Neighborhood Lakes Land Management Plan

APPROVED BY THE PUBLIC LAND ACQUISITION ADVISORY COUNCIL ON MARCH 3, 2010

APPROVED BY THE LAKE COUNTY BOARD OF COUNTY COMMISSIONERS ON JULY 6, 2010

APPROVED BY THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT GOVERNING BOARD ON SEPTEMBER 14, 2010



Neighborhood Lakes Management Plan

I. INTRODUCTION

A. Project Name – Neighborhood Lakes, official name to be determined.

B. Project Location

Located to the southeast of Lake County owned Mount Plymouth Lakes and south of State Road 46 is the Neighborhood Lakes property. The property is within the Wekiva River Protection Area. Neighborhood Lakes is an addition to the Wekiva-Ocala Greenway conservation corridor. The property lies within Section 33; Township 19 South; Range 28 East.

The Lake County and St. Johns River Water Management District (SJRWMD) owned portion of Neighborhood Lakes is directly accessible from the south end of Fenimore Street. Access can also be gained through any of the adjoining Neighborhood Lakes parcels.

C. Description

Neighborhood Lakes is a 1,584 acre property that lies within both Lake and Orange Counties. It fills a large gap in the Wekiva-Ocala Greenway which is a corridor for wildlife to travel between the Wekiwa Springs area and Ocala National Forest. Lands within this corridor provide habitat for rare species such as the Florida black bear *(Ursus americanus floridanus)*, swallow-tailed kite (*Elanoides forficatus*), bald eagle (*Haliaeetus leucocephalus*), Florida scrub-jay (*Aphelocoma coerulescens*), eastern indigo snake (*Drymarchon corais couperi*), gopher tortoise (*Gopherus polyphemus*), and many other species. The Wekiva-Ocala Greenway also protects valuable spring and groundwater recharge areas within the Wekiva River Basin. The Neighborhood Lakes property consists of pasture/former orange grove, lake bottoms and freshwater marshes, and is interspersed with hydric pine flatwoods and mixed hardwood and conifer forested areas.

The entire Neighborhood Lakes property was a joint acquisition between Lake County, Orange County, Florida Department of Environmental Protection (DEP), SJRWMD, and the Orlando-Orange County Expressway Authority.

Approximately 210 acres to the northwest of the Orange/Lake County Line is under the ownership of Lake County and SJRWMD. Lake County Public Lands Management Section will be managing this parcel. The rest of the Neighborhood Lakes property will be managed by the Florida Park Service as a part of Rock Springs Run State Reserve. Approximately 298 acres of Neighborhood Lakes in Lake County will be used to build a

portion of the 27-mile Wekiva Parkway. The Parkway will serve as a beltway around northwest Orlando.

D. Adjacent Land Uses

The Lake County portion of Neighborhood Lakes is surrounded by single-family residences on the north and west sides. To the south is Orange County's portion of Neighborhood Lakes which will be used for conservation. To the east and northeast is the State of Florida's portion of Neighborhood Lakes which will be managed as part of Rock Springs Run State Reserve. To the east and abutting the southeast corner of the Lake County Neighborhood Lakes parcel is the current proposed alignment of the Wekiva Parkway. A paved multi-use trail along the west side of the parkway is also proposed.

Other conservation lands close to the property include Seminole State Forest, Rock Springs Run State Reserve, and Wekiwa Springs State Park. (Exhibit B)

E. Funding

Neighborhood Lakes was a multi-agency acquisition with DEP, SJRWMD, Orlando-Orange County Expressway Authority and Lake and Orange Counties. The funding source for Lake County's contribution to acquire Neighborhood Lakes and other properties came via a voter-approved referendum. This referendum was passed in 2004 by a greater than 70% approval. The funds are limited to the acquisition and improvement of environmentally-sensitive lands.





II. PURPOSE OF ACQUISITION

A. Purpose

The purpose of this acquisition is to restore, preserve and maintain uplands and wetlands within the Wekiva River Basin. It is also to allow for appropriate passive recreation for the general public.

B. Prioritized Management Goals

Prioritized Management Goals for Neighborhood Lakes:

- 1. Protect the natural resources on site.
- 2. Control invasive exotic vegetation.
- 3. Improve the quality of the existing natural communities found on site.
- 4. Provide a relocation site for gopher tortoises.
- 5. Restore pastures and abandoned groves to a natural community.
- 6. Provide for passive recreational opportunities for the public which are compatible with other management goals.
- 7. Provide educational opportunities to the public.
- 8. Remove human alterations/structures.

C. Comprehensive Plan Directives

Proposed management activities further a number of Lake County Comprehensive Plan directives. Some of these are as follows:

"OBJECTIVE 7-6: <u>CONSERVE NATURAL UPLAND COMMUNITIES 9J-</u> <u>5.013(2)(b)(3)</u>. To Preserve Sufficient Natural Upland Habitat of Each Community Type throughout the County to Maintain Viable Populations of All Native Plant and Animal Species."

"OBJECTIVE 7-7: <u>CONSERVE WILDLIFE POPULATIONS AND HABITATS 9J-5.013(2)(b)(4)</u>. Lake County Shall Conserve, Appropriately Use, and Protect Fisheries, Wildlife, Wildlife Habitat and the Freshwater Habitat Resources of the County."

"OBJECTIVE 7-8: <u>CRITICAL HABITAT AND DESIGNATED SPECIES</u> <u>PRESERVATION 9J-5.013(2)(c)(5)</u>. It is the Objective of Lake County to Maintain Critical Habitat and/or Designated Species Populations During the Five and Fifteen Year Planning Time Frames. Mitigation and/or Management of Species, Including Relocations, Shall be Consistent with All Applicable Regulations and Recommendations of the FGFWFC or Other Appropriate State or Federal Agencies." "Policy 7-8.1: <u>Preservation/Acquisition of Rare or Endangered Ecosystems 9J-5.013(2)(c)(9)</u>. Land use planning, development approvals and assignments of priorities for environmental preservation/acquisition and protection programs shall require consideration of the FNAI status of rare or endangered ecosystems."

"OBJECTIVE 7-2: <u>PROTECT AND CONSERVE GROUNDWATER QUANTITY</u> <u>AND QUALITY 9J-5.013(2)(b)(2).</u> In Coordination with Federal, State, Regional and Local Governments, Conserve, Protect and Restore the County's Groundwaters by Significantly Reducing the Levels of Pollutant Intrusion, Restoring Damaged Natural Functions, and Avoiding Excessive Drawdowns of Groundwater Levels through Wise Use of this Resource throughout the Five Year and Fifteen Year Planning Time Frames."

"OBJECTIVE 7-4: <u>PROTECT FLOODPLAINS AND FLOODWAYS 9J-</u> <u>5.013(2)(c)(6)</u>. Lake County Shall Protect the 100 Year Floodplain So That its Natural Functions are Protected and Maintained."

"OBJECTIVE 7-5: <u>PROTECT AND PRESERVE WETLAND VALUES AND</u> <u>FUNCTIONS 9J-5.013(2)(b)(3), (4)</u>. There Shall Be No Net Loss of Wetlands Whether By Functional Value or Extent Within Lake County. The Wetlands of Lake County Shall be Conserved and Protected to Ensure That the Natural Structure and Functional Values are maintained."

"Policy 1-20.14: <u>Consideration of Environmental Factors.</u> Full consideration shall be given to environmental factors within Lake County as they pertain to land use.

A. The County shall work towards establishing and maintaining the natural state of the Wekiva River System and the Wekiva River Protection Area."

"Policy 1-21.7: <u>Preservation of Natural Habitats within the Wekiva River</u> <u>Protection Area.</u> Preserve natural habitats essential to any animals or plants designated pursuant to Chapter 39, Sections 39-27.003, 39-27.004, and 39-27.005, Florida Administrative Code, and Section 581.185(5)(a) and (b), Florida Statutes, particularly as they apply to the Wekiva River Protection Area. The preservation of such habitat shall ensure sufficient habitat exists for feeding, nesting, roosting, resting, traveling and migration, so as to maintain viable populations of those species listed."

"Policy 1-21.9: <u>Protection of Aquatic and Wetland-dependent Wildlife Species</u> <u>Associated with the Wekiva River System.</u> Aquatic and wetland-dependent wildlife species associated with the Wekiva River System shall be protected through the protection of wetlands, associated habitat and aquatic systems."

D. Future Land Use

Lake County is in the process of updating its Comprehensive Plan. This property and others determined to have environmental value will be assigned "conservation" – type future land use.

E. Zoning

Neighborhood Lakes is currently zoned as Rural Residential. The property will be rezoned to Community Facilities District which is the zoning designation applicable to conservation lands.

III. NATURAL AND CULTURAL RESOURCES

A. Soils

Exhibit C details the soils found at Neighborhood Lakes. The soils will be helpful in establishing what community types existed on the site and will help guide the management of the property.

