Dunns Creek Conservation Area

Land Management Plan

Putnam County, Florida

St. Johns River Water Management District
Governing Board Approved

July 2013

Dunns Creek Conservation Area
Land Management Plan Summary

Management Area Size: 3,155 acres.

Date of Acquisition: Acquisition of parcels within the Dunns Creek Conservation Area (Conservation Area) occurred in 1992.

Date of Plan: July 2013
Date of Previous Plan: May 2007
Major Basin: Lower St. Johns River Basin **Planning Basin:** Crescent Lake

Location: The Conservation Area is located in Putnam County, approximately five miles southeast of the City of Palatka. More specifically, the Conservation Area is located on the east side of Dunns Creek, west of State Road 100 and southeast of US Highway 17.

Funding Source: Preservation 2000 funds were utilized for the acquisition of the Conservation Area.

Management Partners: The St. Johns River Water Management District (District) serves as lead manager for the entire Conservation Area. The District has entered into an agreement with the Florida Fish and Wildlife Conservation Commission (FWC) designating Dunns Creek Conservation Area a Wildlife Management Area.

Vision Statement: The Dunns Creek Conservation Area will be managed for the continued protection of the water resources of Dunns Creek and the greater Lower St. Johns River Basin. The focus of the District's land management activities within the Conservation Area is to balance the management and enhancement of natural communities while providing quality recreational opportunities, which include a broad range of land-based, ecologically oriented options that compliment other recreational amenities available within the region.

Key Land Use/Recreation Issues:

Resource Management Issues:

- WATER RESOURCES – Most water resource protection was accomplished through acquisition, however, at the time of acquisition, alterations to water resources include roads, a tram road, ditches, and culverts.
- FIRE MANAGEMENT – Implementation of prescribed burns occurs in accordance with annual burn plan and individual unit prescriptions.
- FOREST MANAGEMENT – Prior to public acquisition, the majority of the upland acres within the Conservation Area were managed for cattle grazing and as such, many of the upland areas tend to include open canopies. Minimal forest management activities area anticipated during the scope of this plan.
- WILDLIFE – The Conservation Area provides habitat for numerous wildlife species including white-tailed deer (*Odocoileus virginianus*) and Wild Turkey (*Meleagris gallopavo*).

- EXOTICS – Invasive exotic pest plant and animal species occur on the property at low to moderate levels of infestation. The District regularly monitors for the presence of invasive plants and animals and responds with appropriate control actions.
- CULTURAL & ARCHEOLOGICAL RESOURCES – A review of the Department of State, Division of Historical Resources indicates there are no Florida master site locations within the boundaries of the Conservation Area.

Land Use Management Issues:

- **Access** – Five public access points and one public parking area with a trailhead are located on the Conservation Area.
- **Recreation Use** – The Conservation Area is open to the public for hiking, bicycling, equestrian activities, and primitive camping. Boat access to Dunns Creek is available through the Putnam County Brown's Landing located northwest of the Conservation Area. Seasonal hunting opportunities are available on the Dunns Creek Wildlife Management Area. All hunting opportunities fall under the jurisdiction of FWC.
- **Security** – Maintenance of fence lines, parking areas, gates, and locks is conducted. The District maintains contact with FWC, local law enforcement, and a private security firm for any potential security needs.

Administration:

- **Acquisition –** Although no parcels are uniquely identified, the District may consider purchasing parcels near the Conservation Area that become available and that will aid in the conservation of water resources. Additionally, the District may pursue acquisition of small parcels, or property exchanges with neighbors to improve and provide additional access to the Conservation Area or as otherwise warranted.
- **Leases, Easements, Special Use Authorizations, and Agreements -** The District administers numerous leases, agreements, easements, special use authorizations (SUAs) and concessions.

VISION STATEMENT

The Dunns Creek Conservation Area will be managed for the continued protection of the water resources of Dunns Creek and the greater Lower St. Johns River Basin. The focus of the District's land management activities within the Conservation Area is to balance the management and enhancement of natural communities while providing quality land-based, ecologically oriented recreational opportunities.

DUNNS CREEK CONSERVATION AREA OVERVIEW

This document provides the guidelines and goals for implementation of land management activities at Dunns Creek Conservation Area (Conservation Area) through 2023. This is a revision of the May 2007 Governing Board approved land management plan.

The area that is now the Dunns Creek Conservation Area has a long land use history that has likely consisted primarily of cattle ranching. Analysis of historical aerial photography indicates that by the 1940s, clearing, likely for cattle ranching purposes had occurred on the northern and eastern portions of the property.

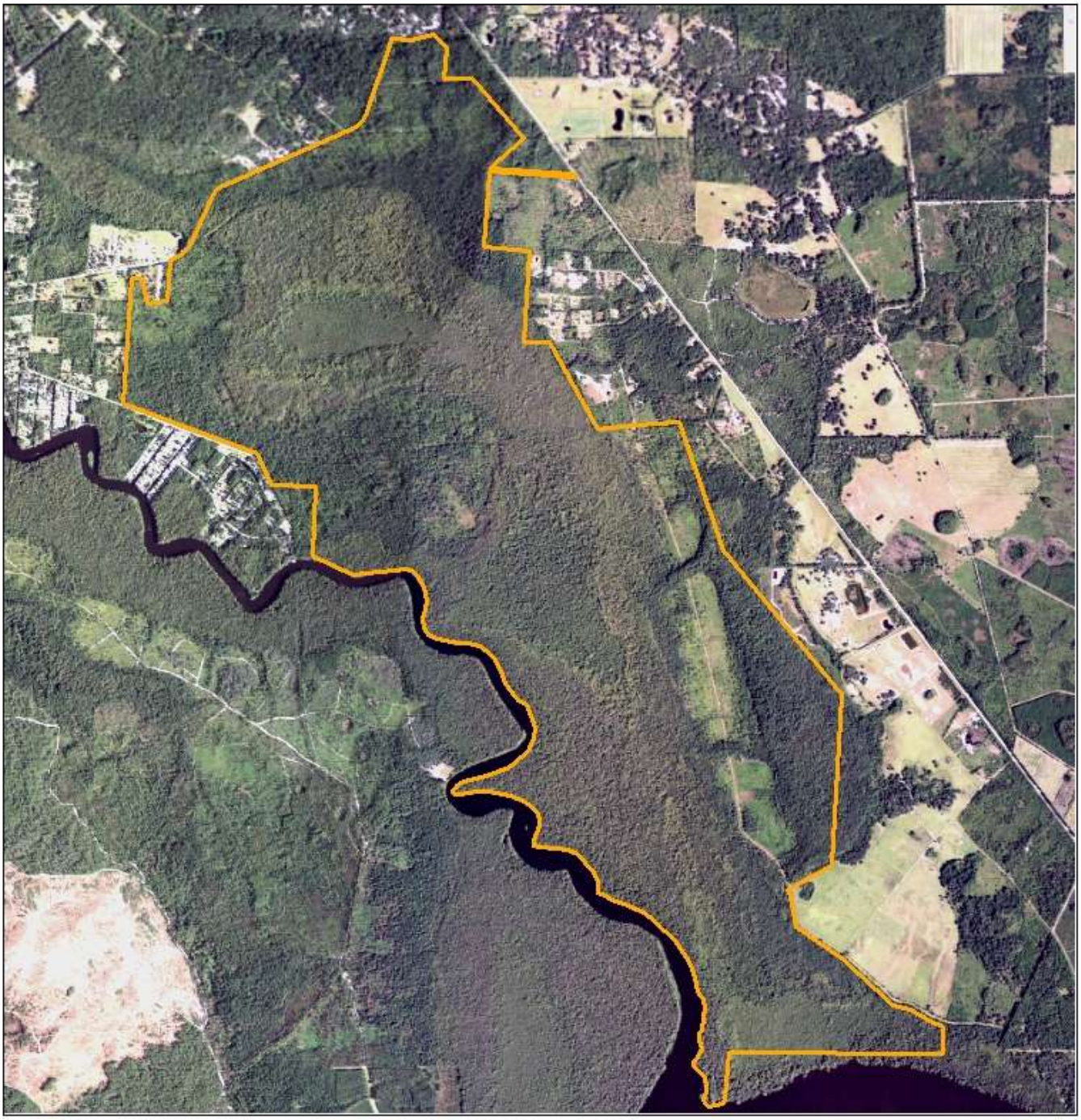
Location

The Conservation Area includes 3,155 acres in Putnam County within the Crescent Lake drainage basin, a sub-basin of the Lower St. Johns River Basin. The Conservation Area is located in numerous sections of Township 10 and 11 South and Range 27 East. Figure 1 provides an aerial view of the Conservation Area in 2010. The Conservation Area is located (Figure 2) along portions of the eastern shore of Dunns Creek. The southernmost boundary incorporates a small portion of the Crescent Lake shoreline. The Conservation Area is located approximately five miles southeast of the City of Palatka. While much of the land within the northern portions of the Conservation Area is contiguous; the parcels to the south are disjunct.

Regional Significance

The Conservation Area encompasses approximately 3.5 miles of shoreline along Dunns Creek as well as large areas of associated floodplain wetlands. The Conservation Area is a significant acquisition providing linkage among a broad network of other publicly owned lands. Figure 3 illustrates the regional context of the Conservation Area. Public conservation lands contiguous within close proximity to the Conservation Area include:

- Dunns Creek State Park
- Murphy Creek Conservation Area



Dunns Creek Conservation Area

Figure 1 - Aerial Image Map

N

0.5

Miles

1 = 35000

Conservation Area

2010 Imagery

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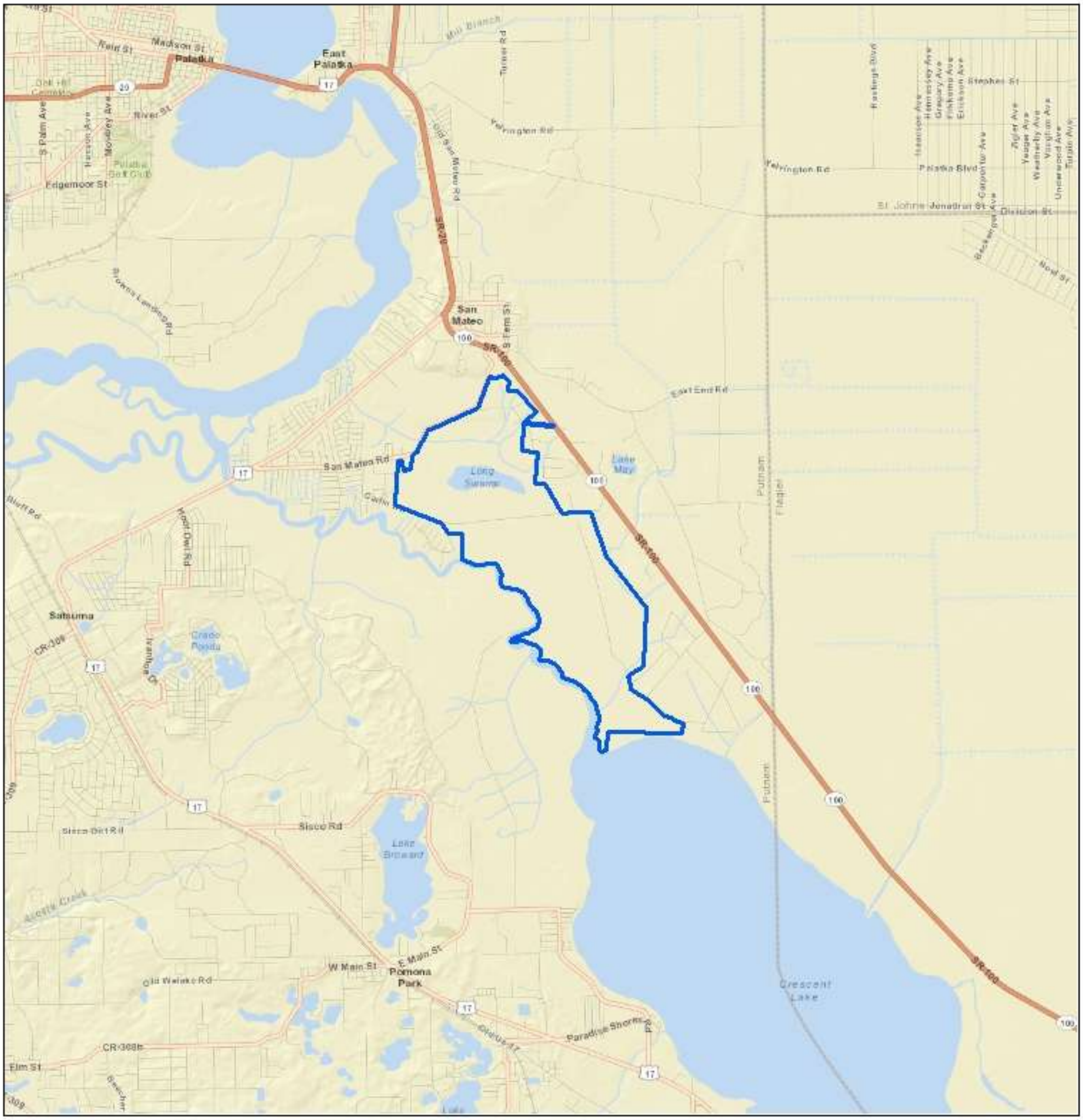

Dunns Creek Conservation Area

Figure 2 - Location Map

1 Miles

1 = 100000

Conservation Area

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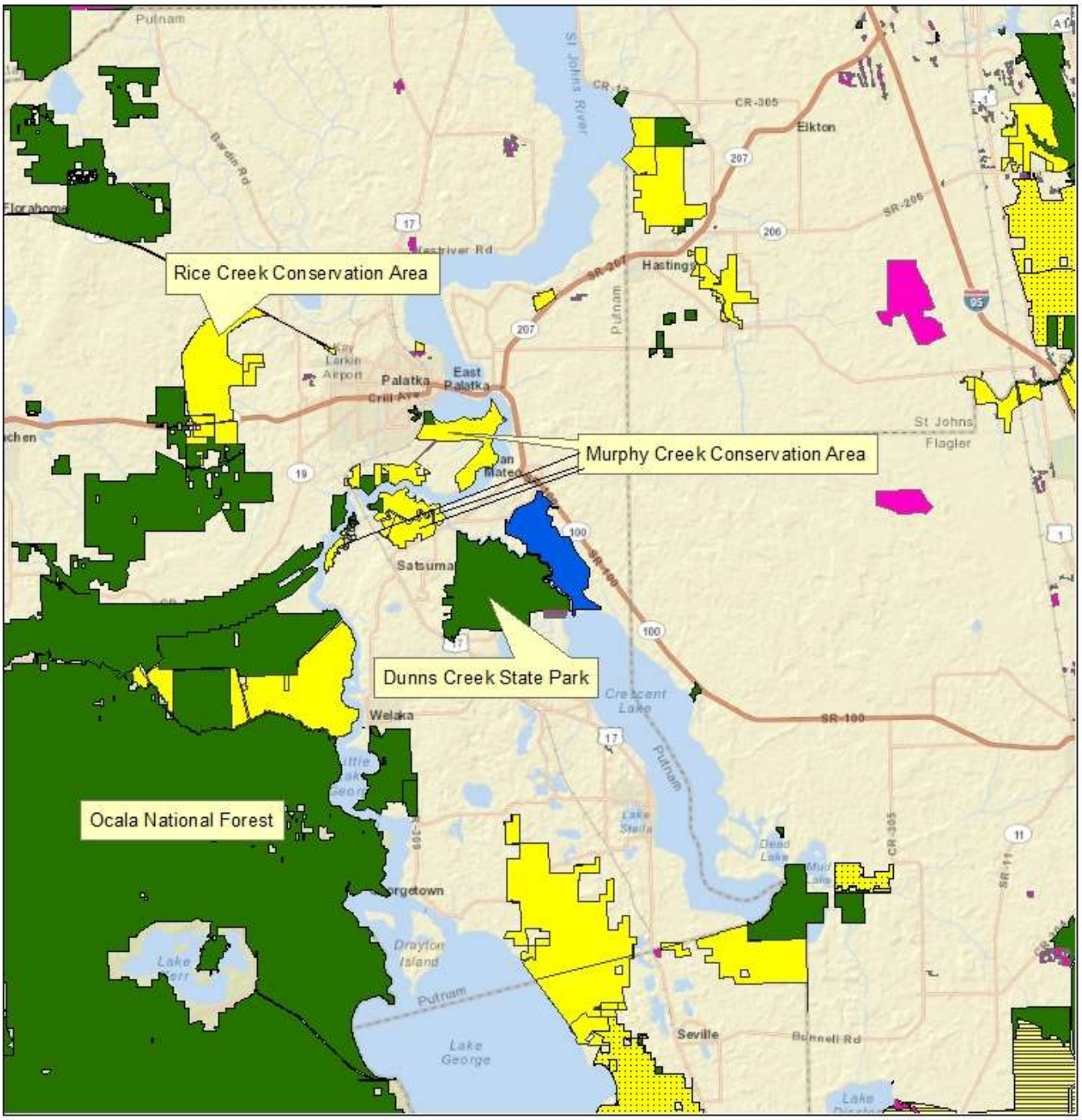

Dunns Creek Conservation Area
Figure 3 - Regional Significance Map

N

6 Miles

- Boundary
- Other Public Lands
- Regulatory Easement

District Title Interest

- Full Fee
- Joint Fee
- Conservation Easements (Less than fee)

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Acquisition History

The acquisition of the parcels that comprise the Dunns Creek Conservation Area provides for the protection of important water resources and ecological functions. This acquisition is consistent with the goals of the Lower St. Johns River Basin. These goals, as they apply to Dunns Creek Conservation Area include:

- Improve water quality, maintain natural hydrologic regimes, and increase flood protection by preserving important floodplain areas.
- Restore, maintain, and protect native natural communities and diversity.
- Provide opportunities for recreation where compatible with resource management needs and the above listed goals.

