestation efforts can be updated quickly and easily. Periodic updates of volume and growth information will be scheduled and incorporated into the database. The database links will aid in determining natural community needs along with geographic distribution and appropriate management techniques to implement. The database will be an intricate part in managing community health and in developing future land management workplans.

Harvesting

To accomplish its goals the District will employ a suite of harvesting systems.

Clearcutting is a silvicultural operation used to remove the entire overstory at one time. This tool will be used with limited application dependent upon the specific management needs. Those needs may include:

1. Insect or disease control. Forest pests occur naturally at low population densities and are a vital part of the forested community. When population densities reach epidemic levels, control measures to remove the host and adjacent trees must be implemented to protect the remainder of the stand.
2. Salvage. If the overstory has been killed or severely damaged, removing (salvaging) the overstory will recover some financial value of the timber and will allow the District access necessary to replant the site.
3. Species conversion. If offsite species exist, clearcutting enables the District to replace the offsite species with one that is appropriate.

Thinning is a silvicultural operation where selected individual trees are removed from the stand to reduce the density of overstory trees to improve growing conditions for the remaining overstory trees and the understory plants. This method is not applied with a goal of establishing regeneration.

The seed tree system is a silvicultural operation where the entire overstory except 10–15 prime trees per acre are harvested at one time. These 10–15 trees serve as the seed source for the next generation. This technique is seldom used by the District. While the seed tree system is effective, it creates major change in the stand condition both visually to the public and biologically to the plants and animals in the stand.

Shelterwood is a silvicultural operation in which the overstory is removed in phases. When it is time to regenerate the stand, approximately 60–70 percent of the stand is removed either in one or two harvests. Again, the older trees serve as the seed source for the next generation. Once the younger trees are established the original overstory trees can be removed or they can remain on site and be subject to thinning at the same time as the younger generation. The major benefit of

this system is it results in a more gradual change from the mature trees to the next generation both visually to the public and biologically to the plants and animals.

A new modification of the shelterwood called an irregular shelterwood has recently been developed and may become the primary silvicultural system employed by the District. An irregular shelterwood begins the same as shelterwood but portions of the original overstory remain on site. When the second-generation trees are thinned, a few of the first-generation trees are also thinned. When it is time for the third generation to be established both the first- and second-generation trees are reduced to 30–40 square feet of basal area to make room for the third-generation trees. Once the third-generation trees are established the site has few first-generation trees, some second-generation trees, and many third-generation trees. This provides for a variety of age classes in a single stand but is much easier to apply and should require much less staff time than uneven-aged selection management.

Uneven-aged selection is a silvicultural operation in which trees, either as individuals or in small half-acre groups are harvested from throughout the stand every 5–10 years. The holes left by the removal of these trees are filled with seedlings from adjacent trees thereby creating a patchwork stand composed of trees of all ages. While this system offers the greatest distribution of age within a stand, truly an uneven aged condition which some scientists feel is best for wildlife, it also requires significant staff inputs and to date appears too labor intensive to employ on a large scale.

Site Preparation

When it is necessary to establish regeneration, either naturally or artificially, the District may employ one or more of the site preparation techniques described below.

Herbicide will be used when staff has determined that it is the most effective means to control the competing vegetation. Herbicides will not be used if it adversely effects the desirable understory species within the planting site. The use of herbicide is necessary when attempting to restore native trees and groundcover to areas of improved pasture. Herbicide can be applied with hand sprayers, tank sprayers, or aerially from a helicopter, depending upon the species to be treated and site conditions.

Disking/scalping techniques are most useful when trees are being planted in areas of improved pasture. Both techniques protect the seedlings from grass competition but offer no benefit to groundcover restoration.

Drum chopping is effective at reducing competition from shrub species, especially saw palmetto. If properly applied grasses within the treatment area will survive chopping and will often benefit from the choppers effect on the shrubs.

Bedding is a technique where a small ridge of surface soil is formed to provide an elevated planting or seedbed. It is used primarily in wet areas to improve soil drainage and aeration for seedlings. This type of site preparation technique has not been utilized by the District because of the adverse effects it has on groundcover and sheetflow. Therefore, the District’s planting costs are often higher than private industry’s because without bedding several plantings are often necessary to establish seedlings on wet sites.

Regeneration

Emphasis will be placed on natural regeneration to the extent practicable. In cases where species conversion is required or where no overstory exists to provide natural seed fall, planting will be necessary.

Hand planting is primarily method used by the District because it offers the following benefits:

1. Trees can be placed on the best microsites (i.e., highest ground in wet areas, areas with the least competition)
2. Groundcover disturbance is minimized
3. Seedlings can be randomly spaced or planted in clusters to provide for a more natural appearance

Machine planting is used primarily in old field conditions where scalping is employed and rows are suitable.

OVERALL METHODOLOGY

Forested natural communities can be lumped into three different groups with regards to forest management. These include Pine Forests, Upland Hardwoods, and Wetland Hardwood/Cypress. The management of each will differ and be described separately.

Pine Forests

Pine forests include flatwoods, plantations, sandhills and sand pine scrub. With the exception of sand pine scrub pine forests will be managed through thinning. Once the stand is established and trees have reached merchantable size (5 inches at diameter breast height) at approximately 15–20 years of age depending on tree species and sites, thinning will begin. Stands will be thinned as necessary to maintain an overstory basal area range of 60–90 square feet per acre. This range promotes good growth of understory plants and provides good habitat for most wildlife using forested natural communities. To maintain this basal area range harvests will occur in each stand approximately every 10 years, depending on growth rates of the trees. Great care will be exercised during harvesting operations to minimize disturbance of the soil and groundcover. When properly performed, harvesting actually benefits groundcover regeneration by reducing shrub species and improving growing conditions.

The need for regeneration will be determined by an inventory of the health, vigor, and species composition for the trees in each stand. Once the conditions of the overstory trees indicate the need, a regeneration harvest will be scheduled employing the appropriate silvicultural system described previously. Emphasis will be placed on making the most seamless transition from one generation to the next. The irregular shelterwood will be employed frequently in loblolly, slash and longleaf pine stands.

Emphasis will be placed on having a wide array of age classes between stands and an array of different aged trees within stands. Included in the desired array of ages will be trees and stands significantly older than those typically found on private lands.

To ensure the wide array of age classes is met, the District will separate pine stands into four different types based upon general age and condition. These four types include:

1. Regeneration (age 0–10): The site is occupied primarily by tree seedlings and saplings, herbs, and shrubs. Competition from the trees has not yet resulted in any reduction in herb or shrub layer. This type begins at planting and continues until crown closure. Herbs, shrubs, and grasses occupy 20–80 percent of the ground. This type offers benefits to early successional wildlife species such as quail, rabbits, gopher tortoises, deer, turkeys, and their predators.
2. Closed Canopy (age 11–20): Trees fully occupy the site and form a single, main canopy layer. There is little understory development due to the lack of light passing through the canopy. Where understory exists, it is dominated frequently by palmetto and/or gallberry. This type benefits fewer wildlife species but does offer bear and deer good escape cover.
3. Understory (age 21–60): The overstory density has been reduced through thinning and the understory is beginning to reinitiate. Adequate light is again available to the forest floor. Groundcover plant species and wildlife both begin to flourish again. Wildlife benefiting from this stand type include deer, turkey, quail, and gopher tortoises.
4. Older Forest Structure (age 60+): This stand type begins to develop a layered overstory. Trees are large, with diameters >12 inches. Snags will begin to appear and should be protected. The understory is diverse and healthy. Wildlife benefiting from this stand are fox squirrels, great horned owl, southeastern kestrel, turkeys, quail, gopher tortoises, red cockaded woodpeckers, eagles, and ospreys (nesting trees).

The District will strive to keep 10–15 percent of its pine forests in type 1; 10–15 percent in type 2; 30–40 percent in type 3; and 40 percent in type 4. The present condition is shown below (Figure 3):

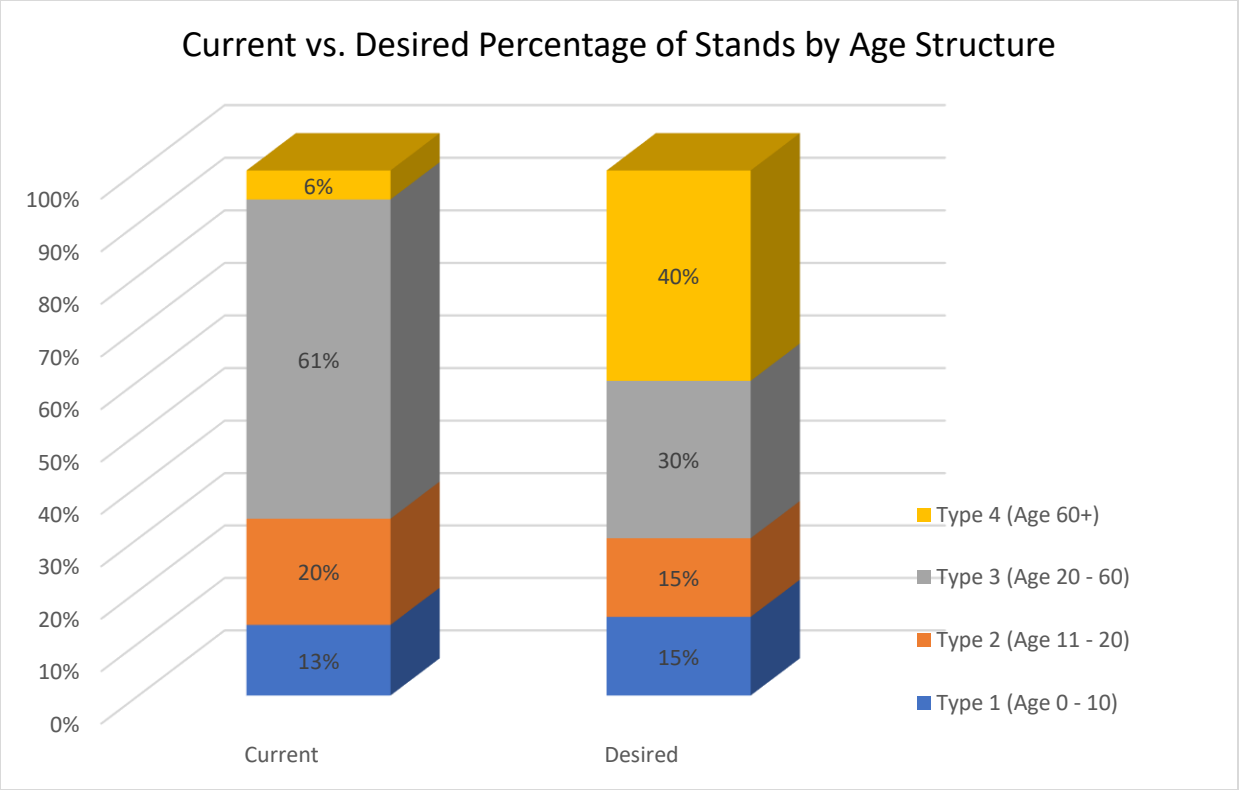

Figure 3: Current vs. Desired Percentage of Stands by Type. Updated January 2020

Sand pine management will differ from other pine types because it is adapted to an even aged environment. Sand pine characteristically grows in dense, even-aged, pure stands, which originated as a direct result of catastrophic fires or similar events. When a killing fire sweeps through a stand of cone-bearing trees, the serotinous cones (which remain tightly closed for many years unless opened by heat) open and release large quantities of seeds to naturally regenerate the area. These catastrophic fires are difficult to mimic with prescribed fire since they are difficult to control. Complete stand removal (clearcutting) is the preferred method available to mimic the natures stand replacing events. The natural cycle for stand replacing events is from 20–60 years. Sand pine stand will therefore be clearcut and regenerated on a similar cycle.