Soil Name & Symbol	Soil Description	Seasonal High Water Table Depth (inches)	Historic Vegetation	Hydric Status
Candler Sand (8,9) 0-5% slope 5-12% slope	Very deep, excessively drained, rapidly permeable soils on uplands.	>80	Bluejack oak, turkey oak, post oak, live oak, and longleaf pine with a sparse understory of indiangrass, chalky bluestem, pineland threeawn, hairy panicum, and other annual forbs.	Non- Hydric
Oklawaha (32)	Deep, very poorly drained soils that formed in herbaceous organic material and loamy and clayey mineral material. These soils are on floodplain, freshwater marshes, and depressions.	0	Sawgrass, lilies, sedges, cypress, bay, maple, and blackgum.	Hydric
Placid Sand, Depressional (38) Placid and Myakka Sands, Depressional (40)	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.	0-6	Pond pine, bay, cypress, gum, pickerel weed, and coarse grasses.	Hydric
Seffner Sand (39)	Somewhat poorly drained, very deep, rapidly permeable soils. Slopes range from 0-2%.	6-18	Longleaf pine, laurel oak, and water oak with an understory of saw palmetto, pineland three awn, indiangrass, bluestem grasses, and several low panicums.	Non- Hydric
Tavares Sand (45) 0-5% slope	Very deep, moderately well drained, rapidly or very rapidly permeable soils on lower slopes of hills and knolls of the lower Coastal Plain.	42-60	Slash pine, longleaf pine, a few scattered blackjack oak, turkey oak, and post oak with an undercover of pineland threeawn. In some places natural vegetation consists of turkey oak, blackjack oak, and post oak with scattered slash pine and longleaf pine.	Non- Hydric

Soil Types and Descriptions for Neighborhood Lakes, Lake County, Florida



B. Natural Communities

Mixed Hardwoods (438)

This category is defined by a mix of different species of hardwood trees. Species in these areas include laurel oak, live oak, wax myrtle, and beauty berry.

Lakes (520)

This classification is used for extensive inland water bodies.

Mixed Wetland Hardwoods (617)

This community type is composed of a variety of hardwood species tolerant of hydric conditions.

Vegetated Non-Forested Wetlands (640)

This category includes marshes and seasonably flooded basins and meadows.

Freshwater Marsh (641)

These marshes have succeeded from large open water lakes. The marshes seasonally flood and are dominated by persistent herbaceous, non-woody vegetation.

Emergent Freshwater Vegetation (644)

This category is for wetland plant species and includes both floating vegetation and vegetation that is either partially or completely above the water surface.

Rural Land in Transition (741)

A large portion of the Neighborhood Lakes property is old citrus grove that was converted to pasture. The dominant groundcover in these areas is Bahia grass. These open areas that no longer have disturbance by cattle are currently host to burrowing owls, gopher tortoises, and sandhill cranes (*Grus canadensis pratensis*).



C. Invasive Exotics

Management goals include removing invasive species in a timely manner to avoid any deleterious effects that invasives may have on the natural ecosystems. The most current Florida Exotic Pest Plant Council's (FLEPPC) List of Invasive Plant Species (copy located in Appendix) will be used as a reference to identify invasive exotic plants on the site.

Management techniques will include mechanical and chemical treatments. Typical mechanical treatments include mowing, bush-hogging, cutting of trees with chainsaw and hand-removal. The predominant chemical treatment will be herbicides to aid in exotic control. Fire may be implemented in some areas to reduce invasive biomass.

Invasive Removal Timeline

Invasives will be removed during restoration phases or as part of invasive work days held throughout the year. The sequence of removal will be dictated by the Category (I or II as published in the most current Florida Exotic Pest Plant Council's Invasive Plant List) and by the severity of the infestation. Category I plants will take precedence in the invasive management process.

Genus	Species	Common Name	FLEPPC Category				
Albizia	julibrissin	mimosa	I				
Cinnamomum	camphora	camphor tree	I				
Imperata	cylindrica	cogon grass	I				
Koelreuteria	elegans	flamegold tree	II				
Lantana	camara	lantana	Ι				
Melia	azedarach	Chinaberry tree	II				
Paspalum	notatum	Bahia grass	N/A				
Sapium	sebiferum	Chinese tallow	I				
Solanum	viarum	tropical soda apple	I				
Urena	lobata	Caesar's weed	II				
Xanthosoma	Sagittifolium	Elephant ear	II				

Invasive Exotic Plant List for Neighborhood Lakes

D. Restoration

The most significant transformations in the landscape have been the hydrological changes. Based on the historical aerials (Exhibit E) most of the property consisted of open lakes (as implied by the name, "Neighborhood Lakes"). Water levels have since dropped leaving dry lake bottoms in some areas and a seasonally fluctuating marsh in others.

There are approximately 79 acres of uplands that have been converted to citrus grove and then cattle pasture. Based on the soils types (Tavares and Candler Sands) and current vegetation, it is presumed that these areas were sandhills.

While the lake levels may not return, the upland portions of the properties can be restored to sandhills. It is proposed to utilize the upper 42 acres of Neighborhood Lakes as a gopher tortoise recipient site if feasible. A gopher tortoise recipient site would be compatible with goals of restoring the land to a sandhill community.

Restoring approximately 79 acres of the land to sandhills will be challenging as there are many invasive exotic plants as well as the dominant bahia grass groundcover to eradicate. The restoration will need to include the plantings of native sandhill trees and forbs. The plantings should include widely spaced pine trees [e.g. longleaf pine (*Pinus palustris*)] with an understory of deciduous oaks [e.g. turkey oak (*Quercus laevis*) and bluejack oak (*Quercus incana*)] and a somewhat dense groundcover of grasses and herbs such as wiregrass (*Aristida stricta*), pineland threeawn (*Aristida beyrichiana*), lopsided indiangrass (*Sorghastrum secundum*), and chalky bluestem (*Andropogon capillipes*).

E. Prescribed Burn Plan

Prescribed burning will be integral to proper management of the property.

In sandhills, burning reduces hardwood competition and helps to promote growth of pines and grasses. Burning intervals are usually 2-5 years in sandhill communities.

In basin marshes the burn interval is 1-10 years. In order to reduce an invasion of shrubs and hardwoods and maintain a healthy herbaceous layer, fire should be introduced. Prescribed burns during extended drought periods will be avoided if conditions are likely to cause smoke management problems on the roads and in the surrounding neighborhood.

Burn timeframes will be based on how much growth there has been and overall condition of the community.





F. Photo-monitoring

The condition of natural areas and success of management and restoration activities will be tracked using photo-monitoring of the site. Representative sections of all the natural areas will be photographed on a regular basis to provide a visual record of changes to the site over time.

G. Feral Animal Program

Feral pigs (*Sus scrofa*) have been observed in Neighborhood Lakes. The site will be monitored for increased activity and ecological damage. Measures to decrease feral pig populations, such as trapping and either removing or euthanizing, will be employed if there is an elevated risk of significant ecological damage.

Other non-native animals that may be found on the site include the nine-banded armadillo (*Dasypus novemcinctus*), brown anole (*Anolis sagrei*), and Cuban tree frog (*Osteopilus septentrionalis*).

H. Listed Plant Species

No listed plant species have been observed to date. However, according to the Florida Natural Areas Inventory Report there is potential to find numerous listed plant species (see FNAI Report located in Appendix). A thorough biological survey will be conducted as the initial step to executing this management plan.

I. Listed Animal Species

There are listed animal species known to frequent the property including Florida black bear, Florida pine snake (*Pituophis melanoleucus mugitus*), Florida sandhill crane, and gopher tortoise. The adjoining parcels of Neighborhood Lakes have occurrences of Florida burrowing owl (*Athene cunicularia floridana*) and Florida scrub-jay. There is potential for several other listed species to occur (see FNAI Report located in Appendix).

J. Inventory of the Natural Communities

A more detailed biological survey will be conducted within the year of adopting the management plan. A comprehensive list of plants and animals found on the entire site will be produced by staff and volunteers prior to conducting any major management practice. The list will be continuously updated as needed. The site will be monitored on at least an annual basis. A current species list is located in the Appendix.

Any information regarding an occurrence of an identified listed species will be forwarded to the Florida Natural Areas Inventory using the submittal form on the FNAI website at the following address: <u>http://www.fnai.org/FNAI_data/RareSpeciesDataForm.cfm</u> on an annual basis. A copy of the form is also located in the Appendix.

K. Archeological, Cultural, and Historical Resource Protection

The Division of Historical Resources was contacted to search the Florida Master Site File for any recorded cultural resources on the site or in its vicinity on May 8, 2008. No previously recorded archaeological sites, historical structures, or other resources were documented in the Florida Master Site File.

