

# **MANAGEMENT PLAN**

**NINE MILE SWAMP PARK**

**FCT 08-084-FF8**

**MARCH 2011**

**PUTNAM COUNTY**

# **EXECUTIVE SUMMARY**

The Nine Mile Swamp Park property is located west of the City of Palatka and is approximately 1,268 acres in size. It is situated both north and south of State Road 20 in Township 10 S, Range 25 E, Sections 10, 14, 15, 16, and 22.

The property's eastern boundary directly abuts Rice Creek Conservation Area, a 5,061 acre natural area managed by the St. Johns River Water Management District. To the southeast, it directly connects with the Marjorie Harris Carr Cross Florida Greenway. (see Exhibit B). To the south of the property lies the Caravelle Ranch Wildlife Management Area and the Ocala National Forest. Collectively, this represents more than 500,000 acres of contiguous public lands.

Six natural communities have been identified on the property. They include sandhill, mesic flatwoods, wet flatwoods, basin swamp, basin marsh, and depression marsh. To date there are no known Florida Master Sites on the property, although no formal survey of the property has been conducted.

The property will be managed for the conservation, protection, and enhancement of natural and cultural resources, and for compatible public outdoor recreation. Putnam County will be the lead manager of the property and will be responsible for the day-to-day management, which includes recreation, security, and clean-up. The St. Johns River Water Management District will be a cooperator and be responsible for the management of the natural and cultural resources.

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## **I. INTRODUCTION**

This document provides guidelines for land management activities to be implemented at Nine Mile Swamp Park over the next ten years. Resource management on this property will be coordinated with the resource management program on the adjacent Rice Creek Conservation Area managed by the St. Johns River Water Management District (SJRWMD).

This 1,268 acre natural area is located in central Putnam County approximately 7 miles west of the City of Palatka, both north and south of State Road 20. More specifically, it is found within Township 10 S, Range 25 E, Sections 10, 14, 15, 16, and 22.

Nine Mile Swamp is comprised of six natural communities – ranging from sandhills at 90 feet of elevation to basin swamps at 25 ft. of elevation. The majority of the property is flatwoods and forested wetlands that are associated with Rice Creek swamp located just to the east of the property.

In recent times, the property has been managed for pine production. Most of the sandhill has been planted, or seeded, with sand pines. There is a large transmission line running north-south through the entire property on its western side.

The property currently has a future land use designation of agriculture. Adjacent land uses include agriculture and rural residential. It is not anticipated that any conflicts will arise as a result of conflicting land uses. The County and SJRWMD will meet with adjacent and nearby landowners to inform them of the management actions that will be taking place on the property that may affect them.

The property is within the Etoniah/Cross Florida Greenway Florida Forever Project Boundary and is identified as an “Essential Parcel” within the project area. It is contiguous with over 500,000 acres of public lands that stretch south and include the Ocala National Forest.

Grant funding from FCT was used to purchase the property. This management plan was developed to ensure that the property will be developed in accordance with the Grant Award Agreement and in furtherance of the purpose of the grant application. The Grant Award Agreement is included herein as Appendix I.

## **II. PURPOSE**

### **Purpose of Acquisition**

The purposes of the project are to (1) protect from fragmentation one of the most important state ecological Greenways, the Etoniah Greenway, part of the most important wildlife corridor in the

Southeast United States, the O2O (Ocala National Forest to Okefenokee National Wildlife Refuge Corridor; (2) to provide a park for Putnam County citizens; (3) to enhance the Florida National Scenic Trail for hikers.

The property will be managed primarily for the conservation, protection, and enhancement of natural and cultural resources, and for public outdoor recreation that is compatible with the conservation, protection, and enhancement of the site. Management will seek not only to preserve the site, but also to restore, enhance, and maintain its natural communities to a condition suitable for maintaining viable populations of all species appropriate to the site. Where appropriate, compatible public education and passive resource-based outdoor recreation will be provided in a manner that does not degrade the natural and cultural resources.

The County will monitor adjacent development activities to ensure that such activities do not negatively affect the resources on the project site. Measures such as vegetated buffers, site design, and height limitations may be necessary to ensure that resources and planned outdoor recreation activities on the Preserve are protected from adverse impacts of adjacent land uses.

The Preserve will be identified in all literature and advertising as having been acquired with joint funding from the Florida Communities Trust and the Putnam County Better Place fund, and as being operated as a natural conservation and outdoor recreation area.

## **Management Objectives**

The property will be managed for the conservation, protection, and restoration of natural and cultural resources and for compatible public outdoor recreation. In order to meet these goals, the following key management objectives have been established:

- To manage the property as a natural area through the application of resource management strategies that enhance the appropriate plant and animal species, particularly listed species, and to promote biological diversity. These strategies include, but are not limited to, the planning and implementation of a prescribed burn program, invasive exotic species removal, habitat restoration, and plant & animal monitoring.
- To protect and preserve archaeological, cultural and historical resources.
- To identify and establish compatible passive recreational land uses. This will include an onsite evaluation to determine appropriate uses in specific habitats.

- To develop interpretive materials for educational purposes.
- To maintain site security through a combination of active and passive measures.

### **Compatibility with Adjacent Land Uses**

The project site currently has a Future Land Use designation of Agriculture. Adjacent property to the west is a combination of Rural Residential and Agriculture, property to the north is Agriculture, property to the east is Conservation, and property to the south is Conservation. Existing development around the project site is limited to the western side. This side contains a mixture of residential development with most parcels being of five acres or larger and being used as farm/ranch land. Property to the north is in large holding silviculture use. Property to the east and south is public land in conservation use for public recreation and wildlife corridor management. Management activities will be limited to passive resource based recreational use that will provide opportunity and compatibility with surrounding existing and future land uses. A copy of the Future Land Use Map of the area is provided as Exhibit K.

### **Local Comprehensive Plan Compliance**

#### **Conservation Element**

Policy E.1.3.6: The County shall protect environmentally sensitive areas and native vegetative communities as follows:

- B. In the process of reviewing site plans, the County shall assess the compatibility of land use activities and development on parcels adjacent to the Ocala National Forest, Wildlife Management Areas, State or Private Preserves, or other public-owned natural resource areas.
- C. The County shall maintain and distribute a recommended native plant listing and other educational materials available from the Florida Fish and Wildlife Conservation Commission, Water Management Districts, Florida Department of Agriculture ( Division of Forestry) and other state or federal agencies to increase public awareness of the need to utilize native plant species in the developed landscape and eliminate exotic nuisance plants from existing developed areas.
- D. The following Environmentally Sensitive Lands as identified in the Putnam County Environmental Lands Study (Slope Forests-Map #4, Seepage Streams-Map #7, Spring Run Streams-Map #7, and Sandhill Upland Lakes-Map #7) shall not be designated with a more intensive future land use designation than already exists
- E. Development proposed on sites containing the longleaf pine-xeric oak vegetative community shall preserve a minimum of 25% of this community's vegetation except for single-family residential development on existing lots of record.

Policy E.1.4.2: The County shall request technical assistance from State agencies to study the feasibility of designating viable wildlife corridors and greenways including a corridor between

Rice Creek Swamp and the Ocala National Forest. Once identified, the County shall work with environmental groups and FDEP to acquire corridor properties as conservation designated land or to protect through other means such conservation easements, development standards or maintenance of low density land uses.

Policy E.1.4.4: In coordination with public and private conservation entities, the County shall identify, enhance and promote a greenway that includes lands that are environmentally valuable or provide recreational opportunities in Putnam County.

#### Recreation and Open Space Element

Policy F.1.2.4: The County will work with State and Federal agencies and other groups to explore the possibility of grants, matching funds, contributions, joint-use agreements, sharing of facilities, leasing of land, and volunteer labor which will further the goal of providing a comprehensive park system that properly meets the needs of the County.

### **Land Use and Zoning Designations**

The project site currently has a Future Land Use designation of Agriculture 2. Putnam County does commit to amend the Future Land Use designation to PF (Public Facilities) which includes buildings, grounds and other public facilities for conservation, outdoor recreation, open space, or other similar categories within a year of acquiring the site.

The project site is currently zoned Agriculture. Putnam County does commit to amend the Zoning designation to PF (Public Facilities) which includes buildings, grounds and other public facilities for conservation, outdoor recreation, open space, or other similar categories within a year of acquiring the site.

Putnam County does ensure that the project site will be identified in all literature and advertising as acquired with funds from the “Florida Communities Trust” and operated as a natural conservation area, outdoor recreation area or other appropriate descriptive language.

## **III. NATURAL AND CULTURAL RESOURCES**

The following information was gathered from two, cursory site visits. Due to the presence of exotic game animals and hunting, access to the property is limited at the writing of this plan. Upon acquisition, a more thorough analysis and plant and animal inventory of the property will be done.

### **a. SOILS**

According to the Soil Survey of Putnam County (U.S. Dept of Agriculture, Soil Conservation Service, 1990), fifteen (15) soil types occur on the Nine Mile Swamp property. The dominant soil types are Placid-Pompano association, frequently flooded (flatwoods), Samsula muck (swamp and flatwoods), and Pompano fine sand (flatwoods). A map and a more detailed explanation of the different soil types are located in Exhibit D.

## **b. NATURAL COMMUNITIES**

The natural communities identified on the property follow the naming convention established by the Florida Natural Areas Inventory (FNAI) in their 2010 FNAI Natural Communities Guide to Florida. Six natural communities and three altered landcover types have been documented on site. They range from sandhill on top of the ridge on the western edge of the property down significant slope to wet flatwoods and mesic flatwoods which comprise the majority of the acreage on the property. On the east side of the property two, basin swamps drain into the Rice Creek swamp.

There are two significant natural features on the property – a large basin marsh on the western side and an extensive seepage slope on the eastern edge of the sandhill. Both the sandhill and the seepage slope natural communities are listed as imperiled per the 2010 Florida Natural Areas Inventory – Natural Communities Guide. Photo-monitoring sites will be established at several locations within these two natural communities.

Following are short descriptions of the natural communities identified so far on the property. A Natural Communities Map is located in Exhibit C.

**MESIC FLATWOODS** (795 acres) - Mesic flatwoods are characterized as an open canopy forest of widely spaced pine trees with little or no understory but a dense groundcover of herbs and shrubs. Some variations of recognized mesic flatwoods include a saw palmetto (*Serenoa repens*) understory.

Plants and animals of this community type, documented within the property, include slash pine (*Pinus elliottii*), loblolly pine (*Pinus taeda*), wiregrass (*Aristida stricta* var. *beyrichiana*), gallberry (*Ilex glabra*), staggerbush (*Lyonia fruticosa*), saw palmetto, southern toad (*Bufo terrestris*), and southern black racer (*Coluber constrictor priapus*).

Fire and seasonal hydroperiods are important physical factors associated with the shaping and maintenance of this community type. Mesic flatwoods is the dominant natural plant community within the Nine Mile Swamp property. Approximately 185 acres are in active silviculture. It is unknown when the last time any portion of the mesic flatwoods within Nine Mile Swamp has been either prescribed burned or had a wildfire. Most areas appear to have deep duff, a high shrub layer with lots of pine needle drape.

**SANDHILL** (134 acres) – Sandhills are characterized as a forest of widely spaced pine trees with a sparse understory of deciduous oaks and a fairly dense groundcover of grasses and herbs on rolling hills of sand. The most typical associations are dominated by longleaf pine (*Pinus palustris*), turkey oak (*Quercus laevis*), and wire grass.

Typical plants and animals of this community type, documented within the property, include longleaf pine, turkey oak, sand live oak (*Quercus geminata*), rufous-sided towhee (*Pipilo erythrophthalmus*), pocket gopher (*Geomys pinetis*), and gopher tortoise (*Gopherus polyphemus*).

The sandhill natural community is a fire climax community. Fire is a dominant factor in the ecology of this community and frequent fires are necessary to reduce hardwood competition and to perpetuate pines and grasses. Fire return intervals within sandhill communities range from two to five years. Sandhills are imperiled in the state; and are ranked by FNAI as 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.

The sandhill within Nine Mile Swamp Park has been impacted by a powerline right-of-way (76 acres) and silvicultural activities. Sometime between 1953 and 1964 the entire sandhill within the property was clearcut and windrowed. There are no records as to when the sandhill within Nine Mile Swamp Park has either been prescribed burned or subject to a wildfire.

**WET FLATWOODS** (119 acres) – Wet flatwoods are similar in structure and species composition to mesic flatwoods, but differ in having a longer hydroperiod. They commonly occur in seepage areas or in wet areas adjacent to basin wetlands or depression marshes. The majority of the wet flatwoods at Nine Mile Swamp are located east of the base of the sandhill. The hydrology of this area is driven by seepage coming from the sandhill. Common plants and animal documented with this community at Nine Mile Swamp include slash pine, pond pine, loblolly pine, gallberry, large gallberry (*Ilex coriacea*), saw palmetto, beaksedges, pinewoods treefrog (*Hyla femoralis*), and black racer.

Photo-interpretation of the 1943 imagery for this property suggests that in the 1940's this natural community at Nine Mile Swamp Park had widely scattered pine trees with virtually no mid-story, and a dense groundcover. Today it contains dense pine cover, a high mid-story, and a shaded groundcover. It does not appear to be impacted by past silvicultural activities, perhaps due to the extreme wetness of the area.