The Dunns Creek Conservation Area is comprised of two (2) parcel, totaling 3,155 acres (Figure 4). Acquisition of the Dunns Creek Conservation Area occured in 1992. Table (1) one summarizes the land acquisition accomplishments. All acreage reported is derived from GIS calculations.

- Table 1 – Land Acquisition Summary

Parcel	LA Number	Acres*	Total Purchase Price	Funding Source	Total District Amount	Closing Date
Pauline Tilton	1992-021	2,137	$1,053,000.00	Preservation 2000	$1,053,000.00	December 23, 1992
A and SJ Tilton	1992-022 Surplus	1,023.45 (5.45)	$703,350.00 (3,714.00)	Preservation 2000	$703,350.00 (3,714.00)	December 23, 1992
Totals	**-----**	**3,155**	**$1,752,636.00**	**-----**	**$1,752,636.00**	**-----**

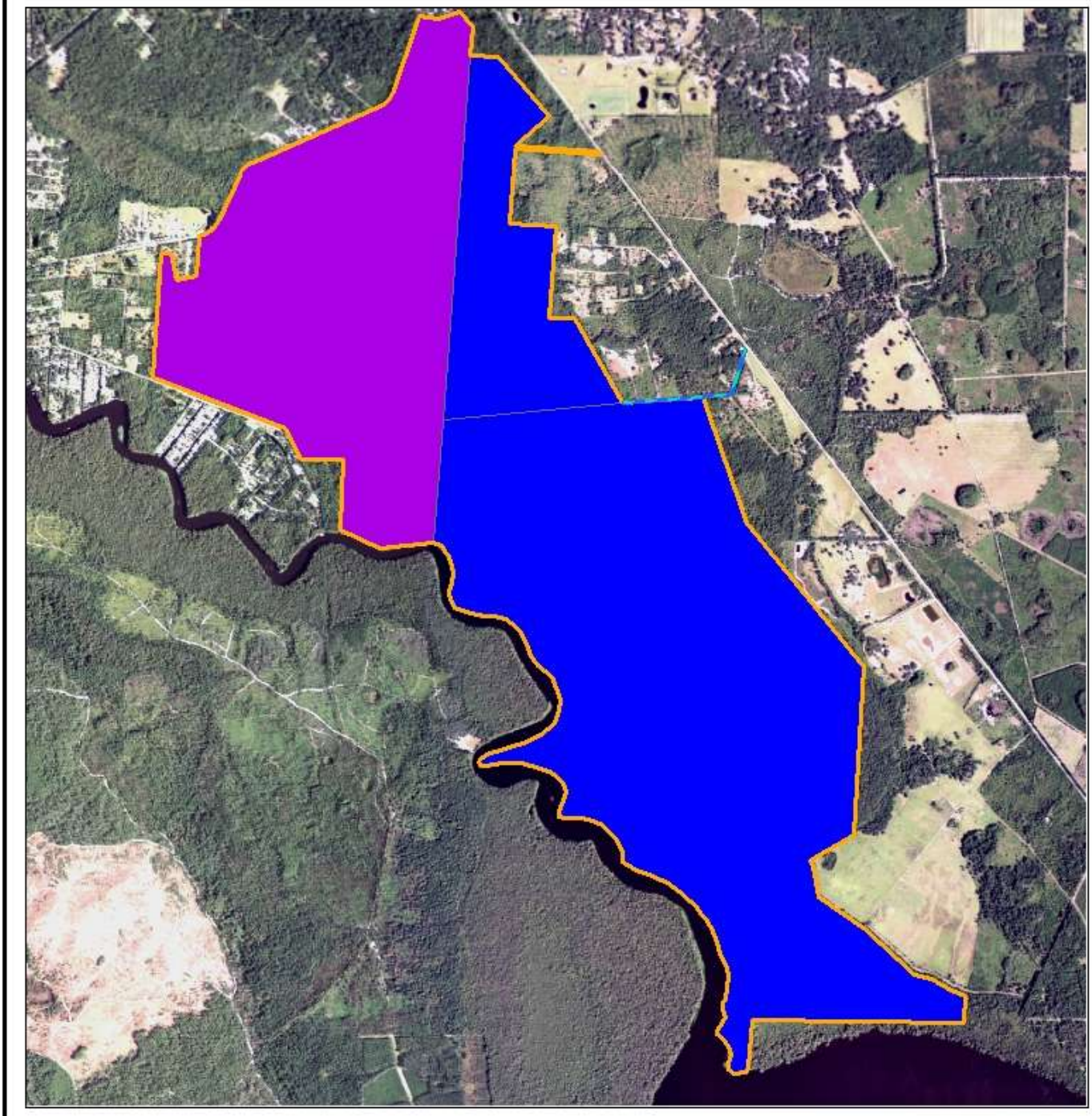
- *GIS Acres

Local Government Land Use Designations

Putnam County

According to the Putnam County, Florida, Putnam County Comprehensive Plan 2011-2030, the Future Land Use designation for the Conservation Area is Conservation.

"The Conservation Future Land Use Category consists of private and publicly owned lands dedicated and utilized for conservation and preservation purposes such as but not limited to those associated with the Ocala National Forest, the floodplains and wetlands of the St. Johns River and Dunns Creek and the floodplains and wetlands of the Ocklawaha River between Rodman Dam and Little Lake George (Putnam County, 2006).



Dunns Creek Conservation Area
Figure 4 - Land Acquisition Map

N

0.5 Miles

Boundary

Access Easements

Parcel Name

A&SJ Tilton

Tilton, Pauline

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NATURAL RESOURCES OVERVIEW

Topography and Hydrology

The Conservation Area lies within the Crescent Lake Basin, a physiographic subdivision of the Eastern Flatwoods District. This basin is characterized with extensive swamps interspersed with flatwoods (Brooks, 1981). The majority of the Conservation Area lies near sea level, though the northeastern portion of the property reaches 45 feet in elevation.

The most prominent hydrologic feature of the Conservation Area is Dunns Creek; the property incorporates approximately 3.5 miles of shoreline. Figure 5 depicts the hydrologic features within the Lower St. Johns River Basins and the Conservation Area. Dunns Creek is a stream connection between Crescent Lake and the St. Johns River and is an important tributary to the river. Much of the water within the Crescent Lake basin originates in swamps, flatwoods, and lakes to the south and east of Crescent Lake. These areas are drained via Haw Creek, Little Haw Creek, and Middle Haw Creek, which come to a confluence near the southeast corner of Crescent Lake. Crescent Lake then drains to Dunns Creek, which flows into the St. Johns River.

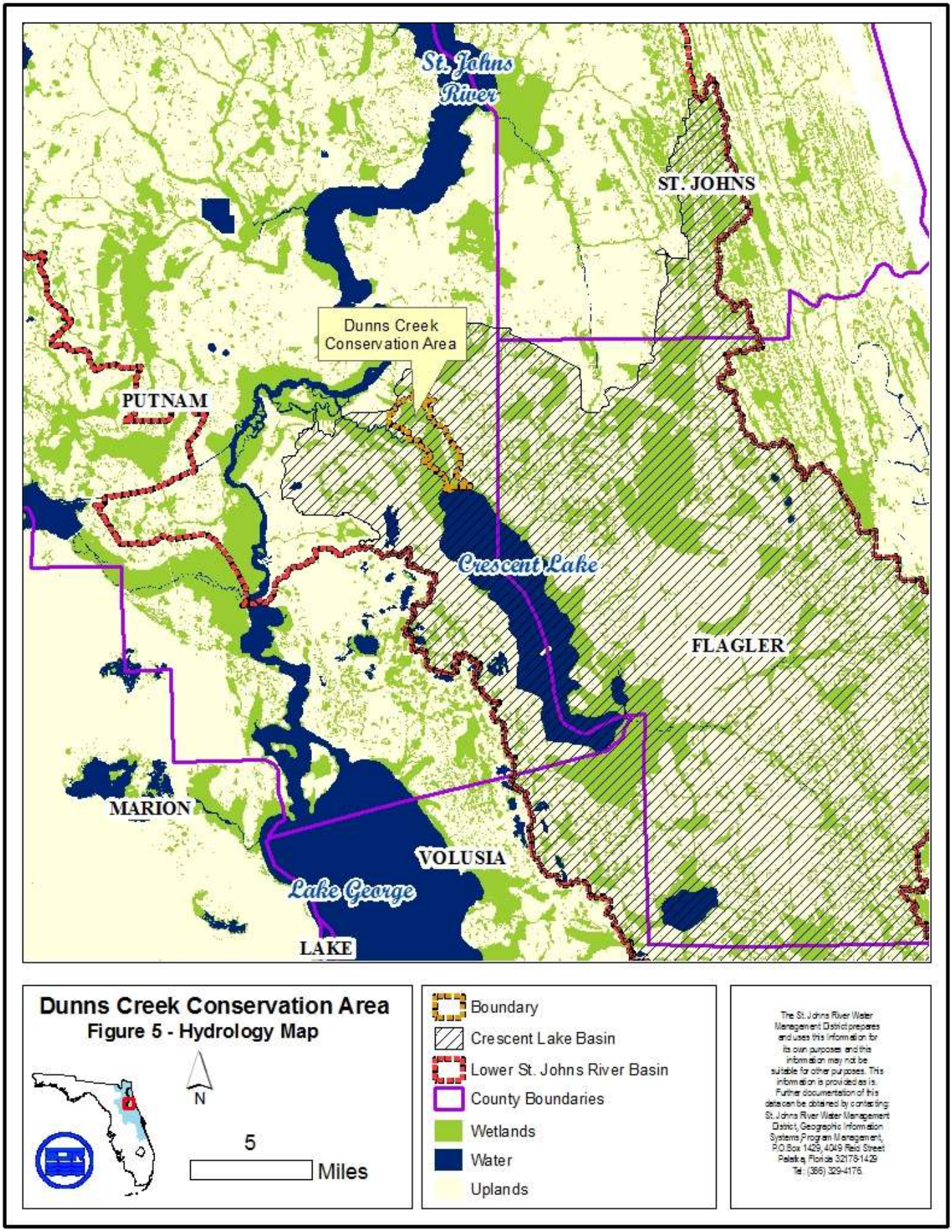
Soil

Soils across the majority of the Conservation Area are hydric in nature, accounting for approximately 77% of the Conservation Area (Figure 6). Additionally, an additional 22% of the Conservation Area includes partially hydric soils. According to data produced by the United States Department of Agriculture, NRCS, 21 different soil types are present within the conservation area. Addendum 1 includes a detailed soils map and associated series descriptions.

Natural Communities

Past land use activities have resulted in alteration to the natural communities within the Conservation Area. Varying degrees of disturbance are noted within the floodplain swamp communities; however, the majority of these areas remain largely intact and functional.

The 3,155 acres that comprise the Dunns Creek Conservation Area consist primarily of floodplain swamp and includes a diverse array of other natural communities (Figure 7). Table 2 details the percent coverage associated with each natural community documented within the Conservation Area. Information relative to the natural communities within the Conservation Area is derived from several sources including personal observations of District staff. Additionally, the general natural community descriptions are characterized using descriptions published in the Florida Natural Areas Inventory's (FNAI) *Guide to the Natural Communities of Florida.* Natural community and species ranking definitions are listed in Addendum 2.


St. Johns River
ST. JOHNS
Dunns Creek Conservation Area
PUTNAM
Crescent Lake
FLAGLER
MARION
VOLUSIA
Lake George
LAKE
Dunns Creek Conservation Area
Figure 5 - Hydrology Map
N
5
Miles
Boundary
Crescent Lake Basin
Lower St. Johns River Basin
County Boundaries
Wetlands
Water
Uplands
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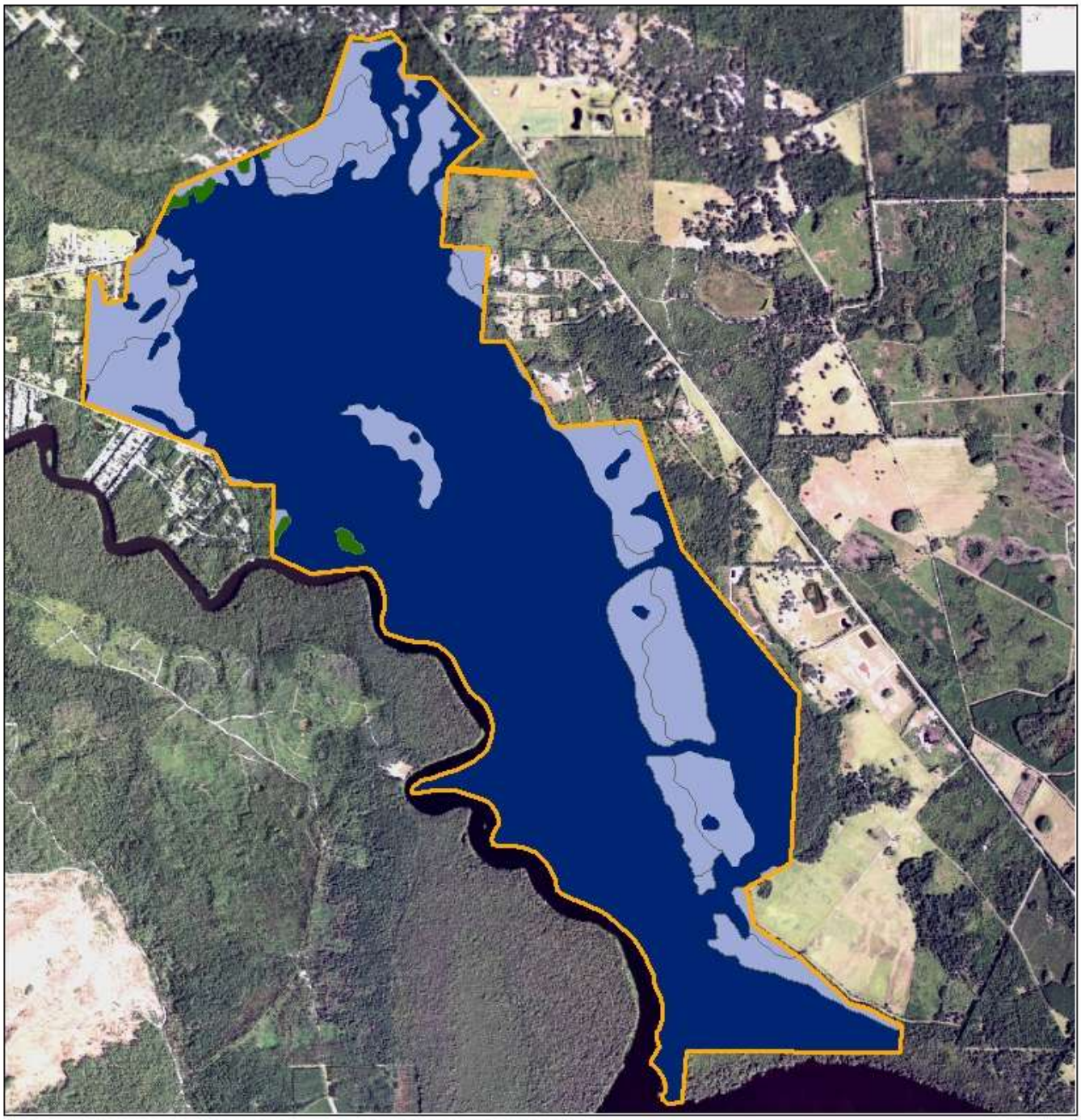