If cultural resources are found on the property:

- Artifacts will not be collected nor will archaeological and historic sites be disturbed on the property until the Department of State, Division of Historical Resources has been contacted for a recommendation.
- Protection and management of archaeological and historical resources will be in accordance with the Best Management Practices published by the State of Florida, Division of Historical Resources.
- Significant resources will be interpreted for the public.

IV. Site Development and Improvement

A. Entrance Sign

The entrance sign for the Neighborhood Lakes property will be located at the south end of Fenimore Street.

B. Existing Physical Improvements

The existing physical improvements at the Neighborhood Lakes property include a 1950 block house (1,030 square feet), small fire damaged storage building, a concrete slab from a former warehouse used for chemical storage, and fencing which is in poor condition. It is currently proposed to demolish the house and storage building.

C. Proposed Physical Improvements (Exhibit E)

- It is proposed to provide parking (see "Parking" below).
- It is proposed to provide picnic tables.
- Nature trails are proposed for Neighborhood Lakes. The proposed trails in Neighborhood Lakes will likely connect to the paved multi-use trail that is proposed to be constructed parallel to the parkway.
- Fencing will be repaired or replaced along the western property boundary of Neighborhood Lakes.

D. Landscaping

Only native plants will be used in the landscape design of the site. Trees for shade will be planted around the parking areas in a manner that is consistent with the rest of the natural landscape. The entrance areas may also be landscaped to make it more aesthetically appealing.

E. Parking

Parking areas will be designed to park 6-10 vehicles and will be stabilized with pervious or semi-pervious materials. Parking areas will have barriers around the perimeter to keep vehicles within the designated parking area. There is a proposed parking area at Neighborhood Lakes which would be accessed from the entrance off of Fenimore Street.

F. Educational Signs

Interpretive signs will be placed throughout the site to educate visitors about the native flora and fauna, natural communities, geological formations, habitat corridors, and habitat restoration.

G. Education Program

Classes and programs will be conducted by staff biologists, park rangers, knowledgeable volunteers and guest speakers. They will include on-site ecology, animal and plant identification, and local history.

H. Permits

All required permits will be obtained before development or restoration work is commenced. This includes obtaining an authorization to burn from DOF, local building permit(s), etc.

I. Easements, Concessions, and Leases

There are currently no easements, concessions, or leases.

Any fees that are collected will be placed in an account to be used exclusively for the upkeep and maintenance of the property.



V. Management Needs

A. Greenways

The Neighborhood Lakes parcel is an integral component of the Wekiva-Ocala Greenway. The purpose of the Wekiva-Ocala Greenway is to form a continuous conservation corridor that links Wekiwa Springs State Park, Rock Springs Run State Reserve, Lower Wekiva River Preserve State Park and Hontoon Island State Park to the Ocala National Forest. The total amount of land preserved when completed will be 76,700 acres.

B. Public Involvement

Management Plan Process

Public involvement with this project began with the voter-approved referendum which allowed the issuance of bonds to provide land acquisition funding. It has continued with the evaluation and recommendation for acquisition of the project site by a citizen advisory council – Public Land Acquisition Advisory Council – and approval by the Lake County Board of County Commissioners. The Advisory Council and County Commission meetings are advertised and open to the public allowing separate forums for further public input and involvement. Management Plans are developed with input from the Advisory Council and must be adopted by the Board of County Commissioners.

Also, since this property is co-owned by the SJRWMD it was reviewed by SJRWMD staff and will require approval by the SJRWMD Governing Board.

Volunteer Opportunities

Volunteer service will be vital to the success and improvement of this project. There will be ample opportunities for the public to participate in the development of this site. There will be opportunities appropriate for volunteers of all different ages and abilities, and for individuals or groups such as school groups and scout troops.

Examples of volunteer opportunities that may be offered at this site include:

- Opening and closing the site daily for public access
- Planting native plants
- Removing exotic plants
- Constructing signage and kiosks
- Grounds maintenance and debris removal
- Facilities maintenance and cleaning
- Conducting educational tours and programs

- Inventorying species
- Trail maintenance

We will primarily be organizing volunteer opportunities through the VolunteerLake network.

C. Maintenance

Routine maintenance such as picking up litter and managing invasive exotics will be carried out by staff and/or Lake County volunteers.

D. Security

Staff will conduct patrols of the site. The Lake County Sheriff's Office has been provided aerials of the property and asked to patrol the site when they are in the area. Citizen volunteers may also be employed to establish a presence at the site to deter potential illicit behavior.

E. Staffing

County staff will work with volunteers to establish and maintain at least a random "presence" on the site during posted hours of operation.

VI. Cost Estimates

Item/Task	Estimated Cost	Source
Structures and Improvements		
Entrance Sign (1)	\$750.00	Р
Bear-proof Trash Cans (1)	\$684.00	В
Benches (1)	\$1,000.00	Р
Bike Rack (2)	\$1,200.00	*
Directional Signs (4)	\$2,000.00	*
Interpretive Kiosk (1)	\$12,000.00	*
Interpretive Signs (4)	\$2,000.00	*
Perimeter Fencing (~ 6,409 ft. @ \$1.53)	\$9,806.00	
Stabilized Parking for Six Vehicles (1)	\$20,000.00	Р
Structures and Improvements Total	\$49,440.00	
Natural Resource Protection		
Control of Invasive Plants	\$17,292.00	**
Fire Line Installation (~6,409 ft.)	\$9,286.00	
Prescribed Burning (~210 acres)	\$19,150.00	**
Sandhill Restoration (~ 79 acres)	\$130,004.00	**
Natural Resource Protection Total	\$175,732.00	
Resource Enhancement Activities		
Nature Trail (~ 1.7 mile)	\$3,650.00	**
Picnic Tables (2)	\$1,720.00	Р
Resource Enhancement Activities		
Total	\$5,370.00	
Educational Program		
Informational Handouts	\$100.00	
Educational Program Total	\$ 100.00	
Maintenance		
Fire Line Maintenance	\$1,500.00	**
Trail Maintenance	\$1,150.00	**
Maintenance Total	\$2,650.00	

Other		
Gopher Tortoise Feasibility Study	\$2,000.00	
Master Site Plans	\$46,000.00	
Other Total	\$48,000.00	
Grand Total	\$281,292.00	

* Florida DEP ** Eco-Logic Restoration Services, LLC <u>B www.bearsaver.com P Lake County Parks & Trails Division</u>

VII. Priority Schedule

Example Priority Timeline										
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			Projec	ct Name	:					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Design										
Permitting	_									ļ
Public										1
meetings/comment	-									l
Interagency										1
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Resource-based facilities:										
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Key Management Activities:										
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Annual Report										

VIII. Monitoring and Reporting

The county will prepare an annual report which will evaluate the implementation of the Management Plan.

Appendix 1

FWC Strategic Habitat Conservation Area Letter and Maps



Florida Fish and Wildlife Conservation Commission

Commissioners Rodney Barreto Chair *Miami*

Kathy Barco Jacksonville

Ronald M. Bergeron Fort Lauderdale

Richard A. Corbett Tampa

Dwight Stephenson Delray Beach

Kenneth W. Wright Winter Park

Brian S. Yablonski Tallahassee

Executive Staff

Kenneth D. Haddad Executive Director

Victor J. Heller Assistant Executive Director

Karen Ventimiglia Deputy Chief of Staff

Fish and Wildlife Research Institute Information Science And Management (850) 488-0588 (850) 410-5269

Managing fish and wildlife resources for their longterm well-being and the benefit of people.

620 South Meridian Street Tallahassee, Florida 32399-1600 Voice: (850) 488-4676

Hearing/speech impaired: (800) 955-8771 (T) (800) 955-8770 (V)

MyFWC.com

May 12, 2008

Ms. Lauren Brothers Lake County Department of Public Works 31150 Industry Drive Tavares, FL 32778

Dear Ms. Brothers:

This letter is in response to your request for information regarding the occurrence of Strategic Habitat Conservation Areas (SHCA's) on properties (Neighborhood Lakes) (S33-T19S-R28E) in Lake County, Florida. The Florida Fish and Wildlife Conservation Commission's database indicates that SHCA's for (black bear) occur within or adjacent to the property indicated by the map you provided. A map indicating the location of SHCA's is provided.

If you have any questions or further requests, please contact our Records Technician at (850) 488-0588 or <u>gisrequests@myfwc.com</u>

Sincerely,

a Stoarns

Jan Stearns Staff Assistant

js 2008_4982 Enclosures



Appendix 2

Florida Natural Areas Inventory Report



1018 Thomasville Road Suite 200-C Tallahassee, FL 32303 850-224-8207 fax 850-681-9364 www.fnai.org

Lauren Brothers Lake County Department of Public Works 31150 Industry Drive Tavares, FL 32778

Dear Ms. Brothers,

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project:	Neighborhood Lakes
Date Received:	May 8, 2008
Location:	Township 19S, Range 28E, Section 33 Lake County

Based on the information available, this site appears to be located on or very near a significant region of scrub habitat, a natural community in decline that provides important habitat for several rare species within a small area. Additional consideration should be given to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant.

