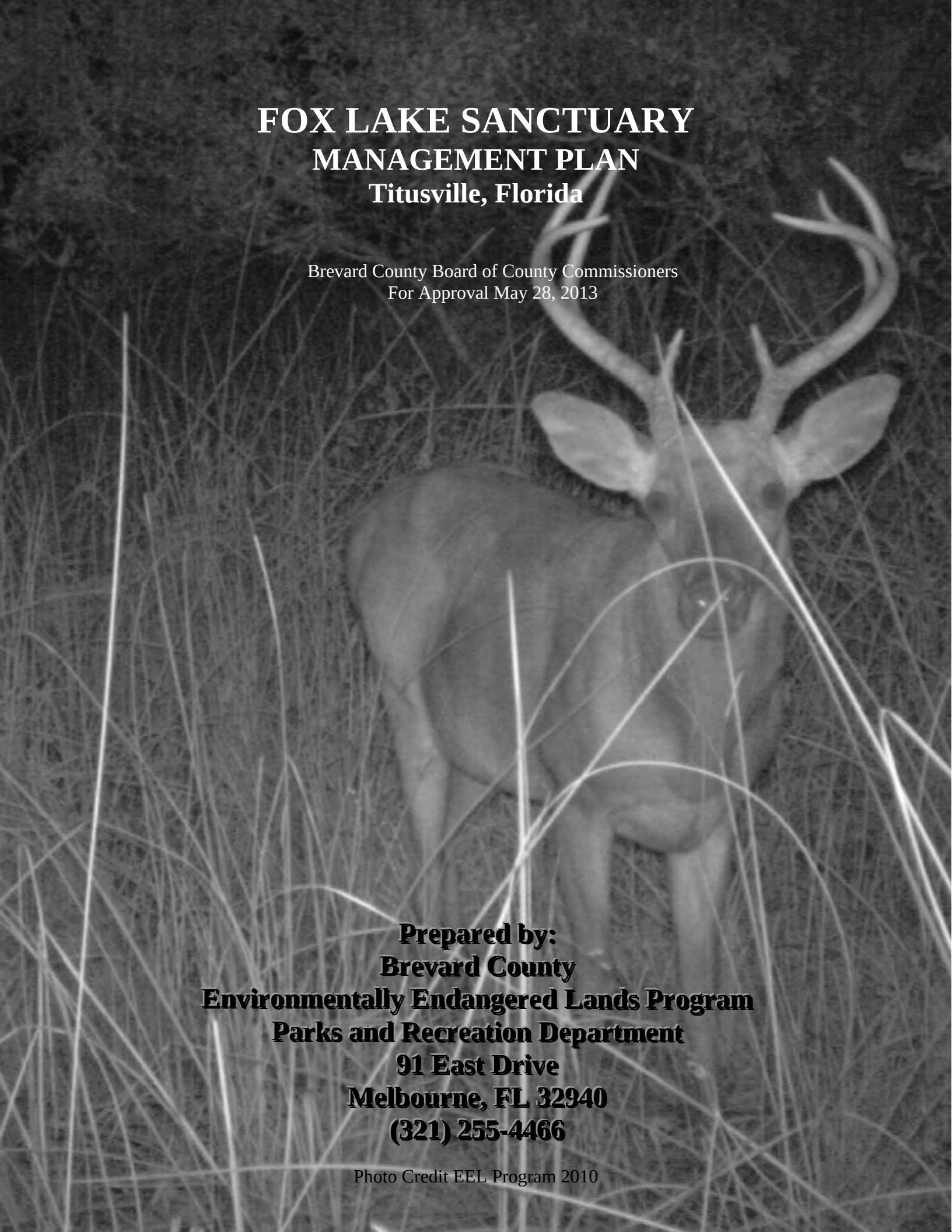


FOX LAKE SANCTUARY
MANAGEMENT PLAN
Titusville, Florida

Brevard County Board of County Commissioners
For Approval May 28, 2013

Prepared by:
Brevard County
Environmentally Endangered Lands Program
Parks and Recreation Department
91 East Drive
Melbourne, FL 32940
(321) 255-4466