**BASIN SWAMP** (84 acres) – Basin swamps are large irregularly shaped basins not associated with rivers. Basin swamps are thought to have developed in oxbows of former rivers or in ancient coastal swales and lagoons that existed during higher sea levels. The species composition is dominated by hydrophytic trees and shrubs.

The basin swamps within the property are dominated by red maple (*Acer rubrum*), sweet bay (*Magnolia virginiana*), loblolly bay (*Gordonia lasianthus*), and sweet gum (*Liquidambar styraciflua*) and have a typical hydroperiod of approximately 200-300 days. Though infrequent, fire is essential for the maintenance of this natural community. Fire return intervals in basin swamps may range from 5 to 150 years, with lower return intervals occurring on the edges.

**BASIN MARSH** (35 acres) – Basin marshes are large, irregular, herbaceous wetlands that are regularly inundated from direct rainfall. They are similar in species composition to depression marshes. Typically they have a wetter portion that contains floating-leaved plants such as fragrant white waterlily (*Nymphaea odorata*), a drier portion with emergent plants such as arrowheads (*Sagittaria* spp.) or pickerelweed (*Pontederia cordata*), and a grassy portion dominated by maidencane (*Panicum hemitomon*) and/or sand cordgrass (*Spartina bakeri*),

There is a single basin marsh at Nine Mile Swamp. It is a significant natural feature on the property with great views across it from the surrounding sandhill natural community. It is dominated by maidencane. The deeper portions have fragrant white waterlilies. Animals seen, or heard, on-site include pig frog (*Lithobates grylio*), southern cricket frog (*Acris gryllus*), great egret (*Casmerodius albus*), and boat-tailed grackle (*Quiscalus major*).

Fire is essential in maintaining this natural community in an herbaceous condition. In an average year inundation should be close to 200 days. With standing water, fire can, and will, carry across the marsh - if there is continuous fine fuel (grass). During drought, a fire can burn the standing vegetation as well as some (or all) of the organics in the substrate.

DEPRESSION MARSH (12 acres) – A depression marsh or ephemeral pond is characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation. Depression marsh communities provide important foraging and breeding habitat for many species of reptiles and amphibians. Natural hydrologic conditions vary with most depression marshes drying in most years. Hydroperiods can range from 50 to 200 days per year.

Most of the depression marshes at Nine Mile Swamp have been impacted by silvicultural activities in the surrounding flatwoods. Typical species on site include maidencane (*Panicum hemitomon*), beaksedges (*Rhynchospora* spp.), and yellow-eyed grasses (*Xyris* spp.).

Fire is important in maintaining this community type by restricting the invasion of shrubs and trees and the formation of peat. Fire return intervals for this natural community are generally determined by the fire frequency of the surrounding uplands.

#### ALTERED LANDCOVER TYPES (89 acres) -

Utility corridor (76 acres) – There is a large power transmission line that runs through the property. It was specifically mapped because the habitat has been altered repeatedly since it was constructed. It traverses sandhill, mesic flatwoods and wet flatwoods.

Pasture/improved – There is an approximately 12 acre pasture located along, and north of, State Road 20 in the southwest portion of the property.

Impoundment/artificial pond – Just east of the pasture is an approximately one acre borrow site that was constructed between 1953 and 1964.

No invasive exotic plants were recorded during the site visits to this property. The property will be surveyed for exotic plants when Rice Creek Conservation Area is re-surveyed for exotic plants in the next 1-2 years. Any exotic plants found that are listed as Florida Exotic Pest Plant Category I (EPPC) species will be given the highest priority for removal. A list of EPPC species can be found in Exhibit E.

### **c. Invasive Exotic Plants**

Nine Mile Swamp needs an invasive exotic plant plan for the purpose of implementing the control and elimination of any exotic plants found that are listed as Florida Exotic Pest Plant Council (FL-EPPC), category I species and to promote a diverse association of native vegetation. A list of FL-EPPC species can be found in Exhibit E. No invasive exotic plants were noted or recorded during the site visits to this property so far, however,

upon closing on the property, a thorough examination of the property will be made to locate and eliminate any exotic species. Then an annual monitoring program will be implemented at that time to prevent infestation or re-infestation if exotic plants are discovered during the initial examination.

The primary objective of this monitoring program will be the elimination of invasive exotic plant species and the maintenance of a diverse association of native vegetation. A diverse association of native vegetation will promote enhanced wildlife value and maintain natural hydrologic cycles.

#### **c. RESTORATION**

An upland restoration plan will be developed within five years of the closing of the property. This plan will discuss, in some detail, the current status and desired future conditions for each of the natural communities on the property. The property will be broken into management zones and prioritized by zone and by natural community. Different management techniques will be discussed, and evaluated, with the goal of establishing which techniques will be most effective at reaching the desired future conditions for each natural community. The major potential area of restoration is shown on the Exhibit G1, Master Site Plan as “Proposed Landscape Area”.

#### **d. PRESCRIBED FIRE PROGRAM**

The establishment of a fire management program will arguably be the single most important management activity that can be implemented on this property. All of the upland and many of the wetland natural communities are fire-adapted systems.

SJRWMD staff will work with staff from Putnam County to develop this program. Anticipated activities include the establishment of perimeter firelines and the delineation of management zones. The adjacent landowners will be notified that an active fire management program will occur on the property.

Within a year of closing, the property will be assessed and become a part of the prescribed fire program at Rice Creek Conservation Area. At this time SJRWMD staff will be responsible for the planning and implementation of the fire management program on this property.

#### **e. FERAL ANIMAL PROGRAM**

Nine Mile Swamp needs a feral animal control plan for the purpose of implementing the control and elimination of any feral animal located on the property. Initial site visits to the Nine Mile Swamp property did not note any feral hog activity probably due to the current management of the property as an exotic game preserve and due to the evidence of a large number of black bears in the area.

An effort to recruit a Florida Wildlife Conservation Commission officer to reside on site to serve as security and to act as feral animal control manager will occur. If this recruitment is unsuccessful, the Rice Creek Conservation Area on the eastern border of this property has a feral hog removal program in place and after closing, the Nine Mile Swamp property will be incorporated into the neighboring program.

Swamp property will be incorporated into the neighboring program.

The Nine Mile Swamp property currently has a 9-foot high chain-link fence surrounding the entire property. The western side of the Nine Mile Swamp property has a number of residences bordering the property. This border and the southern one have the highest probability for the introduction of feral animals. Negotiations are currently underway with the present property owner to leave the fence along this western border as well as along the southern border adjacent to State Road 20. All other portions of the fence will be removed. This remaining fence line should greatly reduce the intrusion of most feral species from populated areas. The northern border has several hunt leases in place and feral hogs are not well tolerated on that property. As previously mentioned, there is an active feral animal program in place on the eastern border of the property. Additional instructions will be given to the feral animal control manager to watch for other feral species and take actions according to the plan.

The primary objective of this program will be the elimination of all feral species and the prevention of their return to protect the diverse association of native vegetation and animals.

#### **f. LISTED PLANT SPECIES**

At this time, no listed plant species have been documented on the property. To date, no formal survey of plants and animals has been conducted. Within one year of the property closing, plant and animal surveys will be initiated. If listed species are identified, they will be mapped. Specific tasks will be developed for any species requiring specific management activities.

#### **g. LISTED ANIMAL SPECIES**

Florida black bears (*Ursus americanus floridanus*) reside on, and move through, this property. The Rice Creek floodplain is important habitat and a movement corridor for black bears. The property is located within primary habitat for black bears as established by the FL Fish & Wildlife Conservation Commission (FWC). Black bear breeding has been documented in the area. Within one year of the property closing, animal surveys will be initiated. Any species documented require special management action then specific tasks will be developed.

Virtually all of the Nine Mile Swamp property is located within habitat identified as Priority 2 per the FL Fish & Wildlife Commission's Strategic Habitat Conservation Area program.

To date, the Florida black bear (*Ursus americanus floridanus*) is the only listed animal species documented onsite. Black bears reside on, and move through, this property. The Rice Creek floodplain is important habitat and a movement corridor for black bears. The property is located within primary habitat for black bears as established by the FL Fish & Wildlife Conservation Commission (FWC). Black bear breeding has been documented in the immediate area.

## **h. INVENTORY OF NATURAL COMMUNITIES**

To date, no plant and animal inventories have been conducted on-site. Within a year of closing, preliminary surveys will be conducted in conjunction with finer detail mapping of the natural communities on the property. A monitoring cycle will be established on a yearly basis and will establish a procedure to forward information to the Florida Natural Areas Inventory. It will be important to conduct these plant and animal surveys in order to properly plan for proper management practices on the site. Plant and animal species blank forms can be found in Exhibit D.

## **i. FOREST RESOURCES**

Within a year of closing, the property will be broken into management units and a timber cruise will be completed. The data will go into the forestry database managed by the St. Johns River Water Management District. The forest management goals and objectives will be established to coincide with the established Goals and Objectives for Management of the Rice Creek Conservation Area.

## **j. ARCHEOLOGICAL, CULTURAL AND HISTORIC RESOURCE PROTECTION**

A review of the Florida Master Site database revealed that no documented sites have been found on the Nine Mile Swamp property. If any evidence is found to suggest an archaeological or historic resource at the site Putnam County will notify the Division of Historical Resources immediately. If any cultural sites are located, they will be added to the Florida Master Site database and managed according to management procedures and Best Management Practices established by the Department of State, Division of Historical Resources. Any significant resources discovered will be interpreted for the public.

The collection of artifacts or the disturbance of archaeological and historic sites on the project site will be prohibited unless prior authorization has been obtained from the Department of State, Historical Resources.

Any area within the project site that is proposed for development will be subjected to a cultural resource survey prior to the commencement of proposed development activities in that area. Management of the archaeological and historic resources will comply with the provision of Chapter 267, Florida Statutes specifically Sections 267.061 2(a) and (b).

## **IV. SITE DEVELOPMENT AND IMPROVEMENT**

### **a. ACKNOWLEDGEMENT SIGN**

Putnam County and cooperating management agencies will install an acknowledgement sign identifying the project site being purchased with funds from "Florida Communities Trust" near the entrance to the site. The sign will be a minimum of three (3) feet by four (4) feet in size and will include the FCT logo and the date the site was acquired.

### **b. EXISTING PHYSICAL IMPROVEMENTS**

The project site currently contains a mobile home, concrete block house, maintenance building, several small tool sheds, a pond/borrow pit, pasture areas, perimeter fence on the south and west side, dirt roads, several hundred acres of pine silviculture, and a large power line that traverses the property from Southeast to Northwest.

The mobile home will be used by the County to house a security/maintenance staff person. The cbs house future is undetermined at this time. It may prove valuable to security of the

project site and it may prove to be a hindrance. It is located just off SR-20 away from the main body of the park and may not be usable. This structure has not been entered yet by staff and so it remains an unknown. Future use will be coordinated with FCT at a future time. The maintenance building will be used for storage and maintenance operations. This maintenance building is new and will prove valuable in future park maintenance operations. Most of the small tool sheds will be removed. The pond/borrow pit will be used for passive recreational use. The pasture areas will be restored to natural areas with native plants such as pine and oak trees as are appropriate to the particular sites. The fences will be maintained for security purposes. The planted pine will be managed until such time as a restoration plan is developed and approved by FCT.

### **c. PROPOSED PHYSICAL IMPROVEMENTS**

The proposed development of the park would be on the east shore of Rainbow Lake and would consist of a combined fishing pier/observation deck which will be approximately twenty foot by twenty foot square, a primitive camping site that would accommodate approximately twenty-five (25) users, bathroom facilities that will be unisex and of a composting style, a non-power boat launch/landing that will accommodate up to sixteen (16) foot long canoes or kayaks, volleyball court sixty (60) feet long by thirty (30) feet wide, a walking trail of at least ¼ mile long with a stabilized path most likely of mulch, a picnic pavilion that will be twenty (20) feet square and educational kiosk made of wood and standing approximately six (6) feet tall describing this unique corridor and its importance in preserving the genetic viability of wildlife. It is not anticipated that the proposed improvements will present any negative impact to the site or to any listed plant or animal species. If utility lines are installed they will be buried if possible.

Bike racks will be installed to provide an alternative to automobile transportation to the project site.

The County will provide benches at major activity areas. Trash cans will be provided at appropriate locations within the park including the picnic area and boat launch/landing.

Putnam County acknowledges that any proposed modification of the Management Plan and or undertaking any site alterations or physical improvements that are not addressed in the approved Management Plan requires prior FCT review and approval.

Proposed physical improvements are shown on Exhibit G1, Master Site Plan and in greater detail on G2.

#### **d. LANDSCAPING**

A landscaping plan has not been developed yet due to limited access and knowledge of the project site. Within a year of closing, a landscape plan will be developed and submitted to FCT for review and approval. The landscape plan will include the approximate number of acres to be landscaped, the type of native plants proposed to be used and an approximate time frame for initiating and completing the landscape program. The goal of this landscaping program will be to restore native plants to disturbed areas of the park and to attract appropriate fauna where possible. General location of the proposed restoration/landscape plan is shown on Exhibit G1, Master Site Plan

#### **e. PARKING**

It is anticipated to develop a parking area for twenty (20) vehicles. This parking area will be developed with pervious materials wherever possible. A split rail fence, bollards and wheel stops will be employed to contain cars in the parking areas.