Dunns Creek Conservation Area
Figure 6 - Hydric Soils Map

N

0.5
Miles

Boundary

Soil Types

All hydric

Not hydric

Partially hydric

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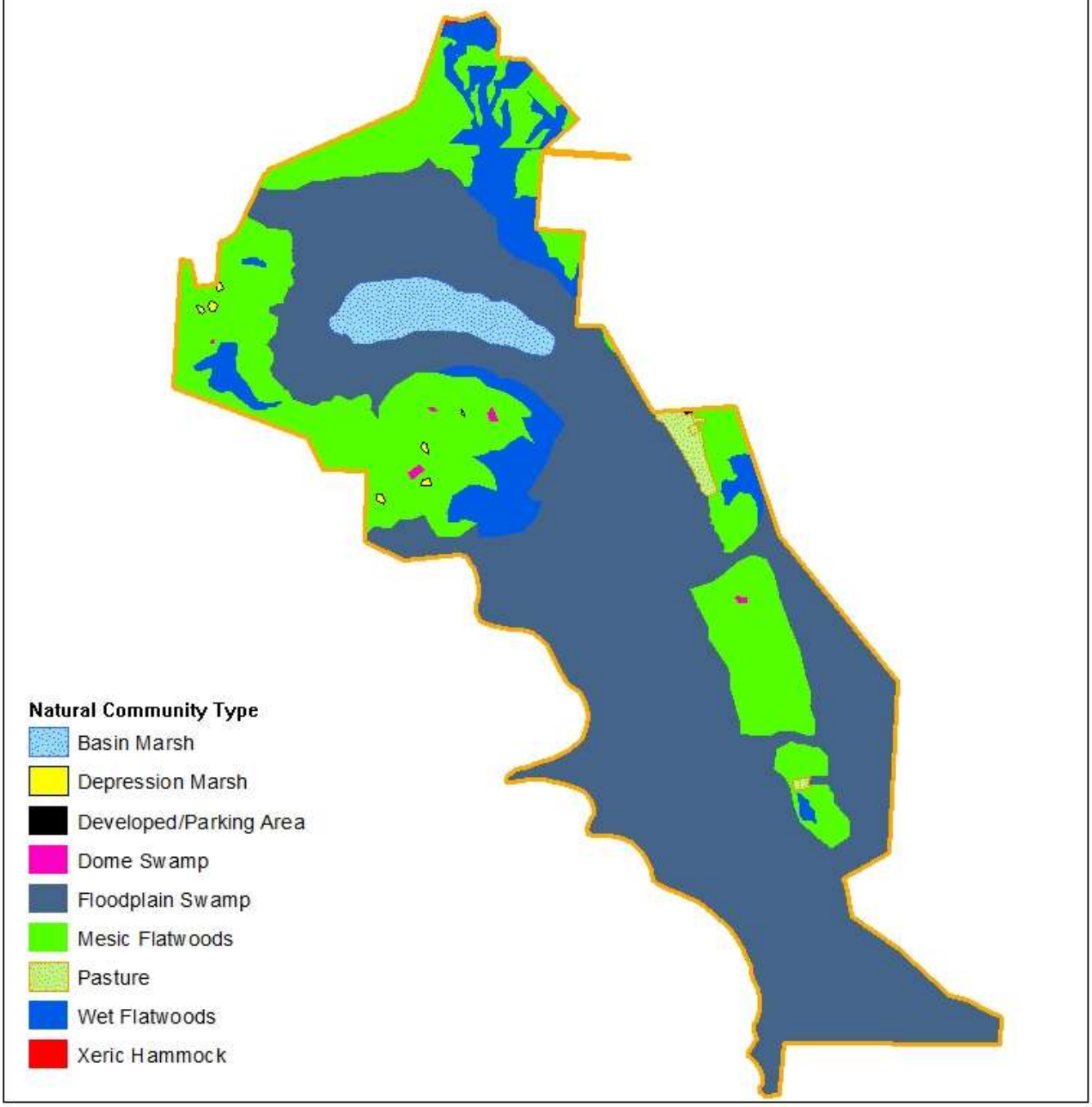

Dunns Creek Conservation Area
Figure 7 - Natural Community Map

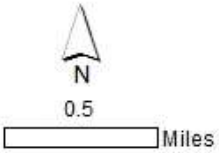

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Table 2 – Natural Community Coverages

Natural Community Type	Acreage*	Percent Coverage	FNAI Ranking	FNAI Fire Return Interval*
Xeric Hammock	1	<1%	G3/S3	Site Specific
Mesic Flatwoods	806	25%	G4/S4	2-4 years
Wet Flatwoods	249	8%	G4/S4	1-3 years in grass dominated systems; 5-7 years in shrubbier systems
Depression Marsh	3	<1%	G4/S4	This community burns in conjunction with adjacent pyric plant communities
Basin Marsh	106	3%	G4/S3	5-7 years, or in conjunction with adjacent pyric plant communities
Dome Swamp	3	<1%		3-5 years along the outer edges (or as adjacent communities burn); 100-150 years interior
Floodplain Swamp	1,963	62%	G4/S4	This is not a fire adapted community
Subtotal	***3,131***	**-----**	**-----**	-----
Altered Land Types	**Acreage**	**Percent Coverage**		**Fire Return Interval**
Pasture	23	<1%	-----	1-3 years or in conjunction with adjacent pyric plant communities
Developed/Parking Area	1	<1%	-----	-----
Subtotal	***24***	**-----**	**-----**	**-----**
Total	**3,155**	**100%**	**-----**	**-----**

*GIS Acres

Mesic Flatwoods (*806 acres*)
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 extreme 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. The canopy densities are variable and may include (depending on location) longleaf pine (*Pinus palustris*), slash pine (P. *elliottii*), loblolly pine (*P. taeda*), or pond pine (*P. serotina*). The shrub layer may include a mixture of species or be dominated by species such as saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*), and numerous members of the Ericaceae family. The herbaceous coverage may be dominated by wiregrass, however species abundance and diversity is often dictated by the openness of both shrub and canopy layers.

The mesic flatwoods communities within the Conservation Area are disturbed, with the most significant alterations resulting from the effects of prolonged fire exclusion. Shrub layers within the mesic flatwoods are largely in good condition with a few areas being overgrown. Additionally, Groundcover assemblages vary in diversity and abundance within this community type. Pine species present within the flatwoods communities on the Conservation Area include longleaf, slash, and pond pine.

Fire is an important physical factor associated with the shaping and maintenance of this community type. The District targets natural fire frequency intervals of approximately every two to four years within the mesic flatwoods, which is consistent with the FNAI 2010 description. Fires in well-maintained mesic flatwoods tend to burn quickly and at relatively low temperatures. Areas of prolonged fire exclusion, altered hydrology, or hardwood encroachment typically have higher soil and fuel moistures and may require more extreme conditions to facilitate a fire.

Wet Flatwoods (249 acres)
Soils that support wet flatwoods communities are generally very poorly drained sandy soils that may have a mucky texture in 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 (longleaf, loblolly, slash, or pond) or cabbage palms (*Sabal palmetto*) with either a thick shrubby understory and sparse groundcover or sparse understory with dense groundcover. Understory species of the subcanopy and shrub layers may include sweetbay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), and saw palmetto, as well as a suite of ericaceous plants. The groundcover layer may include species such as wiregrass, blue maidencane (*Amphicarpum muhlenbergianum*), and numerous hydrophytic species. The variations in structure and

composition may be attributed to subtle edaphic differences as well as differences in hydrologic and fire regimes.

The wet flatwoods within the Conservation Area are disturbed. Fire exclusion has resulted in portions of this community within the Conservation Area exhibiting suppressed groundcover assemblages and an overgrown midstory that includes a dense coverage of loblolly bay. The wet flatwoods plant community is fire dependant and the District targets return intervals ranging from one to three years, which is consistent with FNAI 2010 descriptions.

Floodplain Swamp (1,963 acres)
Floodplain swamp communities typically occur on flooded soils along stream channels and within river floodplains. The floodplain swamp communities within the Conservation Area are associated with Dunns Creek. Despite past disturbances, the floodplain swamp communities within the Conservation Area are largely intact and functional.

Soils that support floodplain swamp communities are variable, but may include a mixture of sand, organic, and alluvial material. 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. Since this community type is maintained by hydrologic regimes, it is not fire dependent; however, fires may occur during times of drought.

Basin Marsh (*106 acres*)
Basin marshes are herbaceous or shrubby freshwater wetlands in large irregularly shaped basins. These marshes typically develop in large solution depressions that were formerly shallow lakes and may be located within non-pyrogenic plant communities. Plant species compositions can be divided into submersed, floating-leaved, emergent, and grassy zones.

Seasonal hydroperiods and longer-term fluctuations are essential to the maintenance of this natural community as is frequent fire. The fire return interval for basin marshes is dependant on the hydrology of the marsh and the exposure to fire from surrounding communities.

The basin marsh within the Conservation Area is disturbed, with the most significant disturbances being the prolonged absence of fire and altered hydrology. The basin marsh is embedded within the floodplain swamp in the northern portions of the property and is heavily encroached by coastal plain willow and other woody species. It is believed that this example of basin marsh was historically dominated by sawgrass, as a highly suppressed remnant coverage of this species remains scattered throughout the marsh.

Depression Marsh (*3 acres*)
Depression marsh communities often occur embedded within a matrix of well-maintained pyric plant communities (FNAI, 2010). Depression marshes are typically found on flat landscapes throughout Florida. They develop when the overlying sand has slumped into a depression in the limestone underlayment. Soils are typically depressional phases of fine sands. Depression marshes are maintained in part against woody shrub invasion by fluctuations in water levels associated with rainfall, fire, and in many cases a combination of both. These seasonal ponds are

important habitat for numerous species of wildlife, but are particularly important for many amphibians that require breeding sites that are free of predatory fish (Moler, 1987).

Dome Swamp (3 acres)
Dome swamp communities typically occur embedded within well-maintained pyric plant communities such as flatwoods (FNAI, 2010). The dome swamp communities within the Conservation Area occur within the mesic 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 towards 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 (FNAI, 2010).

Typical of the dome swamp system, many of the examples of this community type within the Conservation Area include a dome shaped profile created by the presence of smaller trees growing in the shallow waters of the outer edge with the large trees growing in the deeper center. The canopy of hydrophytic trees is dominated by cypress.

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. The longer hydroperiods within the center of most dome swamps will restrict the advance of most fires under normal conditions. Thus, the fire return interval for dome swamps may range from 3 to 5 years along the edges and may be as great as 100 to 150 years in the center (FNAI, 2010).

Xeric Hammock (1 acre)
Xeric hammock is characterized as an evergreen forest with a low canopy and little understory plants other than palmetto, or a multi-storied forest of tall trees with an open or closed canopy. Several gradations between these extremes may occur.

The xeric hammock natural community is typically an advanced successional stage of scrub or sandhill. It is a climax community, having been protected from fire for 30 or more years. When fire does occur in the xeric hammock, it is under extreme conditions, burns catastrophically and it may revert the community back to an earlier successional stage. An example of xeric hammock within the Conservation Area occurs on the northern portion of the property and is typical as described by FNAI in that it appears succeeded from sandhill.

PAST MANAGEMENT SUMMARY

This section describes the management strategies outlined in 2007 and provides the status for each item. The summaries are consistent with the previous plan's implementation schedule.

Water Resources 2007 Plan Strategy	Status
Regularly monitor roads, crossings, and trails for erosion problems.	District staff regularly inspect roads, crossings, and trails for erosion and make necessary repairs.

Fire Management 2007 Plan Strategy	Status
Develop and implement comprehensive long-term prescribed fire management plan.	A comprehensive fire management plan was developed in 2007.
Introduce prescribed burns to thinned areas.	No thinning occurred during the scope of this plan.
Introduce dormant season burns in areas with high fuel loads and areas where fire has been excluded.	Dormant season burning was not required. All burns were conducted during the growing season.
Continue to conduct dormant season burns until fuel reduction goals are met.	Dormant season burning is conducted as needed.
Utilize a variety of methods such as roller chopping, mowing, or applying herbicides to reduce fuel loads.	No mechanical or chemical treatments occurred during the scope of this plan.
Implement growing season burns in areas that have sufficiently reduced fuels.	852 acres have been prescribed burned since 2007.

Forest Management 2007 Plan Strategy	Status
Conduct thinning in pine stands when appropriate.	No thinning were conducted.
Utilize prescribed fire as a forest management tool.	852 acres have been prescribed burned since 2007.
Monitor forested areas for drought, disease, or insect infestation.	District staff regularly monitor for disease, insect infestation, and drought stress.
Evaluate any clearcut areas and implement appropriate restoration techniques.	Restoration activities consisted of the application of prescribed fire.
Complete site preparation burns or chemical applications in appropriate areas prior to replanting.	No plantings were planned or implemented during the scope of this plan. No site preparation was required.

Invasive Species 2007 Plan Strategy	Status
Continue to monitor for invasive plant species and treat with appropriate herbicides as necessary.	District staff monitor for the presence of invasive and exotic plants and treat as necessary.
Continue to grant special use authorizations to local hog trapper to assist with feral hog management during non-hunt season.	Feral hogs continue to be managed through the use of an SUA.

Cultural Resources 2007 Plan Strategy	Status
Document and report any new sites to the Division of Historical Resources.	No new sites were discovered.

Should sites be discovered, modify land management activities in order to eliminate potential disturbance to known sites.	District staff modify land management activities in areas where sites are known to occur.

Access 2007 Plan Strategy	**Status**
Maintain roads, crossing, culverts, and trails within the Conservation Area.	Roads, crossings, culverts, and trails are maintained as needed.
Maintain necessary fencing, gates, boundary markers, and signage within the Conservation Area.	Fencing, gates, and boundary signs are maintained as necessary.
Maintain parking area and walk-through.	Parking areas and walk-through areas are regularly maintained.

Recreation 2007 Plan Strategy	**Status**
Maintain roads and marked trails.	Roads and marked trails are maintained as needed.
Update trail guide.	Trail guide is updated as needed.
Maintain kiosk and entrance signs.	Kiosks and entrance signs are maintained monthly.
Maintain camping and picnic areas, benches, and fire rings.	Camping areas are maintained monthly.
Maintain agreement designating the Conservation Area as a WMA.	The Dunns Creek WMA agreement is active and maintained.
Maintain hunt check station.	The hunt check station is no longer in-use.
Maintain portable toilet near hunt check station.	The portable restrooms are no longer present on the property.

Environmental Education 2007 Plan Strategy	**Status**
Encourage educational opportunities as they arise.	Education opportunities are encouraged. District involvement is subject to staff and budget availability.

Security 2007 Plan Strategy	**Status**
Continue coordination with FFWCC.	The District maintains contact and coordinates with FFWCC as necessary.
Maintain private security contract.	The District maintains a contract with a private firm to provide security within the Conservation Area.

Acquisition 2007 Plan Strategy	**Status**
Pursue acquisition of large parcels within the vicinity of the Conservation Area.	No acquisitions occurred during the scope of this plan.
Pursue acquisition of parcels adjacent to the existing Conservation Area boundary.	No acquisitions occurred during the scope of this plan.

Cooperative Agreements 2007 Plan Strategy	**Status**
Maintain agreement with FFWCC designating the Conservation a WMA.	The Dunns Creek WMA agreement is active and maintained.

Leases, Easements, SUAs 2007 Plan Strategy	Status
Evaluate the feasibility of placing a Nextel tower at Dunns Creek Conservation Area.	Feasibility has not been determined and no tower is currently located on the property.
Continue to issue special use authorizations to local trapper for assistance in management of feral hogs.	Feral hogs are managed via the use of an SUA.

IMPLEMENTATION

The following sections outline land management strategies for resource protection, land use, and administration on the Conservation Area for the next ten years.

RESOURCE PROTECTION AND MANAGEMENT

Water Resource Protection and Management

A large floodplain swamp associated with Dunns Creek dominates the land cover within the Conservation Area. Within the swamp is an area of floodplain marsh. Historically, this marsh was likely dominated by sawgrass, but currently is heavily encroached by shrubs and other woody plants. in the north. The swamp's hydrology is influenced by the tides associated with Dunns Creek. In addition to tidal influences, the swamp receives water from the surrounding land. Additional wetlands on the site include several dome swamps and depression marshes interspersed throughout the property. These areas are connected by several small sloughs that eventually drain into the floodplain swamp. Most of the water in the floodplain swamp eventually drains to Dunns Creek; however, the swamp also drains through a small slough that runs parallel and north of Dunns Creek into a residential canal connected to the St. Johns River.

While most water resource protection within the property was accomplished through acquisition, portions of the wetlands and surface water in the Conservation Area are disturbed. Hydrologic disturbance within the Conservation Area include roads, tram roads, ditches, and culverts. The water resource structures within the Conservation Area are detailed in Figure 8. Table 3 provides detail regarding those structure that will require maintenance and repair or that are scheduled for replacement during the scope of this plan. The District will add to this list as need arises.

Table 3 – Roads Structures Maintenance Needs

Structure ID	Type	Size/Material	Condition	Action Required
43	Culvert	18 inch/metal	Good	-----
44	Low Water Crossing	-----	Good	-----
45	Low Water Crossing	-----	Good	-----
46	Culvert	42 inch/concrete	Good	-----
47	Culvert	36 inch/metal	Good	-----
48	Culvert	18 inch/metal	Good	-----
49	Culvert	18 inch/metal	Good	-----
50	Culvert	18 inch/metal	Good	-----
51	Culvert	24 inch/metal	Good	-----

52	Culvert	12 inch/metal	Good	-----
53	Low Water Crossing	-----	Good	-----
54	Low Water Crossing	-----	Poor	Replace Rock
55	Low Water Crossing	--	Poor	Replace Rock

Water Resource Strategies

General Maintenance Activities

- Conduct maintenance and incidental or emergency repair of water resource structures as necessary.
- Maintain water resource structures database and incorporate maintenance, repair, and any new structures.

Specific Strategies

Recurrent

- Visually inspect roads, trails, and culverts for erosion problems and maintenance and repair needs.

Short-term planning horizon (1-5 years)

- Conduct repairs and replacements to road structures as indicated in Table 3.