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed



Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

May 14, 2008

for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

Florida Scrub-jay Survey – U.S. Fish and Wildlife Service

This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed. Each map point represents one or more groups.

This data layer indicates that there are potential scrub-jay populations on or very near your site. For additional information:

Fitzpatrick, J.W., B. Pranty, and B. Stith, 1994, Florida scrub jay statewide map, 1992-1993. U. S. Fish and Wildlife Service Report, Cooperative Agreement no. 14-16-004-91-950.

Land Acquisition Projects

This site appears to be located within the Wekiva-Ocala Greenway Florida Forever BOT Project, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. A description of this project is enclosed. For more information on this Florida Forever Project, contact the Florida Department of Environmental Protection, Division of State Lands.

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no regulatory authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna should conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

This report is made available at no charge due to funding from the Florida Department of Environmental Protection, Division of State Lands.

Tracking Florida's Biodiversity

Lauren Brothers

Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,

Lindsay Horton Lindsay Horton

Data Services Coordinator

Encl



THERSTON OF THE STATE	EO Comments	1989-01-28: J.A. Hovis, GFC - 1 pair and 1 male observed.	1981-08-14: 4 ADULT, 2 JUVENILE SCRUB JAYS.	2007-07-19: 1-5% canopy cover >45-60 ft. tall of Pinus clausa, 56-65% tall shrub cover >15-30 ft. tall of Quercus geminata, Q. myrtifolia and Q. chapmanii, 56-65% short shrub cover >3-6 ft. tall of Quercus myrtifolia, Q. chapmanii, Serenoa repens and Opu	1989-06-05: J.A. Hovis, GFC, observed total of 15 burrows; 4 with fledged young.	2007-07-19: Improved pasture, fenced, with house on property. Plants not observed from boundary. Dead vegetation along fenceline suggests herbiciding (PNDDIA02FLUS). 1964-04-18: INFREQUENT IN 1964-04-18 (S64SMIFAFLUS).	D5-24-1995: 11 individuals observed from one area, 2 pairs observed with juvenile oirds; cattle lease owner says there are 10 pairs of owls at the site (U95SMA01).	1981-03-31: 2 SCRUB JAYS	1981-10-03: 1-2 SCRUB JAYS
intory ON OR NEAR	n Description	Abandoned citrus grove	3-4 M OAK SCRUB, SCATTERED 10-12 M SAND PINES, SOME CLEARED FOR HOUSES.	2007-07-19: Patches of remnant scrub throughout the area (F08FNA01FLUS). 1981-08-14: 3-4, M OAK SCRUB, SCATTERED 10-12 M SAND PINES, SOME CLEARED FOR HOUSES.	Improved pasture, or sod farm	2007-07-19: Plants not observed. 2 Much development now exists in v this area. Point is now within of fenced improved pasture (PNDDIA02FLUS). 1964-04-18: (SANDY, TURKEY OAK WOODS 1 (S64SMIFAFLUS). (Improved pasture - bahia grass (heavily grazed by cattle; scattered o oaks and persimmon.	OAK SCRUB	PASTURE WITH A FEW SCRUB OAKS AND SAND PINES
as Inve Imented TE)bservatio Date	1989-01-28	1981-08-14	2007-07-19	1989-06-05	1964-04-18	1995-05-24	1981-03-31	1981-10-03
ral Aru Es docu	State C Listing	rs	5	z	LS	Щ	LS	LT	Ц
Natu IRRENC	Federal Status	z	5	Z	z	z	z	Ц	L
orida occu	State Rank	S3	S2	S2	S3	S	S3	S2	S2
F/(Global Rank	G4T3	G2	62	G4T3	63	G4T3	G2	62
Ш	Common Name	na Florida Burrowing Owl	s Florida Scrub-jay		na Florida Burrowing Owl	Scrub Stylisma	na Florida Burrowing Owl	s Florida Scrub-jay	s Florida Scrub-jay
1018 Thomasville Road Suite 200-C Tallahassee, FL 32303 850) 224-8207 850) 681-9364 Fax www.fnai.org	rory Scientific Name	Athene cunicularia florida	Aphelocoma coerulescen	Scrub	Athene cunicularia florida	Stylisma abdita	Athene cunicularia florida	Aphelocoma coerulescen:	Aphelocoma coerulescen.
LI CALLORIDA	Map Label	ATHEFLOR*76	APHECOER*234	SCRUB****234	ATHEFLOR*77	STYLABDI*24	ATHEFLOR*100	APHECOER*143	APHECOER*144

Page 1 of 2



JULIE BUT	EO Comments	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1994-06-21) (U05FNA02FLUS). ASSOCIATED FLORA: DOMINANT: LICANIA MICHAUXII; ABUNDANT: ARISTIDA BEYRICHIANA, QUERCUS MYRTIFOLIA (LOCAL); M	Specimen was observed flowering.	2008-01-10: No plants found (F08FNA01FLUS). 1988-08-07: Specimen taken [fl& fr] (Daubenmire and Daubenmire). 1981-07-09: Specimen taken [fl& fr] (Daubenmire and Daubenmire).	2007-07-30: Fewer than 20 plants is, observed, mostly vegetative but some fruiting. In clearing in fire suppressed scrubby flatwoods. Exotic species present, notably Cinnamomum camphora (F08FNA01FLUS).
entory on or near	n Description	A LEVEL, EVEN-AGED, SEASONALLY WET PLAIN DOMINATED BY PINUS ELLIOTTII/LYONIA LUCIDA-SERENOA REPENS/ARISTIDA BEYRICHIANA. INCLUDES DEPRESSION MARSHES DOMINATED BY AMPHICARPHUM MUHLENBERGIANUM, PANICU HEMITOMOM, AND SPARTINA BAKERII. GRADES INTO YOUN SCR	Upland Forest.	N/A	2007-07-30: Small clearing in fire-suppressed scrubby flatwood a few meters north of pine plantation (F08FNA01FLUS).
eas Jnue umented	Observatio Date	2004	1979-12-11	1988-08-07	2007-07-30
ral An Es Doc	State Listing	z	Ц	Ц	Щ
Natu RRENC	Federal Status	z	z	Ч	Щ
orcou	State Rank	S3	S1	S3	°3
F16	Global Rank	G	G5	G4T3	G
ш	Common Name		Pinesap	Scrub Buckwheat	Pygmy Fringe Tree
1018 Thomasville Road Suite 200-C Tallahassee, FL 32303 850) 224-8207 850) 681-9364 Fax www.fnai.org	Scientific Name	Scrubby flatwoods	Monotropa hypopithys	Eriogonum longifolium var. gnaphalifolium	Chionanthus pygmaeus
Netural	Map Label	SCRUFLAT*139	MONOHYPO*3	ERIOGNAP*84	CHIOPYGM*66



GLOBAL AND STATE RANKS

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

GLOBAL RANK DEFINITIONS

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 10,0000 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#?	Tentative rank (e.g., G2?)
G#G#	Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
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)
G#Q	Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	Same as above, but validity as subspecies or variety is questioned.
GH	Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GNA	Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)
GNR	Not yet ranked (temporary)
GNRTNR	Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)
GX	Believed to be extinct throughout range
GXC	Extirpated from the wild but still known from captivity/cultivation
GU	Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).

STATE RANK DEFINITIONS

Definition parallels global element rank: substitute "S" for "G" in above global ranks, and "in Florida" for "globally" in above global rank definitions.

Tracking Florida's Biodiversity

FEDERAL AND STATE LEGAL STATUSES (U.S. Fish and Wildlife Service – USFWS) PROVIDED BY FNAI FOR INFORMATION ONLY.

For official definitions and lists of protected species, consult the relevant state or federal agency.

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

- *LE* Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.
- *LE,XN* A non essential experimental population of a species otherwise Listed as an Endangered Species in the List of Endangered and Threatened Wildlife and Plants. LE,XN for Grus americana (Whooping crane), Federally listed as XN (Non essential experimental population) refers to the Florida experimental population only. Federal listing elsewhere for Grus americana is LE.
- *PE* Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- *LT* Listed as Threatened Species, defined as any species which is likely to become an endangered species 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.
- *PT* Proposed for listing as Threatened Species.
- C Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants, Category 1. Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- *SAT* Threatened due to similarity of appearance to a threatened species.
- SC Species of Concern, species is not currently listed but is of management concern to USFWS.
- *N* Not currently listed, nor currently being considered for addition to the List of Endangered and Threatened Wildlife and Plants.