#### **f. STORMWATER FACILITIES**

Stormwater facilities provided for parking areas and other developed areas will be designed to provide recreational open space or wildlife habitat in a park-like setting. These facilities will be designed with shallow slopes and no fencing.

#### **g. EDUCATION SIGNS**

Interpretive signs and kiosks intended to educate visitors about the natural environment and any known archeological and historical resources on the project site will be provided in appropriate public areas.

#### **h. EDUCATION PROGRAM**

At least twelve (12) regularly scheduled educational classes or programs shall be provided at the project site per year. These programs shall promote the education and protection of environmental resources. Programs such as plant identification, plant use, plant restoration and protection, animal identification, animal tracking, animal track preservation, wetland plant identification, wetland plant restoration, artifact identification, nature craft, and archery will be conducted on the project site. Programs will be planned and conducted by trained professionals and volunteers. Programs will be aimed at a diverse public to provide

education and opportunity to visit and experience a natural setting. Programs will be implemented on the project site as soon as the site is under management control and determined to be safe for public access.

## **i. PERMITS**

Florida Department of Environmental Protection

Dock Permit

St Johns River Water Management District

Stormwater Management Permit

Putnam County Planning and Development Services Department

Land Use Plan Amendment to PF

Rezoning to P1

Site Work Permit

All required permits for new and existing structures and electrical work as required by the Florida Building Code

Road Construction Permit

Driveway Permit

## **j. EASEMENT, CONCESSIONS, AND LEASES**

Within six months after closing, Putnam County will update this section of the Management Plan by providing appropriate exhibits showing existing easements, right-of-ways and other encumbrances identified in the survey and title work as required for the closing documents.

Putnam County will provide FCT sixty (60) day prior written notice and information regarding any lease of any interest, the operation of any concession, any sale or option, the granting of any management contracts, and any use by any person other than in such persons capacity as a member of the general public and no document will be executed without the prior written approval of FCT.

All fees collected will be placed in a segregated account solely for the upkeep and maintenance of the project site.

## **V. MANAGEMENT NEEDS**

### **a. COORDINATED MANAGEMENT**

Management activities at Nine Mile Swamp will be coordinated with Putnam County and the St. Johns River Water Management District. The development of this Management Plan is a cooperative effort of the two agencies and will be further defined through a Memorandum of Understanding that will be submitted to FCT for review and comment.

The portion of the property south of State Road 20 is being considered for coordinated management and maintenance with the Caravelle Ranch Wildlife Management Area. If this occurs, this activity will be coordinated with the FL Fish & Wildlife Conservation Commission. Again, if this cooperative effort is developed, a Memorandum of Understanding will be developed and submitted to FCT for review and comment.

Refer to Exhibit B for a map of the project site and adjacent publicly owned lands.

### **b. TRAIL NETWORK**

An internal trail network has not been delineated at this time due to limited access to the project site but a walking trail of at least ¼ mile will be designed for review and approval by FCT within the first year of closing. The current internal road system and the powerline should allow for a future trail network of at least 4-5 miles.

There is the potential to connect to the road on the eastern side of the property that runs between State Road 100 and State Road 20. Portions of the road are owned by the St. Johns River Water Management District, but the majority is owned by a private landowner. If this road can be used for public recreation, then possibly the future trail system within Nine Mile Swamp can be connected to the trail system within Rice Creek Conservation Area (which includes a segment of the FL National Scenic Trail) and the future Palatka – Lake Butler Rail Trail located on the north side of State Road 100.

Refer to Exhibit G for the Trail Network Map.

### **c. GREENWAYS**

The Nine Mile Swamp Park property is on the western edge of the Rice Creek Swamp and is shown as essential parcels in the Etoniah/Cross Florida Greenway Florida Forever Project. It will enhance an existing Greenway and Ecological Corridor from the Ocala National Forest to the Rice Creek Conservation Area. This corridor is part of the larger O2O (Ocala National Forest to the Okefenokee National Wildlife Refuge) wildlife corridor. O2O is one of the most important ecological corridors in the state. This project is adjacent to public lands in the corridor and will enhance the Florida Trail by creating a trail for bicyclists and hikers that connects to both the Florida Trail and Putnam County Trail System. Coordination of these associated trail systems will be a cooperative relationship developed by Putnam County with the St Johns River Water Management District, the Florida Fish and Wildlife Conservation Commission and the associated Divisions and Sections of the Florida Department of Environmental Protection.

Refer to Exhibit H for a Greenways Map.

### **d. OPTIMAL BOUNDARY**

At this point no parcels have been identified by Putnam County or the St Johns River Water Management District for future acquisition but will be considered as management and operation needs are further developed.

### **e. MAINTENANCE**

Maintenance activities on the project site will be typical of other parks and facilities operated by the Putnam County Parks and Recreation Department and the St Johns River Water Management District for public use, to include grounds maintenance, hard surface maintenance, building and facility maintenance, waterfront maintenance and equipment maintenance. Maintenance will be on-going and typical of a daily/weekly system of tasks already being performed in the existing park systems. This maintenance will be performed by staff from the Putnam County Parks and Recreation Department and the St Johns River Water Management District under the leadership and supervision of professional staff employed by the respective organizations.

### **f. SECURITY**

Putnam County will be the responsible party for security at the project site. Putnam County desires to provide accommodations for an on-site resident that would provide a security presence as a deterrent to negative public use and/or access. On-going security activities would include patrol from the Putnam County Sheriff's Department staff, supervision and monitoring from the Putnam County Parks and Recreation Department staff and the St Johns River Water Management District staff and from citizen volunteers. Additional deterrent activities would include fencing, gates, signage and lighting.

## **g. STAFFING**

It is anticipated that existing staff in the Putnam County Parks and Recreation Department and the St Johns River Water Management District will be able to operate and maintain the project site. Assistance from the Florida Fish and Wildlife Conservation Commission, the Putnam Land Conservancy and other volunteer organizations will be utilized in various programs and activities

## **VI. COST ESTIMATES AND FUNDING SOURCES**

<u>Structures and Improvements:</u>	<u>By:</u>	<u>Estimated Cost:</u>
Fishing Pier/Observation Deck	Putnam Co.	\$10,000
Primitive Camping Site	Putnam Co.	\$ 2,000
Picnic pavilion, tables, grill	Putnam Co.	\$20,000.
Bathroom Facility	Putnam Co.	\$60,000
Volleyball Court	Putnam Co.	\$ 500
Educational Kiosk	Putnam Co.	\$ 500
Non-powered Boat Launch	Putnam Co.	\$ 500
Fencing, gates	Putnam Co.	\$10,000.
Signage	Putnam Co.	\$ 1,500.

<u>Natural Resource Protection:</u>	<u>By:</u>	<u>Estimated Cost:</u>
Invasive Exotic removal	Putnam Co.	Unknown at this time
Restoration, natives	Putnam Co.	\$ 5,000
Retention ponds	Putnam Co.	Unknown at this time
Burn/Chop	Putnam Co.	Unknown at this time
Feral Animal program	Putnam Co./SJRWMD	Unknown at this time
Listed Plant Survey	Putnam Co./SJRWMD	\$ 1,500.
Listed Species Survey	Putnam Co./SJRWMD	\$ 1,500.
Biological Inventory Survey	Putnam Co./SJRWMD	\$ 5,000.
Protection of Resources	Putnam Co./SJRWMD	\$ 3,000.

<u>Resource Enhancement Activities:</u>	<u>By:</u>	<u>Estimated Cost:</u>
Resource Signage	Putnam Co.	\$ 1,500.
Educational Programs	Putnam Co.	\$ 500.

#### Archeological and Historic Resource Protection

	<u>By:</u>	<u>Estimated Cost:</u>
Archeological & Historic Survey	Putnam Co.	\$ 5,000.
Resource Security	Putnam Co.	\$ 1,500.
Educational Program:	Putnam Co.	\$ 250.
Maintenance:	By:	Estimated Cost:
On-going park maintenance	Putnam Co.	\$30,000
Security:	By:	Estimated Cost:
Residence set-up, if developed.	Putnam Co.	\$6,000.
Staffing:	By:	Estimated Cost:

On-going maintenance & supervision

Putnam Co.

\$10,000.

## VII. PRIORITY SCHEDULE

<b>Nine Mile Swamp Park Priority Timeline</b>										
Project Number: <b>FCT 08-084-FF8</b>										
Project Name: <b>Nine Mile Swamp Park</b>										
Grant recipient: <b>Putnam County</b>										
	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Design		Jan								
Amend Future Land Use Designation	Sept									
Amend Zoning Designation	Sept									
<b>Structures and Improvements:</b>										
Entrance sign with FCT recognition (required)		Jan.								
Parking			June							
Fencing			June							
Trash cans-as needed			June							
Interpretive kiosk			Sept							
Interpretive signs				Jan						
Stormwater facilities			June							
<b>Facilities</b>										
Fishing Pier/Observation Deck				June						

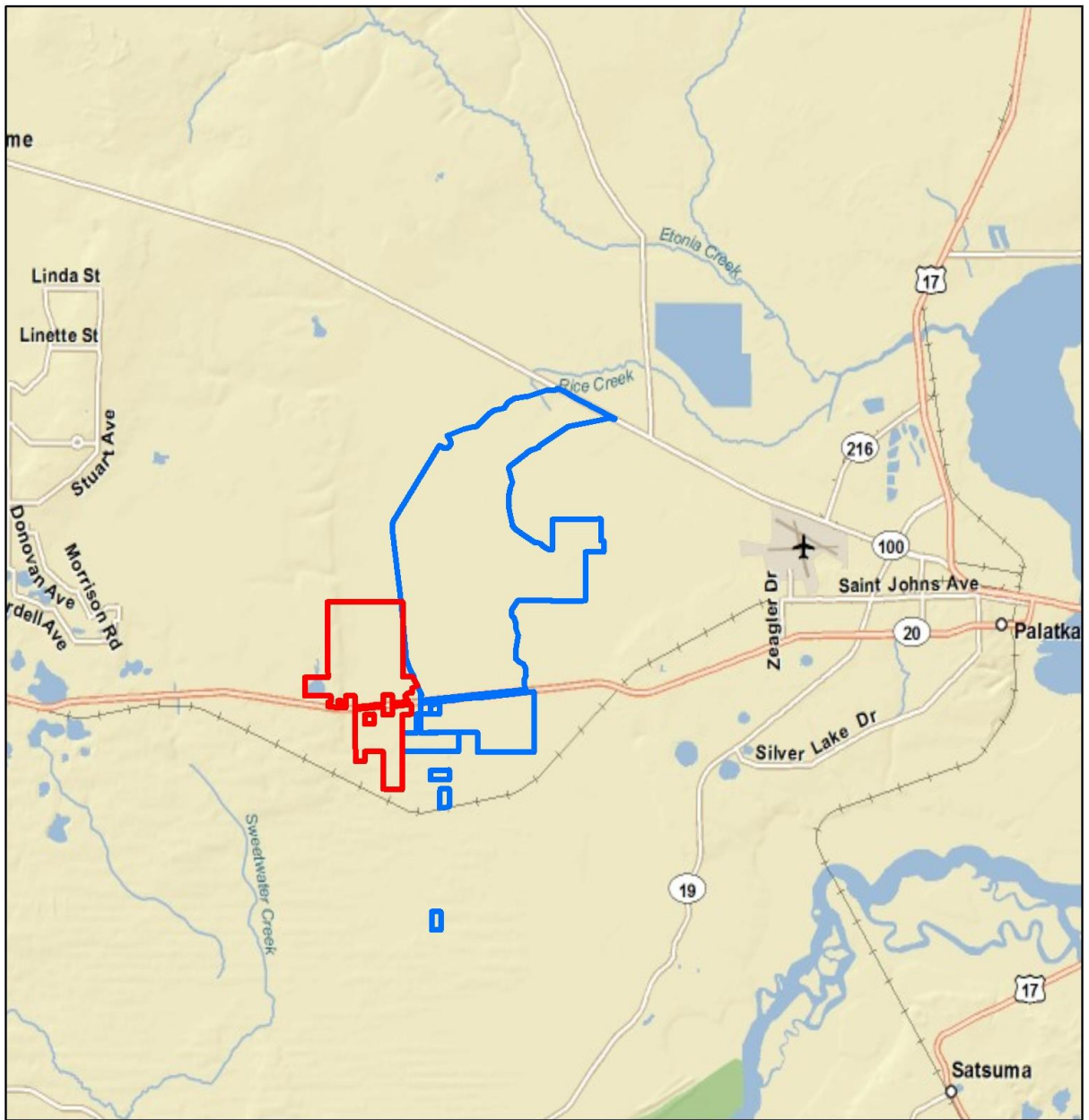
Launch/Landing, non-power boats			Aug							
Restroom Building				June						
Picnic pavilion				June						
Walking trail			June							
Primitive camping site			June							
Volleyball court			June							
<b>Key Management Activities:</b>										
Archeological survey		June								
Archeological protection measures		Aug								
Landscaping			June							
Upland restoration			June							
Prescribed burn plan		Jan								
Plant survey/monitoring			Jan							
Wildlife survey/monitoring			Jan							
Photo-monitoring		Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct
Exotic plant removal plan			Mar							
Feral animal removal program	Aug	Aug	Aug	Aug						
Educational programs		Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct
<b>Annual Stewardship Report (Required)</b>		Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct	Oct

## VIII. MONITORING AND REPORTING

Putnam County will assume responsibility for preparing an Annual Stewardship Report due on October 30 of each year. This report will evaluate the implementation of the Management Plan.