The primary forest management activities of the District will be within these pine stands.

UPLAND HARDWOODS

Currently upland hardwoods constitute 2 percent of District-managed lands. Typically, they are mesic and xeric hammocks with the dominant species being live oak. There is no ecological need for harvesting within these communities and no commercial value to be derived from harvesting live oak.

Limited areas of upland hardwoods have developed on former sand hills and flatwoods due to a lack of fire or other ownership priorities prior to acquisition. These areas can be returned to their original natural community by harvesting the overstory and planting the original specie appropriate to the site. Hardwood species encountered on such site include turkey oak, laurel oak, bays, and sweetgum.

WETLAND HARDWOODS AND CYPRESS

As with State Forests, the District has no plans to harvest timber from the swamps. However, the following may be situations where limited harvesting would offer the District benefits.

Following a catastrophic outbreak of insects, disease or wildfire harvesting the dead timber can create the growing space for the next generation. Most swamp species reproduce from both seed and sprouting. Removing the dead overstory will reduce the hazard from trees falling on people and young trees.

Twenty to 30 years following a catastrophic event the District may choose to selectively thin the hardwoods and cypress to accelerate the process of developing old-growth conditions. In a truly natural setting, the development of old-growth conditions will take 75–100 years since the trees compete with one another until the weaker individuals die. Through thinning, the number of trees can be reduced, and the growth concentrated on the remaining trees so that they become larger faster and old-growth habitat can be created earlier.

The sensitivity required to log wetland systems cannot be overly stressed. Any harvesting performed in wetlands must be carried out under the most stringent conditions to avoid damage to the site. Harvesting can only be done when rutting and damage to residual trees can be minimized. Harvesting must be closely monitored and shut down if conditions deteriorate.

This plan was approved by the Governing Board in February 2000 with charts updated January 2020

APPENDIX C: THOMAS CREEK CONSERVATION AREA FIRE MANAGEMENT PLAN

The District Fire Management Guidelines and Protocols provides general fire management information relative to policy, procedure, and reporting. This document provides the guidelines for the implementation of prescribed fire activities on the Thomas Creek Conservation Area (TCCA or Property).

Introduction and Objectives

TCCA is comprised of 5,540 acres under District management in Duval and Nassau counties, within the Nassau River planning basin of the Nassau River major basin. The Property includes several parcels, located in numerous sections of Townships 1 and 2 north and Ranges 24, 25, and 26 east.

The Jacksonville International Airport is approximately 2 miles south of the Wright parcel and approximately 3 miles east of the Kings Road/Logan parcel. U.S. Highway 1/23 bisects the Kings Road parcel. Interstate 95 is approximately 3 miles east of the Wright parcel.

Historically, fires have played a vital role in the shaping and maintenance of many of the natural communities in Florida. As such, most vegetative communities and associated wildlife are fire adapted and, in many instances, fire dependent. Conversely, the exclusion of fire from an area allows for successional changes within the natural community. Fire exclusion leads to the excessive accumulation of fuel loads, which increases the risk for catastrophic wildfires. The goals for the implementation of fire management activities within the Property include:

- Reduction of fuel loads through the application of dormant season burns to decrease potential risk of damaging wildfires
- Introduction of growing season burns (April–August) to encourage the perpetuation of native fire adapted ground cover species
- Mitigation of smoke management issues
- Restoration and maintenance of a mosaic of natural plant communities and ecological diversity
- Maintenance and restoration of ecotonal areas

The achievement of these goals requires that the Property be partitioned into manageable burn units prior, termed fire management units (FMU), to the application of prescribed fire within those units. The following sections summarize the considerations necessary for the safe and effective use of prescribed fire as a land management tool within the Property.

Fire Return Interval

The general frequency to which fire returns to a community type is termed its fire return interval. Some communities require frequent pyric disturbances to perpetuate themselves while others are not fire adapted and subsequently do not require fire to maintain their characteristics. The following discussion of native plant communities occurring on the Property and optimal fire

return intervals was characterized in part using information from the 2010 Florida Natural Areas Inventory's *Guide to the Natural Communities of Florida* (Table 1).

Natural Community Type	FNAI Fire Return Interval
Mesic Flatwoods	2–4 years
Wet Flatwoods	1–3 years in grass dominated systems; 5–7 years in shrubbier systems; 2–4 year average
Dome Swamp	3–5 years along the outer edges (or as adjacent communities burn); 100–150 years interior.
Baygall	Infrequent; may burn with adjacent pyric plant communities.
Basin Swamp	Periodic on ecotones; no established return interval
Bottomland Forest	This is not a fire-adapted community.
Floodplain Swamp	This is not a fire-adapted community.

The above referenced fire return intervals relate to high quality natural communities. The fire return interval within degraded systems is variable. Prescribed fire will be applied as necessary to achieve restoration and management goals.

Mesic and wet flatwoods are the most prevalent fire-adapted natural community types found within the Property. Due to the embedded nature of these three natural communities, they will be burned in conjunction with each other and not broken into individual FMUs by natural communities. The fire return interval goal for these combined flatwoods will be 2–4 years, acknowledging that the burn pattern may be patchy due to the Property's hydrology. Most of TCCA's timber stands within these flatwoods are slated for thinning in the near term or have recently been subject to silvicultural operations. In stands that have not received fire in the past 10 years and where prescribed fire can be used without impacting smoke sensitive areas, dormant season prescribed fires should be the focus for application in these areas, while not ignoring the entirety of the November-to-September prescribed fire season seen in north Florida. Stands that have received fire with in the past 10 years, should focus on growing season fires (late March–August), while, again, not ignoring the entirety of the November-to-September prescribed fire season seen in north Florida.

Fire management within the remaining pyric plant communities (below) will be in conjunction with the associated mesic or wet flatwoods. These plant communities will burn as site conditions permit during the implementation of prescribed fires in adjacent plant communities. Additionally, these areas will not be excluded from fire activities unless warranted by safety or smoke management issues.

Approximately 95 acres of dome swamps are scattered throughout the Property. As site conditions and safety permits, fire will be allowed to burn into the domes to maintain the characteristic open edges of the domes while preventing excessive peat accumulation. Checking the soil moisture within and along the edge of the swamps should be conducted prior to prescribed fire operations to limit the chance of smoldering ignition.

Baygalls are not generally targeted specifically for fire management, and pockets of bay trees will begin to move into adjacent mesic and wet flatwoods natural communities over time with the absence of fire. This natural community is located in small pockets throughout Property and fire has been applied to it along with the adjacent flatwoods communities.

Seasonality and Type of Fire

Historically, most fires in Florida occurred in what is commonly referred to as the "growing season." The growing season usually spans from late March through August. Fires during the growing season generally have significant ecological benefits as most fire-adapted flora is perpetuated by fire. Mimicking lightning ignited natural fires by implementing prescribed fire during the growing season provides benefits to natural systems by controlling shrub layers and encouraging diversity in groundcover species.

Dormant season burns, conducted from late November through mid-March, help to reduce fuel loads in overgrown areas or in areas of newly planted pines. Cooler conditions associated with dormant season burning are a consideration in areas of high fuel loads and where only minimal pine mortality is acceptable. Additionally, dormant season burning may result in fewer safety and smoke management issues due to higher fuel moisture and more consistent winds. District staff will continue to work to maintain fire return frequencies that are consistent with those identified by FNAI for the various communities within the Property.

In many cases, fire management units with similar fire management needs may be burned simultaneously, either with crews igniting the areas by hand from the ground, or with the aid of aircraft. The smokeshed and aerial environment around TCCA is complicated. The Redshirt Farms and Kings Road tracts are on the approach to Jacksonville International Airport, making aerial ignition — as well as prescribed fire overall — a challenge though the northwestern portion of Redshirt Farms (the pine island surrounded by wetlands has had aerial ignition prescribed fires applied to it as part of a larger ignition elsewhere). The Ogilvie tract has utilized aerial ignition several times as this area is not on the approach to Jacksonville International Airport and has a smokeshed to the north using Four Creek State Forest. Aerial ignition allows District staff to ignite fire management units quickly, which results in faster burnout and reduces smoke management concerns. Additionally, convection produced by igniting an area can help move the smoke up and away more quickly. Aerial ignition also allows staff to introduce fire into areas that may be inaccessible from the ground, ensuring that prescribed fire is introduced into even the most remote areas within the fire management units. Aerial ignition allows staff to burn more acres in a shorter period, which in time will aid District staff in maintaining optimal fire return frequencies. An aerial burn safety plan (Exhibit 1) will accompany the individual burn prescriptions and be onsite and on the ground the day of any aerial burn. In the past, the trailhead parking area was utilized as a helicopter landing zone for aerial operations.

Wildfire Policy

In the event of a wildfire, if conditions permit, suppression strategies will utilize existing fuel breaks to contain the wildfire. These fuel breaks may include previously burned areas, existing roads, trails, fire lines, wetlands, and other water bodies. This is only possible with the agreement

of local fire rescue, Florida Forest Service, District staff, and when all the following conditions are met:

1) Fuels within the area have been managed
2) No extreme weather conditions are present or expected
3) There are no other wildfires that may require action
4) Sufficient resources are available to manage the fire to containment
5) The fire and the resulting smoke will not impact neighbors or smoke-sensitive areas

If any of these conditions are not met, direct suppression action will be taken.

As soon as possible following a fire in which fire lines are disked, a plan for fire line rehabilitation shall be developed and implemented.

Persons discovering arson or wildfires on the Property should report them to the Florida Forest Service, the District, or by dialing 911.

Post Burn Reports
Survey123 burn reports must be completed after each prescribed burn or wildfire. These reports include detailed information regarding the acreage, fuel models, staff and equipment hours, cooperator hours, contractor hours, weather (forecasted and observed), and fire behavior. The timely completion of these reports is necessary for the compilation of information relative to the entire District burn program. Additionally, these reports provide a documented account of site-specific conditions, which are helpful in the planning of future burns.

Smoke Management
A significant challenge to the implementation of any prescribed burn program is smoke management (Figure 1). Fuel loads across the Property are variable with the Ogilvie tract having relatively low fuel loads due to regular prescribed fire. Accumulated fuels have the potential to produce a tremendous amount of smoke as areas are burned. As the surrounding areas become increasingly urbanized, smoke management concerns will increase in magnitude, as there become fewer acceptable places to maneuver a smoke column from a prescribed fire.