FLORIDA LEGAL STATUSES (Florida Fish and Wildlife Conservation Commission – FFWCC/ Florida Department of Agriculture and Consumer Services – FDACS)

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission - FFWCC, 1 August 1997, and subsequent updates.

- *LE* Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
- *LT* Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- LT* Indicates that a species has LT status only in selected portions of its range in Florida. LT* for Ursus americanus floridanus (Florida black bear) indicates that LT status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. LT* for Neovison vison pop. 1 (Southern mink, South Florida population) state listed as Threatened refers to the Everglades population only (Note: species formerly listed as Mustela vison mink pop. 1. Also, priorly listed as Mustela evergladensis).
- *LS* Listed as Species of Special Concern by the FFWCC, defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification,

Tracking Florida's Biodiversity

environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

- LS* Indicates that a species has LS status only in selected portions of its range in Florida. LS* for Pandion haliaetus (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.
- PE Proposed for listing as Endangered.
- PT Proposed for listing as Threatened.
- PS Proposed for listing as a Species of Special Concern.
- N Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or please visit: http://DOACS.State.FL.US/PI/Images/Rule05b.pdf

- LE Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.
- PE Proposed by the FDACS for listing as Endangered Plants.
- LT Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT* indicates that a species has LT status only in selected portions of its range in Florida.
- PT Proposed by the FDACS for listing as Threatened Plants.
- N Not currently listed, nor currently being considered for listing.



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Tracking Florida's Biodiversity



Florida Natural Areas Inventory

Biodiversity Matrix Report



Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 43690					
Likely					
Athene cunicularia floridana Mycteria americana Sandhill upland lake	Florida Burrowing Owl Wood Stork	G4T3 G4 G3	S3 S2 S2	N LE N	LS LE N
Potential					
Calopogon multiflorus Carex chapmanii Centrosema arenicola Coelorachis tuberculosa Drymarchon couperi Eriogonum longifolium var. gnaphalifolium Gopherus polyphemus Grus canadensis pratensis Hartwrightia floridana Heterodon simus Lechea cernua Lupinus aridorum Matelea floridana Monotropa hypopithys Mustela frenata peninsulae Nemastylis floridana Nolina atopocarpa Notophthalmus perstriatus Podomys floridanus Pteroglossaspis ecristata Rana capito Salix floridana Sceloporus woodi Sciurus niger shermani Ursus americanus floridanus Warea amplexifolia Warea carteri	Many-flowered Grass-pink Chapman's Sedge Sand Butterfly Pea Piedmont Jointgrass Eastern Indigo Snake Scrub Buckwheat Gopher Tortoise Florida Sandhill Crane Hartwrightia Southern Hognose Snake Nodding Pinweed Scrub Lupine Florida Spiny-pod Pinesap Florida Long-tailed Weasel Celestial Lily Florida Beargrass Striped Newt Florida Beargrass Striped Newt Florida Mouse Giant Orchid Gopher Frog Florida Scrub Lizard Sherman's Fox Squirrel Florida Black Bear Clasping Warea Carter's Warea	G2G3 G3 G2Q G3 G4T3 G3 G5T2T3 G2 G2 G3 G1 G2 G5 G5T3 G2 G3 G2G3 G3 G2G3 G3 G2G3 G3 G2G3 G3 G2G3 G3 G2T3 G5T2 G1 G3	S2S3 S3 S2 S3 S3 S3 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S2 S3 S3 S2 S3 S3 S3 S3 S3 S3 S3 S3 S3 S3 S3 S3 S3	山山とスススススススススス「スススススススス	LE LE LT LE LT LT N LT LE LE N LE L N S T S LE N LT LE LE LE N LE LE N LE LE N LE N
Matrix Unit ID: 43691					
Likely					
Athene cunicularia floridana Mycteria americana Sandhill upland lake Ursus americanus floridanus	Florida Burrowing Owl Wood Stork Florida Black Bear	G4T3 G4 G3 G5T2	S3 S2 S2 S2	N LE N N	LS LE N LT*
Potential					
Calopogon multiflorus Carex chapmanii Centrosema arenicola Coelorachis tuberculosa Drymarchon couperi	Many-flowered Grass-pink Chapman's Sedge Sand Butterfly Pea Piedmont Jointgrass Eastern Indigo Snake	G2G3 G3 G2Q G3 G3	S2S3 S3 S2 S3 S3 S3	N N N LT	LE LE LT LT

Definitions: Documented - Rare species and natural communities documented on or near this site.

Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years. Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity. Potential - This site lies within the known or predicted range of the species listed.



Florida Natural Areas Inventory

Biodiversity Matrix Report



INVENTORY		Global	State	Federal	State
Scientific Name	Common Name	Rank	Rank	Status	Listing
Eriogonum longifolium var. gnaphalifolium	Scrub Buckwheat	G4T3	S3	LT	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Hartwrightia floridana	Hartwrightia	G2	S2	Ν	LT
Heterodon simus	Southern Hognose Snake	G2	S2	Ν	N
Lechea cernua	Nodding Pinweed	G3	S3	Ν	LT
Matelea floridana	Florida Spiny-pod	G2	S2	Ν	LE
Monotropa hypopithys	Pinesap	G5	S1	Ν	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	Ν	N
Nemastylis floridana	Celestial Lily	G2	S2	Ν	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	Ν	LT
Notophthalmus perstriatus	Striped Newt	G2G3	S2S3	N	N
Podomys floridanus	Florida Mouse	G3	S3	Ν	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	Ν	LT
Rana capito	Gopher Frog	G3	S3	Ν	LS
Salix floridana	Florida Willow	G2	S2	Ν	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	Ν	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	Ν	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE

Definitions: Documented - Rare species and natural communities documented on or near this site.

Documented Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years. Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity. Potential - This site lies within the known or predicted range of the species listed.

Wekiva-Ocala Greenway

Lake, Orange, Seminole and Volusia Counties

Group A Full Fee / Less-Than-Fee

Purpose for State Acquisition

The springs, rivers, lakes, swamps, and uplands stretching north from Orlando to the Ocala National Forest are an important refuge for the Florida black bear, as well as other wildlife such as the bald eagle, swallowtailed kite, Florida scrub jay, and wading birds. The Wekiva-Ocala Greenway will protect these animals and the Wekiva and St. Johns River basins by protecting natural corridors connecting Wekiwa Springs State Park, Rock Springs Run State Reserve, the Lower Wekiva River State Reserve, and Hontoon Island State Park with the Ocala National Forest. It will also provide the people of the booming Orlando area with a large, nearby natural area in which to enjoy camping, fishing, swimming, hiking, canoeing, and other recreational pursuits. The Florida National Scenic Trail, a cross-Florida hiking and non-motorized trail, is also planned to cross this project. The trail is a congressionally designated national scenic trail.

Managers

Division of Recreation and Parks (DRP), Florida Department of Environmental Protection (BMK Ranch, Seminole Springs, St. Johns River and portions of the Wekiva-Ocala Connector); Division of Forestry (DOF), Florida Department of Agriculture and Consumer Services (Seminole Springs and portions of the Wekiva-Ocala Connector).

General Description

This project provides an important link between Ocala National Forest and the extensive state holdings along the Wekiva River. It is habitat for many rare animal species including the Florida black bear, the Florida sandhill crane, bald eagle, Eastern indigo snake, Florida scrub jay, Sherman's fox squirrel, Florida scrub lizard and gopher tortoise. It incorporates most of the forested wetlands along the St. Johns and Wekiva Rivers between Orlando and the Ocala National Forest. The St. Johns River site consists of three large bottomlands and adjacent uplands between three existing state ownerships. The Seminole Springs/Woods site is reported to have 50-75 springs within its boundary. The Wekiva-Ocala Connector site provides a wildlife movement corridor between the Ocala National Forest and the other portions of the project along the Wekiva River.

Public Use

The project sites are designated as state reserves or preserves and state forests, offering opportunities for canoeing, hiking, fishing and camping.

Acquisition Planning

On November 18, 1994, the Land Acquisition Advisory Council (LAAC) approved combining the Seminole Springs/Woods, Wekiva-Ocala Connector, St. Johns River, and BMK Ranch projects and renaming the project Wekiva-Ocala Greenway. Based on GIS, the approximate total project acreage was 67,585 acres.

FNAI Elements					
Seminole Spring snail	G1/S1				
SCRUB	G2/S2				
Florida sandhill crane	G5T2T3/S2S3				
Florida black bear	G5T2/S2				
Florida scrub jay	G3/S3				
SPRING-RUN STREAM	G2/S2				
Eastern indigo snake	G4T3/S3				
Bald eagle	G3/S2S3				
33 elements known from project					

Placed on list	1995
Project Area (Not GIS Acreage)	82,048
Acres Acquired	45,858*
at a Cost of	\$148,351,611*
Acres Remaining	36,190
with Estimated (Tax Assessed) Value	e of \$33,974,280

*Includes acreage and expenditures by the St. Johns River Water Management District (SJRWMD)

Seminole Springs/Woods: Seminole Springs—core tracts include Strawn Tract, M.S. Carter (acquired), and Brumlick parcels (acquired through eminent domain). The Strawn tract is the largest and most significant ownership remaining to be acquired.