Putnam County does acknowledge that any proposed modifications of the Management Plan and/or undertaking any site alterations or physical improvements that are not addressed in the approved Management Plan require prior FCT review and approval.

**EXHIBIT A**  
**LOCATION MAP**



**EXHIBIT A  
LOCATION MAP  
NINE MILE SWAMP  
FCT PROJECT**



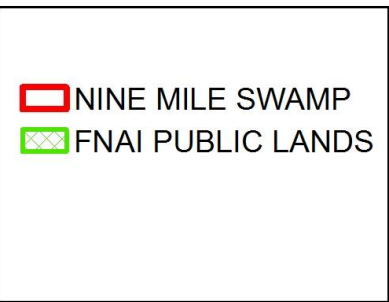
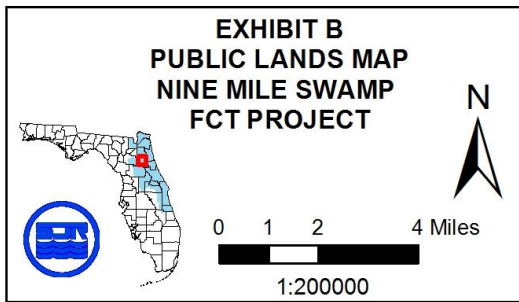
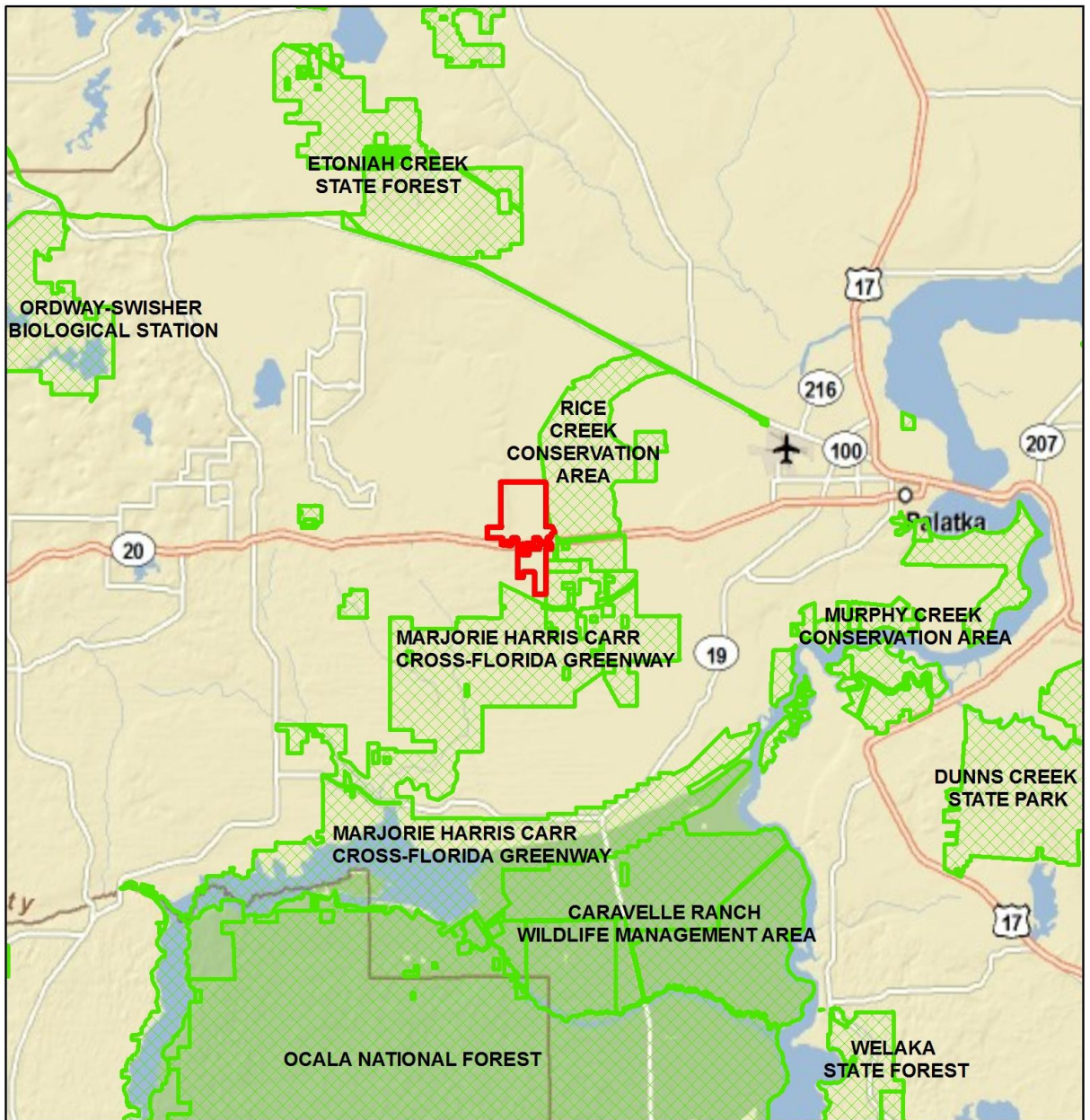
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**NINE MILE SWAMP**  
 **RICE CREEK  
CONSERVATION AREA**

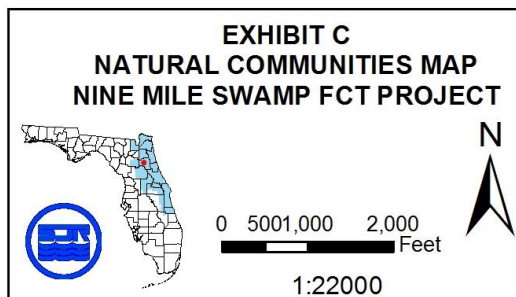
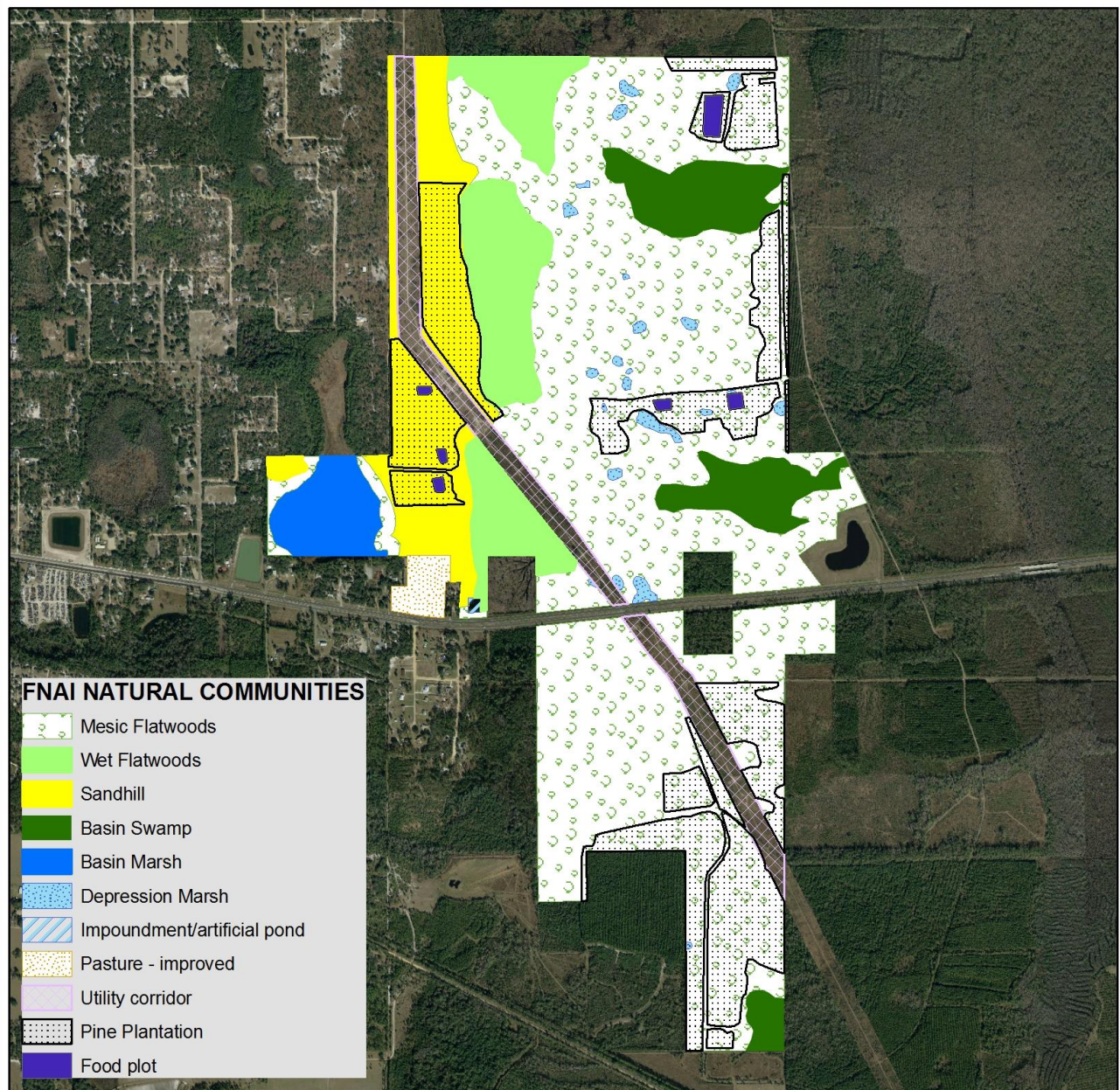
The St. Johns River Water Management District prepares and uses this information for its own purposes and this information may not be suitable for other purposes. This information is provided as is. Further documentation of this data can be obtained by contacting: St. Johns River Water Management District, Geographic Information Systems Program Management, P.O. Box 1429, 4049 Reid Street Palatka, Florida 32178-1429 Tel: (386) 329-4176.

**EXHIBIT B**  
**PUBLIC LANDS MAP**



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**EXHIBIT C**  
**NATURAL COMMUNITIES MAP**



















2009 IMAGE

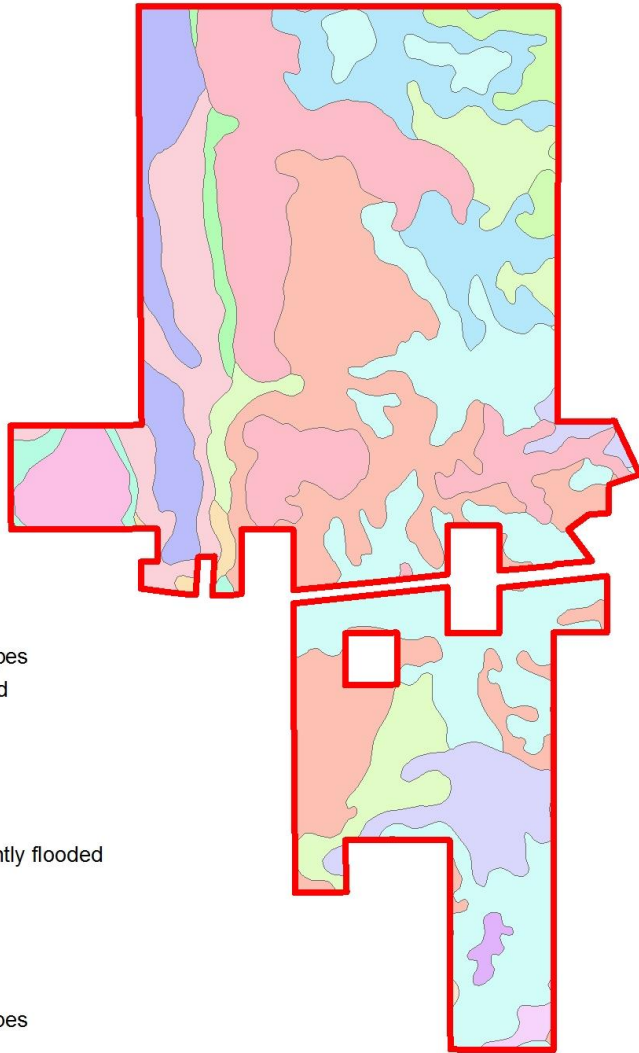
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**EXHIBIT D**

**SOILS MAP AND DESCRIPTIONS**

#### SOIL TYPES

-  Adamsville sand
-  Candler fine sand, 0 to 5 percent slopes
-  Holopaw fine sand, frequently flooded
-  Immokalee fine sand
-  Myakka fine sand
-  Palmetto fine sand
-  Placid fine sand, depressional
-  Placid-Pompano association, frequently flooded
-  Pomona fine sand
-  Pompano fine sand
-  Riviera fine sand
-  Samsula muck
-  Tavares fine sand, 0 to 5 percent slopes
-  Water
-  Winder fine sand
-  Zolfo fine sand



#### EXHIBIT D SOILS MAP NINE MILE SWAMP FCT PROJECT



0 500 1,000 2,000 Feet  
1:24000



NINE MILE SWAMP

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## **NINE MILE SWAMP SOILS**

### **USDA/NRCS OFFICIAL SOIL SERIES DESCRIPTIONS**

**ADAMSVILLE SAND** - The Adamsville series consists of very deep, somewhat poorly drained, rapidly permeable soils on broad flats, low knolls, and lower side slopes. They formed in thick sandy marine sediments in central and southern Florida. Near the type location, the mean annual temperature is about 74 degrees F., and the mean annual precipitation is about 52 inches. Slopes range from 0 to 5 percent.