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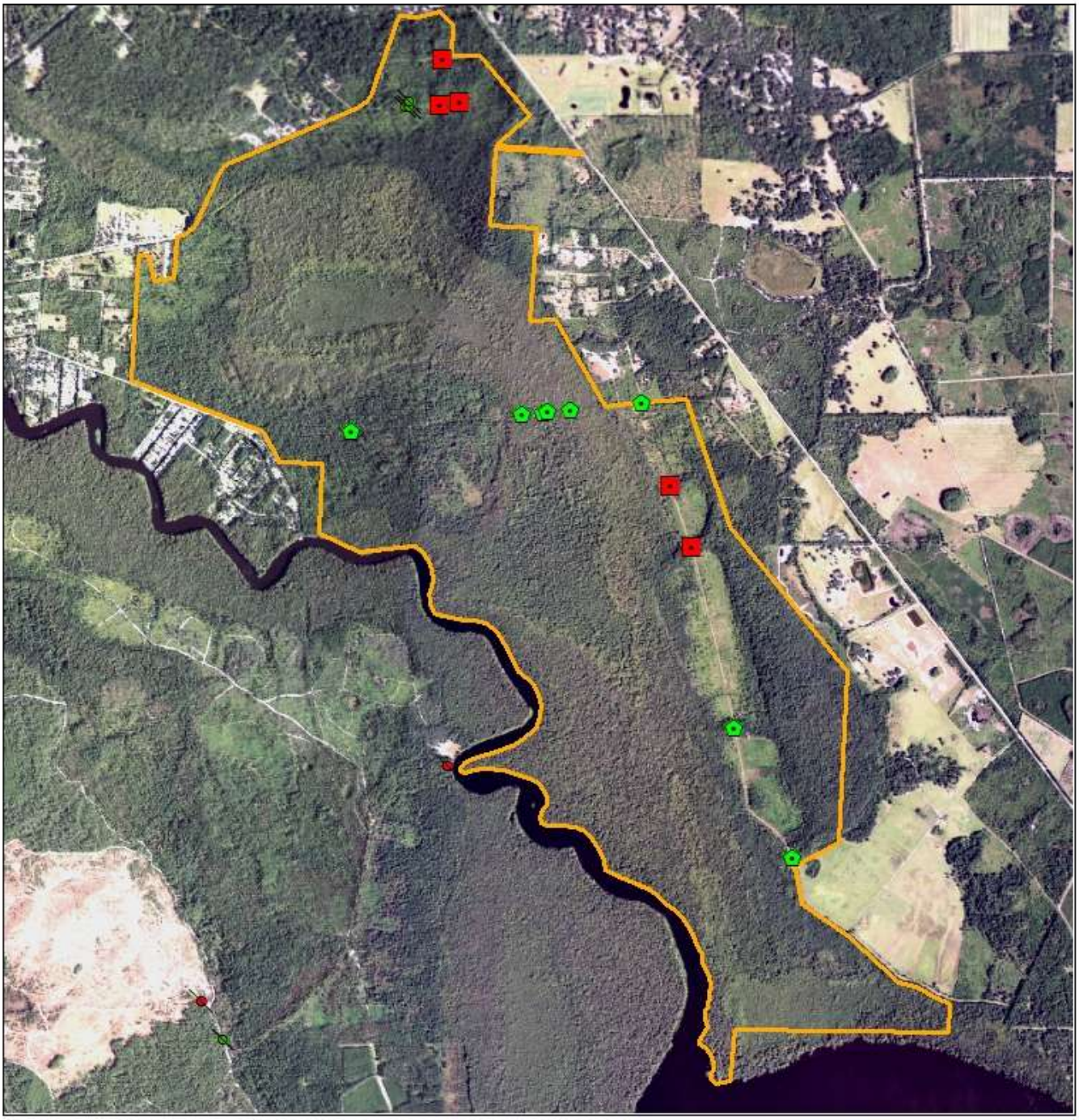

Dunns Creek Conservation Area
Figure 8 - Water Resource Structures

N

0.5

Miles

Boundary

Culvert

Low Water Crossing

Water Monitoring Wells

Well, Active

Well, Inactive

Flora and Fauna

Native Species
The Conservation Area supports a wide range of conditions that provide important habitat for a variety of floral and faunal species. During the scope of this plan, District staff will work to develop a comprehensive species list for the property.

Flora

Giant Orchid
In July 2012, several giant orchid *(Pteroglossaspis ecristata)*plants were observed growing in the vicinity of the parking area near the site of the former game-check station shed. Giant orchid is a state threatened species. At the time of identification, an FNAI element of occurrence was complete. Management recommendations for this species, according to FNAI include frequent fire. This population is growing in an area that is mowed frequently and in the absence of fire, the plants seem to be doing well. Caution should be taken to avoid potential impacts when using heavy equipment or herbicides in the area. Also, unnecessary vehicular traffic should be avoided.

The District may seek the assistance of local Native Plant Society and other volunteers to further develop the knowledge of plant species within the Conservation Area.

Fauna

Florida Black Bear
The Florida black bear is documented within the Conservation Area and road-killed animals have been documented in close proximity of the Conservation Area. In addition to habitat loss and fragmentation, threats to the bear include human caused mortality such as road kill and incompatible habitat management. (Draft Black Bear Management Plan for Florida - Ursus americanus floridanus). The Conservation Area is located within secondary range of the Ocala/St. Johns population of Florida black bear and just west of known primary range. To the extent that issues relate to District managed lands, District staff will coordinate as necessary with the FFWCC and other relevant parties regarding the management of bear habitat and the facilitation of movement across the landscape.

Bald Eagle
While there are currently no active Bald Eagle nests documented within the Conservation Area, there are several nests within close proximity. Should any nests be discovered within the Conservation Area, the District will document the occurrence and incorporate the data into the District's Bald Eagle database with relevant activity status. The District will adhere to the guidelines established in the February 2006 U.S. Fish and Wildlife Service (FWS) *Draft National Bald Eagle Guidelines*. This document is effective following the delisting of the species from the Endangered Species list. The Bald Eagle continues to receive protection through the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The District will consult with the FFWCC and/or the FWS as applicable, prior to conducting management activities within the established management zones that may impact Bald Eagle

nesting between the dates of October 1 to May 15. If nests are discovered on the Conservation Area, the District will confirm activity status each year.

Exotic and Invasive Species

Several exotic pest plants are known to occur within the Conservation Area. The property is part of the District's Invasive Plant Management Program. Exotic species control is necessary to inhibit the continued proliferation of exotic plants and integral in the maintenance and restoration of natural plant communities. The Invasive Plant Management Program applies various herbicides according to label rates using the most appropriate method of application for the target species. Within the Conservation Area, the District has utilized the following methods for the application of herbicides:

- Basal treatments – This method of control includes mixing penetrating oil with the herbicide and applying the mixture directly to the bark of a standing tree or other wood plant. This method is focal and accomplishes treatment on individually targeted plants. Collateral damage or loss of non-targeted plants is minimal.
- Broadcast – This method of control includes the application of the liquid herbicide using a pressurized sprayer. The sprayer may be a hand-held or backpack container or ATV, tractor, or truck mounted and may be pressurized by hand pumping or motorized pump. Broadcast treatments cover larger areas and are not precise; herbicide is applied to all plants within the treatment area. Some collateral damage or loss of non-targeted plants is expected. Typically, the District utilizes this treatment method in areas where infestations of target species are dense, where presence of desirable species is low or for site preparation where clean sites are desirable. Wind drift of herbicide is a consideration when utilizing this method of application and District staff does not apply herbicides when wind speeds are excessive.
- Aerial – This method of control includes the application of herbicides over a large area using low-flying aircraft. This method is not precise and collateral loss or damage to non-target species is expected. This method is often used when treatment area is large, infestation is severe, or in areas that are largely inaccessible by other methods. Wind drift of herbicide is a significant consideration for this control method. Preventing chemical drift to neighboring properties is paramount. District staff evaluates weather conditions prior to any aerial application to minimize the potential for drift and collateral damage outside the targeted area.

While it is unlikely that the District will entirely eradicate invasive plants within the Conservation Area, achieving maintenance control of such species is targeted within the scope of this plan. Exotic pest plant infestations are light to moderate across the Conservation Area; the property is regularly monitored and treated as necessary. Since 2007, District staff have discovered and treated incidental occurrences of invasive trees including Chinese tallow (*Sapium sebiferum*) and Camphor (*Cinnamomum camphora*).

Feral Hogs

Exotic wildlife species including feral hogs (*Sus scrofa*) occur within the Dunns Creek Conservation Area. The District currently utilizes a feral hog removal agents via the Special Use Authorization (SUA) process to assist in the control of feral hogs. Additionally, feral hogs are harvested in conjunction with hunting associated with the Dunns Creek Wildlife

Management Area, where, during designated hunting periods, management of such activities is under the jurisdiction of the Florida Fish and Wildlife Conservation Commission.

On other District managed properties, the District has coordinated via contract with the United States Department of Agriculture (USDA) to assist in the removal of feral hogs. Due to budget reductions, the contract was not renewed at the end of FY2012. Should the feral hog population become problematic and cause damage to natural areas or infrastructure, the District will have the flexibility to enter into short term agreements with the USDA to address specific population reduction initiatives.

Flora and Fauna Strategies

General Maintenance and Management Strategies

- Collect species occurrence data and incorporate into the District biological database.
- Conduct management activities in a manner consistent with relative rules, regulations, guidelines, and species management plans and in a manner that provides maximum protection for listed, rare, sensitive, or otherwise desirable species.

Specific Strategies

Recurrent

- Continue appropriate treatment of exotic vegetation.
- Conduct feral hog removal activities as need is indicated.

Forest Management

Chapter 253.036, Florida Statutes requires the lead agency of state lands to prepare a forest resource analysis, "…which shall contain a component or section…which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel." In general, the management objectives of this property require pine harvesting and may include the harvest or removal of hardwoods.

While the Conservation Area is dominated by floodplain swamp and other wetland communities that will require little in the way of forest management, pockets of upland natural communities are scattered throughout the property. Prior to public acquisition, the Conservation Area was utilized primarily as native range for cattle. Additionally, timber was harvested from uplands, which were not replanted and as such have regenerated naturally. As a result of these management activities, most of the uplands are very open with a low-growing, diverse groundcover. Though overstory is still sparse in many areas, regeneration is occurring and will be promoted, primarily through the use of prescribed fire.

The Conservation Area is partitioned into forest management compartments and each compartment is further divided into stands. Figure 9 illustrates the compartments and stands within the Conservation Area and Figure 10 illustrates the dominant pine species within each stand. On properties like the Dunns Creek Conservation Area, where silvicultural management

is a component of the overall management of the upland portions of the property, values, including timber inventory are collected. These values are verified and incorporated into the District's forest management database. Changes that may occur over time within the compartments and stands resulting from growth and harvest operations, and reforestation are also recorded in the database. This information is used to help land management staff forecast forest management needs.

Since the writing of the last plan, there have been no silvicultural activities. The current condition of stands within the Conservation Area suggest that it is unlikely that harvests will be required and none are planned at this time. Additionally, the District may harvest trees as needed in the case of insect infestations, disease, and damage from sever weather, wildfire, or other occurrences that could jeopardize the health of natural communities. The District may also utilize other management techniques such as mowing, chopping, prescribed fire, and/or herbicide treatments to assist in forest management activities.

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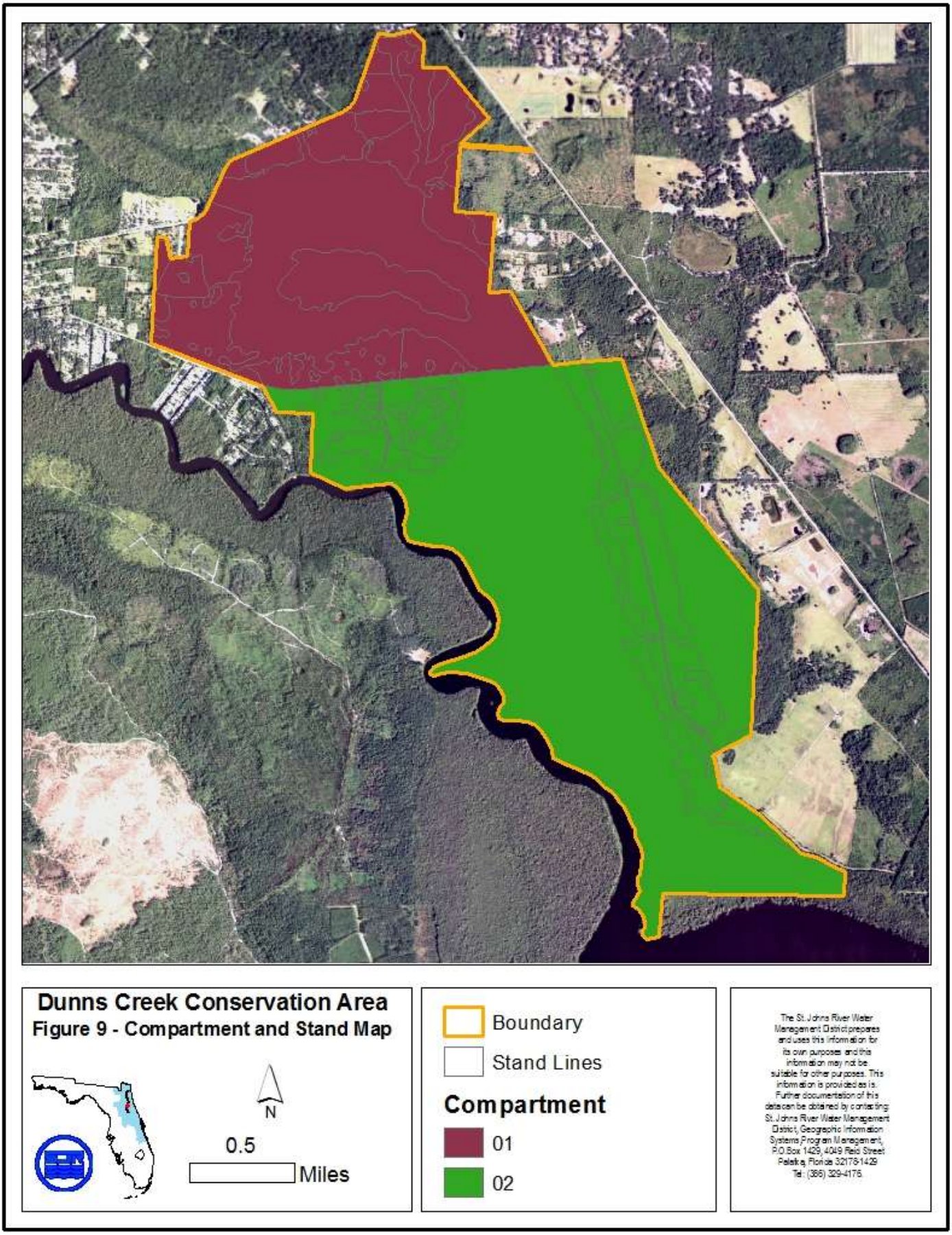
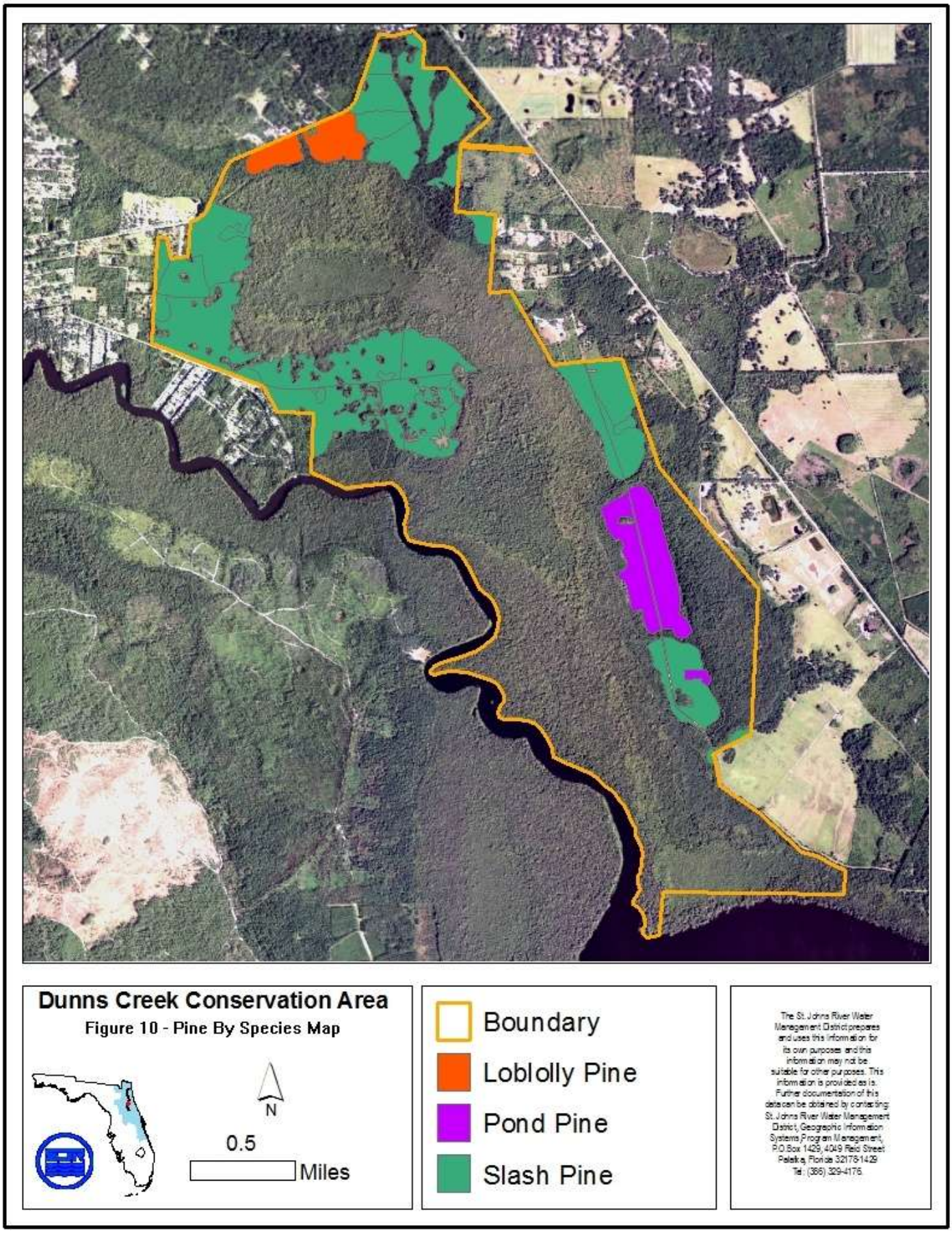