<u>Wekiva-Ocala Connector</u>: Core Tracts West—Maxwell and Holman (acquired), Shockley (acquired), Harper (acquired by SJRWMD 2,228 acres/2.1 million), Alger Enterprises (acquired), Fisch (acquired by SJRWMD), Southland Gardens (contingent upon the acquisition of Harper and Fisch), Clemmons (acquired), Blaskovic (acquired), Kittridge (acquired). Core Tracts East— Stetson University (acquired), Stein, Lenholt Farms, Francolino (acquired), Jung (acquired), and Hollywood Pines, Inc.

<u>St. Johns River</u>: New Garden Coal is the largest ownership remaining to be acquired.

The BMK Ranch parcel has been acquired.

On October 30, 1995, the LAAC approved a fee-simple, \pm 5,616-acre addition to the project boundary. It was sponsored by Eastern Marketing Inc, representative for several owners, consisted of multiple landowners and parcels, and a taxable value of approximately \$10,247,684. All tracts were designated as essential. In addition, the project phasing was removed.

On October 30, 1996, the LAAC approved a fee-simple, 425-acre addition to the project boundary. It was sponsored by the Division of State Lands, consisted of seven landowners (Jung, Hollywood Pines, Miranda Trust, Overstreet, New Garden Coal, Seminole Springs, and Fisch), 12 parcels, and a taxable value of \$645,000.

Other acquisitions in the Wekiva Basin are: Wekiva Buffers, Wekiva Springs State Park, Rock Springs Run, Lower Wekiva River State Park, Hontoon Island State Recreation Area, and Blue Spring State Park. These acquisitions total 18,400 acres.

On July 18, 1997, the LAAC approved a fee-simple, 128-acre addition to the project boundary. It was sponsored by the landowner, Conway Kittredge, who

already has 20 acres in the current project boundary. The addition has a taxable value of \$450,542 and any portion of the addition that is not needed for resource protection or management will be surplussed.

On December 3, 1998, the Land Acquisition & Management Advisory Council (LAMAC) approved a fee-simple, 1,507-acre addition to the project boundary. It was sponsored by the Division of Recreation & Parks, consisted of 10 parcels, two landowners, Neighborhood Lakes LTD and Lake Lerla LTD Partnership, and a taxable value of \$1,224,358. The parcels were designated as essential.

On December 6, 2001, the Acquisition and Restoration Council (ARC) approved a fee-simple, 5,455-acre addition to the project boundary. It was sponsored by the Wekiva Basin Working Group, consisted of 14 sites, multiple landowners and parcels, 13 tracts, and a taxable value of \$9,972,067.

On June 4, 2004, the ARC approved a less-than-fee, 580-acre addition to the project boundary. It was sponsored by Ronald Pacetti Realty, the landowner, Robert Maxwell's, representative, and consisted of two parcels with a taxable value of \$758,000.

On December 8, 2006 the ARC approved a fee-simple 77-acre addition in Lake County (a.k.a. the Ellis and Windsor tracts) to the project boundary. It was sponsored by The Nature Conservancy (TNC), consisted of two parcels with two owners (Natalie Windsor and Jerry Ellis) and has a 2006 taxable value of \$71,487. The Division of Recreation and Parks (DRP) will manage the 17-acre Windsor tract as part of the Lower Wekiva River Preserve State park. The 60-acre Ellis tract will be managed by the DOF as part of the Seminole State Forest.

On December 14, 2007 ARC approved a fee-simple 675-acre addition, known as the Pine Plantation Addition, to the project boundary. It was sponsored by Henry Dean Esq., and consisted of five parcels, four landowners, and a taxable base of \$1,228,740. The Division of Recreation and Parks agreed to manage the parcels. The parcels have been designated essential.



Management Policy Statement

The primary goals of management of the Wekiva-Ocala Greenway project are: to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; to provide areas, including recreational trails, for natural-resource-based recreation; and to preserve significant archaeological or historical sites.

Management Prospectus

Qualifications for state designation The large size, variety of forest resources, and diversity of the former Seminole Springs project and the western Wekiva-Ocala Connector make them highly desirable for management as a state forest. The quality of resources on the remainder of the project make them suitable for state preserves.

Manager The DOF proposes to manage the Seminole Springs and western connector portions of the project. The remainder will be managed by the DRP. The DRP may elect to assume management of the western portion of the Strawn property at a later date if it is purchased.

Conditions affecting intensity of management On the portion to be managed by the DOF, there are no

known disturbances that will require extraordinary attention, so the level of management intensity is expected to be typical for a state forest. On the portion to be managed by the Division of Recreation and Parks, the BMK Ranch is a high-need management area, while the Eastern Connector of the former Wekiva-Ocala Connector project and the former St. Johns River project are low-need management areas. The BMK Ranch project anticipates a higher level of recreational use and development compatible with resource management than does the other properties.

Timetable for implementing management and provisions for security and protection of infrastructure About 8,000 acres have been purchased by the State of Florida and the St. Johns Water Management District and have been assigned to the DOF for management as the Seminole State Forest (SSF). The Division is currently providing for public access for low-intensity, non-facilities-related outdoor recreation. Initial activities include securing the site, providing public and fire management access, inventorying resources, and removing trash. The project's natural resources and threatened and endangered plants and animals will be inventoried to provide the basis for a management plan.

Long-range plans for this property will generally be directed toward restoring disturbed areas to their original conditions, as far as possible, as well as protecting threatened and endangered species. An all-season burning program will use, whenever possible, existing roads, black lines, foam lines and natural breaks to contain fires. Timber management will mostly involve improvement thinning and regeneration harvests. Plantations will be thinned and, where appropriate, reforested with species found in natural ecosystems. Stands will not have a targeted rotation age. Infrastructure will primarily be located in disturbed areas and will be the minimum required for management and public access. The Division will promote recreation and environmental education.

For the DRP, within the first year after acquisition, management activities will concentrate on site security, natural and cultural resource protection, and the development of a plan for long-term public use and resource management.

Revenue-generating potential The Division of Forestry will sell timber as needed to improve or maintain desirable ecosystem conditions. These sales will provide a variable source of revenue, but the revenue-generating potential for this project is expected to be low. The Division of Recreation and Parks expects no significant revenue to be generated initially. After acquisition, it will probably be several years before any significant public facilities are developed on the BMK Ranch properties, and public facilities will probably not be a major emphasis on the eastern connector properties. The amount of any future revenue will depend on the nature and extent of public use and facilities.

Cooperators in management activities The DOF will cooperate with and seek the assistance of other state agencies, local government entities and interested parties as appropriate. The DRP recommends no local governments or others for management of its project area.

Management Cost Su	mmary/DRP		
Category	1996/97	1997/98	1998/99
Source of Funds	SPTF/LATF/	SPTF/CARL	SPTF/CARL
	CARL		
Salary	\$0	\$0	\$0
OPS	\$425	\$425	\$425
Expense	\$5,739	\$5,739	\$5,739
000	\$0	\$0	\$0
FCO	\$38,798	\$0	\$0
TOTAL	\$44,962	\$6,164	\$6.164
			, . ,
Management Cost Sur	mmary/DOF (Seminole S	State Forest)	
Category	1995/96	1996/97	1997/98
Source of Funds	CARL	CARL	CARL
Salary	\$35,440	\$64,440	\$105,000
OPS	\$0	\$4,500	\$5,000
Expense	\$22,600	\$40,225	\$51,000
000	\$0	\$29,270	\$48,000
FCO	\$0	\$0	\$0
TOTAL	\$58,040	\$138,435	\$209,000
			,,
Management Cost Sur	nmary/DOF (Wekiva-Oca	ala Connector: West Co	orridor)
Category	Startup	Recurring	
Source of Funds	CARL	CARL	
Salary	\$28,140	\$28,140	
OPS	\$0	\$0	
Expense	\$20,000	\$15,000	
000	\$90,400	\$4,500	
FCO	\$0	\$0	
TOTAL	\$138,540	\$47,640	
	· ·		