TCCA's smokeshed varies depending on the tract. A smokeshed is a broad area to place a smoke column from a prescribed fire; there are smoke-sensitive areas that surround the Property, which narrow the smokeshed and may affect the smoke management of each burn unit. Smoke management is a limiting factor in the application of prescribed fire within the Property. Figure 1 illustrates the smoke management area for TCCA. Currently, the Ogilvie tract has the most flexible smokeshed, while the Redshirt and Kings Road tracts present smoke management challenges caused by their proximity to Jacksonville International Airport and U.S. 1/23. The Wright tract has a decreasing smokeshed due to increasing development near it.

Depending on the arrangement and composition of fuels, fire spread will be through grasses and/or needle litter, the shrub layer, or logging slash. Areas within the Property having heavier shrub and mid-story fuel accumulation or logging slash can burn for long periods of time, causing additional smoke management issues.

A fire weather forecast is obtained and evaluated for suitable burning conditions and smoke management objectives. A wind direction is chosen that will transport smoke away from urbanized areas and/or pose the least possible impact on smoke-sensitive areas. When possible, the smoke plume from burns should be directed back through the property. Smoke can then mix and loft into the atmosphere over uninhabited or rural land adequately enough to minimize off-site impacts.

On the day of the burn, the ability of smoke to mix and disperse into the atmosphere should be good. The dispersion index is a value that indicates the atmosphere's ability to "absorb and disperse" smoke. The higher the index value, the more the smoke dissipates. Dispersion indices should be above 30. Dispersions of greater than 75 will not be utilized unless other weather and site conditions mitigate expected fire behavior, such as relative humidity no lower than 50 percent throughout the burn period or recent burn adjacent to the fire management unit. Forecast mixing heights should be above 1,700 ft. Transport winds should be at least 9 mph to effectively minimize residual smoke. Lower transport wind speeds can be utilized if dispersion index and mixing heights are above average. Burns will be conducted with a carefully plotted wind direction to limit and/or eliminate negative impacts from smoke to neighbors and urbanized areas. Land management program managers must be consulted in planning burns that vary from the aforementioned parameters.

Mechanical and Chemical Treatments

Short- and long-term weather conditions and a fire management unit's proximity to urban areas become increasingly important when implementing a prescribed fire program. Should drought conditions become severe, or if smoke management becomes an insurmountable problem, the District may use mechanical methods, such as mowing or roller-chopping, as alternatives to prescribed fire.

Most of the pyric plant communities within the Property are dominated by pine plantations. An integral component to the implementation of a successful prescribed fire program within the Property is the harvesting of planted pine. Harvesting of pine trees will provide safer conditions for prescribed fire staff and decrease the potential for fire-related mortality to the remaining pines and other desirable vegetation.

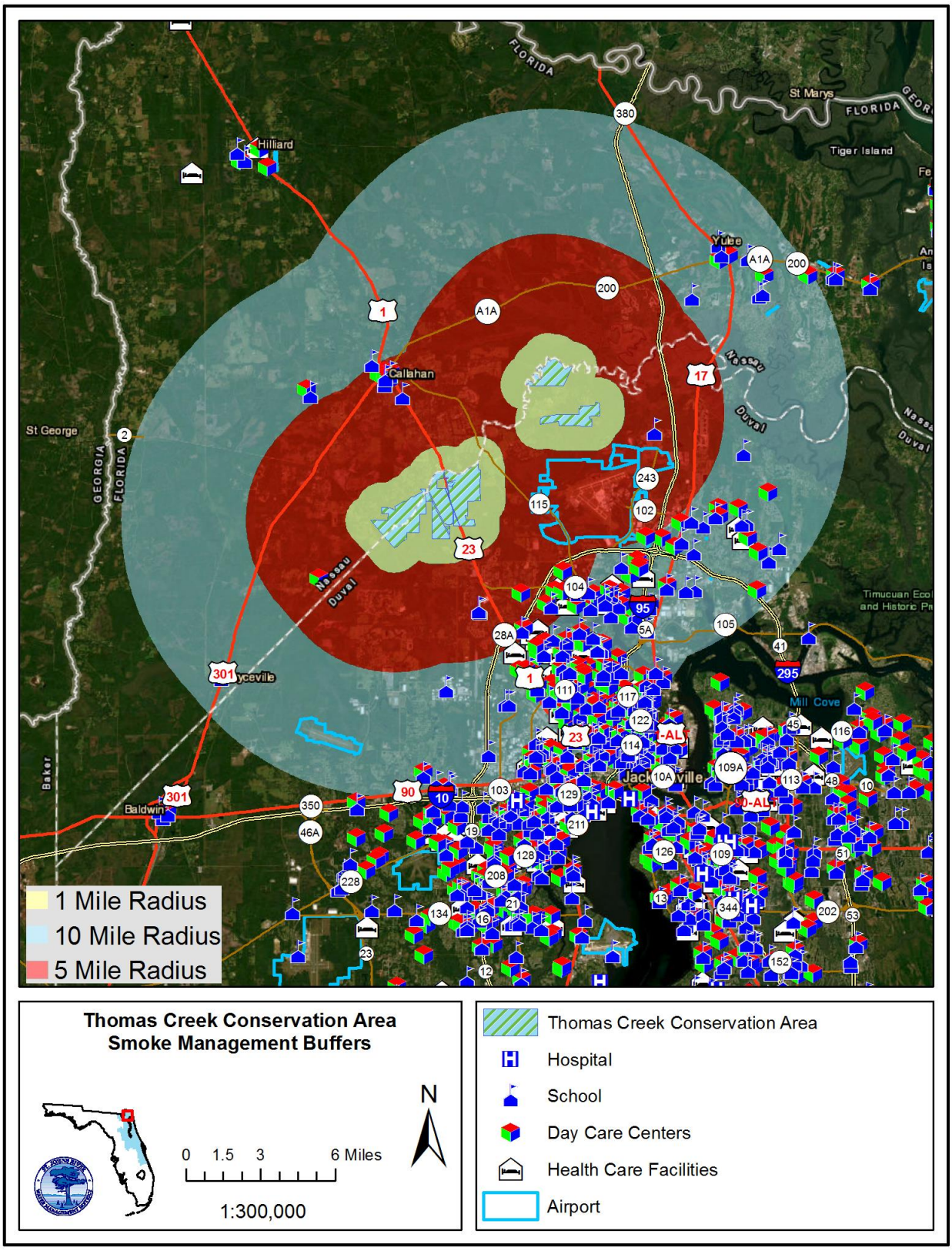

Figure 1: Fire management – smoke sensitive areas

Hazards
Common hazards include heat stress, venomous wildlife, trip hazards, or falling trees. Individual prescriptions address the hazards to consider when burning each unit and are discussed during the pre-burn briefing.

Legal Considerations
Only burn managers certified by Florida Forest Service will approve the unit prescriptions and must be on-site while the burn is being conducted. Certified burn managers adhering to the requirements of Section 590.125, F.S., are protected from liability for damage or injury caused by fire or resulting smoke, unless gross negligence is proven.

Fire Management Units (FMUs)
FMUs have been delineated on the Property. Where logical, the District used existing roads and landscape features to delineate fire management units. Occasionally, multiple FMUs with similar fire needs will be burned simultaneously, and roads and natural landscape features provide a break in fuels so that staff may burn smaller areas than initially planned if needed.

Ideally, District staff thoroughly address and describe each FMU in terms of its fire management needs. All FMUs are categorized into one of several fuel model (FM) descriptions. The 13 standard fuel models (as described in Hal E. Anderson's *Aids to Determining Fuel Models for Estimating Fire Behavior*) were used as a basis for this categorization. The factors considered in determining each FMU are amount, composition, and arrangement of available fuels within units, predicted fire behavior within each unit (under conditions acceptable to implement a prescribed burn), and resources necessary to regain management of a fire in extenuating circumstances. District staff anticipate the change of vegetative assemblages over time due to growth and/or restoration and understand that fuel characteristics, models, and resulting fire behavior will also change.

Exhibit 1
Aerial Burn Safety Plan
Thomas Creek Conservation Area

The hazards associated with this type of burning are related to working with the helicopter, the sphere dispenser, and dealing with active fire. All helicopter safety procedures and all District fire line policies and procedures will be followed.

1. **BRIEFING –** During the operational briefing, the safety plan will be reviewed with all personnel on the burn.
2. **HELICOPTER SAFETY –** The pilot will give a helicopter safety briefing at the morning operational briefing.
3. **AIDS SAFETY –** The operator will review the operation and cleaning procedures for the dispenser at the morning briefing.
4. **PERSONAL PROTECTIVE EQUIPMENT –** The incident commander will ensure that all personnel have the required Personal Protective Equipment (PPE).
5. **HIGH HAZARD AREAS –** All high hazard areas such as power lines shall be designated on the map and attached to the burn plan.
6. **EMERGENCY LANDING ZONES –** These should be confirmed with the pilot and indicated on the burn map.

Helispot	**Latitude 30° 33' 00" N** **Longitude 81° 42' 33" W**	**Lannie Road Park ballfield**

Crash Rescue Plan

In the event of an accident involving the helicopter the following procedures will be followed.

INCIDENT COMMANDER or BURN BOSS

1. **Notify 911**
2. Notify Jacksonville Fire and Rescue 911 or (904) 255-3280
3. Notify Jacksonville Sheriff's Office (904) 630-0500
4. Assume responsibility of the Rescue Operation.
5. Notify National Transportation Safety Board (NTSB) (305) 957-4610 or (404) 462-1666.
6. Delegate responsibility of fire control to the second in command or the most qualified.

SECOND IN COMMAND

1. Assume responsibility of the burn.
2. Assist the Incident Commander (IC) or Burn Boss with resource and personnel needs for the rescue operation.
3. If the IC is in the helicopter, second in command will assume rescue operation responsibilities and assign the most qualified to fire control.

Emergency Phone Numbers
AIR RESCUE UNITS

1. UF Health Shands Jacksonville **(904) 244-0411**

BURN UNIT LOCATIONS

1. UF Health Shands Gainesville – Burn Unit	**(352) 265-8932**

FLORIDA FOREST SERVICE

1. Jacksonville District Dispatch	**(904) 266-8351**

NTSB

1. Southeast Regional Office	(**305) 957-4610**
2. Southeast Field Office	(**404) 462-1666**

APPENDIX D: OGILVIE AND WRIGHT CONSERVATION EASEMENTS

AFTER RECORDING RETURN TO

Dykes C. Everett, Esquire
Winderweedle, Haines, Ward & Woodman, P.A.
Post Office Box 880
Winter Park, Florida 32790

Prepared by and Return to
Kathleen Fowler, Esq.
The Nature Conservancy
222 S. Westmonte Dr., Ste 300
Altamonte Springs, FL 32714

Book 9472 Page 255

Doc# 99283355
Book: 9472
Pages: 255 - 264
Filed & Recorded
11/19/99 12:15:16 PM
HENRY W COOK
CLERK CIRCUIT COURT
DUVAL COUNTY

TRUST FUND	$	5.50
DEED DOC STAMP	$	0.70
RECORDING	$	41.00

CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is made this 12th day of November, 1999, between ELWOOD VERNON OGILVIE, JR. and VERNON B. BAXLEY, whose address is 14333 Ogilvie Road, Jacksonville, Florida 32218, referred to collectively herein as the "Grantor", and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose address is Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Blvd., Mail Station 115, Tallahassee, Florida 32399, and which together with its successors and assigns, is referred to herein as the "Grantee."