The depth of sand or fine sand extends to 80 inches, or more. Soil reaction ranges from very strongly acid to moderately acid in the A or Ap horizons, and strongly acid to slightly acid in the C horizons. Silt plus clay content is less than 5 percent in the 10 to 40-inch control section.

Somewhat poorly drained; rapid permeability.

**CANDLER FINE SAND** - The Candler series consists of very deep, excessively drained, rapidly permeable soils on uplands. They formed in thick beds of eolian or marine deposits of coarse textured materials. Near the type location, the mean annual temperature is about 72 degrees F., and the mean annual precipitation is about 55 inches. Slopes range from 0 to up to 25 percent in dissected areas.

Thickness of the sand is 80 or more inches. Lamellae are present at depths of 40 to 80 inches. Reaction is very strongly acid to moderately acid throughout. Content of silt plus clay is less than 5 percent and very fine sand less than 20 percent at depths between 10 and 40 inches.

Excessively drained; rapid permeability.

**HOLOPAW FINE SAND** - The Holopaw series consists of deep and very deep, poorly and very poorly drained soils formed in sandy marine sediments. These soils are rapidly permeable in the A and E horizons and moderately or moderately slowly permeable in the B horizon. These soils are on low lying flats, in poorly defined drainages or depressional areas. Slopes range from 0 to 2 percent.

Solum thickness ranges from 45 to 96 inches. Some pedons have a thin layer of muck on the surface. Soil reaction ranges from strongly acid to neutral in the surface layers and from strongly acid to moderately alkaline in the other layers. Limestone substratum phases are recognized.

Holopaw soils are poorly and very poorly drained. Runoff is slow. Permeability is moderately slow. A water table is within 12 inches of the soil surface for 2 to 6 months during most years. Depressional areas are ponded for more than 6 months during most years.

**IMMOKALEE FINE SAND** - The Immokalee series consists of deep and very deep, poorly drained and very poorly drained soils that formed in sandy marine sediments. They occur on flatwoods and in depressions of Peninsular Florida. Slopes are dominantly 0 to 2 percent but range to 5 percent.

Reaction ranges from extremely acid to moderately acid except in limestone phases which are strongly acid to mildly alkaline.

Immokalee soils are poorly drained or very poorly drained. Runoff is slow or ponded. Permeability is rapid or very rapid in the A and E horizons and moderate or moderately rapid in the Bh horizon. The water table is at depths of 6 to 18 inches for 1 to 4 months during most years. It is between a depth of 18 inches to 36 inches for 2 to 10 months during most years. It is below 60 inches during the dry periods of most years. Depressional areas are covered with standing water for periods of 6 to 9 months or more in most years.

**MYAKKA FINE SAND** - The Myakka series consists of deep and very deep, poorly to very poorly drained soils formed in sandy marine deposits. These soils are on flatwoods, high tidal areas, flood plains, depressions, and gently sloping to sloping barrier islands. They have rapid permeability in the A horizon and moderate or moderately rapid permeability in the Bh horizon. Slopes range from 0 to 8 percent.

Solum thickness is more than 30 inches. Reaction commonly ranges from extremely acid to slightly acid. In tidal, limestone substratum, and shelly substratum phases reaction ranges up to moderately alkaline.

Myakka soils are poorly to very poorly drained. They have slow internal drainage and slow to ponded runoff. Permeability is rapid in the A and E horizons and moderate or moderately rapid in the Bh horizon. The water table is at depths of less than 18 inches for 1 to 4 months duration in most years and recedes to depths of more than 40 inches during very dry seasons. Depressional areas are covered with standing water for periods of 6 to 9 months or more in most years.

**PALMETTO FINE SAND** - The Palmetto series consists of deep, poorly drained, moderately slowly permeable soils that formed in unconsolidated marine sandy and loamy materials. They occur in sloughs, depressions, and poorly defined drainageways in the flatwoods in Peninsular Florida. Slopes are 0 to 2 percent.

Depth to the B'2tg is more than 40 inches. Reaction of the A and Bh horizons ranges from extremely acid to strongly acid and of the B2t, B3g, and Cg horizons very strongly acid or strongly acid.

Palmetto soils are poorly drained. Runoff is slow. Permeability is rapid in the A and Bh horizons and moderately slow in the Bt horizon. The water table is at depths less than 10 inches for 2 to 6 months in most years. Water may stand on the surface briefly after heavy rainfall in the rainy season. Depressions are ponded for 2 to 6 months or more in most years.

**PLACID FINE SAND** - The Placid series consists of very deep, very poorly drained, rapidly permeable soils on low flats, depressions, poorly defined drainageways on uplands, and flood plains on the Lower Coastal Plain. They formed in sandy marine sediments. Near the type location, the mean annual temperature is about 72 degrees F., and the mean annual precipitation is about 55 inches. Slopes range from 0 to 2 percent.

Thickness of the soil is more than 80 inches. Reaction ranges from extremely acid to strongly acid in the A or Ap horizon and from extremely acid to slightly acid in the underlying horizons.

Very poorly drained; rapid permeability but internal drainage is impeded by a very shallow water table.

**POMONA FINE SAND** - The Pomona series consists of very deep, poorly and very poorly drained, moderate to moderately slowly permeable soils on broad low ridges on the Lower Coastal Plain. They formed in sandy and loamy marine sediments. Near the type location, the mean annual temperature is about 72 degrees F., and the mean annual precipitation is about 55 inches. Slopes are 0 to 2 percent.

Solum thickness is 45 or more inches. Depth to argillic horizon ranges from 37 to 80 inches beneath the soil surface. Reaction soil ranges from extremely acid to moderately acid throughout except where the surface has been limed.

Poorly or very poorly drained; rapid to moderate permeability in the A and E horizons and moderately slow to moderate permeability in the Bt and Btg horizons.

**POMPANO FINE SAND** - The Pompano series consists of very deep, very poorly drained, rapidly permeable soils in depressions, drainageways, and broad flats. They formed in thick beds of marine sands. Near the type location, the mean annual temperature is about 73 degrees F., and the mean annual precipitation is about 50 inches. Slopes range from 0 to 2 percent.

Soil reaction ranges from very strongly acid through slightly alkaline throughout. The amount of silt plus clay ranges from about 1 to 10 percent in the 10- to 40-inch control section.

Very poorly drained; rapid or very rapid permeability, but internal drainage is impeded by a very shallow water table.

**RIVIERA FINE SAND** - The Riviera series consists of very deep, poorly drained, very slowly permeable soils on broad, low flats and in depressions in the Lower Coastal Plain. They formed in stratified sandy and loamy marine sediments on the Lower Coastal Plain. Near the type location, the mean annual temperature is about 75 degrees F., and the mean annual precipitation is about 62 inches. Slopes range from 0 to 2 percent.

Solum thickness ranges from 35 to 65 inches. Reaction ranges from very strongly acid to neutral in the A and E horizon, from slightly acid to moderately alkaline in the B/E, Btg, and BC horizons, and from neutral to moderately alkaline in the 2C horizon.

Poorly and very poorly drained; very slow permeability.

**SAMSULA MUCK** - The Samsula series consists of very deep, very poorly drained, rapidly permeable soils that formed in moderately thick beds of hydrophytic plant remains and are underlain by sandy marine sediments. These soils are in swamps, poorly defined drainageways and flood plains. Slopes are less than 2 percent.

Soil reaction of the organic material is less than 4.5 in 0.01M calcium chloride and ranges from 4.5 to 5.5 by the Hellige-Truog method. The mineral material is extremely acid through moderately acid.

Samsula soils are very poorly drained. Runoff is very slow to ponded. Permeability is rapid. The water table is at or above surface of the soil except during extended dry periods. In drained areas, a water control system regulates the water table according to plant needs.

**TAVARES FINE SAND** - The Tavares series consists of very deep, moderately well drained, rapidly or very rapidly permeable soils on lower slopes of hills and knolls of the lower Coastal Plain. They formed in sandy marine or eolian deposits. Near the type location, the mean annual temperature is about 72 degrees F., and the mean annual precipitation is about 55 inches. Slopes range from 0 to 8 percent.

Soil reaction ranges from extremely acid to moderately acid in the A horizon and extremely acid to slightly acid in the C horizon. The amount of silt plus clay totals 5 percent or less between depths of 10 and 40 inches. Bouldery and cemented phases are recognized.

Moderately well drained; rapid or very rapid permeability. Cemented substratum phases have slow permeability in the lower substratum.

**WINDER FINE SAND** - The Winder series consists of very deep, poorly drained, slowly to very slowly permeable soils on broad, low flats and depressional areas. They formed in loamy marine sediments on the Lower Coastal Plain. Near the type location, the mean annual temperature is about 73 degrees F., and the mean annual precipitation is about 55 inches. Slopes range from 0 to 2 percent.

Solum thickness ranges from 22 to 60 inches. Reaction ranges from moderately acid to moderately alkaline throughout. In some areas, pyrites are in the argillic horizon and when the soil is drained sulfates are released and the reaction decreases to extremely acid or ultra acid.

Poorly drained; slow to very slow permeability.

**ZOLFO FINE SAND** - The Zolfo series consists of very deep, somewhat poorly drained soils that formed in thick beds of sandy marine deposits. These soils are on low broad landscapes that are slightly higher than adjacent flatwoods on the lower Coastal Plain of Central Florida. Slopes range from 0 to 5 percent.

The solum is 80 inches or more thick. Reaction ranges from neutral to very strongly acid in the A and E horizon and slightly acid to extremely acid in the Bh horizons. Reaction above pH 6.0 is due to liming. Texture is sand or fine sand throughout.

Zolfo soils are somewhat poorly drained. Runoff is slow. Permeability is rapid in the A and E horizons and moderate in the Bh horizon. A water table is at a depth of 24 to 40 inches for 2 to 6 months during most years. It is at depths of 10 to 24 inches for periods of up to two weeks in some years. It is within depths of 60 inches for more than 9 months in most years.

**EXHIBIT E**

**FLORIDA NATURAL AREAS INVENTORY**

**REPORT FORM**

## FLORIDA NATURAL AREAS INVENTORY

### Field Report Form for Occurrences of Rare Plants, Animals, and Natural Communities

Report original field observations regarding a single species or community, at one location, and for (preferably) a single date. Use the back of the form or other sheets as necessary, and if you have any questions please call FNAI at 850-224-8207.

**Please send completed form to:** Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303

THANK YOU!

### REQUIRED DATA

Your name: Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Address: \_\_\_\_\_ Date Submitted: \_\_\_\_\_

Name of observer(s): \_\_\_\_\_

Date of observation (m/d/yyyy): \_\_\_\_\_

Scientific name: \_\_\_\_\_ Common name: \_\_\_\_\_

Basis for identification: Personal knowledge Reference key Field guide Museum specimen Expert Other method

Name of reference key/guide/museum/expert: \_\_\_\_\_ Other ID  
method \_\_\_\_\_

County: \_\_\_\_\_

Latitude \_\_\_\_\_ N Longitude \_\_\_\_\_ W (if unknown, please attach a map or detailed description of the location)

Quantity seen (number of individuals, nests, burrows, or clumps, etc., or area occupied)

FNAI will include the location of this occurrence in publicly available data products unless you specifically request that we do not. If you want to make this request, please provide your reason for regarding the data "sensitive" (e.g. species subject to collection)

### OPTIONAL DATA (all of the information below is optional – enter as time and data resources permit)

#### IDENTIFICATION

Photograph taken? Yes No (If possible, please attach a copy of the photo)

Specimen collected? Yes No Deposited at museum/herbarium? Yes No Repository \_\_\_\_\_ Collection # \_\_\_\_\_

Do you think your identification requires confirmation? Yes No

#### LOCATION

Site or place name (if known): \_\_\_\_\_

Precise directions to the occurrence that use a readily locatable and relatively permanent landmark on or near the site (such as a road intersection, bridge, or natural landform) as the starting point. Include distances and directions from landmarks, as appropriate. Please note – neither the directions

nor the coordinate information will be provided to the general public if the data are to be considered sensitive, as indicated above.

For latitude/longitude only: Datum: NAD27 WGS84/NAD83 Unknown

Source of latitude/longitude coordinates? GPS Other If other, describe \_\_\_\_\_

If GPS: Make \_\_\_\_\_ model \_\_\_\_\_ accuracy \_\_\_\_\_ m DGPS? Yes No Unknown WAAS? Yes No Unknown

If possible, mark the site on a copy of a DOQQ photograph or a USGS 7.5' topographic map and attach to this form. Otherwise, using the back side

of the form, please provide a sketch of the vicinity showing the occurrence in relation to towns, roads, landforms, water bodies, and other natural

features, including ecological communities. Please include also an indication of scale and a North arrow.

## OBSERVATION INFORMATION

Time of day \_\_\_\_\_ Estimate of total area observed \_\_\_\_\_ m<sup>2</sup> or \_\_\_\_\_ acres. Percent of this area actually occupied by the population or community: \_\_\_\_\_. Approximate dimensions of the area occupied: length \_\_\_\_\_ m width \_\_\_\_\_ m  
How did you collect the data? (e. g., visually observed from road, trap or capture methods, walking a path through community, formal survey, etc.)