Appendix 3

Species List

Plants

Genus	Species	Common Name	Native/Exotic	Date Observed
Albizia	julibrissin	mimosa	exotic	8/28/2009
Baccharis	spp.	saltbush	native	8/28/2009
Callicarpa	americana	beautyberry	native	7/3/2008
Cinnamomum	camphora	camphor tree	exotic	8/28/2009
Citrus	spp.	citrus tree	exotic	7/3/2008
Diospyros	virginiana	persimmon	native	8/28/2009
Eupatorium	capillifolium	dog fennel	native	7/3/2008
Imperata	cylindrica	cogon grass	exotic	8/28/2009
Koelreuteria	elegans	flamegold tree	exotic	8/28/2009
Lantana	camara	lantana	exotic	7/3/2008
Magnolia	grandiflora	southern magnolia	native	8/28/2009
Melia	azedarach	Chinaberry tree	exotic	8/28/2009
Myrica	cerifera	wax myrtle	native	7/3/2008
Opuntia	humifusa	prickly pear	native	7/3/2008
Panicum	hemitomon	maidencane	native	8/28/2009
Paspalum	notatum	bahia grass	exotic	7/3/2008
Passiflora	sp.	passion flower vine	native	7/3/2008
Phytolacca	americana	American pokeweed	native	7/3/2008
Pinus	palustrus	longleaf pine	native	8/28/2009
Pontederia	cordata	pickerelweed	native	8/28/2009
Prunus	serotina	black cherry	native	8/28/2009
Quercus	laurifolia	laurel oak	native	8/28/2009
Quercus	virginiana	live oak	native	8/28/2009
Quercus	virginiana geminata	sand live oak	native	8/28/2009
Rhus	coppalinum	winged sumac	native	8/28/2009
Rubus	argutus	sawtooth blackberry	native	8/28/2009
Sabal	palmetto	cabbage palm	native	8/28/2009
Sagittaria	lancifolia	duck potato	native	8/28/2009
Sapium	sebiferum	Chinese tallow	exotic	8/28/2009
Solanum	viarum	tropical soda apple	exotic	8/28/2009
Solidago	spp.	goldenrod	native	8/28/2009
Typha	spp.	cattail	native	8/28/2009
Urena	lobata	Caesar's weed	exotic	8/28/2009
Xanthosoma	sagittifolium	elephant ear	exotic	7/11/2008
Birds				
Genus	Species	Common Name	Native/Exotic	Date Observed
Agelaius	phoeniceus	red-wing blackbird	native	7/2/2008
Buteo	jamaicensis	red-tailed hawk	native	7/2/2008
Meleagris	gallopavo osceola	wild turkey	native	7/2/2008
Elanoides	forficatus	swallow-tailed kite	native	8/28/2009
Grus	canadensis pratensis	Florida sandhill crane	native	8/28/2009
Herps				
Genus	Species	Common Name	Native/Exotic	Date Observed
Gopherus	polyphemus	gopher tortoise	native	8/28/2009
Pituophis	melanoleucus mugitus	Florida pine snake	native	
-	5	-		

Mammals

Genus	Species	Common Name	Native/Exotic	Date Observed
Ursus	americanus floridanus	Florida black bear	native	8/28/2009
Sus	scrofa	wild pig	exotic	
Dasypus	novemcinctus	nine banded armadillo	exotic	

Appendix 4

Florida Exotic Pest Plant Council's 2009 List of Invasive Plant 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.

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

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.



 $^{\rm 1}{\rm Does}$ not include Ficus microcarpa subsp. fuyuensis, which is sold as "Green Island Ficus"

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.

		FLEPPC	Gov.	Reg.
Scientific Name	Common Name	Cat.	List	Dist.
Macfadyena unguis-cati	cat's claw vine	I		N, C, S
Manilkara zapota	sapodilla	l		S
Melaleuca quinquenervia	melaleuca, paper bark	1	P, N, U	С, S
Melinis repens (= Rhynchelytrum repens)	Natal grass	1		N, C, S
Mimosa pigra	catclaw mimosa	Ι	P, N, U	С, S
Nandina domestica	nandina, heavenly bamboo	Ι		Ν, C
Nephrolepis cordifolia	sword fern	Ι		N, C, S
Nephrolepis brownii (= N. multiflora)	Asian sword fern	Ι		С, S
Neyraudia reynaudiana	Burma reed, cane grass	Ι	Ν	S
Nymphoides cristata	snowflake	Ι		С, S
Paederia cruddasiana	sewer vine, onion vine	Ι	Ν	S
Paederia foetida	skunk vine	Ι	Ν	N, C, S
Panicum repens	torpedo grass	Ι		N, C, S
Pennisetum purpureum	Napier grass	Ι		N, C, S
Pistia stratiotes	water-lettuce	Ι	Р	N, C, S
Psidium cattleianum (= P. littorale)	strawberry guava	Ι		С, S
Psidium guajava	guava	Ι		С, S
Pueraria montana var. lobata (= P. lobata)	kudzu	Ι	Ν	N, C, S
Rhodomyrtus tomentosa	downy rose-myrtle	Ι	Ν	С, S
Rhynchelytrum repens (See Melinis repens)				
Ruellia brittoniana² (R. tweediana misapplied)	Mexican petunia	Ι		N, C, S
Salvinia minima	water spangles	Ι		N, C, S
Sapium sebiferum (= Triadica sebifera)	popcorn tree, Chinese tallow tree	Ι	Ν	N, C, S
Scaevola taccada (= Scaevola sericea, S. frutescens)	scaevola, half-flower, beach naupaka	Ι	Ν	С, S
Schefflera actinophylla (= Brassaia actinophylla)	schefflera, Queensland umbrella tree	Ι		С, S
Schinus terebinthifolius	Brazilian pepper	Ι	P, N	N, C, S
Scleria lacustris	Wright's nutrush	Ι		С, S
Senna pendula var. glabrata (= Cassia coluteoides)	climbing cassia, Christmas cassia, Christmas senna	Ι		С, S
Solanum tampicense (= S. houstonii)	wetland nightshade, aquatic soda apple	Ι	N, U	С, S
Solanum viarum	tropical soda apple	Ι	N, U	N, C, S
Syngonium podophyllum	arrowhead vine	Ι		N, C, S
Syzygium cumini	jambolan plum, Java plum	Ι		С, S
Tectaria incisa	incised halberd fern	Ι		S
Thespesia populnea	seaside mahoe	Ι		С, S
Tradescantia fluminensis	small-leaf spiderwort	Ι		Ν, C
Urochloa mutica (= Brachiaria mutica)	Para grass	Ι		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.*

FI FRRC C

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

²The 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*.

Colombifico Norma	FI FI	LEPPC	Gov.	Reg.
	Common Name		LISU	DISL.
Begonia cucultata	wax begonia	11		N, C, S
Breusson eti a a amurifona	green shrimp plant, brownes blechum	11		N, C, S
Gallicia fugorano	inch plant opingroup	11		N, C, S
Callista gragrans	inch plant, spirohema	11		C, S
	bottlebrush, weeping bottlebrush	11	D	5
Casuarina cunninghamiana	river sheoak, Australian-pine	11	Р	C, S
	trumpet tree	11		5
Cestrum diurnum	day jessamine	11		C, S
Chamaedorea seifrizii	bamboo palm	11		5
Clematis terniflora	Japanese clematis	11		N, C
Cryptostegia madagascariensis	rubber vine	11		С, S
<i>Cyperus involucratus</i> (<i>C. alternifolius</i> misapplied)	umbrella plant	11		С, S
Cyperus prolifer	dwarf papyrus	II		C, S
Dactyloctenium aegyptium	Durban crowfootgrass	II		N, C, S
Dalbergia sissoo	Indian rosewood, sissoo	II		C, S
Elaeagnus umbellata	silverberry, autumn olive	II		Ν
Elaeagnus pungens	silverthorn, thorny olive	II		Ν, C
Epipremnum pinnatum cv. Aureum	pothos	II		С, S
Ficus altissima	false banyan, council tree	II		S
Flacourtia indica	governor's plum	II		S
Hemarthria altissima	limpo grass	II		С, S
Hibiscus tiliaceus (See Talipariti tiliaceum)				
Hyparrhenia rufa	jaragua	II		N, C, S
Ipomoea carnea ssp. fistulosa (= I. fistulosa)	shrub morning-glory	II	Р	С, S
Jasminum sambac	Arabian jasmine	II		S
Kalanchoe pinnata	life plant	II		C, S
Koelreuteria elegans ssp. formosana (= K. formosana; K. paniculata misapplied	flamegold tree)	II		С, S
Leucaena leucocephala	lead tree	II	Ν	N, C, S
Landoltia punctata (= Spirodela punctata)	Spotted duckweed	II		N, C, S
Limnophila sessiliflora	Asian marshweed	II	P, U	N, C, S
Livistona chinensis	Chinese fan palm	II	,	C, S
Melia azedarach	Chinaberry	II		N, C, S
Melinis minutiflora	Molassesgrass	II		C.S
Merremia tuberosa	wood-rose	II		S
Murrava paniculata	orange-iessamine	П		S
Myriophyllum spicatum	Furasian water-milfoil	П	Р	NCS
Panicum maximum (= Urochloa maxima, Megathyrsus maximus)	Guinea grass	II	-	N, C, S
Passiflora biflora	two-flowered passion vine	П		S
Pennisetum setaceum	green fountain grass	II		S
Phoenix reclinata	Senegal date palm	П		C S
Phyllostachys aurea	golden hamboo	П		N.C.
Pittosporum pentandrum	Philippine pittosporum. Taiwanese cheesewood	н 1 П		s s
Pteris vittata	Chinese brake fern	П		NCS
Ptychosperma elegans	solitaire nalm	Ш		ς, ε, σ
Rhoeo spathacea (see Tradescantia spathacea		11		5
Ricinus communis	castor bean	П		NCS
Detala rotun difelia	roundlast toothoun, dwarf Dotala	11		п, с, 5 с
Sansevieria hvacinthoides	howstring hemp	II		CS
Sechania nunicea	numle sechan rattlebox	II		N.C.S
Solanum dinhvillum	two leaf nightchada	II		N, C, S
Solanum iamaicence	Iamaica nightshada	11		IN, C, S
Solanum jumaicense	Jamaica mignismatie	11	NUT	NCC
Solanum torvum	susumber, turkey berry	11	IN, U	IN, C, S

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 "wellbehaved" — that is, they don't escape cultivation at all.