WHEREAS, the Grantor is the owner in fee simple of certain real property in Duval County, Florida, (hereinafter referred to as the "Protected Property") which has natural, aesthetic, scientific, educational and ecological value in its present state as a natural area and which property is described in Exhibit A attached hereto and by this reference incorporated herein;

WHEREAS, on even date hereof, Grantor shall convey the Protected Property to the St. Johns River Water Management District (the "District"); and

WHEREAS, the Protected Property will be purchased and conveyed to the District with a portion of the mitigation funding (the "Mitigation Funds") which are held in trust by The Nature Conservancy pursuant to the Settlement Stipulation, "Conditions of Certification," XXVIII, Environmentally Sensitive Land Acquisition, Section A(2), which is part of that certain Order Instituting Modification Proceedings (the "Final Order") entered by the Governor and Cabinet of the State of Florida sitting as Siting Board for Cedar Bay Cogeneration, Inc./Seminole Kraft Corporation, Cedar Bay Cogeneration Project In Re: Power Plant Site Certification of AES Cedar Bay Cogeneration Project PA-88-24;(OGC Case No. 88-1089);

1

WHEREAS, Section XXVIII of the Final Order provides that the Mitigation Funds be used to acquire lands possessing substantial ecological value to the ecosystem of the St. Johns River watershed and that all lands acquired with the Mitigation Funds be managed to retain or enhance the ecological values for which the lands were acquired;

WHEREAS, Section XXVIII of the Final Order prohibits any properties purchased with the Mitigation Funds from being used for the development of urban recreational facilities which conflict with the natural resource values of the site. Prohibited facilities include ball fields or courts, playgrounds, and other developed amenities which are not dependent on ecological conditions for their existence and which are not ancillary to public access for recreational enjoyment of the available natural resources;

WHEREAS, the Protected Property possesses substantial ecological value to the St. Johns River watershed and has substantial value as a natural, ecological, educational, and scientific resource;

WHEREAS, the parties intend hereby to comply with Section 704.06 of the Florida Statutes which permits the creation of conservation easements for the purposes of, inter alia, retaining land or water areas predominantly in their natural, scenic, open or wooded condition or as suitable habitat for fish, plants, or wildlife.

NOW, THEREFORE, the Grantor, for and in consideration of the sum of Ten and No/100 Dollars ($10.00) and other good and valuable consideration, receipt of which is hereby acknowledged, does hereby grant, and convey unto the Grantee, its successors and assigns, forever, a perpetual Conservation Easement as defined in Florida Statutes Section 704.06, over the Protected Property, which shall run with the land and be binding upon the Grantor, its heirs, successors and assigns (also hereinafter "Grantor"), and shall remain in full force and effect forever.

The scope, nature and character of this Conservation Easement shall be as follows:

1. It is the purpose of this Conservation Easement to assure that, except as otherwise provided for herein, the Protected Property will be retained forever in its natural condition existing at the time this Conservation Easement is executed and to prevent

any use of the Protected Property that will impair or interfere with the natural, ecological, educational and scientific values of the Protected Property. This Conservation Easement shall further insure that the Protected Property is managed to retain or enhance the ecological values for which the lands were acquired and that the Protected Property shall not be used for the development of urban recreational facilities which conflict with the natural resource values of the site.

To carry out this purpose, the following rights are conveyed to the Grantee by this easement:

a. Consistent with the purposes of the Final Order, to enter upon the Protected Property in a manner and at reasonable times to enforce the rights herein granted, in a manner that will be consistent with the Final Order and that will not interfere with the use and quiet enjoyment of the Protected Property by the Grantor at the time of such entry; and

b. To enjoin any activity on or use of the Protected Property that is inconsistent with the purpose of this Conservation Easement and to enforce the restoration of such areas or features of the Protected Property that may be damaged by any inconsistent activity or use.

2. Notwithstanding anything contained herein to the contrary, this Deed of Conservation Easement prohibits the construction of urban recreational facilities in, on or under the Protected Property. Prohibited facilities include ball fields or courts, playgrounds, and other developed amenities which are not dependent on ecological conditions for their existence and which are not ancillary to public access for recreational enjoyment of the available natural resources.

3. Except for specific activities reasonably required for restoration, enhancement and preservation of wetlands and upland habitat areas within the Protected Property, this Deed of Conservation Easement prohibits the following activities in, on or under the Protected Property:

a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities or other structures on or above the ground, except for signage required for information, health or safety purposes;

b. Dumping or placing of soil or other substances or materials as landfill, or dumping or placing of trash, waste or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs or other vegetation, except for the removal of nuisance or exotic plant species and slash pine or other vegetation where necessary for management purposes;

d. Excavation, dredging or removal of loam, peat, gravel, soil, rock or other material substance in such manner as to affect the surface;

e. Surface use, except for purposes that permit the land or water area to remain in its natural condition;

f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation;

g. Acts or uses detrimental to such retention of land or water areas; and

h. Acts or uses detrimental to the preservation of any features or aspects of the Protected Property having historical, archaeological or cultural significance.

4. Notwithstanding the prohibitions specified in subparagraphs a. through h. in paragraph 3. above, Grantor expressly reserves the right to construct, operate and maintain such facilities as reasonably necessary or appropriate to provide public accessibility to the Protected Property for passive recreational purposes and to construct, operate and maintain facilities ancillary to such public access for passive recreational enjoyment of the available natural resources, all in a manner consistent with the Final Order.

5. No right of access by the general public to any portion of the Protected Property is conveyed by this Conservation Easement; however, this provision is not intended to preclude or limit access to the Protected Property by the public in a manner that is consistent with the terms of this Conservation Easement.

6. Grantor shall pay any and all real property taxes and assessments levied by competent authority on the Protected Property.

7. Grantee shall not be responsible for any costs or liabilities related to the operation, upkeep and maintenance of the Protected Property.

8. To accomplish the purposes stated herein, Grantor conveys the following rights to Grantee:

a. To enter upon and inspect the Protected Property in a reasonable manner and at reasonable times to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this Conservation Easement.

b. To proceed at law or in equity to enforce the provisions of this Conservation Easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities set forth herein, and require the restoration of areas or features of the Protected Property that may be damaged by any activity inconsistent with this Conservation Easement, excluding a requirement for restoration for acts of God or events outside of the control of Grantor.

9. Enforcement of the terms and provisions of this Conservation Easement shall be at the discretion of Grantee. Any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor shall not be deemed or construed to be a waiver of Grantee's rights hereunder.

10. Grantee agrees that it will hold this Conservation Easement exclusively for the conservation purposes stated herein, and that it will not assign its rights and obligations under this Conservation Easement, except to another organization qualified to hold such interest under applicable state laws. The terms, conditions, restrictions and purposes of this Conservation Easement will be incorporated in any subsequent deed or other legal instrument by which the Grantee divests itself of any interest in the Protected Property. Any assignment to other than a governmental body or agency shall be subject to the consent of Grantor, which consent shall not be unreasonably withheld.

11. This Deed of Conservation shall constitute a "Conservation Easement" as defined in Section 704.06, Florida Statutes, as amended.

12. This Deed of Conservation Easement is made with general warranty of title.

13. This Conservation Easement may be amended or altered only by written agreement of Grantor and Grantee. Grantor and Grantee agree that the terms of this Easement shall survive any merger of the fee and easement interest in the Protected Property.

14. The covenants, terms, conditions, restrictions and purposes imposed with this grant shall be binding upon Grantor and its agents, assigns, and all other successors in interest, and shall continue as a servitude running in perpetuity with the Protected Property.

15. If any provision of this Conservation Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

16. All notices, consents, approvals or communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor in interest as follows, or to such other address as the successor in interest furnishes in writing to the other party:

If to Grantor:	If to Grantee:
Elwood Vernon Ogilvie, Jr. and Vernon B. Baxley 14333 Ogilvie Road Jacksonville, Florida 32218	Dept. of Environmental Protection 3900 Commonwealth Blvd. Mail Station 115 Tallahassee, FL 32399 Attn: Director, Division of State Lands

18. Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said Protected Property in fee simple; that Grantor has good right and lawful authority to convey this Conservation Easement; and that it hereby fully warrants and defends the title to the Conservation Easement hereby conveyed against the lawful claims of all persons whomsoever.

19. This Conservation Easement may be executed in one or more counterparts, but all such counterparts, when duly executed, shall constitute one and the same Agreement.

IN WITNESS WHEREOF, Grantor has hereunto set Grantor's hand and seal on this 12th day of November, 1999.

GRANTOR

Signed, sealed and delivered
in the presence of:

Printed Name: LaTrecia A. Baker

Printed Name: LaTRECIA A. BAKER

Elwood Vernon Ogilvie, Jr.

Date: 11/12/99

STATE OF FLORIDA)
)SS
COUNTY OF DUVAL)

SWORN TO and subscribed before me this 12th day of November, 1999, by Elwood Vernon Ogilvie, Jr. Such person (Notary Public must check applicable box):

[ ] is/are personally known to me.
[✓] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Notary Public
LAWRENCE J. BERNARD
(Printed, Typed or Stamped Name of Notary Public)
Commission No.: _____

LAWRENCE J. BERNARD
MY COMMISSION # CC 715443
EXPIRES: April 30, 2002
Bonded Thru Notary Public Underwriters

7

BOOK NUMBER 9472 PAGE 262
Book 94 2 1

Signed, sealed and delivered
in the presence of:

Brooke Dobbs
Printed Name: Brooke Dobbs

Anita Parks
Printed Name: Anita Parks

Vernon B. Baxley
Vernon B. Baxley

Date: 11-11-99

STATE OF GA)
)SS
COUNTY OF HENRY)

SWORN TO and subscribed before me this 11 day of November, 1999, by Vernon B. Baxley. Such person (Notary Public must check applicable box):

[ ] is/are personally known to me.
[✓] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Susan E. Berry
Notary Public
SUSAN E. BERRY
(Printed, Typed or Stamped Name of Notary Public)
Commission No.: Notary Public, Henry County, Georgia My Commission Expires Aug. 10, 2003

8

Signed, sealed and delivered
in the presence of

Catherine J. Newell
Printed Name: Catherine J. Newell

Fay Steele
Printed Name: Fay Steele

BOARD OF TRUSTEES OF THE
INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA

By: Eva Armstrong

Name: Eva Armstrong

Its: Div. Director

Date: 11-15-99

Approval as to form
and legality

By: Peter Tedder

Date: 11-15-99

STATE OF Florida)
)SS
COUNTY OF Leon)

SWORN TO and subscribed before me this 15th day of November, 1999, by Eva Armstrong, as Director of the Division of State Lands, Department of Environmental Protection on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. Such person(s) (Notary Public must check applicable box):

[✓] is/are personally known to me.
[ ] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Karen McMillan
Notary Public

KAREN McMillan
(Printed, Typed or Stamped Name of Notary Public)

Commission No.: CC 535762

Karen McMillan
MY COMMISSION EXPIRES FEBRUARY 27, 2000
#CC 535762
Bonded thru Troy Fain-Insurance
NOTARY PUBLIC, STATE OF FLORIDA

t:\legal\kathleen\aes\thomascr\conservation easement-ogilvie 110999.doc

Book 9472 Page 264

EXHIBIT "A"

OGILVIE

LEGAL DESCRIPTION:

A part of Lot 9 of Subdivision of part of the D.O. OGILVIE ESTATE, according to the Plat thereof as recorded in Plat Book 6, Page 70, Public Records of Duval County, Florida, particularly described as follows:

Beginning at the Southwest corner of Lot 8 as shown on the aforesaid Plat; run thence West to Thomas Creek; run thence down said Creek to its intersection with the East line of said Lot 9; run thence South 33°15' East 300 feet along the East line of said Lot 9 to a point, thence continue along the East line of said Lot 9 South 11°55' East 4110 feet to the Place of Beginning.