Photo Credit EEL Program 2010

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page Numbers**
18-2.021 Acquisitions and Restoration Council.	
1. Executive Summary (Example #1) This should be included in the packet and should be the first page.	**1-2**
Management Plans. Plans submitted to the division for ARC review under the requirements of Section 253.034 F.S.should be in a form and manner prescribed by rule by the board and in accordance with the provisions of S. 259.032 and should contain where applicable to the management of resources the following:	
2. The common name of the property.	**1**
3. A map showing the location and boundaries of the property plus any structures or improvements to the property. (Example #2)	**6-7**
4. The legal description and acreage of the property.	**1, 69-71**
5. The degree of title interest held by the Board, including reservations and encumbrances such as leases.	**1**
6. The land acquisition program, if any, under which the property was acquired.	**2-5**
7. The designated single use or multiple use management for the property, including other managing agencies.	**1**
8. Proximity of property to other significant State/local/federal land or water resources. (Example #3) May be included in the map in item #2.	**1, 5**
9. A statement as to whether the property is within an Aquatic Preserve or a designated Area of Critical State Concern or an area under study for such designation. If yes, make sure appropriate managing agencies are notified of the plan.	**14**
10. The location and description of known and reasonably identifiable renewable and non-renewable resources of the property including, but not limited to, the following:	
A. Brief description of soil types, using U. S. D. A. maps when available;	**9, 11-13**
B. Archaeological and historical resources*;	**34, 36-39**
C. Water resources including the water quality classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Waters;	**15, 82**
D. Fish and wildlife and their habitat;	**29-35**
E. State and federally listed endangered or threatened species and their habitat;	**29-35, 94-112**
F. Beaches and dunes;	

G. Swamps, marshes and other wetlands;	**16, 25-26**
H. Mineral resources, such as oil, gas and phosphate;	
I. Unique natural features, such as coral reefs, natural springs, caverns, large sinkholes, virgin timber stands, scenic vistas, and natural rivers and streams; and	
J. Outstanding native landscapes containing relatively unaltered flora, fauna, and geological conditions.	**15**
11. A description of actions the agency plans , to locate and identify unknown resources such as surveys of unknown archeological and historical resources.	**34, 36-39**
12. The identification of resources on the property that are listed in the Florida Natural Areas Inventory. *Include letter from FNAI or consultant, where appropriate.*	**94-112**
13. A description of past uses, including any unauthorized uses of the property. (Example #4)	**15-16**
14. A detailed description of existing and planned use(s) of the property. (Example #5)	**48-51**
15. A description of alternative or multiple uses of the property considered by the managing agency and an explanation of why such uses were not adopted.	**48-49**
16. A detailed assessment of the impact of planned uses on the renewable and non-renewable resources of the property and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to mitigate damage caused by such uses.	**51-57**
17. A description of management needs and problems for the property.	**27-29, 41-48**
18. Identification of adjacent land uses that conflict with the planned use of the property, if any.	**45**
19. A description of legislative or executive directives that constrain the use of such property.	**1-5**
20. A finding regarding whether each planned use complies with the State Lands Management Plan adopted by the Trustees on March 17, 1981, and incorporated herein by reference, particularly whether such uses represent "balanced public utilization", specific agency statutory authority, and other legislative or executive constraints.	**5**
21. An assessment as to whether the property, or any portion, should be declared surplus.	**5**
22. Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. Clearly defined map of parcels can be used.	**39-40**
23. A description of the management responsibilities of each agency and how such responsibilities will be coordinated, including a provision that requires that the managing agency consult with the Division of Archives, History and Records Management before taking actions that may adversely affect archaeological or historic resources. (Example #6)	**34, 36-39, 59**
24. A statement concerning the extent of public involvement and local government participation in the development of the plan, if any, including a summary of comments and concerns expressed. (Example #7)	**49, 142-**
Additional Requirements—Per Trustees	

25. Letter of Compliance of the management plan with the Local Government Comprehensive Plan. Letter from local government saying that the plan is in compliance with local government's comprehensive plan.	**5, 68**
253.034 State-Owned Lands; Uses. —Each entity managing conservation lands shall submit to the Division of State Lands a land management plan at least every 10 years in a form and manner prescribed by rule by the Board.	
26. All management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing entity plans to identify, locate, protect and preserve, or otherwise use fragile nonrenewable resources, such as archaeological and historic sites, as well as other fragile resources, including endangered plant and animal species.	**34, 36-39, 58-59**
27. The management plan shall provide for the conservation of soil and water resources and for the control and prevention of soil erosion.	**14**
28. Land management plans submitted by an entity shall include reference to appropriate statutory authority for such use or uses and shall conform to the appropriate polices and guidelines of the state land management plan.	**5**
29. All land management plans for parcels larger than 1,000 acres shall contain an analysis of the multiple-use potential of the parcel, which analysis shall include the potential of the parcel to generate revenues to enhance the management of the parcel.	**15, 83-86**
30. Additionally, the land management plan shall contain an analysis of the potential use of private managers to facilitate the restoration or management of these lands.	**27-29**
31. A physical description of the land.	**5, 8, 16, 25-29**
32. A desired outcome	**1-2**
33. A quantitative data description of the land which includes an inventory of forest and other natural resources; exotic and invasive plants; hydrological features; infrastructure, including recreational facilities; and other significant land, cultural, or historical features.	**25-29, 34, 36-39, 46, 48**
34. A detailed description of each short-term and long-term land management goal, the associated measurable objectives, and the related activities that are to be performed to meet the land management objectives. Each land management objective must be addressed by the land management plan, and where practicable, no land management objective shall be performed to the detriment of the other land management activities.	**57-61**
35. A schedule of land management activities which contains short-term and long-term land management goals and the related measurable objectives and activities. The schedule shall include for each activity a timeline for completion, quantitative measures, and detailed expense and manpower budgets. The schedule shall provide a management tool that facilitates development of performance measures.	**57-61**
36. A summary budget for the scheduled land management activities of the land management plan. For state lands containing or anticipated to contain imperiled species habitat, the summary budget shall include any fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitats, which fees shall be used solely to restore, manage, enhance, repopulate, or acquire imperiled species habitat. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3).	**61-62**