---

Is there other suitable habitat (unobserved) in the vicinity? Yes No Don't know Extent? (e.g., acres, miles) \_\_\_\_\_  
Have you been to this location before? Yes No If so, when? \_\_\_\_\_  
Did you previously observe this species or community? Yes No Did not look for it If you have previously seen the population or community, do you think there is now more? less? about the same amount as before? or no way to compare .  
General description. Please provide a description or "word picture" of the area where this occurrence is located (i.e., the physical setting and ecological context), including habitat, dominant plant species, topography, hydrology, soils, adjacent communities, and surrounding land use.

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For animals: Estimated total no. of individuals in population: \_\_\_\_\_ Basis? \_\_\_\_\_ Age structure \_\_\_\_\_

Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]):

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For plants: Flowering? Yes No Fruiting? Yes No In bud? Yes No In leaf? Yes No Dormant? Yes No

For communities: For each of three strata (tree, shrub, and ground layers), please list the dominant species comprising the stratum, together with an estimate of the height and percent cover for each stratum. (use the back of this form or another sheet, if necessary, to list additional species)

Stratum height % cover Species

Tree

Shrub

Ground

Describe species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals).

---

---

## MANAGEMENT

Owner of site (if known): \_\_\_\_\_

Is the owner or manager protecting or managing the property for this species or community? Yes No Don't know

Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/drainage,

impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes No Don't know

If so, please describe type and severity:

---

Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes No Don't know Describe and give dates of recent fires, if known

---

Comments on management history or needs:

---

## OTHER

Additional comments concerning the population or community, its ecological conditions, contact information for other knowledgeable people, etc.:

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**EXHIBIT F**

**EXOTIC PEST COUNCIL LIST OF FLORIDA'S  
MOST INVASIVE SPECIES**

# Florida Exotic Pest Plant Council's 2009 List of Invasive Plant Species

**Purpose of the List:** *To focus attention on —*

- ▶ the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- ▶ the habitat losses from exotic pest plant infestations,
- ▶ the impacts on endangered species via habitat loss and alteration,
- ▶ the need to prevent habitat losses through pest-plant management,
- ▶ the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- ▶ changes in the seriousness of different pest plants over time,
- ▶ the need to provide information that helps managers set priorities for control programs.

## CATEGORY I

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

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	1	N	C, S
<i>Acacia auriculiformis</i>	earleaf acacia	1		C, S
<i>Albizia julibrissin</i>	mimosa, silk tree	1		N, C
<i>Albizia lebbek</i>	woman's tongue	1		C, S
<i>Ardisia crenata</i> ( <i>A. crenulata</i> misapplied)	coral ardisia	1		N, C, S
<i>Ardisia elliptica</i> ( <i>A. humilis</i> misapplied)	shoebutton ardisia	1	N	C, S
<i>Asparagus aethiopicus</i> ( <i>A. sprengeri</i> ; <i>A. densiflorus</i> misapplied)	asparagus-fern	1		N, C, S
<i>Bauhinia variegata</i>	orchid tree	1		C, S
<i>Bischofia javanica</i>	bishopwood	1		C, S
<i>Calophyllum antillanum</i> ( <i>C. calaba</i> and <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	1		S
<i>Casuarina equisetifolia</i>	Australian-pine, beach sheoak	1	P, N	N, C, S
<i>Casuarina glauca</i>	suckering Australian-pine, gray sheoak	1	P, N	C, S
<i>Cinnamomum camphora</i>	camphor tree	1		N, C, S
<i>Colocasia esculenta</i>	wild taro	1		N, C, S
<i>Colubrina asiatica</i>	lather leaf	1	N	S
<i>Cupaniopsis anacardioides</i>	carrotwood	1	N	C, S
<i>Dioscorea alata</i>	winged yam	1	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	1	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	1	P	N, C, S
<i>Eugenia uniflora</i>	Suninnam cherry	1		C, S
<i>Ficus microcarpa</i> ( <i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> misapplied) <sup>1</sup>	laurel fig	1		C, S
<i>Hydrilla verticillata</i>	hydrilla	1	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	1	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	1		C, S
<i>Imperata cylindrica</i> ( <i>I. brasiliensis</i> misapplied)	cogon grass	1	N, U	N, C, S
<i>Ipomoea aquatica</i>	water-spinach	1	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	1		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	1		C, S
<i>Lantana camara</i> (= <i>L. strigocamara</i> )	lantana, shrub verbena	1		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	1		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	1		N, C, S
<i>Lonicera japonica</i>	Japanese honeysuckle	1		N, C, S
<i>Ludwigia peruviana</i>	Peruvian primrosewillow	1		N, C, S
<i>Luziola subintegra</i>	Tropical American water grass	1		S
<i>Lygodium japonicum</i>	Japanese climbing fern	1	N	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	1	N	C, S

<sup>1</sup>Does not include *Ficus microcarpa* subsp. *fuyuensis*, which is sold as "Green Island Ficus"

## FLEPPC List Definitions:

**Exotic** – a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida.

**Native** – a species whose natural range includes Florida.

**Naturalized exotic** – an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native).

**Invasive exotic** – an exotic that not only has naturalized, but is expanding on its own in Florida native plant communities.

## Abbreviations:

Government List (Gov. List):

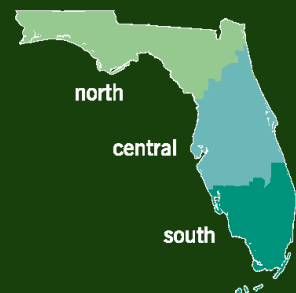
P = Prohibited aquatic plant by the Florida Department of Agriculture and Consumer Services;

N = Noxious weed listed by Florida Department of Agriculture & Consumer Services;

U = Noxious weed listed by U.S. Department of Agriculture.

Regional Distribution (Reg. Dist.):

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



## Changes to the 2009 List:

***Luziola subintegra***, added to list as Category I

*Luziola subintegra* (rice grass) was first discovered in Lake Okeechobee by Mike Bodle in 2007. This aquatic grass is spreading in the lake. It grows in water 2-3 m deep, spreads vegetatively and by seed, and aggressively outcompetes other native and exotic species. To date, 2,000 acres have been treated.

***Nymphoides cristata***, moved from Category II to Category I

Snowflake (*Nymphoides cristata*) is an Asian aquatic that became problematic in southwest Florida in the 1990s. It is now an abundant weed in canals and ponds in southwest Florida, and has spread throughout the peninsula where it has been documented in seven counties, from Collier to St. Johns. It has colonized the Big Cypress National Preserve where it is invading several strand swamps along Tamiami Trail, presumably introduced by fisherman using cast nets infested from waters outside of the preserve.

***Salvinia minima***, added to list as Category I

Water spangles (*Salvinia minima*), first found in Florida in 1928, remained a cryptic species during a period when opinions differed on its status as native or introduced in Florida. In 2001, a study of early herbarium voucher data revealed the introduction points and systematic spread of this free-floating fern into and throughout Florida. *S. minima* outcompetes more nutritive native duckweeds by overtopping their thinner fronds, which float flat upon the water surface.

***Scleria lacustris***, moved from Category II to Category I

Wright's nutrush (*Scleria lacustris*) is an annual tropical sedge that was first collected in Florida in 1988. In Florida, its distribution extends to more than 20 distinct natural areas in eight counties within four major drainage regions of the central and southern peninsula. Its unique growth habit obscures open water and drastically alters the naturally sparse and upright structure of preexisting native vegetation. Such domination may even displace native prey for the endangered Florida snail kite, a sight feeder inhabiting many locations where invasive colonization occurs.

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N, C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Melinis repens</i> (= <i>Rhynchelytrum repens</i> )	Natal grass	I		N, C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N, C, S
<i>Nephrolepis brownii</i> (= <i>N. multiflora</i> )	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Nymphoides cristata</i>	snowflake	I		C, S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N, C, S
<i>Panicum repens</i>	torpedo grass	I		N, C, S
<i>Pennisetum purpureum</i>	Napier grass	I		N, C, S
<i>Pistia stratiotes</i>	water-lettuce	I	P	N, C, S
<i>Psidium cattleianum</i> (= <i>P. littorale</i> )	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (= <i>P. lobata</i> )	kudzu	I	N	N, C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhynchelytrum repens</i> (See <i>Melinis repens</i> )				
<i>Ruellia brittoniana</i> <sup>2</sup> ( <i>R. tweediana</i> misapplied)	Mexican petunia	I		N, C, S
<i>Salvinia minima</i>	water spangles	I		N, C, S
<i>Sapium sebiferum</i> (= <i>Triadica sebifera</i> )	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i> )	scaevola, half-flower, beach naupaka	I	N	C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i> )	schefflera, Queensland umbrella tree	I		C, S
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Scleria lacustris</i>	Wright's nutrush	I		C, S
<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i> )	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i> )	wetland nightshade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		N, C, S
<i>Syzygium cumini</i>	jambolan plum, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	small-leaf spiderwort	I		N, C
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i> )	Para grass	I		C, S

## CATEGORY II

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

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Adenanthera pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites fordii</i> (= <i>Vernicia fordii</i> )	tung oil tree	II		N, C
<i>Alstonia macrophylla</i>	devil tree	II		S
<i>Alternanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	II		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C, S
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S

<sup>2</sup>The Plant List Committee is uncertain as to the correct name for this species. Plants cultivated in Florida, all representing the same invasive species, have in the past been referred to as *Ruellia brittoniana*, *R. tweediana*, *R. caerulea*, and *R. simplex*.

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Begonia cucullata</i>	wax begonia	II		N, C, S
<i>Blechnum pyramdatum</i>	green shrimp plant, Browne's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C, S
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Callistemon viminalis</i>	bottlebrush, weeping bottlebrush	II		S
<i>Casuarina cunninghamiana</i>	river sheoak, Australian-pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> ( <i>C. alternifolius</i> misapplied)	umbrella plant	II		C, S
<i>Cyperus proflifer</i>	dwarf papyrus	II		C, S
<i>Dactyloctenium aegyptium</i>	Durban crowfootgrass	II		N, C, S
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus umbellata</i>	silverberry, autumn olive	II		N
<i>Elaeagnus pungens</i>	silverthorn, thorny olive	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S
<i>Ficus altissima</i>	false banyan, council tree	II		S
<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i> (See <i>Talipariti tiliaceum</i> )				
<i>Hyparrhenia rufa</i>	jaragua	II		N, C, S
<i>Ipomoea carnea</i> ssp. <i>fistulosa</i> (= <i>I. fistulosa</i> )	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koeleruteria elegans</i> ssp. <i>formosana</i> (= <i>K. formosana</i> ; <i>K. paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II	N	N, C, S
<i>Landoltia punctata</i> (= <i>Spirodela punctata</i> )	Spotted duckweed	II		N, C, S
<i>Linnophila sessiliflora</i>	Asian marshweed	II	P, U	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	China berry	II		N, C, S
<i>Melinis minutiflora</i>	Molassesgrass	II		C, S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Panicum maximum</i> (= <i>Urochloa maxima</i> , <i>Megathyrsus maximus</i> )	Guinea grass	II		N, C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitaire palm	II		S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i> )				
<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Rotala rotundifolia</i>	roundleaf toothcup, dwarf Rotala	II		S
<i>Sansevieria hyacinthoides</i>	bowstring hemp	II		C, S
<i>Sesbania punicea</i>	purple sesban, rattlebox	II		N, C, S
<i>Solanum diphyllum</i>	two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamaica nightshade	II		C
<i>Solanum torrum</i>	susumber, turkey berry	II	N, U	N, C, S

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***Callistemon viminalis***, added to list as Category II

Bottlebrush (*Callistemon viminalis*), a popular landscape tree, is now invading undisturbed short hydroperiod wetland communities in Miami-Dade, Collier, and Martin Counties, including those in Big Cypress National Preserve and Everglades National Park.

***Dactyloctenium aegyptium***, added to list as Category II

Durban crowfootgrass (*Dactyloctenium aegyptium*) is an annual grass that is a widely distributed weed throughout the southeastern US. In Florida, this species has been documented in 54 counties. While it is primarily a weed of disturbed areas, it also invades beach dune communities in southern Florida, including those located within Everglades and Dry Tortugas National Parks. Dense growth of this species interferes with ground nesting birds in Dry Tortugas and competes with state and federally listed plant species on the mainland.

***Elaeagnus umbellata***, added to list as Category II

Autumn-olive (*Elaeagnus umbellata*) is an aggressive shrub capable of replacing entire native ecosystems, which it has done in numerous locations in other states. There are three known native locations in the eastern Florida panhandle; two are local escapes from cultivation. The third is a mixture of mature upland sand hill and pine communities where a wildlife planting has escaped. The entire 2,081 acre site is infested. The infestation ranges from 100% (12.5 acres), to 50% (49.9 acres), to 25% (38.3 acres), to 10% or less (1,683.4 acres).

***Hyparrhenia rufa***, added to list as Category II

Jaragua (*Hyparrhenia rufa*) is an annual grass that is known from 14 Florida counties. In Miami-Dade County it has been found in intact habitat in at least 12 pine rockland fragments, outcompeting native plant species.

***Landoltia punctata***, added to list as Category II

Spotted duckweed (*Landoltia punctata*) is a small floating aquatic plant that is native to Australia and Southeast Asia. Since it was first found in Missouri in the 1930s, it has spread to 22 states and been documented in 36 Florida counties. It invades a wide range of undisturbed aquatic habitats and outcompetes native species.