T:\LEGAL\KATHLEEN\AES\OGILVIE ~ BAXLEY\LEGALO~1.WPD
11/9/99 (4:38 PM)

Prepared by and return to:
Dykes C. Everett, Esquire
Winderweedle, Haines, Ward &
Woodman, P.A.
Post Office Box 880
Winter Park, Florida 32790

Doc# 2000210499
Book: 9739
Pages: 1711 - 1715
Filed & Recorded
09/12/2000 04:29:44 PM
HENRY W COOK
CLERK CIRCUIT COURT
DUVAL COUNTY
TRUST FUND $ 3.00
RECORDING $ 21.00

FIRST AMENDMENT TO CONSERVATION EASEMENT

THIS FIRST AMENDMENT is made this 28th day of August, 2000, between **CHEROKEE COVE II PARTNERSHIP,** a Florida general partnership, whose address is 2404 Leafdale Circle South, Jacksonville, Florida 32218, as Grantor under that certain Conservation Easement dated November 12, 1999, recorded November 19, 1999, in Official Record Book 9472, Page 276, Public Records of Duval County, Florida ("Conservation Easement"), joined by **ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,** a public body existing under Chapter 373 of the Florida Statutes, whose address is Post Office Box 1429, Palatka, Florida 32178, as Successor Grantor under the Conservation Easement (collectively referred to as "Grantor") and **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, whose address is Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, Florida 32399, which together with its successors and assigns (hereinafter referred to as "Grantee").

WITNESSETH

WHEREAS, subsequent to that time that Cherokee Cove II Partnership and Grantee entered into the Conservation Easement, Cherokee Cove II Partnership transferred the property which is encumbered by the Conservation Easement to St. Johns River Water Management District under that certain Warranty Deed recorded in Official Records Book 9472, Page 286, Public Records of Duval County, Florida; and

WHEREAS, the legal description attached as Exhibit "A" to the Conservation Easement contained an error and the parties desire to correct said error by filing this First Amendment; and

WHEREAS, the parties wish to clearly provide that Cherokee Cove II Partnership has no liability for any matters provided in the Conservation Easement and that said Easement affects and concerns only the real property described therein, as modified by this document.

NOW, THEREFORE, in consideration of these presents and in further consideration of the sum of $10.00 and other good and valuable considerations, the receipt and sufficiency of which is hereby acknowledged, the Grantor and Grantee hereto agree as follows:

(5)

1. The recitals set forth above are incorporated herein by reference and made a part of this First Amendment as fully as if set forth herein verbatim.

2. Exhibit "A" attached to the Conservation Easement is hereby deleted and the Exhibit "A" attached hereto and made a part hereof shall be substituted in its stead.

3. Notwithstanding any of the provisions of the original Conservation Easement, dated November 12, 1999 and referenced hereinabove, the same affects and concerns only the real property described herein and upon the recordation of the easement and the acquiring of the title to the property by either St. Johns River Water Management District or the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, the said Cherokee Cove II Partnership shall have no liability for any matters or statements provided in the Conservation Easement, as amended by this document.

4. Except as set forth herein, the Conservation Easement shall remain in full force and effect.

5. This Amendment may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same agreement.

IN WITNESS WHEREOF, the Grantor and Grantee have caused these presents to be executed as of the day and year first above written.

Signed, sealed and delivered
in the presence of:

Jamie L. Matthews
Print Name: JAMIE MATTHEWS

Andrea L. Brown
Print Name: Andrea L. Brown

CHEROKEE COVE II, PARTNERSHIP,
a Florida general partnership

By: G. C. Betz Jackson
G. C. Betz Jackson
Its General Partner

Address: **2404 Leafdale Circle South**
Jacksonville, FL 32218

STATE OF FLORIDA
COUNTY OF Duval

The foregoing instrument was sworn to, subscribed and acknowledged before me this 23rd day of August, 2000, by **G. C. BETZ JACKSON** the General Partner of CHEROKEE COVE II, PARTNERSHIP, a Florida general partnership, on behalf of the partnership, who is personally known to me or has produced _____ as identification.

Jamie L. Matthews
Notary Public
My Commission Expires:

JAMIE L. MATTHEWS
MY COMMISSION # CC 739387
EXPIRES: June 19, 2002
Bonded Thru Notary Public Underwriters

Signed, sealed and delivered
in the presence of:

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a public body existing under Chapter 373, Florida Statutes

John D. Fry
Name printed: John Poberezny

By: _____
William W. Kerr

Sharon G. Carlin
Name Printed: SHARON G. CARLIN

Attest: _____
Jeffrey K. Jennings, Secretary

Address: Post Office Box 1429
Palatka, Florida 32178

For use and reliance only by
St. Johns River Water Management District,
Legal Form and Content Approved:

Winderweedle, Haines, Ward & Woodman, P.A.

By: _____

STATE OF FLORIDA
COUNTY OF Brevard

The foregoing instrument was acknowledged before me this 21st day of August, 2000, by WILLIAM W. KERR, Chairman of the governing board of the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a public body existing under Chapter 373, Florida Statutes, on behalf of the District. He is personally known to me or produced _____ as identification.

SHARON G. CARLIN
MY COMMISSION # CC 568464
EXPIRES: October 29, 2000
Bonded Thru Notary Public Underwriters

Sharon G. Carlin
Name printed: SHARON G CARLIN
Notary Public
My Commission Expires: 10/29/00

STATE OF FLORIDA
COUNTY OF Orange

The foregoing instrument was acknowledged before me this 21st day of August, 2000, by JEFFREY K. JENNINGS, Secretary of the governing board of the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a public body existing under Chapter 373, Florida Statutes, on behalf of the District. He is personally known to me or produced _____ as identification.

SHARON G. CARLIN
MY COMMISSION # CC 568464
EXPIRES: October 29, 2000
Bonded Thru Notary Public Underwriters

Sharon G. Carlin
Name printed: SHARON G. CARLIN
Notary Public
My Commission Expires: 10/29/00

Signed, sealed and delivered
in the presence of:

E.W.Wood
Print Name: E. W. WOOD

Ralph M. Perkins
Print Name: Ralph M. Perkins

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

By: Eva Armstrong
Name: Eva Armstrong
Title: Division Director

Address: **Florida Department of Environmental Protection,**
Division of State Lands,
3900 Commonwealth Blvd,
Mail Station 115,
Tallahassee, Florida 32399

APPROVED AS TO
FORM & LEGALITY
Sandra Stockwell
DEPARTMENT ATTORNEY

STATE OF FLORIDA
COUNTY OF Leon

The foregoing instrument was sworn to, subscribed and acknowledged before me this 28th day of August, 2000, by Eva Armstrong, as Director of the Division of State Lands, Department of Environmental Protection on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, who is personally known to me or has produced _____ as identification.

Sheryl P. Jones
Notary Public
My Commission Expires:

Sheryl P. Jones
MY COMMISSION # CC830855 EXPIRES
May 3, 2003
BONDED THRU TROY FAIN INSURANCE, INC.

R:\ST-JOHNS\Ogilvie-CherokeeCove\Amend3.wpd
8/17/2000 (2:28 PM)

EXHIBIT "A"

CHEROKEE

LEGAL DESCRIPTION:

Lot 8 of a Subdivision of part of the DAVID O. OGILVIE ESTATE, according to the Plat thereof as recorded in Plat Book 6, Page 70, Public Records of Duval County, Florida, being a part of SECTION 38, TOWNSHIP 2 NORTH, RANGE 26 EAST and a part of the CHAS. SETON GRANT.

LESS AND EXCEPT:

The East 500 feet of the above-described parcel.

ALSO LESS AND EXCEPT:

A part of Lot 8 as shown on the Plat of the Subdivision of part of the DAVID O. OGILVIE ESTATE, according to the Plat thereof as recorded in Plat Book 6, Page 70, Public Records of Duval County, Florida, being more particularly described as follows:

Commence at the Southeast corner of said Lot 8; thence North 25 degrees 00 minutes 00 seconds East along the East line of said Lot 8, 71.72 feet to the Point of Beginning; thence North 90 degrees 00 minutes 00 seconds West, 450.00 feet; thence North 25 degrees 00 minutes 00 seconds East 420.00 feet; thence South 90 degrees 00 minutes 00 seconds East 450.00 feet to an intersection with said East line of Lot 8; thence South 25 degrees 00 minutes 00 seconds West along said East line, 420.00 feet to the Point of Beginning.

R:\ST-JOHNS\Ogilvie-CherokeeCove\LegalCher5.wpd
8/17/00 (3:09 PM)

RETURN TO:
Dykes C. Everett, Esquire
Winderweedle, Haines, Ward
& Woodman, P.A.
Post Office Box 880
Winter Park, Florida 32790

Prepared by:
Kathleen Fowler Lightsey, Esq.
The Nature Conservancy
222 S. Westmonte Dr., Ste 300
Altamonte Springs, FL 32714

Doc# 2002041447
Book: 10353
Pages: 193 - 204
Filed & Recorded
02/12/2002 07:56:39 AM
JIM FULLER
CLERK CIRCUIT COURT
DUVAL COUNTY
TRUST FUND $ 6.50
RECORDING $ 49.00

CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is made this 26th day of June, 2001, between **CITY OF JACKSONVILLE**, a municipal corporation of the State of Florida, whose mailing address is City Hall at St. James, 117 West Duval Street, Suite 400, Jacksonville, Florida 32202 (the "City") and **ST. JOHNS RIVER WATER MANAGEMENT DISTRICT**, a public body existing under Chapter 373, Florida Statutes, whose mailing address is Post Office Box 1429, Palatka, Florida 32178-1429 (the "District") (the City and District are herein collectively referred to as the "Grantor") and the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, whose address is Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Blvd., Mail Station 115, Tallahassee, Florida 32399, and which together with its successors and assigns, is referred to herein as the "Grantee."