Dunns Creek Conservation Area
Figure 9 - Compartment and Stand Map
N
0.5
Miles
Boundary
Stand Lines
Compartment
01
02
The St. Johns River Water Management District prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is. Further documentation of this data can be obtained by contacting: St. Johns River Water Management District, Geographic Information Systems Program Management, P.O.Box 1429, 4049 Reid Street Palatka, Florida 32178-1429 Tel: (386) 329-4176


Dunns Creek Conservation Area
Figure 10 - Pine By Species Map
N
0.5
Miles
Boundary
Loblolly Pine
Pond Pine
Slash Pine
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Forest Management

General Maintenance Activities

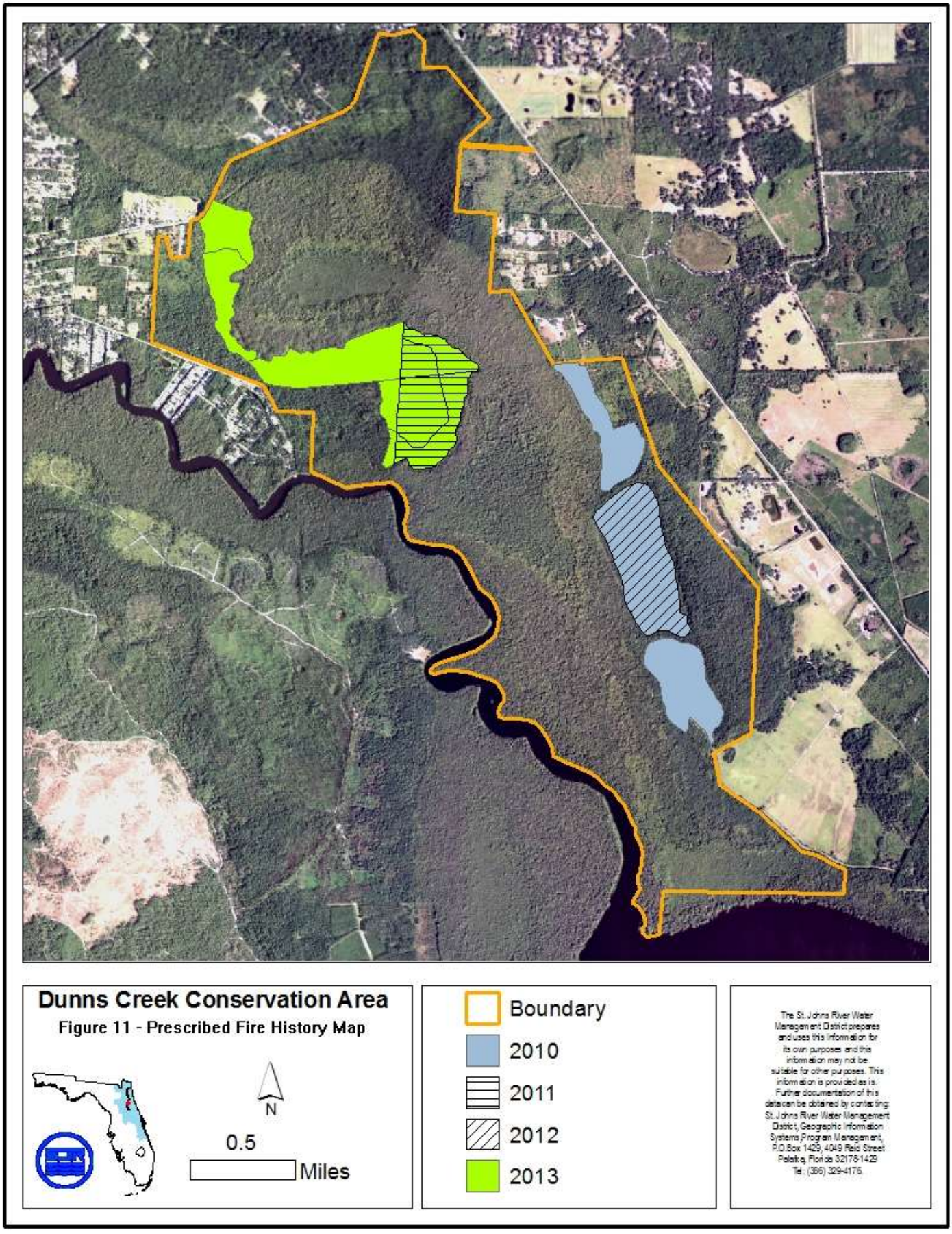
- Conduct visual monitoring and forest management activities as necessary in response to disease, insect infestation, or wind damage.

Fire Management

Fire is a vital factor in managing the character and composition of vegetation in many of the 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 dependant wildlife. Additionally, the application of fire aids in the reduction of fuels and minimizes the potential for catastrophic and damaging wildfires. The majority of the upland natural communities within the Conservation Area are fire adapted, making prescribed fire an important tool for use in the restoration and maintenance of plant communities within the property. Since 2007, District staff implemented prescribed fire on 852 acres within the Conservation Area. Figure 11 illustrates the prescribed fire history for the property since 2007.

Historically, the majority of fires occurring on what is now the Conservation Area would have been ignited by lightning during the growing season. The District intends to reintroduce growing season fires where possible, understanding that constraints in some areas such as young pine, high fuel loading, organic soils, and proximity to smoke sensitive areas may predicate the use of dormant season burning.

In addition to the presence of organic soils on portions of the property, other limiting factors narrowing the window of opportunity for the application of prescribed fire on the portions of the Conservation Area is the close proximity to critical smoke sensitive areas including SR 100, numerous local surface streets and residential areas, and the down drainage effects of Crescent Lake, Dunns Creek, Haw Creek, Little Haw Creek, Middle Haw Creek, and the St. Johns River. 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 and by ensuring adequate smoke dispersal. Smoke management concerns and smoke radii for the Conservation Area are depicted in Figure 12.


Dunns Creek Conservation Area
Figure 11 - Prescribed Fire History Map
N
0.5
Miles
Boundary
2010
2011
2012
2013
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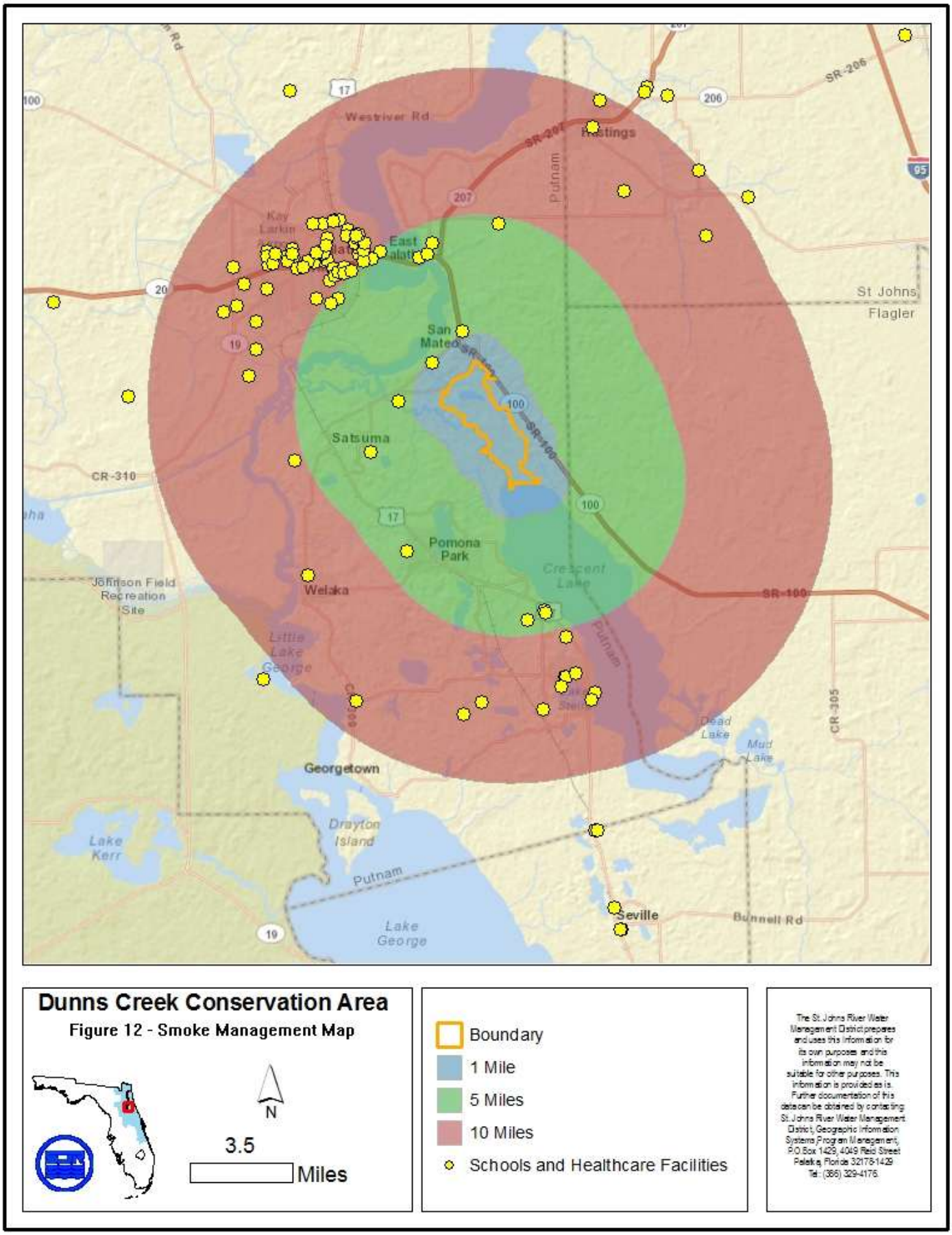
Dunns Creek Conservation Area
Figure 12 - Smoke Management Map
N
3.5
Miles
Boundary
1 Mile
5 Miles
10 Miles
Schools and Healthcare Facilities
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Westriver Rd
Hastings
SR-207
SR-206
Putnam
East Palatka
St Johns
Flagler
San Mateo
SR-100
Satsuma
CR-310
Pomona Park
Crescent Lake
Welaka
Johnson Field Recreation Site
Little Lake George
Dead Lake
Mud Lake
CR-305
Georgetown
Drayton Island
Lake Kerr
Putnam
Lake George
Seville
Bunnell Rd

While prescribed fire is the preferred tool for restoration and maintenance within the Conservation Area, it will be necessary, at times, to implement alternative methods. The District may utilize management techniques such as selective herbicide treatments, silvicultural thinning, mowing, and roller chopping in combination with fire as part of an integrated approach to creating and maintaining desired conditions within the property.

A system of condition class measures was originally developed by the Nature Conservancy and the USDA Forest Service in 2003 as an effort to assess ecosystem health. It was designed as Fire Regime Condition Class (FRCC) and it is based on a relative measure describing the degree of departure from the historical natural fire regime of a given system. 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 adapted the system in 2008 to measure ecosystem health and therefore land management effectiveness. While fire is the preferred disturbance that maintains most natural communities in Florida, other disturbances can serve as a surrogate for fire. 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. If FNAI recommends a fire return interval of 3-5 years, a plant community that has benefited from disturbance in the past 5 years is in condition class one. 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 in to 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. District staff will make annual condition class assessments and incorporate them into annual burn planning and work planning processes.

All implementation of prescribed fire within the Conservation Area will be conducted in accordance with the District's Draft Fire Management Plan, the Dunns Creek Conservation Area Fire Management Plan (Addendum 3), and the annual burn plan for the property.

Fire Management Strategies

General Maintenance Activities

- Implement prescribed burning as described in the District's Fire Management Plan and the Dunns Creek Conservation Area Fire Management Plan.

Specific Strategies

Recurrent

- Develop annual burn plans.
- Populate and maintain the fire management database.
- Conduct fireline maintenance.

Cultural Resources

A review of the Department of State, Division of Historical Resources (DHR) indicates no known Florida Master Site File cultural sites within the Conservation Area. If District staff discover any sites, staff will document and report those sites to the DHR. District land management activities that may 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 location of the sites is not identified on public maps.

Cultural Resource Protection Strategies

General Maintenance and Management Strategies

- Identify and report any new sites.

LAND USE MANAGEMENT

Access

A public parking areas is located on the northern end of the Conservation Area. The parking area is fenced and has a walkthrough providing for recreational access. An informational kiosk is located near the parking area trailhead.

There are currently 7 gates providing management access to and across the property. These gates are monitored regularly for maintenance and/or repair needs from normal wear and tear and vandalism. In an effort to expedite emergency responses and to assist law enforcement and fire rescue in locating individuals in the event of an emergency, three 911 addresses have been issued at certain parking areas and access points to the Conservation Area. Table 4 includes the 911 addresses for the Conservation Area.

Table 4 – 911 Addresses

911 Address	Location/Description
150 Tram Rd	Public Parking Area – Main Access
156 Tram Rd	West of parking area – Management Access
397 S.R. 100 East	North end of property off SR 100 – Management Access

Approximately 8 miles of interior management roads traverse the conservation area, some of which incorporate the multiuse trail system. In order to manage road maintenance, the District utilizes a roads classification system. This system is currently being revised to better detail activities associated with roads maintenance. District staff will update the roads database to reflect changes to the road network within the conservation area as necessary.

Roads will be regularly inspected and receive maintenance and repair as necessary and may be subject to closure during these times. Figure 13 depicts the location of the parking areas, roads, and gates on the property.

Access Strategies

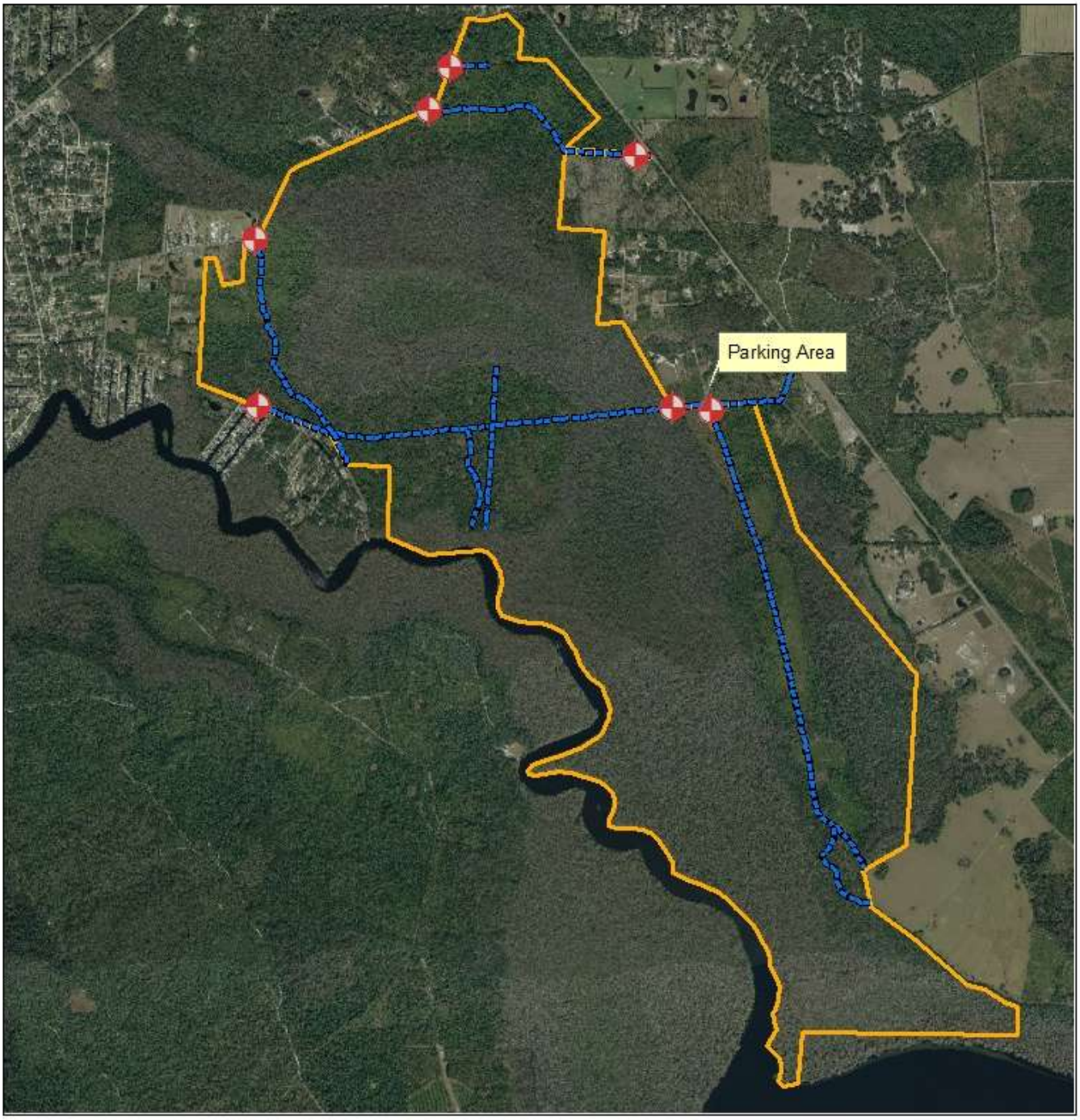
General Maintenance and Management Strategies

- Maintain parking areas, signs, gates, road, and trail.
- Cooperate with neighboring landowners to monitor and maintain tram road.