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Scientific Name	Common Name	FLEPPC Go Cat. Lis	v. Reg. st Dist.
Sphagneticola trilobata (= Wedelia trilobata)	wedelia	II	N, C, S
Stachytarpheta cayennensis (= S. urticifolia)	nettle-leaf porterweed	II	S
Syagrus romanzoffiana (= Arecastrum romanzoffianum)	queen palm	II	С, S
Talipariti tiliaceum (= Hibiscus tiliaceus)	mahoe, sea hibiscus	II	C, S
Terminalia catappa	tropical-almond	II	C, S
Terminalia muelleri	Australian-almond	II	C, S
Tradescantia spathacea (= Rhoeo spathacea, Rhoeo discolor)	oyster plant	II	S
Tribulus cistoides	puncture vine, burr-nut	II	N, C, S
Urena lobata	Caesar's weed	II	N, C, S
Vitex trifolia	simple-leaf chaste tree	II	C, S
Washingtonia robusta	Washington fan palm	II	C, S
Wedelia (see Sphagneticola above)			
Wisteria sinensis	Chinese wisteria	II	Ν, C
Xanthosoma sagittifolium	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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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/flori-da/. 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, the Florida Natural Areas Inventory database at www.fnai.org, and The Institute for Regional Conservation Floristic Inventory of South Florida database at 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; the University of Florida Herbarium collection catalog, http://www.flmnh.ufl.edu/herbarium/cat/, and image gallery, http://www.flmnh.ufl.edu/herbarium/cat/ imagesearch.asp; at Fairchild Tropical Botanic Garden's Virtual Herbarium, 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.

Appendix 5

Florida Natural Areas Inventory Report Forms

FLORIDA NATURAL AREAS INVENTORY



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

This form should be used only for original field observations regarding a single species or community, at one location, and for (preferably) a single date. Please complete only those fields that are known to you. Use the back of the form or other sheets as necessary to report additional information, and if you have any questions or need assistance with the form, please call FNAI at 850-224-8207. Thanks for your help.

Your name:		Phone:	<u>F</u>	-mail:	
Address:				Date Submitted	:
Name(s) of observers:					
Do you want us to protect (i. Yes No Ii	e., prevent disclosure to the get f so, reason for sensitivity	eneral public) the	identification and locat	ion information you provid	de below?
IDENTIFICATION (enter	common name only if the s	cientific name is	unknown)		
Scientific name:			Common name:		
Basis for identification: Pers	onal knowledge 🗌 Refere	nce key 🗌 🛛 Fie	eld guide 🗌 Museum	specimen Expert	Other
Name of reference/guide/mu	seum/expert:		Othe	r	
Did you take a photograph?	Yes No (If possible, p	lease attach a cop	by of the photo) Did y	ou collect a specimen? Ye	es No If so, was
a specimen deposi	ted at a museum or herbarium	n? Yes 🗌 No 🗌	If so, collection	n #	
Do you think that your identi	fication requires confirmation	n? Yes 🗌 No 🗌] Repositor	У	
LOCATION					
Country	Site o	r managad araa n	ama if known		
County	Site of	i inanageu area n			
nor the coordinate informatic	is the starting point. Include d in will be provided to the gene	eral public if the	data are to be considered	as appropriate. Please note I sensitive, as indicated ab	ove.
Latitude	_N Longitude	W	Datum: NAD27	WGS84/NAD83 🗌 🕔	Unknown 🗌
If GPS: Make	model accur	II Oulei, dese	GPS? Ves No U	mknown WAAS? Ves	
II 01 5. Wake		icy III I			
If possible, mark the site on a of the form, please provide a features, including ecologica	copy of a DOQQ photograph sketch of the vicinity showing communities. Please include	n or a USGS 7.5' g the occurrence also an indicatio	topographic map and at in relation to towns, roa n of scale and a North a	tach to this form. Otherwi ds, landforms, water bodie rrow.	se, using the back side s, and other natural
OBSERVATION INFORM	IATION				
Date of observation (m/d/yyy	/y): Time of	day	Estimate of total area	observedm ² or	acres. Percent of
this area actually occupied by	y the population or community	y:%. App	roximate dimensions of	the area occupied: length_	m widthm
How did you collect the data	? (e. g., visually observed from	n road, trap or ca	pture methods, walking	a path through community	y, formal survey, etc.)
Is there other suitable habitat	(unobserved) in the vicinity?	Yes No	Don't know	Extent? (e.g., acres, mile	s)
Have you been to this location	on before? Yes No If	so, when?			
- Did you previously obs	erve this species or communi	ty? Yes No	Did not look for it	If you have previous	sly seen the population
or community, do you	think there is now more?	less? about t	he same amount as befo	re? or no way to comp	are .

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.

Estimated total no. of individuals in population:	For animal	<u>s</u> : Numbe	r of individuals (or nests, burrows, etc.) seen:	Age structure				
Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]):		Estima	ted total no. of in	dividuals in population:	Basis?				
Eor plant: Number of individuals (or clumps, etc.) seen within the observed area:		Ecological & behavioral notes (e.g. reproductive stage, activity type [feeding, flying, nesting, etc.]):							
Flowering? Yes No Fruiting? Yes No In bud? Yes No Dormant? Yes No Exercommunities: 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	For plants:	Number of	of individuals (or	clumps, etc.) seen within the observ	ed area:				
Eor 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		Flowering	g? Yes No	Fruiting? Yes No In b	ud? Yes No In leaf? Yes No Dormant? Yes No				
Shrub Image: Construct of the species dominance relationships, vegetation heterogeneity, succession stage/dynamics, and any other unique aspects of the community or additional noteworthy species (including animals). 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/draining, impondment, 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 Is there evidence (e.g., fire breaks, scorching) of the use of fire at the site? Yes No Don't know Comments on management history or needs: OTHER	For commu estimate of Stratum h Tree	nities: For the height eight % c	each of three str and percent cove over Species	ata (tree, shrub, and ground layers), r for each stratum. (use the back of	please list the dominant species comprising the stratum, together with an this form or another sheet, if necessary, to list additional species)				
Ground	Shrub								
Ground	<u> </u>								
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):	Ground								
Owner of site (if known):	- - MANAGE	MENT							
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/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes No Don't know If so, please describe type and severity: 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			、 、						
Are there disturbances or threats (e. g., urban development, agriculture, vehicle use, forestry, logging, fire suppression, ditching/draining, impoundment, exotic species, and natural disturbance) in the vicinity of the site? Yes No Don't know I If so, please describe type and severity:	Uwner of s	ite (if know	wn):	nanaging the property for this spec	es or community? Ves No Don't know D				
If so, please describe type and severity:	Are there d impoundm	isturbance ent, exotic	s or threats (e. g., species, and natu	urban development, agriculture, ve ral disturbance) in the vicinity of th	hicle use, forestry, logging, fire suppression, ditching/draining, e site? Yes No Don't know D				
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	If so, pleas	e describe	type and severity	:					
Comments on management history or needs: OTHER	Is there evi fires, if kno	dence (e.g own	., fire breaks, sco	rching) of the use of fire at the site?	Yes No Don't know Describe and give dates of recent				
OTHER	Comments	on manag	ement history or	needs:					
UTHER	OTHER								
Additional comments concoming the nonvelotion on community, its coals $-1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1$	OTHER		oon oom: 4b		ad conditions, contrast information for other low-order lands				

Please send this completed this form to:

Florida Natural Areas Inventory, 1018 Thomasville Rd., Suite 200-C, Tallahassee, FL 32303. THANK YOU!