WHEREAS, the Grantor is the owner in fee simple of certain real property in Duval County, Florida, (hereinafter referred to as the "Protected Property") which has natural, aesthetic, scientific, educational and ecological value in its present state as a natural area and which property is described in Exhibit "A" attached hereto and by this reference incorporated herein; and

WHEREAS, the Protected Property was purchased and conveyed to the Grantor with a portion of the mitigation funding (the "Mitigation Funds") which is held in trust by The Nature Conservancy pursuant to the Settlement Stipulation, "Conditions of Certification," XXVIII, Environmentally Sensitive Land Acquisition, Section A(2), which is part of that certain Order Instituting Modification Proceedings (the "Final Order") entered by the Governor and Cabinet of the State of Florida sitting as Siting Board for Cedar Bay Cogeneration, Inc./Seminole Kraft Corporation, Cedar Bay Cogeneration Project In Re: Power Plant Site Certification of AES Cedar Bay Cogeneration Project PA-88-24;(OGC Case No. 88-1089); and

(13)

WHEREAS, Section XXVIII of the Final Order provides that the Mitigation Funds be used to acquire lands possessing substantial ecological value to the ecosystem of the St. Johns River watershed and that all lands acquired with the Mitigation Funds be managed to retain or enhance the ecological values for which the lands were acquired; and

WHEREAS, Section XXVIII of the Final Order prohibits any properties purchased with the Mitigation Funds from being used for the development of urban recreational facilities which conflict with the natural resource values of the site. Prohibited facilities include ball fields or courts, playgrounds, and other developed amenities which are not dependent on ecological conditions for their existence and which are not ancillary to public access for recreational enjoyment of the available natural resources;

WHEREAS, the Protected Property possesses substantial ecological value to the St. Johns River watershed and has substantial value as a natural, ecological, educational, and scientific resource;

NOW, THEREFORE, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of Florida, and in particular §704.06, Florida Statutes, but without intending that this Easement be dependent on the continuing existence of such laws, Grantor hereby voluntarily grants and conveys to Grantee a conservation easement in perpetuity over the Protected Property of the nature and character and to the extent hereinafter set forth ("Easement"), for the purpose of retaining the land and water areas predominantly in their natural, scenic, open or wooded condition and as suitable habitat for fish, plants or wildlife.

The scope, nature and character of this Conservation Easement shall be as follows:

1. It is the purpose of this Easement to assure that, except as otherwise provided for herein, the Protected Property will be retained forever in its natural condition existing at the time this Easement is executed and as it may develop through the forces of nature, and to prevent any use of the Protected Property that will impair or interfere with the natural, ecological, educational and scientific values of the Protected Property. This Easement shall further insure that the Protected Property is managed to retain or enhance the ecological values for which the lands were acquired and that the Protected Property shall not be used for the development of urban recreational facilities which conflict with the natural resource values of the site.

To carry out this purpose, the following rights are conveyed to the Grantee by this Easement:

a. The right to preserve and protect the conservation values of the Protected Property;

b. All future residential, commercial, industrial and incidental development rights of Grantor in the Protected Property except as may be specifically reserved to Grantor in this Easement.

c. The right in Grantee to assign its interest in this Easement to any other governmental entity or non-profit agency whose purposes include the conservation of land or water areas, or the preservation of sites or properties.

d. The right to enter upon the Protected Property at reasonable times in order to monitor Grantor's compliance with and otherwise enforce the terms of this Easement; provided that such entry shall be upon prior reasonable notice to Grantor, and Grantee shall not unreasonably interfere with Grantor's use and quiet enjoyment of the Property; and

e. The right to prevent any activity on or use of the Protected Property that is inconsistent with the purpose or provisions of this Easement and to require the restoration of or to restore such areas or features of the Property that may be damaged by any inconsistent activity or use, at Grantor's cost.

f. The right of ingress and egress to the Protected Property.

g. The right to have the ad valorem taxes, assessments and any other charges on the Protected Property paid by Grantor.

h. The right to be indemnified by Grantor or any successor of Grantor that does not enjoy sovereign immunity, for any and all liability, loss, damage, expense, judgment or claim (including a claim for attorney fees) arising out of any negligent or willful action or activity resulting from the Grantor's use and ownership of or activities on the Protected Property or the use of or activities of Grantor's agents, guests, lessees or invitees on the Protected Property.

i. The right to be indemnified by Grantor or any successor of Grantor that does not enjoy sovereign immunity, for any liability for injury or property damage to persons on the Protected Property arising out of any condition of the Protected Property known to the Grantor to the best of Grantor's knowledge.

2. Notwithstanding anything contained herein to the contrary, this Easement prohibits the construction of urban recreational facilities in, on or under the Protected Property. Prohibited facilities include ball fields or courts, playgrounds, and other developed amenities which are not dependent on ecological conditions for their existence

and which are not ancillary to public access for recreational enjoyment of the available natural resources.

3. Except for specific activities reasonably required for restoration, enhancement and preservation of wetlands and upland habitat areas within the Protected Property, this Easement prohibits the following activities in, on or under the Protected Property:

a. Construction or placing of buildings, mobile homes, roads, signs, billboards or other advertising, utilities or other structures in, on or above the ground, except for signage required for information, health or safety purposes; provided that signage appropriate to identify the Grantor or the Grantee or to provide instruction for passive recreation is allowed.

b. Dumping or placing of soil, trash, liquid or solid waste (including sludge) or unsightly, offensive, or hazardous materials, wastes or substances, toxic wastes or substances, pollutants or contaminants, including, but not limited to, those as now or hereafter defined by federal or Florida law defining hazardous materials, wastes or substances, toxic wastes or substances, pollutants or contaminants on the Protected Property;

c. Removal or destruction of trees, shrubs or other vegetation, except for the removal of nuisance or exotic plant species and slash pine or other vegetation where necessary for management purposes;

d. The exploration for and extraction of oil, gas, minerals, peat, muck, marl, limestone, limerock, kaolin, fuller's earth, phosphate, common clays, gravel, shell, sand and similar substances, under and by virtue of the authority of a grant or reservation or other form of ownership of or interest in or control over or right to such substances, by means other than through a well hole, that is by means of surface exploratory and extraction operations such as sifting of the sands, dragline, open pit mining, or other type of surface operation, which would include movement of sands, dirt, rock, or minerals.;

e. Surface use, except for purposes that permit the land or water area to remain in its natural condition;

f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation;

g. Acts or uses detrimental to the retention of land or water areas, natural or manmade, in their natural, scenic, wooded condition, or to the use of the Protected Property as a water recharge area, habitat, or for passive recreation; and

h. Acts or uses detrimental to the preservation of any features or aspects of the Protected Property having historical, archaeological or cultural significance; and

i. The dredging of canals, construction of dikes, manipulation of natural water courses, disruption, alteration, pollution, depletion, or extraction on the Protected Property of existing surface or subsurface water flow or natural water sources, fresh water lakes, ponds and pond shores, marshes, creeks or any other water bodies, or any activities or uses conducted on the Protected Property which would be detrimental to water purity or which could alter natural water level or flow over the Protected Property.

j. Actions or activities by Grantor or Grantor's invitees, guests or agents that adversely impact threatened or endangered species.

k. The leasing or selling of hunting and fishing rights on, or related to, the Protected Property.

l. Any subdivision of the Protected Property.

4. Notwithstanding the prohibitions specified in subparagraphs a. through l. in paragraph 3. above, Grantor expressly reserves the right to construct, operate and maintain such facilities as reasonably necessary or appropriate to provide public accessibility to the Protected Property for passive recreational purposes and to construct, operate and maintain facilities ancillary to such public access for passive recreational enjoyment of the available natural resources, all in a manner consistent with the Final Order.

5. No right of access by the general public to any portion of the Protected Property is conveyed by this Easement; however, this provision is not intended to preclude or limit Grantor's ability to allow access to the Protected Property by the public for educational or recreational opportunities that are consistent with the terms of this Easement.

6. Grantor shall pay any and all real property taxes and assessments levied by competent authority on the Protected Property; provided, however, that if Grantor enjoys sovereign immunity, this paragraph shall not be construed as a demand or requirement that Grantor waive such immunity.

7. Grantee shall not be responsible for any costs or liabilities arising out of Grantor's operation, upkeep and maintenance of the Protected Property.

8. Grantor may proceed at law or in equity to enforce the provisions of this Easement and the covenants set forth herein, to prevent the occurrence of any of the

prohibited activities set forth herein, and to require the restoration of areas or features of the Protected Property that may be damaged by any activity inconsistent with this Easement. Nothing contained in this Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Protected Property resulting from causes beyond Grantor's control, including, without limitation, fire, flood, storm, and earth movements, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Protected Property resulting from such causes.

9. Enforcement of the terms and provisions of this Easement shall be at the discretion of Grantee. Any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Easement or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.

10. Grantee agrees that it will hold this Easement exclusively for the conservation purposes stated herein, and that it will not assign its rights and obligations under this Easement, except to another organization qualified to hold such interest under applicable state laws. Any assignment to other than a governmental body or agency shall be subject to the consent of Grantor, which consent shall not be unreasonably withheld.

11. This Easement may be amended or altered only by written agreement of Grantor and Grantee. Grantor and Grantee agree that the terms of this Easement shall survive any merger of the fee and easement interest in the Protected Property

12. The covenants, terms, conditions, restrictions and purposes imposed with this grant shall be binding upon Grantor and its agents, assigns, and all other successors in interest, and shall continue as a servitude running in perpetuity with the Protected Property.

13. If any provision of this Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

14. Any general rule of construction to the contrary notwithstanding, this Easement shall be liberally construed in favor of the grant to effect the purpose of this Easement and the policy and purpose of §704.06, Florida Statutes. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purpose of this

Easement that would render the provision valid shall be favored over any interpretation that would renter it invalid.

15. All notices, consents, approvals or communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor in interest as follows, or to such other address as the successor in interest furnishes in wiring to the other party:

If to Grantee:

Dept. of Environmental Protection
3900 Commonwealth Blvd.
Mail Station 115
Tallahassee, Florida 32399
Attn: Director, Division of State Lands

If to District:

St. John's River Water Management District
4049 Reid Street
Palatka, Florida 32177
Attn: Director, Division of Land Management

If to City:

City Hall at St. James
117 West Duval Street
Suite 400
Jacksonville, Florida 32202
Attn: Preservation Project

16. Grantor hereby covenants with said Grantee that Grantor is lawfully seized of said Protected Property in fee simple; that Grantor has good right and lawful authority to convey this Easement; and that it hereby fully warrants and defends the title to the Easement hereby conveyed against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Grantor has hereunto set Grantor's hand and seal on this 18th day of June, 2001.

APPROVED
Karen M Chambers
ASST. GEN. COUNSEL

Signed, sealed and delivered
in the presence of:

CITY OF JACKSONVILLE

Sherry C. Sands
Printed Name: Sherry C. Sands

Sharon E. Chappelle
Printed Name: Sharon E. Chappelle

By: _____
John A. Delaney, Mayor

ATTEST: _____
Neill W. McArthur, Jr.
Corporation Secretary

[Corporate Seal]

Date: 6-18-01

Form Approved by Counsel - City of Jacksonville

By: Karen M Chastain
Assistant General Counsel

STATE OF FLORIDA)
)SS
COUNTY OF DUVAL)

Acknowledged before me this 18th day of June, 2001, by JOHN A. DELANEY, the Mayor of the City of Jacksonville, on behalf of the City. Such person (Notary Public must check applicable box):

[+] is/are personally known to me.
[ ] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Sharon E. Chappelle
Notary Public
SHARON E. CHAPPELLE
(Printed, Typed or Stamped Name of Notary Public)
Commission No.:_____

Sharon E. Chappelle
MY COMMISSION # CC935460 EXPIRES
July 25, 2004
BONDED THRU TROY FAIN INSURANCE, INC.