Specific Strategies

Recurrent

- Update roads, gates, and firelines in the land management database as maintenance, repair, or creation of new roads or trails occurs.



Dunns Creek Conservation Area

Figure 13 - Road and Gates Map

N

0.5

Miles

Boundary

gates

Interior Roads

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Recreation

The primary objective of the Recreation Management Program is to facilitate resource-based recreational activities on District lands. An aspect in developing the SJRWMD Recreation Program is not to compete with other local recreational opportunities, but rather complement what they may already have in place by filling an outdoor recreation niche through dispersed recreation opportunities. Dispersed recreation activities generally require large tracts of land with some level of isolation. This type of recreation blends well with District conservation areas, providing numerous opportunities for passive recreation, which also provides solitude and challenge.

Currently, recreational opportunities within the Conservation Area are dispersed resource-based activities. Recreation amenities include a designated parking area with trailhead. The trailhead includes an entrance sign and an information kiosk, and access to the property by trails routed using interior roads and firelines that also serve and are maintained for access and land management purposes.

The trail system is predominantly for hiking, off-road bicycling, primitive camping, and/or horseback riding and may access areas for wildlife viewing. The entire Conservation Area is incorporated into the Dunns Creek Wildlife Management Area (WMA) and seasonal hunting opportunities are provided under the jurisdiction of the Florida Fish and Wildlife Conservation Commission (FWC). While access to the water is not possible from the Conservation Area, a public boat launch is available at the Putnam County Brown's Landing located nearby in Palatka. There are additional boat ramps in the area.

Recreational improvements and considerations for the Conservation Area include:

- **Group Camping –** Group camping is available on the eastern portion of the Conservation Area, near the parking area. Camping is restricted to tent camping only; no RVs, travel trailers, or campers are allowed. Group camping is intended for seven or more people (but less than 24) and requires a reservation and permit. Group camping is limited to a maximum of seven days. Reservations are available via the District website. Additionally, for groups of fewer than 7 people, a campsite is located on the western portion of the property south of Tram Road.
- **Trails –** Approximately 5 miles of blazed trails are available for hiking, biking, and equestrian use. The District may close trails or portions of trails to accomplish land management activities or when conditions pose a public safety concern.
- **Kiosks** – A Kiosk is located at the public access point and provides information, which includes maps, trail brochures, and interpretive displays.
- **Dunns Creek WMA** – The Dunns Creek WMA incorporates the entire Conservation Area. Hunting opportunities within this WMA fall under the jurisdiction of the FFWCC.

Historically, District trails and trailheads were maintained through a trail maintenance contract. Budget constraints have caused this responsibility to be shifted to District staff. District staff will target maintenance levels achieved through previous contracts; however, it is possible that other management responsibilities will result in less frequent maintenance. The targeted maintenance schedule includes:

- Mowing grassy trails and road edges four (4) times yearly.
- Trail blazing, trimming of overhanging branches, and tree removal along trails as needed.
- Monthly trailhead and campsite maintenance.

Current recreational amenities are included in Figure 14.

Any improvements will be incorporated into the next edition of the District's *Recreation Guide to District Lands*, which can be viewed online at floridaswater.com.

Recreation Strategies

General Maintenance and Management Strategies

- Maintain parking areas, kiosks, and trails.
- Maintain current information in recreation guide, trail guides, kiosk, and District website.
- Continue coordination with FFWCC for the management of the Dunns Creek WMA.

Specific Strategies

Recurrent

- Mow recreational trails four times each year.
- Mow/maintain parking areas.
- Mow/maintain campsite.
- Conduct trail blazing and trimming maintenance.

Environmental Education

The District has historically looked for opportunities to collaborate with local schools and organizations to encourage the use of District lands for environmental education. While the District remains open to such opportunities, during Fiscal Year 2011 the District funding and positions allocated for environmental education were eliminated due to budget reductions.

Environmental Education Strategies

General Maintenance Strategies

- Continue to offer environmental education opportunities subject to staff and budget availabilities.

B

Security

Security concerns within the Conservation Area include illegal motorized vehicle access, dumping, vandalism of gates, fences, and conservation signage, and poaching. The District, primarily through a contract security firm as well as coordination with FFWCC and local law enforcement, administers security and law enforcement for the property.

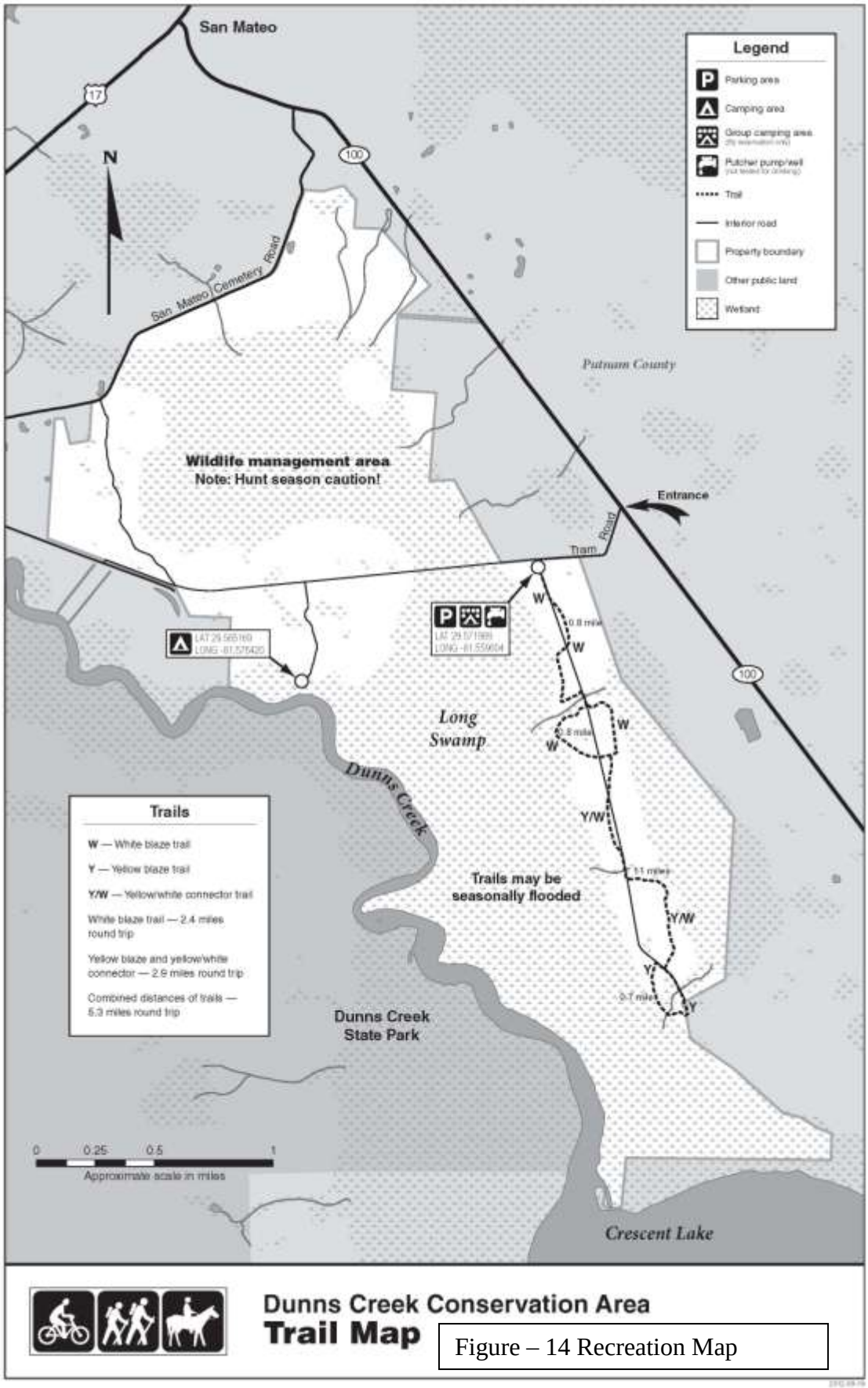


Figure – 14 Recreation Map

Security Strategies

General Maintenance and Management Strategies

- Coordinate with local law enforcement and FFWCC for security needs.
- Maintain contract with private security firm.

Specific Strategies

Recurrent

- Develop monthly, prioritized security needs and provide to contracted security firm.
- Conduct biennial boundary line posting.

ADMINISTRATION

Real Estate Administration

There are no anticipated acquisitions associated with the Dunns Creek Conservation Area in the next ten years. The District may pursue acquisition of small parcels or easements that may improve access for management purposes.

Real Estate Administration Strategies

General Maintenance and Management Strategies

- Evaluate adjacent properties for potential acquisition.

Short-term Planning Horizon (1-5 years)

- Refine boundary and parcel data information and map layers.

Cooperative Agreements, Leases, Easements, and Special Use Authorization

In accordance with District Policy #90-16, the District promotes entering into agreements with other agencies and private parties for cooperation and coordination of management of the District's lands. These cooperative agreements serve to protect the District's water management interests and to enhance the management and public value of the land. Table 5 details the agreements and SUAs in effect during the writing of this plan.

Table 5 – Agreements, Easements, and SUA Table

Agreement Number	Type	Agreement Name	Term
585	SUA	Southeastern Cooperative Wildlife Disease Study – Tick and Sand Fly Research	Expires June 21, 2014
	SUA	Jeff Adams/Hog Removal	

Cooperative Agreements, Leases, Easements, and Special Use Authorizations Strategies

General Maintenance and Management Strategies

- Administer easements, agreements, leases, and SUAs.

IMPLEMENTATION CHART

Dunns Creek Conservation Area – Management Implementation Chart

TASK	RECURRENT	1-5 YEARS	5-10 YEARS	LEAD (COOPERATOR)
RESOURCE PROTECTION AND MANAGEMENT				
Water Resources				
General Maintenance				
Conduct maintenance and incidental or emergency repair of water resource structures as necessary.	---	---	---	BLM
Maintain water resource structures database and incorporate maintenance, repair, and any new structures.	---	---	---	BLM, BRS
Recurrent				
Visually inspect roads, trails, low water crossings, bridges, and culverts for erosion problems and maintenance and repair needs.	Annually	-----	-----	BLM, BOP
Short-term Planning Horizon				
Conduct repairs and replacements to road structures as indicated in Table 3.	-----	2015	-----	BLM, BOP
Floral and Faunal				
General Maintenance				
Collect species occurrence data and incorporate into the land management biological database.	---	---	---	BLM
Conduct management activities in a manner consistent with relative rules, regulations, guidelines, and species management plans and in a manner that provides maximum protection for listed, rare, sensitive, or otherwise desirable species.	---	---	---	BLM
Recurrent				
Continue appropriate treatment of exotic vegetation.	-----	-----	-----	BLM
Conduct feral hog removal activities as need is indicated.	-----	-----	-----	BLM
Fire Management				
General Maintenance				
Implement prescribed burning as described in the District's Fire Management Plan and the Dunns	---	---	---	BLM

Creek Conservation Area Fire Management Plan.				
Recurrent				
Develop annual burn plans.	Annually by September 30th.	-----	----	BLM
Populate and maintain fire management database.	Annually by September 30th.	-----	-----	BLM (BRS)
Conduct fireline maintenance.	Biannually Spring and Fall unless site conditions warrant otherwise	-----	-----	BLM
Short-term Planning Horizon				
Identify and rehabilitate plow lines in areas where remedial action will not cause further damage.	-----	2013		BLM,BOP
Forest Management				
General Maintenance				
Conduct visual monitoring of forested areas to identify signs of disease and/or insect infestation.	---	---	---	BLM
Cultural Resource Protection				
General Maintenance				
Identify and report any new sites.	---	---	---	DON (DHR)
Access				
General Maintenance				
Maintain parking areas, signs, gates, roads, and trails.	---	---	---	BLM
Cooperate with neighboring landowners to monitor and maintain tram road.	-----	-----	-----	BLM, BOP
Recurrent				
Update roads, gates, and firelines in the land management database as maintenance , repair, or creation of new roads or trails occurs	Annually by September 30th	-----	----	BLM (BRS)
Recreation				
General Maintenance				
Maintain parking areas, kiosks, and trails.	---	---	---	BLM
Maintain current information in recreation guide, trail guides, kiosk, and District website.	---	---	---	BLM (FWC, BRS, OC)
Continue coordination with FWC for the management of the Dunns Creek WMA.	-----	-----	-----	BLM (FWC, BRS)

Recurrent				
Mow recreational trails.	Quarterly			BLM
Mow/maintain parking areas.	Bimonthly	-----	-----	BLM
Mow/maintain campsite.	Monthly	-----	-----	BLM
Conduct trail blazing and trimming maintenance.	Annually by December 31st.	-----	------	BLM
Environmental Education				
General Maintenance				
Continue to offer educational opportunities if possible and subject to staff and budget availability.	-----	-----	-----	OC (BLM)
Security				
General Maintenance				
Coordinate with local law enforcement and FWC for security needs.	---	---	---	BLM (FWC, PC)
Maintain contract with private security firm.	---	---	---	BLM (BRS)
Recurrent				
Develop monthly, prioritized security needs and provide to contracted security firm.	Monthly	-----	-----	BLM
Conduct biennial boundary posting maintenance.	2014, 2016, 2018, 2021	-----	-----	BLM
Real Estate Administration				
General Maintenance				
Evaluate adjacent properties for potential acquisition.	---	---	---	BRS (BLM)
Short-term Planning Horizon				
Refine boundary and parcel data information and map layers	-----	2015	-----	BRS
Cooperative Agreements, Leases, Easements, and Special Use Authorizations				
General Maintenance				
Administer easements, agreements, leases, and SUAs	-----	-----	-----	BLM (BRS)

IMPLEMENTATION CHART KEY

BLM – Bureau of Land Management
BOP – Bureau of Operations
BRS – Bureau of Real Estate Services
DHR – Division of Historical Resources
FWC – Florida Fish and Wildlife Conservation Commission
OC – Office of Communications
PC – Putnam County

WORKS CITED

Brooks. Guide to the Physiographic Divisions of Florida. Flordia Cooperative Extension. Gainesville, FL, n.d.

"Crescent Lake." 2012. St. Johns River Water Management District. April 2012 <http://www.sjrwmd.com/watershedfacts/factPages/GF33.html#waterquality>.

"Draft Black Bear Management Plan for Florida." 2008. Draft Black Bear Management Plan for Florida - Ursus americanus floridanus. Florida Fish and Wildlife Conservation Commission. Tallahassee, FL, 2008.

Draft National Bald Eagle Management Guidelines. 20 April 2009. 11 April 2009 <http://www.fs.fed.us/r1/clearwater/terra_org/wildlife_07/t_e/bald_eagle/National_%20Bald_Eagle_Management_Guidleines.pdf>.

Moler, P. "Eastern Indigo Snake." Moler, P.E. Rare and ENdagered Biota of FLorida. Vol. Amphibians and EReptiles Volume III. Gainesville, FL: University of Florida Press, 1992. 181-186.

Official Soil Series Descriptions - USDA-NRCS Soil Survey Division. 05 March 2009. 8 April 2009 <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>.

ADDENDUM 1 – SOIL DESCRIPTIONS AND DETAILED MAP

The following soil series descriptions are taken directly from the USDA-NRCS using the online query tool. As of the writing of this plan, the query tool may be located at https://soilseries.sc.egov.usda.gov/osdnamequery.asp.