***Syzygium jambos***, formerly Category II, removed from List

The Committee has not been able to locate data showing this species behaves as a Category II invasive.

## Use of the FLEPPC List

FLEPPC encourages use of the Invasive Species List for prioritizing and implementing management efforts in natural areas, for educating lay audiences about environmental issues, and for supporting voluntary invasive plant removal programs. When a non-native plant species is to be restricted in some way by law, FLEPPC encourages use of the List as a first step in identifying species worth considering for particular types of restriction. For more information on using the FLEPPC List of Invasive Plant Species, see *Wildland Weeds* Summer 2002 issue (Vol. 5, No. 3), pp. 16-17, or <http://www.fleppc.org/list/list.htm>

**NOTE:** Not all exotic plants brought into Florida become pest plants in natural areas. The FLEPPC List of Invasive Plant Species represents only about 10% of the nearly 1,400 exotic species that have been introduced into Florida and have subsequently established outside of cultivation. Most escaped exotics usually present only minor problems in highly disturbed areas (such as roadsides). And there are other exotics cultivated in Florida that are "well-behaved" — that is, they don't escape cultivation at all.



[www.fleppc.org](http://www.fleppc.org)

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Sphagneticola trilobata</i> (= <i>Wedelia trilobata</i> )	wedelia	II		N, C, S
<i>Stachytarpheta cayennensis</i> (= <i>S. urticifolia</i> )	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastrum romanzoffianum</i> )	queen palm	II		C, S
<i>Talipariti tiliaceum</i> (= <i>Hibiscus tiliaceus</i> )	mahoe, sea hibiscus	II		C, S
<i>Terminalia catappa</i>	tropical-almond	II		C, S
<i>Terminalia muelleri</i>	Australian-almond	II		C, S
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i> )	oyster plant	II		S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear	II		N, C, S

### Citation example:

FLEPPC. 2009. List of Invasive Plant Species. Florida Exotic Pest Plant Council. Internet: <http://www.fleppc.org/list/list.htm> or *Wildland Weeds* Vol. 12(4): 13-16. Fall 2009.

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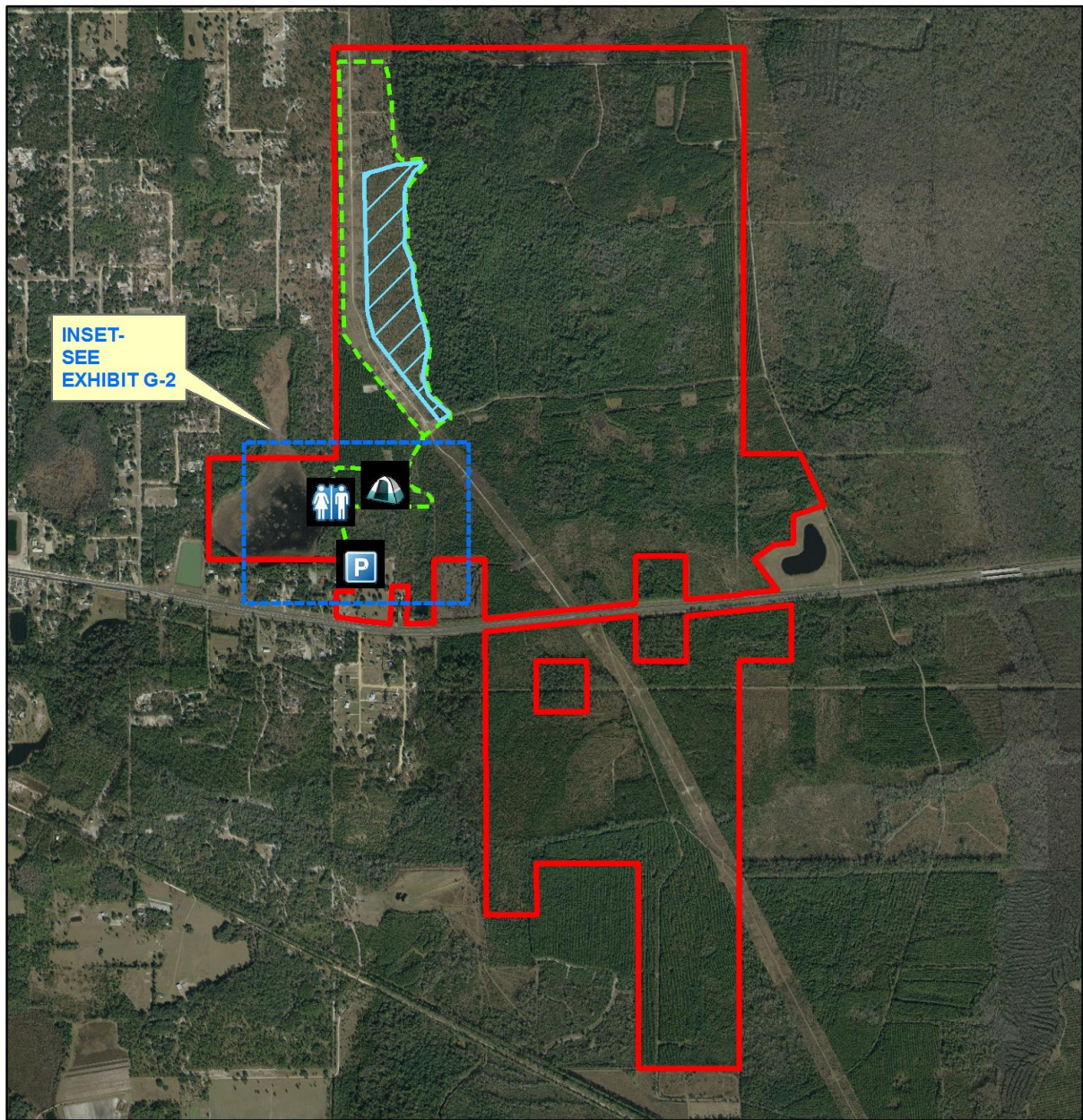
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**FLEPPC Database** – The Florida Exotic Pest Plant Database contains over 75,000 sight records of infestations of FLEPPC Category I and Category II species in Florida public lands and waters. 211 species are recorded. Nearly all of the records are from local, state, and federal parks and preserves; a few records document infestations in regularly disturbed public lands such as highways or utility rights-of-way. Natural area managers and other veteran observers of Florida's natural landscapes submit these records, with many supported further by voucher specimens housed in local or regional herbaria for future reference and verification. New and updated observations can be submitted online at [www.eddmaps.org/florida/](http://www.eddmaps.org/florida/). This database, along with other plant-data resources such as the University of South Florida Atlas of Florida Vascular Plants at [www.plantatlas.usf.edu](http://www.plantatlas.usf.edu), the Florida Natural Areas Inventory database at [www.fnaai.org](http://www.fnaai.org), and The Institute for Regional Conservation Floristic Inventory of South Florida database at [www.regionalconservation.org](http://www.regionalconservation.org), provides important basic supporting information for the FLEPPC List of Invasive Plant Species.

**Images and/or distributional data of FLEPPC-listed species** may be found at one or more of the following websites: University of South Florida Atlas of Florida Vascular Plants, [www.plantatlas.usf.edu](http://www.plantatlas.usf.edu); the University of Florida Herbarium collection catalog, <http://www.flinnh.ufl.edu/herbarium/cat/>, and image gallery, <http://www.flinnh.ufl.edu/herbarium/cat/imagesearch.asp>; at Fairchild Tropical Botanic Garden's Virtual Herbarium, [www.virtualherbarium.org/vhportal.html](http://www.virtualherbarium.org/vhportal.html), The Robert K. Godfrey Herbarium at Florida State University, <http://herbarium.bio.fsu.edu/index.php>; the University of Florida's IFAS Center for Aquatic and Invasive Plants, <http://plants.ifas.ufl.edu>, and the USDA PLANTS database, <http://plants.usda.gov/>. Please note that greater success and accuracy in searching for plant images is likely if you search by scientific name rather than a common name. Common names often vary in cultivation and across regions. For additional information on plants included in this list, see related links and pages at [www.fleppc.org](http://www.fleppc.org).






**EXHIBIT G**  
**MASTER SITE PLAN**

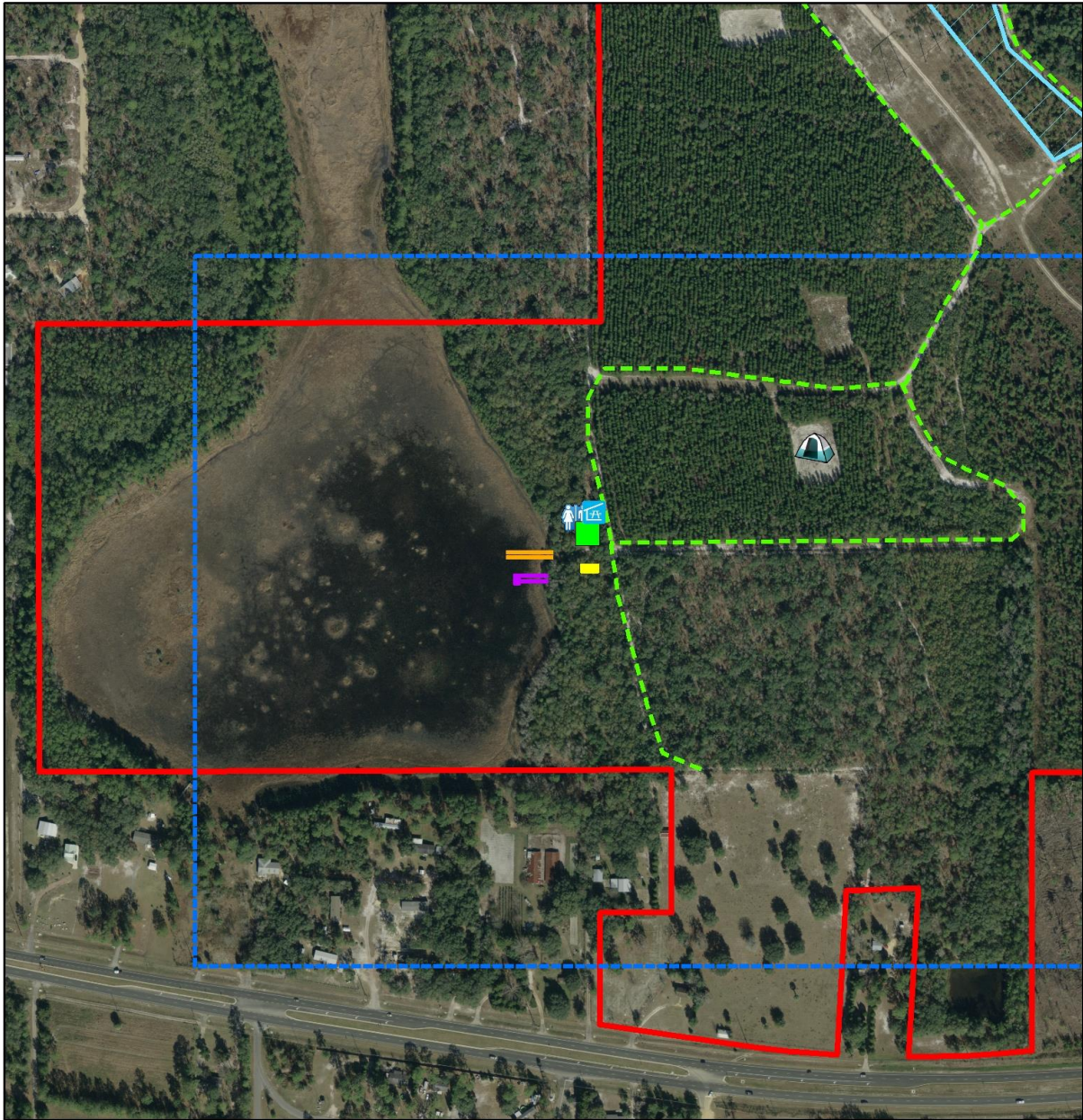


**EXHIBIT G-1  
MASTER SITE PLAN  
NINE MILE SWAMP  
FCT PROJECT**

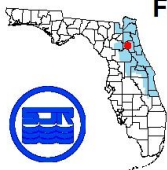
0 500 1,000 2,000 Feet  
1:22000



-  NINE MILE SWAMP
-  PROPOSED HIKING TRAIL
-  PROPOSED PRIMITIVE CAMPSITE
-  PROPOSED RESTROOM
-  PROPOSED LANDSCAPE AREA