Signed, sealed and delivered
in the presence of:

Print Name: SHARON G. CARLIN

Print Name: GRACIE L. BAULDING

[Corporate Seal]

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, a public body existing under Chapter 373, Florida Statutes

By: _____
William W. Kerr, Chairman

ATTEST: _____
Jeffrey K. Jennings, Secretary

Date: June 13, 2001

For use and reliance only by
St. Johns River Water Management District,
Legal Form and Content Approved:

Winderweedle, Haines, Ward & Woodman, P.A.

By: _____
Dykes C. Everett, Esquire

STATE OF FLORIDA)
)SS
COUNTY OF PUTNAM)

Acknowledged before me this 13th day of June, 2001, by WILLIAM W. KERR, the Chairman of the governing board of St. Johns River Water Management District, on behalf of the District. Such person (Notary Public must check applicable box):

[✓] is/are personally known to me.
[ ] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Sandra L. Bertram
MY COMMISSION # CC694258 EXPIRES
January 29, 2002
BONDED THRU TROY FAIN INSURANCE, INC.

Sandra L Bertram
Notary Public
Sandra L. Bertram
(Printed, Typed or Stamped Name of Notary Public)
Commission No.: CC694258

9

Signed, sealed and delivered
in the presence of

Joanna H. Wheeler
Printed Name: Joanna H. Wheeler

David B. Stevenson
Printed Name: David B. Stevenson

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

By: Eva Armstrong
Name:
Title:

Date: 1-25-02

Approval as to form and legality

By: A. Cockwell

Date: 1-23-02

STATE OF)
)SS
COUNTY OF)

SWORN TO and subscribed before me this 25th day of January, 2002, by Eva Armstrong, as Director of the Division of State Lands, Department of Environmental Protection on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. Such person(s) (Notary Public must check applicable box):

[✓] is/are personally known to me.
[ ] produced a/their current driver license(s)
[ ] produced _____ as identification

(NOTARY PUBLIC SEAL)

Avis G. Lockett
Notary Public

Avis G. Lockett
MY COMMISSION # CC948729 EXPIRES
September 19, 2004
BONDED THRU TROY FAIN INSURANCE, INC.

(Printed, Typed or Stamped Name of Notary Public)
Commission No.:

R:\ST-JOHNS\NC-BearBranch\ConservEasemt.wpd
6/12/2001 (2:39 pm)

EXHIBIT "A"

LANNIE ROAD PARCEL

LOT 14, TOGETHER WITH A PART OF LOT 5, SUBDIVISION OF PART OF THE DAVID O. OGILVIE ESTATE, AS RECORDED IN PLAT BOOK 6, PAGE 70, OF THE CURRENT PUBLIC RECORDS OF DUVAL COUNTY, FLORIDA, TOGETHER WITH A PART OF THE UNPLATTED PORTION OF SECTION 39, TOWNSHIP 1 NORTH, RANGE 26 EAST AND A PART OF THE UNPLATTED PORTION OF SECTION 38, TOWNSHIP 2 NORTH, RANGE 26 EAST, ALL OF SAID COUNTY, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: FOR A POINT OF BEGINNING, COMMENCE AT SOUTHWEST CORNER OF SAID LOT 14, SAID POINT LYING ON THE DIVISION LINE BETWEEN SAID SECTION 39 AND SECTION 40, OF SAID TOWNSHIP 1 NORTH, RANGE 26 EAST; THENCE NORTH 12°30'27" WEST ALONG SAID DIVISION LINE AND ALONG THE WEST LINE OF SAID LOT 14, A DISTANCE OF 922.37 FEET TO AN ANGLE POINT IN SAID LINE; THENCE NORTH 12°20'40" WEST CONTINUING ALONG SAID LINE, A DISTANCE OF 1453.42 FEET TO THE NORTHWEST CORNER OF SAID LOT 14; THENCE NORTH 89°27'36" EAST ALONG THE NORTH LINE OF SAID LOT 14 AND ALONG THE NORTH LINE OF SAID LOT 5, A DISTANCE OF 1944.33 FEET TO AN ANGLE POINT IN SAID LINE; THENCE SOUTH 89°32'12" EAST CONTINUING ALONG THE NORTH LINE OF SAID LOT 5, A DISTANCE OF 1697.85 FEET TO AN ANGLE POINT IN SAID LINE; THENCE NORTH 89°14'42" EAST CONTINUING ALONG SAID LINE, A DISTANCE OF 954.62 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF CHAPPARELL ROAD (A 60.00 FOOT APPROVED PRIVATE ROAD); THENCE NORTH 00°00'30" WEST ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1334.89 FEET; THENCE SOUTH 89°50'24" EAST LEAVING SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 434.32 FEET; THENCE NORTH 00°08'22" EAST, A DISTANCE OF 576.18 FEET; THENCE NORTH 89°14'15" EAST, A DISTANCE OF 989.50 FEET; THENCE NORTH 89°26'37" EAST, A DISTANCE OF 1748.97 FEET TO A POINT ON THE CENTERLINE OF BEAR BRANCH; THENCE NORTHERLY ALONG SAID CENTERLINE, A DISTANCE OF 1112 FEET, MORE OR LESS, TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF LANNIE ROAD (A 66.00 FOOT RIGHT-OF-WAY AS NOW ESTABLISHED); THENCE SOUTH 88°02'55" EAST ALONG AN EASTERLY PROJECTION OF SAID SOUTHERLY RIGHT-OF-WAY LINE OF LANNIE ROAD, A DISTANCE OF 687.16 FEET; THENCE SOUTH 64°09'45" EAST, A DISTANCE OF 5.78 FEET TO THE POINT OF CURVE OF A CURVE, CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 97.13 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, AN ARC DISTANCE OF 68.14 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING OF SOUTH 44°03'54" EAST AND A CHORD DISTANCE OF 66.75 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE SOUTH 23°58'04" EAST, A DISTANCE OF 64.79 FEET TO THE POINT OF CURVE OF A CURVE, CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 347.41 FEET; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, AN ARC DISTANCE OF 107.94 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING OF SOUTH 15°04'02" EAST AND A CHORD DISTANCE OF 107.50 FEET

BSM APPROVED
By SC Date 6-25-01

TO THE POINT OF TANGENCY OF SAID CURVE; THENCE SOUTH 06°09'59" EAST, A DISTANCE OF 225.37 FEET TO THE POINT OF CURVE OF A CURVE, CONCAVE WESTERLY HAVING A RADIUS OF 138.53 FEET; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE, AN ARC DISTANCE OF 49.47 FEET, SAID ARC BEING SUBTENDED BY A CHORD BEARING OF SOUTH 04°03'49" WEST AND A CHORD DISTANCE OF 49.21 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE SOUTH 14°17'37" WEST, A DISTANCE OF 366.22 FEET; THENCE SOUTH 11°15'03" EAST, A DISTANCE OF 532.34 FEET; THENCE SOUTH 15°24'21" EAST, A DISTANCE OF 230.93 FEET; THENCE SOUTH 02°47'51" WEST, A DISTANCE OF 262.93 FEET; THENCE SOUTH 01°17'09" WEST, A DISTANCE OF 302.76 FEET; THENCE SOUTH 12°04'25" EAST, A DISTANCE OF 181.77 FEET; THENCE SOUTH 09°03'33" WEST, A DISTANCE OF 480.36 FEET TO A POINT ON THE SOUTH LINE OF THOSE LANDS DESCRIBED IN OFFICIAL RECORDS VOLUME 6216, PAGE 1618, OF SAID CURRENT PUBLIC RECORDS; THENCE SOUTH 89°32'06" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1583.78 FEET; THENCE NORTH 89°20'28" WEST, A DISTANCE OF 60.00 FEET; THENCE SOUTH 86°37'16" WEST, A DISTANCE OF 120.66 FEET; THENCE SOUTH 74°37'07" WEST, A DISTANCE OF 172.50 FEET; THENCE NORTH 88°58'42" WEST, A DISTANCE OF 186.02 FEET; THENCE SOUTH 00°40'23" WEST, A DISTANCE OF 594.95 FEET; THENCE SOUTH 89°19'46" EAST, A DISTANCE OF 532.39 FEET TO A POINT ON THE EAST LINE OF THOSE LANDS DESCRIBED IN OFFICIAL RECORDS VOLUME 6494, PAGE 568, OF SAID CURRENT PUBLIC RECORDS; THENCE SOUTH 00°40'08" WEST ALONG SAID EAST LINE, A DISTANCE OF 1524.13 FEET TO A POINT ON THE SOUTH LINE OF THOSE LANDS DESCRIBED IN OFFICIAL RECORDS VOLUME 6494, PAGE 568, OF SAID CURRENT PUBLIC RECORDS; THENCE NORTH 89°11'20" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 4934.17 FEET; THENCE NORTH 89°29'53" WEST, A DISTANCE OF 1949.33 FEET TO THE POINT OF BEGINNING.

BLM APPROVED
By SK Date 6-25-01

APPENDIX E: THOMAS CREEK CONSERVATION AREA SPECIES LIST

Plants

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FFWCC**	**FNAI**
Acer rubrum	red maple			
Aeschynomene americana	shyleaf			
Altris lutea	yellow colicroot			
Andropogon glomeratus	bushy blue stem			
Anthenantia rufa	purple silkyscale grass			
Aristida spiciformis	bottlebrush threeawn			
Bacopa monnieri	herb-of-grace			
Canna flacida	golden canna			
Centella asiatica	coinwort			
Cephalanthus occidentalis	buttonbush			
Cirsium horridulum	purple thistle			
Cladium jamaicense	saw-grass			
Conoclinium coelestinum	blue mistflower			
Cyrilla racemiflors	swamp titi			
Diospyros virginiana	common persimmon			
Drosera brevifolia	dwarf sundew			
Eleocharis tuberculosa	long-tubercled spikerush			
Erigeron quercifolius	marsh fleabane			
Eriocaulon spp.	pipewort			
Gelsemium sempervirens	yellow jessamine			
Gordonia lasianthus	loblolly bay			
Hibiscus aculeatus	pineland hibiscus			
Hibiscus moscheutos	swamp rose mallow			
Hydrocotyle ranunculoides	dollar weed			
Hypericum fasciculatum	peelbark st. john's-wort			
Hypericum myrtifolium	myrtleleaf sst. johns-wort			
Ilex glabra	gallberry			
Ilex myrtifolia	myrtle dahoon			
Itea virginica	virginia sweetspire			
Iva microcephala	piedmont marsh elder			
Juncus scirpoides	needlepod rush			
Juncus tenuis	path rush			
Liatris spicata	dense blazing star			
Liquidambar styraciflua	sweetgum			
Lobelia glandulosa	glade lobelia			