Terra Ceia mucky soils consist of very deep, very poorly drained organic soils and are most commonly associated with freshwater marshes, depressional areas within flatwoods, and floodplains. Sawgrass, sedges, reeds, maidencane, and other water tolerant grasses are commonly found in these soils. Cypress, black gum, red maple, and pond pine are common in wooded areas.

Electra fine sands consist of somewhat poorly drained soils formed in sandy and loamy marine sediments. These soils are typically found on slight ridges in the flatwoods areas. Native vegetation may include dwarf live oak, longleaf pine, sand pine, runner oak, saw palmetto, and blueberry. Lopsided indiangrass, wiregrass and numerous forbs are common in the understory.

Tomoka mucky soils are deep, very poorly drained soils that formed in decomposed organic material underlain by sand and loam. These soils can be found on flats, in freshwater marshes, and in swamps. Native vegetation includes pond pine, cypress, maple, and a variety of water tolerant grasses and forbs.

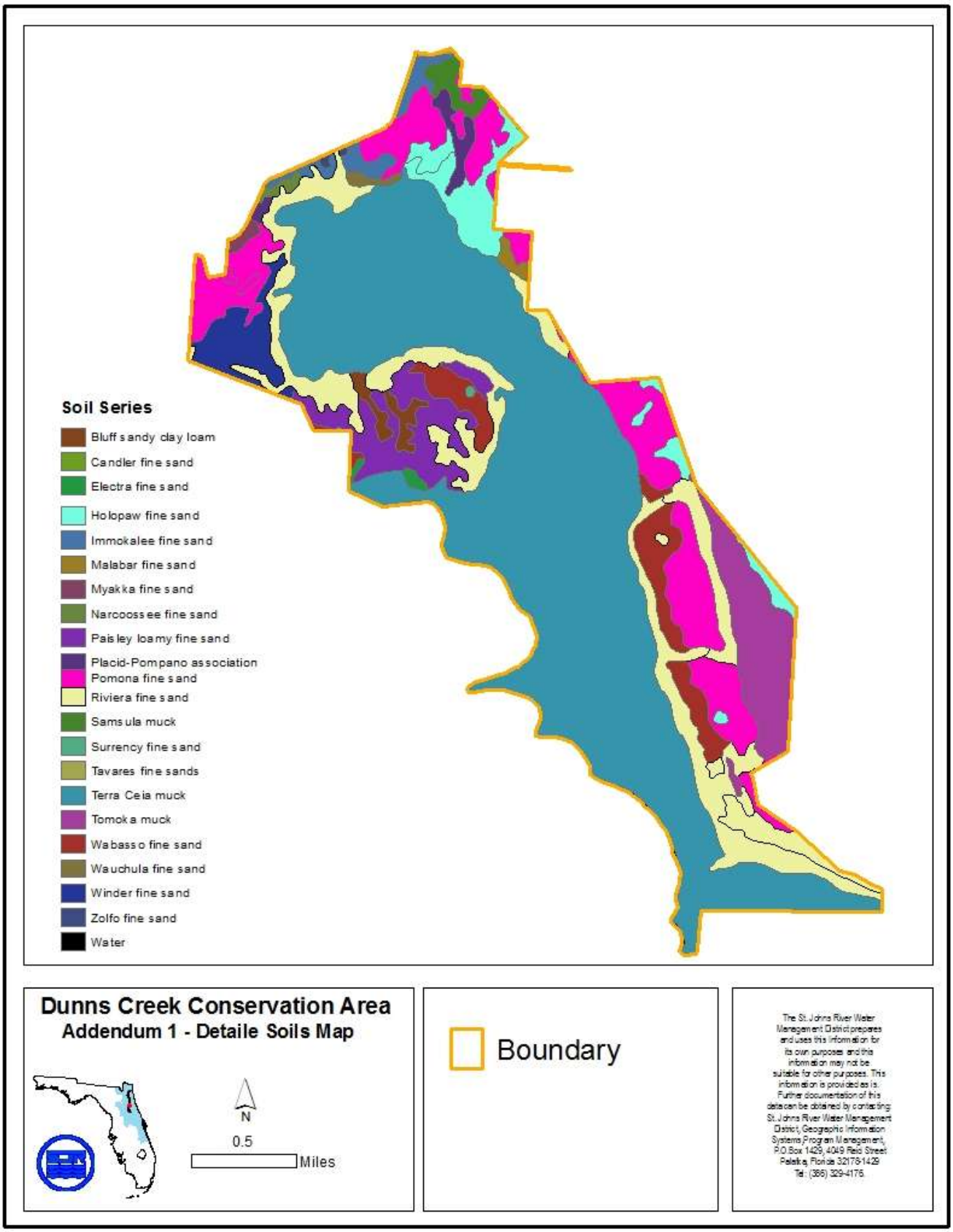
Surrency loamy sands are very deep, poorly drained soils of upland depressions or drainageways. Vegetation typically associated with these soils includes loblolly pine, slash pine, water oak, gallberry, and titi.

Holopaw loamy sand is a very deep, very poorly drained sand common in flats, depressions, and drainage-ways. Native vegetation includes scattered slash and pond pine, cabbage palm, saw palmetto, and scattered cypress.

Placid fine sands are very deep, poorly drained soils typically associated with flats, depressions, and drainage-ways. Native vegetation includes pond pine, cypress, blackgum, bays, and a variety of other water tolerant plants.

Pomona sands consists of very deep, poorly drained soils that typically occur on broad low ridges. They formed in sandy and loamy marine sediments. The native overstory species often include slash and longleaf pine while the understory may contain saw palmetto, wax myrtle, gallberry, a variety of Andropogon spp., and wiregrass.

Wauchula fine sands consists of very deep, very poorly drained soils typically associated with flatwoods. They formed in sandy and loamy marine sediments.


Soil Series
Bluff sandy clay loam
Candler fine sand
Electra fine sand
Holopaw fine sand
Immokalee fine sand
Malabar fine sand
Myakka fine sand
Narcoossee fine sand
Paisley loamy fine sand
Placid-Pompano association
Pomona fine sand
Riviera fine sand
Samsula muck
Surrency fine sand
Tavares fine sands
Terra Ceia muck
Tomoka muck
Wabasso fine sand
Wauchula fine sand
Winder fine sand
Zolfo fine sand
Water
Dunns Creek Conservation Area
Addendum 1 - Detaile Soils Map
N
0.5
Miles
Boundary
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ADDENDUM 2 – SPECIES RANKING DEFINITIONS

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 man-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 man-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 man-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 man-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.

STATE LEGAL STATUS
LE Endangered: species, subspecies, or isolated population so few or depleted in number or so restricted in range that it is in imminent danger of extinction.
LT Threatened: species, subspecies, or isolated population facing a very high risk of extinction in the future.
LS Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.
PE Proposed for listing as Endangered.
PT Proposed for listing as Threatened.
PS Proposed for listing as Species of Special Concern.
N Not currently listed, nor currently being considered for listing.

FEDERAL LEGAL STATUS
LE Endangered: species in danger of extinction throughout all or a significant portion of its range.
LT Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
LT, PDL Species currently listed threatened but has been proposed for delisting.
LT,PE Species currently listed Threatened but has been proposed for listing as Endangered.
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.
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.
XN Non-essential experimental population.
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.

FDACS
C Commercially exploited.

ADDENDUM 3 – FIRE MANAGEMENT PLAN

Dunns Creek Conservation Area

FIRE MANAGEMENT PLAN

PREPARED BY

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Dunns Creek conservation
Fire Management Plan
Putnam County, Florida

The District Fire Management Plan 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 Dunns Creek Conservation Area (Conservation Area).

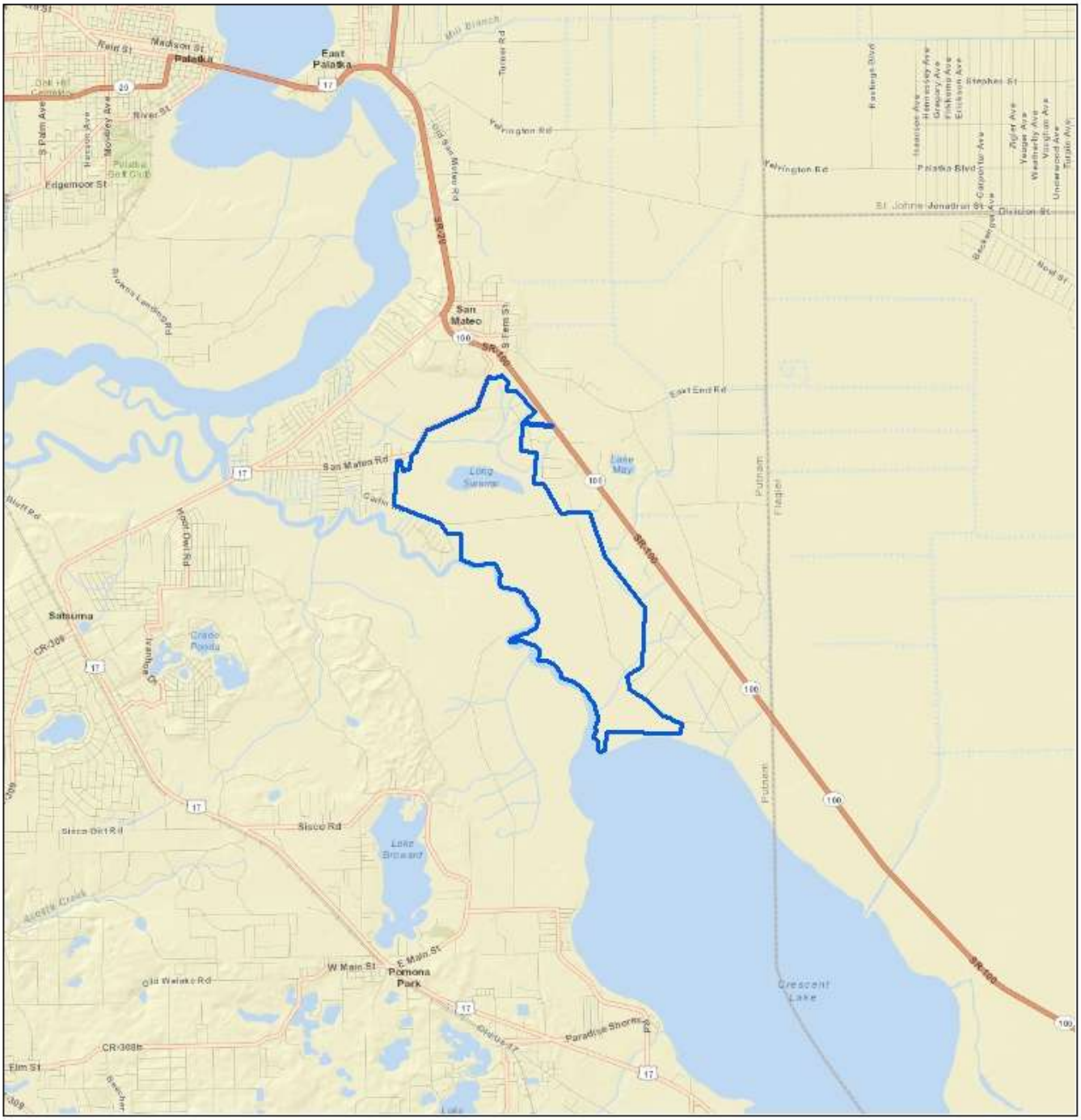
Introduction and Objectives

The property is located within several Sections of Township 10 and 11 South and Range 27. The Conservation Area covers approximately 3,155 acres in Putnam County along the eastern shore of Dunns Creek, just north of Crescent Lake.

The Conservation Area is located five miles southeast of the City of Palatka, immediately west of SR 100. Figure 1 depicts the general location of the Conservation Area.

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 dependant. 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 increase the risk for catastrophic wildfires. The goals for the implementation of fire management activities within the Conservation Area include:

- Reduction of fuel loads through the application of dormant season burns to decrease potential risk of damaging wildfires
- Reintroduction of growing season burns to encourage the amelioration 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



Dunns Creek Conservation Area

Figure 1 - Location Map

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The achievement of these goals requires that the Conservation Area be partitioned into manageable burn units prior 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 Conservation Area.

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 table (Table 1.) and discussion of native plant communities occurring on the Conservation Area and optimal fire return intervals was characterized in part using information from the Florida Natural Areas Inventory's *Guide to the Natural Communities of Florida*.

Table 1.

Community Type	Fire return Interval
Floodplain Swamp	This community is not fire adapted.
Basin Marsh	5-7 years, or in conjunction with adjacent pyric plant communities
Depression Marsh	This community burns with adjacent communities.
Dome Swamp (edges)	3-5 years along the outer edges (or as adjacent communities burn); 100-150 years interior
Pasture	1-3 years or in conjunction with adjacent pyric plant communities
Xeric Hammock	Site specific, but generally infrequent and catastrophic.
Mesic Flatwoods	2-4 years
Wet Flatwoods	1-3 years in grass dominated systems; 5-7 years in shrubbier systems

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

Wet, and mesic flatwoods as well as sandhill are the most prevalent fire adapted natural community type found within the Conservation Area. Prior to public acquisition, the majority of these areas had been utilized as native range for cattle. The uplands had also been subject to harvest operations without subsequent replanting. The mesic and wet flatwoods plant communities within the Conservation Area vary in levels of disturbance. While species compositions are largely appropriate, these areas tend to have contiguous and moderately overgrown shrub and sub canopy layers. Most areas exhibit diverse and abundant groundcover,

Fire management within the remaining plant communities (below) will be in conjunction with the associated dominant pyric plant community within each fire management unit (FMU). These

plant communities will burn as site conditions permit during the implementation of controlled burns in adjacent plant communities. Additionally, these areas will not be excluded from fire activities unless warranted by safety or smoke management issues.

Depression marshes are fire-adapted communities. Though fire may not carry entirely through each marsh during every burn, it is an important factor in the maintenance of the edge habitats surrounding them. These marshes are embedded within in the upland areas at the Conservation Area. In general, marsh fires are carried through the herbaceous layer. Many of these marshy areas have been disturbed by a prolonged absence of fire and are encroached by hardwoods or include planted pine. These areas still occupy an important niche in providing habitat for numerous species of wildlife. Fire will be applied to these marshes any time surrounding natural communities are burned.

Dome swamps are scattered throughout the flatwoods at the Conservation Area. Many of these domes have been altered to some extent by past silvicultural activity and subsequently, many are missing the characteristic "bands" of vegetation normally found in the shallow outer edges of the domes. Fire will be applied to dome swamps as the adjacent communities are burned.

A large basin marsh is located within the floodplain swamp along the northern portions of the Conservation Area. This marsh, historically dominated by sawgrass, is heavily encroached by coastalplain willow and other woody vegetation. While the fire return interval in healthy herbaceous basin marshes is every 5-7 years, this example will likely not burn without additional and intensive restoration activities.

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 mid March through August. Fires during the spring and early summer months 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 September through the mid March, are less intense than growing season burns and are a desirable alternative when igniting fire in young pine plantations. Additionally, dormant season burns help to reduce fuel loads in overgrown areas, resulting in fewer safety and smoke management issues. Fuel loads range widely across the Conservation Area, but in general are moderate to high. While many areas have been treated with prescribed burns, or been impacted by wildfires, the affects of long-term fire exclusion have not been overcome. These effects include: increased fuel loads, increased dominance of shrubby plants, decreased abundance of herbaceous plants, and shift in species. The District has worked, and intends to continue, to restore the natural distribution and abundance of plant and animal species through the use of prescribed fire and mechanical manipulations. It may take several iterations of fire and likely the addition of mechanical treatments to reduce shrub heights across much of the Conservation Area.

The current fuel conditions may require that some of the initial applications of fire be in the form of dormant season burning. This will allow for the reduction of fuel loads while providing for the protection of desirable vegetation. The ultimate goal of this strategy will be to move the prescribed fire application into a growing season rotation. District staff anticipate the implementation of growing season burns.

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. Aerial ignition allows District staff to ignite fire management units more quickly, resulting in a faster burnout. In an area with a large mosaic of unavailable fuels, fire can be applied easily to all portions of the unit. With ground based crews this sometimes is infeasible or impossible and may pose a safety issue. 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.

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, and firelines, and wetlands and other water bodies. This is only possible, with the agreement of local fire rescue, Florida Forest Service, District staff, and when all of 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) There are sufficient resources 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 firelines are plowed, a plan for fireline rehabilitation shall be developed and implemented.

Persons discovering arson or wildfires on the Conservation area should report them to the Florida Department of Agriculture and Consumer Services, Florida Forest Service, the St. Johns River Water Management District, or by dialing 911.

Post Burn Reports

Burn reports must be completed after each controlled 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. Since the writing of the last plan in 2007, prescribed burns covering 855 acres have occurred. Figure 2 illustrates the prescribed fire history since 2006. Fuel loads across the Conservation Area are moderate to high. This accumulation of fuels has 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.