**EXHIBIT G-2  
MASTER SITE PLAN  
NINE MILE SWAMP  
FCT PROJECT**

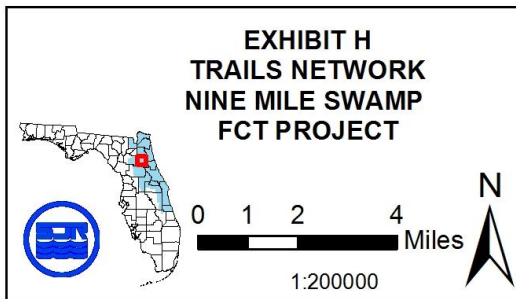
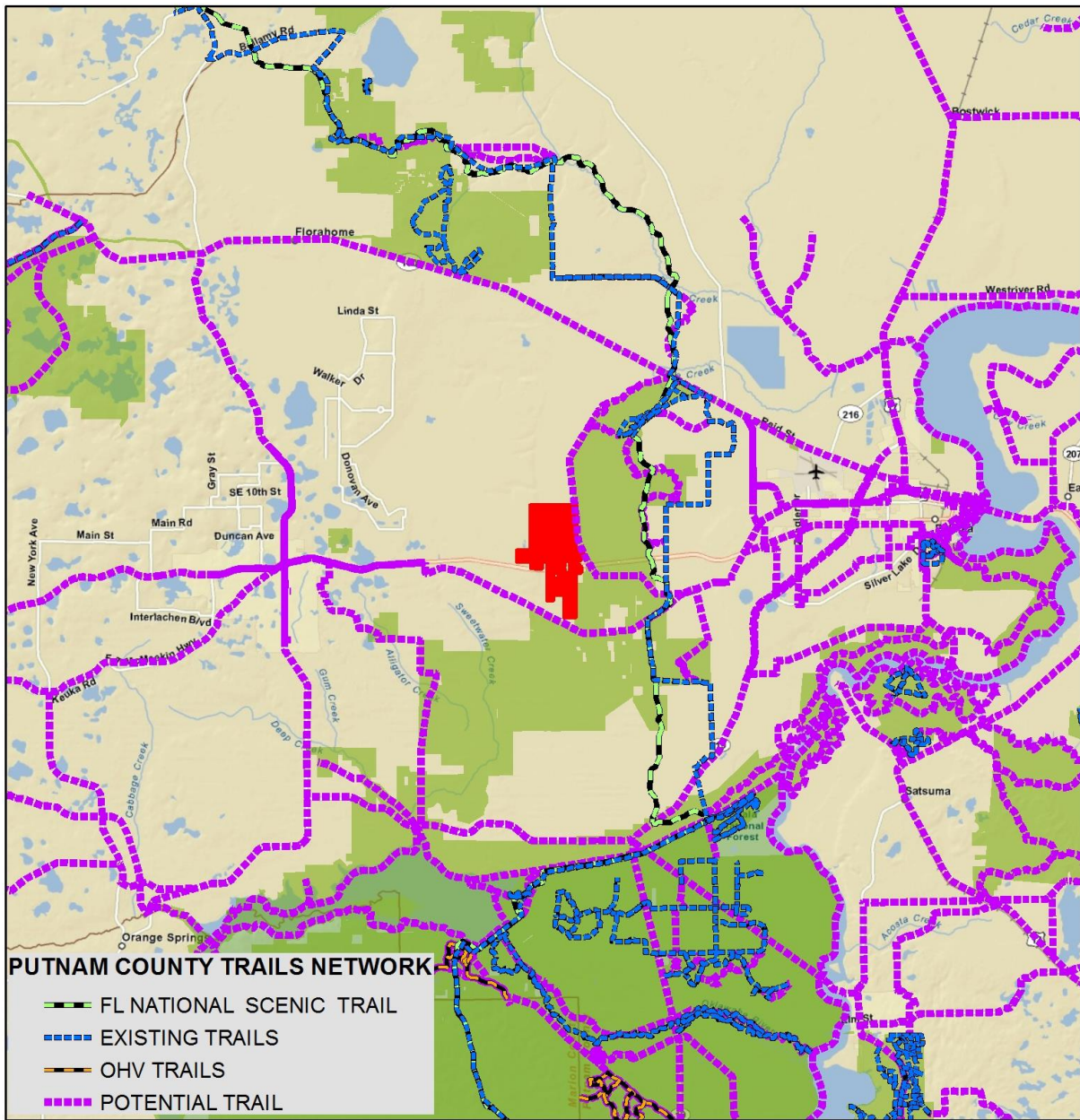


0 100 200 400 Feet  
1:5000



- |                             |                             |
|-----------------------------|-----------------------------|
| NINE MILE SWAMP             | FISHING PIER/ OBS. PLATFORM |
| PROPOSED HIKING TRAIL       | CANOE/KAYAK LAUNCH          |
| PROPOSED PRIMITIVE CAMPSITE | PAVILION                    |
| PROPOSED RESTROOM           | KIOSK                       |
| PROPOSED LANDSCAPE AREA     | VOLLEYBALL COURT            |
| INSET FROM EXHIBIT G-1      |                             |

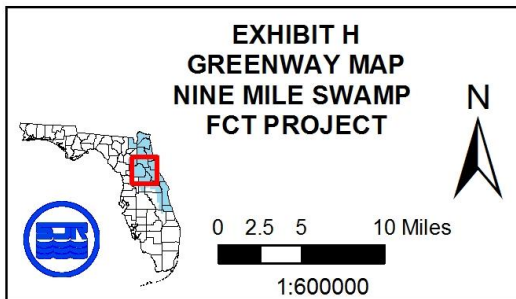
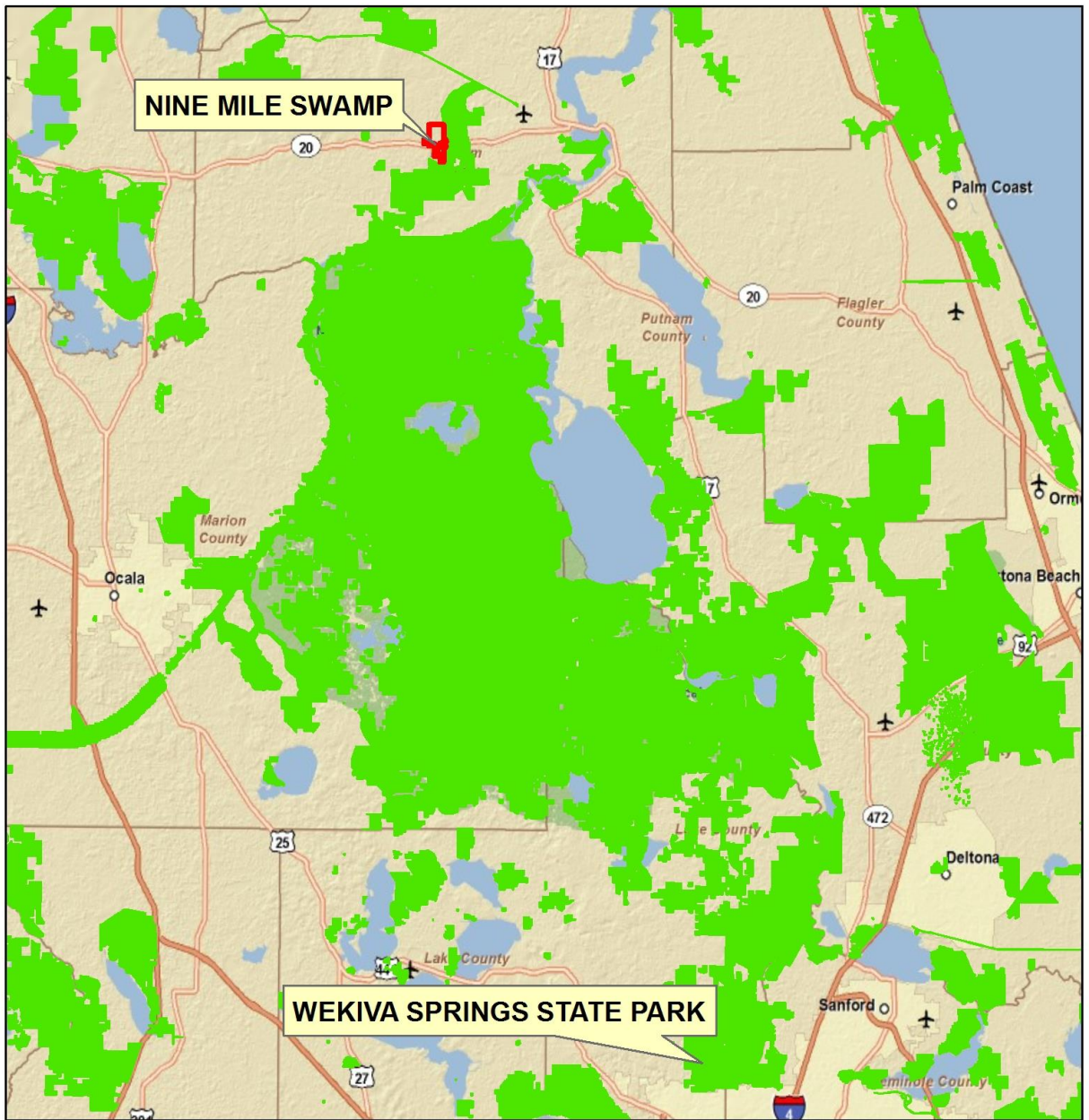
**EXHIBIT H**  
**TRAILS NETWORK MAP**



 **NINE MILE SWAMP**

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.

**EXHIBIT I**  
**GREENWAY MAP**



**NINE MILE SWAMP**

**FNAI PUBLIC LANDS**

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.

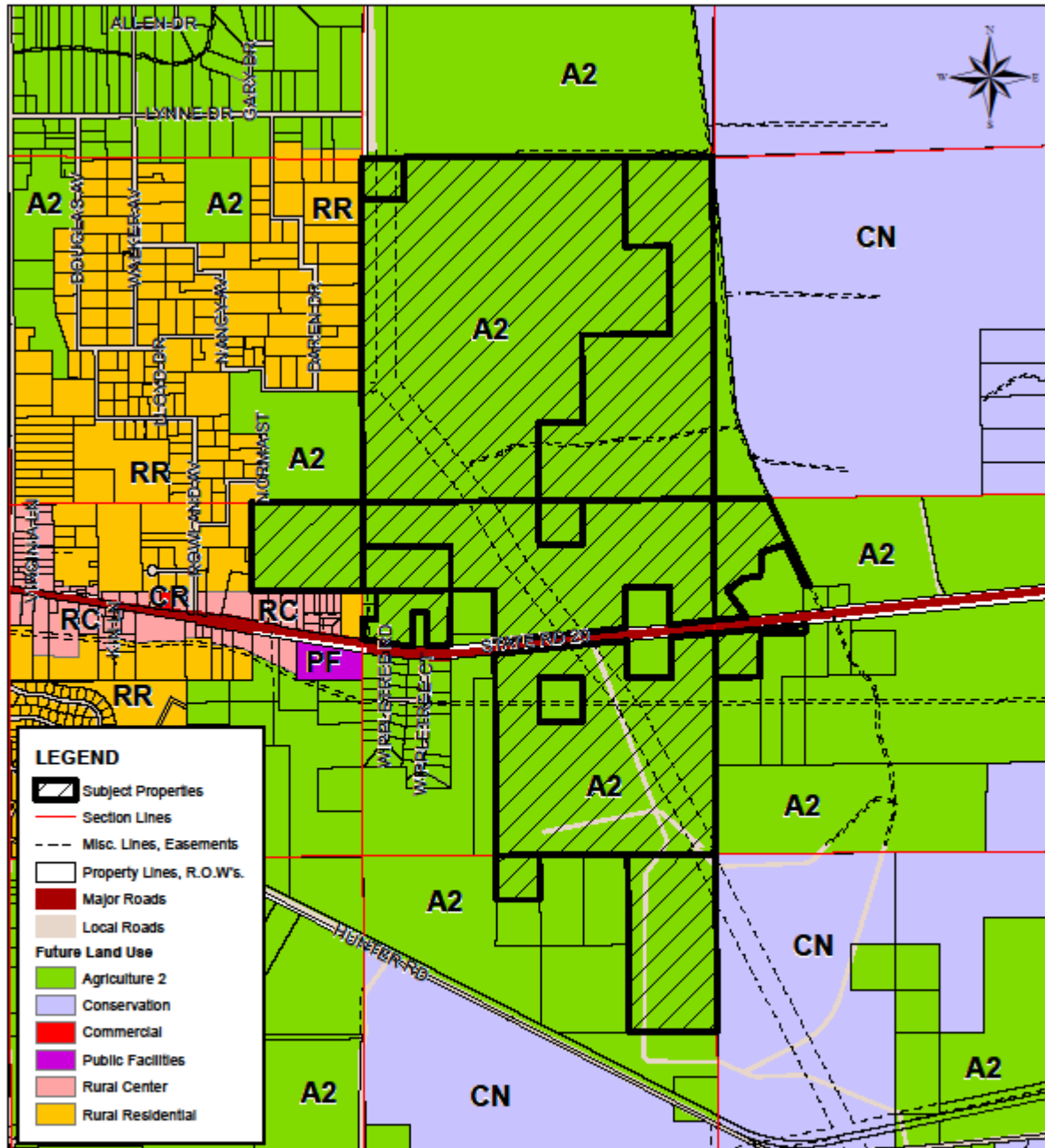
**EXHIBIT J**

**DECLARATION OF RESTRICTIVE COVENANTS**



**EXHIBIT K**  
**FUTURE LAND USE MAP**

## FUTURE LAND USE MAP



2,500                      0                      2,500

Feet

Prepared by: EPE	Created by: LDH	Approved by:
Date: 3/15/2011	Date: 3/15/2011	Date:
Name: PUTNAM CO. PROPERTY APPRAISER, PLANNING & DEVELOPMENT		
Revision:		
Revision:		
Revision:		

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PUTNAM COUNTY

**Parcel(s): Multiple Parcels**

Prepared By  
PLANNING & DEVELOPMENT SERVICES  
PUTNAM COUNTY, FLORIDA  
2011