Ludwigia pilosa	hairy primrose-willow			
Lugwigia linearis	narrowleaf primrose-willow			
Lycopodiella alopecuroides	foxtail bog clubmosss			
Lycopus amplectens	clasping water horehound			
Lyonia lucida	fetterbush			
Myrica cerifera	wax myrtle			
Nyssa sylvatica	blackgum			
Paspalum floridanum	Florida paspalum			
Peguicula lutea	yellow butterwort			
Phyla nodiflora	frog-fruit			
Physostegia virginiana	obedient plant			
Pinus elliottii	slash pine			
Pinus palustris	longleaf pine			
Pinus taeda	loblolly pine			
Polygala cruciata	cross-leaved milkwort			
Polygala lutea	red-hot-poker			
Polygala setacea	coastal plain milkwort			
Pontedaria cordata	pickerelweed			
Pterocaulon pycnostachyum	blackroot			
Osmunda spectabilis	royal fern			
Osmundastrum cinnamomeum	cinnamon fern			
Quercus laurifolia	laurel oak			
Quercus nigra	water oak			
Quercus virginiana	live oak			
Rhexia alifanus	savannah meadowbeauty			
Rhexia mariana exalbida	white meadowbeauty			
Rhexia nuttallii	nuttall's meadowbeauty			
Rhexia virginica	Virginia meadowbeauty			
Rhododendron canescens	sweet pinxter azalea			
Rhus copallinum	winged-sumac			
Rhynchospora caduca	anglestem beaksedge			
Rhynchospora colorata	starrup whitetop			
Rosa palustris	swamp rose			
Rubus spp.	blackberry			
Saccharum giganteum	sugarcane plumegrass			
Sagittaria latifolia	duck potato			
Sarracenia minor	hooded pitcherplant		T	G4/S4
Serenoa repens	saw palmetto			
Sesbania vesicaria	bladderpod			
Sisyrinchium atlanticum	blue-eyed grass			

Smilax spp.	greenbrier			
Spiranthes spp.	ladies tresses			
Taxodium ascendens	pond cypress			
Tilandsia bartramii	airplant			
Toxicodendron radicans	poison ivy			
Typha latifolia	broadleaf cattail			
Vaccinium stamenium	deer berry			
Vitis rotundifolia	muscadine grape vine			
Xyris ambigua	yellow-eyed grass			
Xyris brevifolia	shortleaf yellow-eyed grass			
Xyris jubicai	Richard's yellow-eyed grass			
Xyris platylepis	tall yellow-eyed grass			

Invasive Plants

Scientific Name	**Common Name**
Albizia julibrissin	mimosa
Cinnamomum camphora	camphortree
Imperata cylindrica	cogongrass
Lygodium japonicum	Japanese climbing fern
Panicum repens	torpedo grass
Paspalum notatum	bahiagrass
Sapium sebiferum	popcorntree; chinese tallowtree
Urena lobata	caesarweed

Birds

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FFWCC**	**FNAI**
Aix sponsa	Wood duck			
Agelaius phoeniceus	Red-winged Blackbird			
Anhinga anhinga	Anhinga			
Antrostomus carolinensis	Chuck-will's-widow			
Archilochus colubris	Ruby-throated Hummingbird			
Ardea alba	Great Egret			
Ardea herodias	Great Blue Heron			
Baeolophus bicolor	Tufted Titmouse			
Bombycilla cedrorum	Cedar Waxwing			
Branta canadensis	Canada Goose			
Buteo jamaicensis	Red-tailed Hawk			
Buteo lineatus	Red-shouldered Hawk			
Cardinalis cardinalis	Cardinal			

Cathartes aura	Turkey Vulture			
Catharus guttatus	Hermit Thrush			
Chaetura pelagica	Chimney Swift			
Charadrius vociferus	Killdeer			
Cistothorus palustris	Marsh Wren			
Cistothorus stellaris	Sedge Wren			
Coccyzus americanus	Yellow-billed Cuckoo			
Colaptes auratus	Northern Flicker			
Contopus virens	Eastern Wood-Pewee			
Coragyps atratus	Black Vulture			
Corthylio calendula	Ruby-crowned Kinglet			
Corvus brachyrhynchos	American Crow			
Corvus ossifragus	Fish Crow			
Cyanocitta cristata	Blue Jay			
Dryobates pubescens	Downy Woodpecker			
Dryocopus pileatus	Pileated Woodpecker			
Dumetella carolinensis	Gray Catbird			
Elanoides forficatus	Swallow-tailed Kite	N	N	S32/G5
Empidonax virescens	Acadian Flycatcher			
Eudocimus albus	White Ibis			
Gallinago delicata	Wilson's Snipe			
Geothlypis trichas	Common Yellowthroat			
Hirundo rustica	Barn Swallow			
Ictinia mississippiensis	Mississippi Kite			
Leiothlypis peregrina	Tennessee Warbler			
Leucophaeus atricilla	Laughing Gull			
Megaceryle alcyon	Belted Kingfisher			
Melanerpes carolinus	Red-bellied Woodpecker			
Meleagris gallopovo	Wild Turkey			
Melospiza georgiana	Swamp Sparrow			
Melospiza lincolnii	Lincoln's Sparrow			
Mimus polyglottus	Mockingbird			
Mniotilta varia	Black-and-white Warbler			
Mycteria americana	Wood Stork	FT	FT	S2/G4
Myiarchus crinitus	Great Crested Flycatcher			
Nyctanassa violacea	Yellow-crowned Night Heron			
Oxyura jamaicensis	Ruddy duck			
Pandion haliaetus	Osprey	N	N	S3S4/G5

Parkesia motacilla	Louisiana Waterthrush	N	N	S2/G5
Parkesia noveboracensis	Northern Waterthrush			
Passerina caerulea	Blue Grosbeak			
Passerina cyanea	Indigo Bunting			
Pheucticus ludovicianus	Rose-breasted Grosbeak			
Pipilo erythrophthalmus	Eastern towhee			
Piranga rubra	Summer Tanager			
Poecile carolinensis	Carolina Chickadee			
Polioptila caerulea	Blue-gray Gnatcatcher			
Progne subis	Purple Martin			
Protonotaria citrea	Prothonotary Warbler			
Sayornis phoebe	Eastern Phoebe			
Seiurus aurocapilla	Ovenbird			
Setophaga americana	Northern Parula			
Setophaga caerulescens	Black-throated Blue Warbler			
Setophaga castanea	Bay-breasted Warbler			
Setophaga cetrina	Hooded warbler			
Setophaga coronata	Yellow-rumped Warbler			
Setophaga discolor	Prairie Warbler			
Setophaga dominica	Yellow-throated Warbler			
Setophaga palmarum	Palm Warbler			
Setophaga pinus	Pine Warbler			
Setophaga ruticilla	American Redstart	N	N	S2/G5
Sialia sialis	Eastern Bluebird			
Sitta pusilla	Brown-headed Nuthatch			
Sphyrapicus varius	Yellow-bellied Sapsucker			
Streptopelia decaocto (non-native)	Eurasian collared-dove			
Strix varia	Barred owl			
Strix varia	Barred Owl			
Tachycineta bicolor	Tree Swallow			
Thryothorus ludovicianus	Carolina Wren			
Toxostoma rufum	Brown Thrasher			
Tringa solitaria	Solitary Sandpiper			
Troglodytes aedon	House Wren			
Tudus migratorius	American Robin			
Tyrannus tyrannus	Eastern Kingbird			

Vireo flavifrons	Yellow-throated Vireo			
Vireo griseus	White-eyed Vireo			
Vireo olivaceus	Red-eyed Vireo			
Vireo solitarius	Blue-headed Vireo			
Zenaida macroura	Mourning Dove			

Reptiles

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FFWCC**	**FNAI**
Agkistrodon conanti	Florida cottonmouth			
Alligator mississippiensis	American alligator	SAT	FT(S/A)	S4/G5
Anolis carolinensis	green anole			
Anolis sagrei	brown anole (non-native)			
Apalone ferox	Florida softshell turtle			
Chelydra serpentina	common snapping turtle			
Crotalus adamanteus	eastern diamondback rattlesnake	UR	N	S3/G3
Pantherophis guttatus	corn snake			
Panteherophis alleghaniensis	Eastern rat snake			
Gopherus polyphemus	gopher tortoise	N	ST	S3/G3
Micrurus fulvius	harlequin coral snake			
Nerodia fasciata pictiventris	Florida watersnake			
Pantherophis alleghaniensis	Eastern ratsnake			
Sistrurus miliarius barbouri	dusky pygmy rattlesnake			
Terrapene carolina bauri	Florida box turtle			
Thamnophis sirtalis sirtalis	Eastern garter snake			

Amphibians

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FWC**	**FNAI**
Acris gryllus	southern cricket frog			
Anaxyrus quercicus	oak toad			
Anaxyrus terrestris	southern toad			
Hyla cinerea	green treefrog			
Hyla crucifer	spring peeper			
Hyla femoralis	pinewoods treefrog			

Hyla gratiosa	barking treefrog			
Hyla squirella	squirrel treefrog			
Lithobates sphenocephalus	southern leopard frog			
Lithobates catesbeiana	bullfrog			
Lithobates grylio	pig frog			

Mammals

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FFWCC**	**FNAI**
Canis latrans	coyote			
Dasypus novemcinctus	nine-banded armadillo			
Dedelphis virginiana	opossum			
Lynx rufus	bobcat			
Odocoileus virginianus	white-tailed deer			
Procyon lotor	racoon			
Sciurus carolinensis	eastern gray squirrel			
Sus scrofa	feral hog			
Sylvilagus floridanus	eastern cottontail rabbit			

Invertebrates

Scientific Name	**Common Name**	**Species Status**		
		USFWS	**FFWCC**	**FNAI**
Actias luna	North American luna moth			
Amblyomma americanum	lone star tick			
Dolichovespula maculata	bald-faced hornet			
Dolomedes triton	six-spotted fishing spider			
Libellula axilena	bar-winged skimmer			
Metaleptea brevicornis	clipped-winged grasshopper			
Nadata gibbosa	white-dotted prominent			
Orphulella pelidna	spotted-winged grasshopper			
Papilio glaucus	Eastern tiger swallowtail			
Peucitia viridans	green lynx spider			
Phyciodes phaon	phaon crescent			
Sophonia orientalis	two-spotted leafhopper			
Strangalia luteicornis	yellow-horned flower longhorn beetle			
Xylocopa micans	Southern carpenter bee			

FNAI GLOBAL RANKING
G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or human-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or human-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).

FNAI STATE RANKING
S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or human-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or human-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.

FEDERAL LEGAL STATUS
C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or
a significant portion of its range.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
PE = Proposed for listing as Endangered species.
PT = Proposed for listing as Threatened species.
SC = Not currently listed but considered a "species of concern" to USFWS.
N = Not currently listed, nor currently being considered for listing as Endangered or Threatened.

STATE LEGAL STATUS
Animals:
FT(S/A) = Threatened due to similarity of appearance

FEL = L**i**sted as Endangered Species at the Federal level by the USFWS
FT = Listed as Threatened Species at the Federal level by the USFWS
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC = Listed as a Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.
N = Not currently listed, nor currently being considered for listing.
Plants:
E = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
T = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.