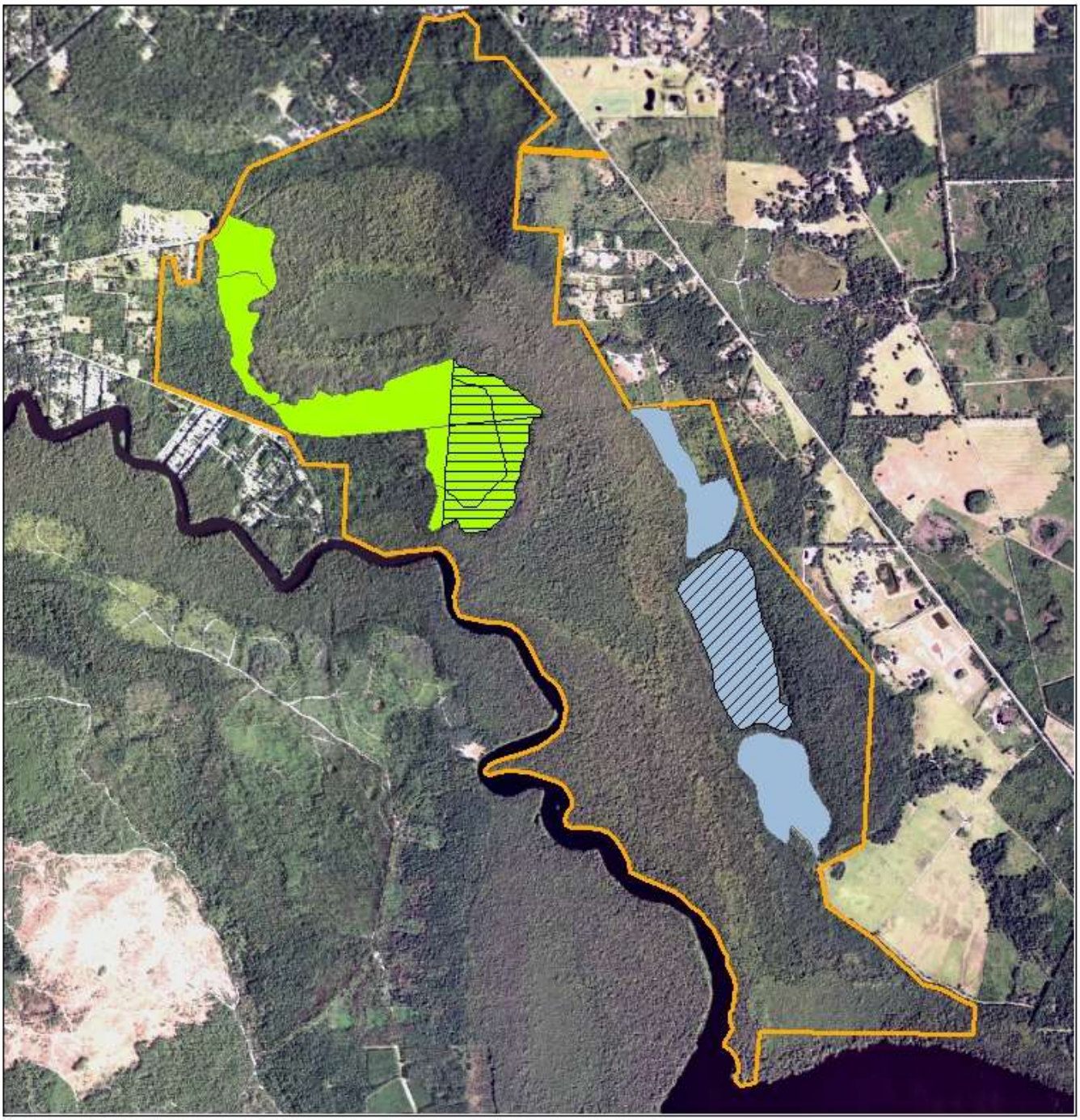
The Conservation Area has a limited smoke shed in which to place a smoke column from a prescribed fire. Smoke sensitive areas occur in close proximity to the Conservation Area and effect the smoke management of each burn unit. Smoke management is a limiting factor in the application of prescribed fire with in the Conservation Area. Smoke management considerations include SR 100, several surface streets, and residential areas, Additionally, in addition to the presence of organic soils, the down drainage effects of Dunns Creek, Haw Creek, Middle Haw Creek, and little Haw Creek, Crescent Lake, and the St. Johns River pose management concerns. Figure 3 illustrates smoke sensitive areas in relation the Conservation Area. As development increases in the area, fire management will become more difficult. Increasing daily traffic on local roads will further impair the District's ability to implement prescribed burns at the appropriate fire return intervals within the Conservation Area.

A smoke screening process will be completed with each prescription, before an authorization is obtained from the Florida Forest Service. 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 impact these smoke sensitive areas in the least possible way. When possible, the smoke plume from burns should be directed back through the Conservation Area. Smoke can then mix and loft into the atmosphere over uninhabited or rural land adequately enough to minimize off-site impacts.

On burn day, the ability of smoke to mix and disperse into the atmosphere should be good. Dispersion indices should be above 35. Dispersions of greater than 69 will not be utilized unless other weather conditions mitigate expected fire behavior. Forecast mixing heights should be above 1700ft. 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.

Mechanical and Chemical Treatments

Short and long term weather conditions and urban interface issues are important considerations when implementing a prescribed fire program. Weather conditions such as extended droughts or insurmountable smoke management issues due to increased urbanization may require the District to manage natural systems mechanically and/or chemically. A variety of methods including mowing, roller chopping, and herbicide applications may be incorporated as alternatives to prescribed fire.



Dunns Creek Conservation Area

Figure 2 - Prescribed Fire History Map

N

0.5

Miles

- Boundary
- 2010
- 2011
- 2012
- 2013

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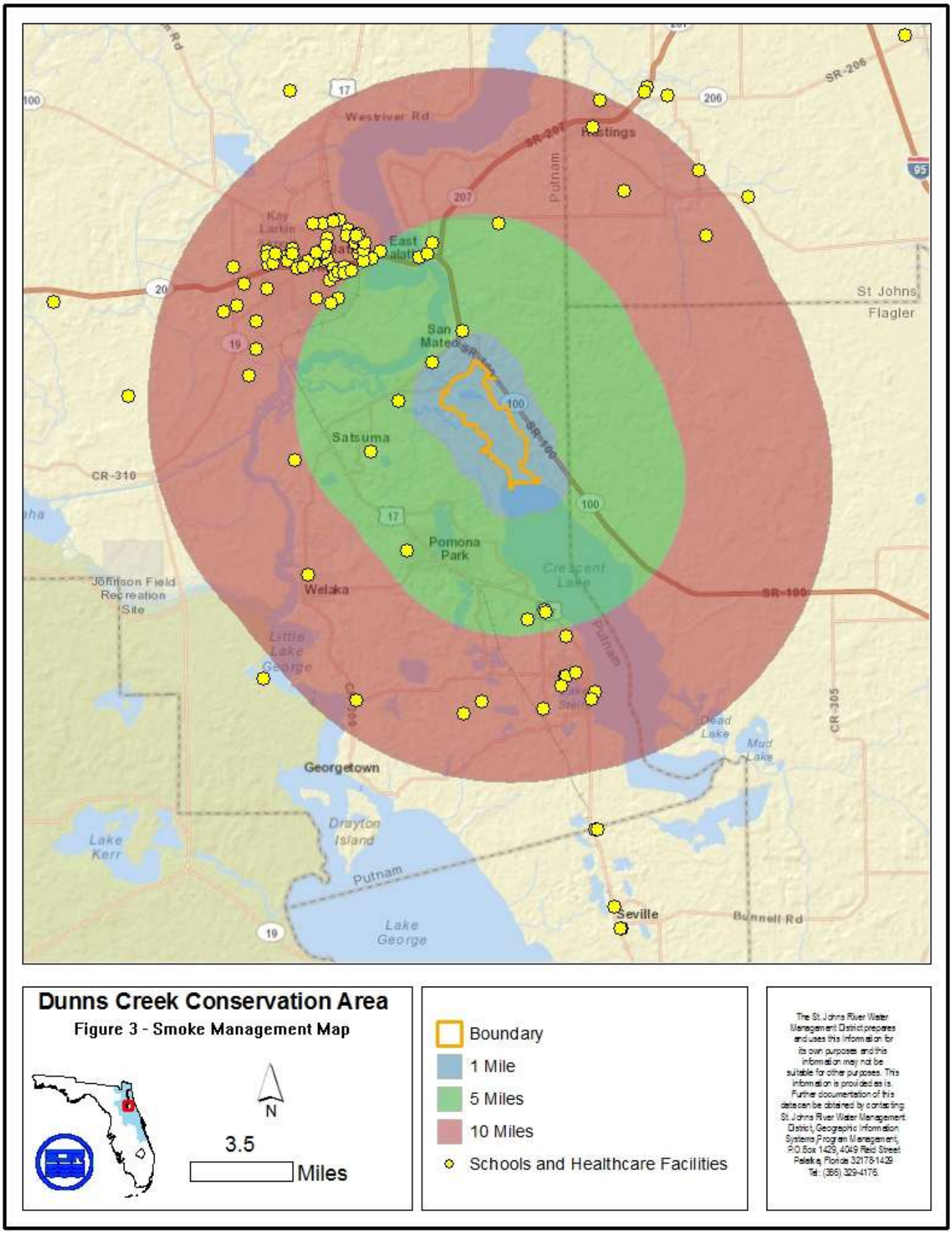
Dunns Creek Conservation Area
Figure 3 - Smoke Management Map
N
3.5
Miles
Boundary
1 Mile
5 Miles
10 Miles
Schools and Healthcare Facilities
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Westriver Rd
Hastings
SR-207
SR-206
Putnam
St Johns
Flagler
East Palatka
San Mateo
Satsuma
SR-100
CR-310
Pomona Park
Crescent Lake
Welaka
Johnson Field Recreation Site
Little Lake George
Georgetown
Dead Lake
Mud Lake
CR-305
Drayton Island
Lake Kerr
Lake George
Seville
Bunnell Rd

Many of the pyric plant communities within the Conservation Area are dominated by pine plantations. An integral component to the implementation of a successful prescribed fire program within the Conservation Area 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. Prescribed fire activities are planned for the Conservation Area over the next ten years and will be conducted in conjunction with annual burn plans and in coordination with harvest plans.

Legal Considerations

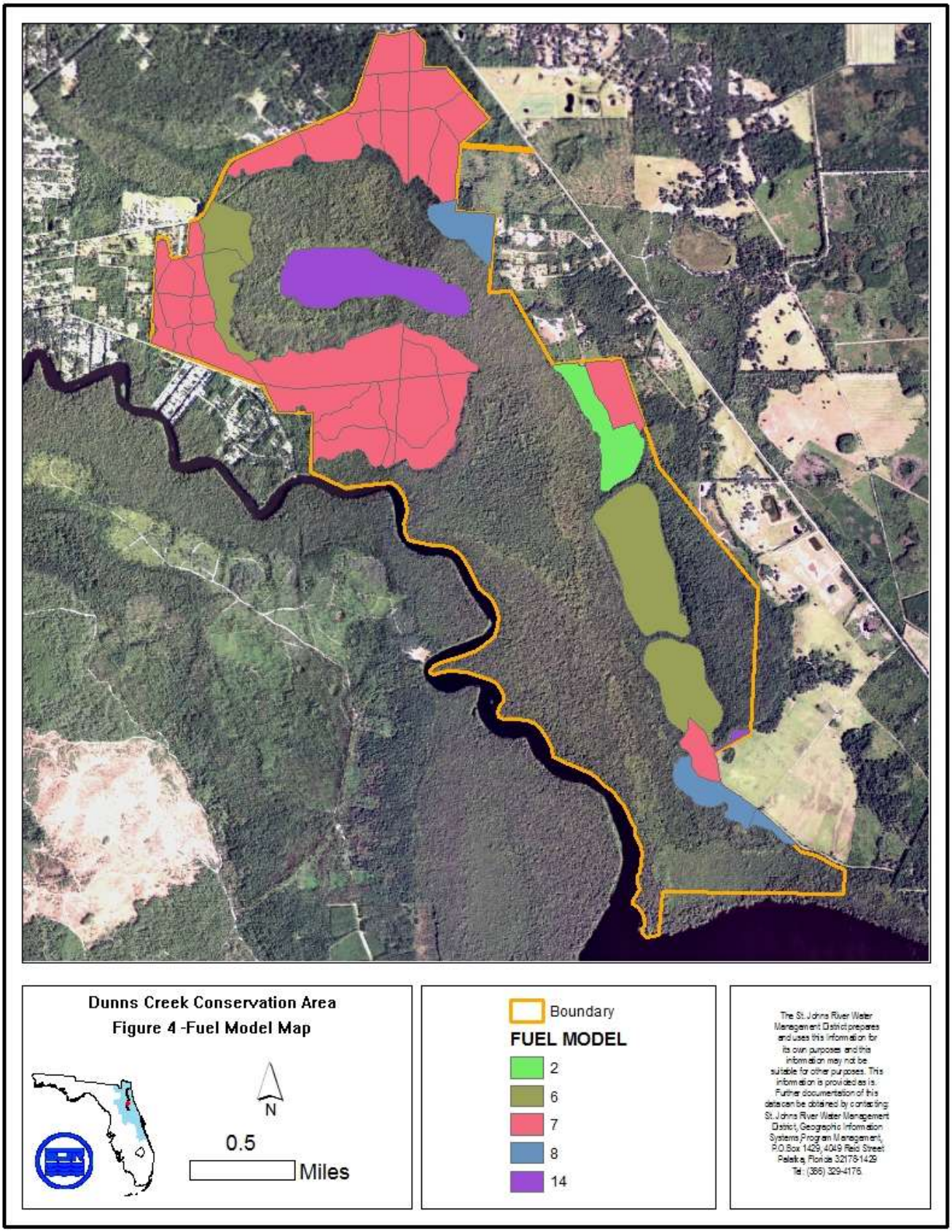
Only burn managers certified by Florida Forest Service will approve the unit prescriptions and must be on site while the burn is being conducted. Certified burn managers adhering to the requirements of State Statute 590.026 are protected from liability for damage or injury caused by fire or resulting smoke, unless gross negligence is proven.

Fire Management Units

Fire management units (FMUs) have been delineated on the Conservation Area. Where logical, the District used existing timber stand boundaries and landscape features to delineate fire management units. In many cases, individual timber stands represent the smallest areas of land that are free of roads, trails, or other barriers to fire. Occasionally, several fire management units with similar fire needs will be burned simultaneously and stand lines provide a break in fuels so that staff may burn smaller areas than initially planned if needed. Additionally, in an effort to mitigate smoke management and potential urban interface issues, fire management units may be smaller in size than on other parcels or Conservation Areas.

Ideally, District staff would thoroughly address and describe each fire management unit in terms of its fire management needs. Though all units within the bounds of the Conservation Area are somewhat different, all can be categorized into one of several fuel model (FM) descriptions. The thirteen 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 FM 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 anticipates 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.

Below is a brief description of each fuel model occurring within the Conservation Area and associated natural communities. A detailed description of each individual fire management unit and its associated objectives will be included in the individual prescriptions. Some fire management units within the Conservation Area contain multiple FMs. In these instances, the designated FM is dominant in coverage. Figure 4 illustrates the FM associated with individual fire management units.


Dunns Creek Conservation Area
Figure 4 -Fuel Model Map
N
0.5
Miles
Boundary
FUEL MODEL
2
6
7
8
14
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Fuel Models

Fuel Model 2
This fuel model includes fire management units that are best described as sandhill and includes primarily those that retain an adequate herbaceous groundcover. Fires in these fuels are typically spread through the herbaceous layer and may include an overstory of longleaf pine, slash pine, and turkey oak. Given appropriate wind speeds and fuel moisture conditions, fire may spread rapidly. The optimal fire return interval in this fuel model is approximately every 1-3 years with growing season burns preferred.

Fuel Model 6
This fuel model includes fire management units that are best described as basin marsh and includes portions of the basin marsh that retain sawgrass coverages. Fires in these fuels are typically spread through the herbaceous layer and may include an overstory of longleaf pine, slash pine, and turkey oak. Given appropriate wind speeds and fuel moisture conditions, fire may spread rapidly. The optimal fire return interval in this fuel model is approximately every 1-3 years with growing season burns preferred. Note: Much of this fire management unit is heavily encroached by willow and other woody species and under normal burning conditions will likely not readily burn.

Fuel Model 7
This category includes fire management units that are best described as flatwoods, both natural and planted pine. Fire in these fuel types is spread through both the shrub and herbaceous layers. The shrub layer components present within the fire management units of this FM include saw palmetto, gallberry and other ericaceous shrubs between 3 and 6 feet tall and are contiguous across many of the units. The herbaceous layer is generally suppressed, but includes wiregrass. The optimal fire return interval for this FM is approximately every 2 to 4 years. Growing season burns are preferable; however, some units of this FM will require dormant season burns and/or mechanical treatments.

Fuel Model 8
This category includes fire management units that are best described as hardwood hammock. Fires will typically be slow-burning with low flame lengths, although an occasional flare up may occur in jackpots of fuel.

Fuel Model 14
This category includes an historic sawgrass marsh that is currently heavily encroached with woody shrubs and trees. In its current condition, this area is not pyric.