Each management plan shall describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. ***Short-term and long-term management goals shall include measurable objectives for the following, as appropriate:***	
(A) Habitat restoration and improvement;	**57-61**
(B) Public access and recreational opportunities;	**59-60**
C) Hydrological preservation and restoration;	**57-58**
(D) Sustainable forest management;	
(E) Exotic and invasive species maintenance and control;	**58**
(F) Capital facilities and infrastructure;	
(G) Cultural and historical resources;	**59**
(H) Imperiled species habitat maintenance, enhancement, restoration, or population restoration	**59**
253.036 Forest Management. —	
31. For all land management plans for parcels larger than 1,000 acres, the lead agency shall prepare the analysis, which shall contain a component or section prepared by a qualified professional forester which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel. (Example #8)	**83-86**
259.032 Conservation And Recreation Lands Trust Fund; Purpose. —	
(10)(a) State, regional or local governmental agencies or private entities designated to manage lands under this section shall develop and adopt, with the approval of the Board of Trustees, an individual management plan for each project designed to conserve and protect such lands and their associated natural resources. Private sector involvement in management plan development may be used to expedite the planning process.	

32. Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group - Management plan should list advisory group members and affiliations.	
33. The advisory group shall conduct at least one public hearing **in each** county in which the parcel or project is located. Managing agency should provide DSL/OES with documentation showing date and location of public hearing.	
34. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. Managing agency should provide DSL/OES with copy of notice.	
35. The management prospectus required pursuant to 259.032 (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	
36. Summary of Advisory Group Meeting should be provided to DSL/OES.	
37. Individual management plans shall conform to the appropriate policies and guidelines of the state land management plan and shall include, but not be limited to:	
A. A statement of the purpose for which the lands were acquired, the projected use or uses as defined in s. 253.034, and the statutory authority for such use or uses.	**1-2**
B. Key management activities necessary to achieve the desired outcomes, including, but not limited to, providing public access, preserving and protecting natural resources, protecting cultural and historical resources, restoring habitat, protecting threatened and endangered species, controlling the spread of nonnative plants and animals, performing prescribed fire activities, and other appropriate resource management activities.	**51-56**
C. A specific description of how the managing agency plans to identify, locate, protect, and preserve, or otherwise use fragile, nonrenewable natural and cultural resources.	**51-56**
D. A priority schedule for conducting management activities, based on the purposes for which the lands were acquired. (Example #10) The schedule must include a goal, an objective, and a time frame for completion.	**57-61**
E. A cost estimate for conducting priority management activities, to include recommendations for cost-effective methods of accomplishing those activities. *Using categories as adopted pursuant to 259.037, F.S., is suggested. These are: (1) Resource Management; (2) Administration; (3) Support; (4) Capital Improvements; (5) Visitor Services/Recreation; and (6) Law Enforcement.*	**61-62**
F. A cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired. The cost estimate shall include recommendations for cost-effective methods of accomplishing those activities. *Using categories as adopted pursuant to 259.037, F.S., is suggested. These are: (1) Resource Management; (2) Administration; (3) Support; (4) Capital Improvements; (5) Visitor Services/Recreation; and (6) Law Enforcement.(Example #10) Include approximate monetary cost and cost effective methods. Can be placed in the appendix.*	**61-62**
38. A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	**48-51**
259.036 Management Review Teams.—	

39. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Can be addressed in the body of the plan or addressed in an appendix. If not in agreement, the managing agency should reply in a statement in the appendix.*	**5**
Other Requirements	
40. This checklist table at front of plan (pursuant to request of ARC and consensus agreement of managing agencies.)	**i-vi**
41. Accomplishments (implementation) from last plan (format variable by agency)	
42. FNAI-based natural community maps (may differ from FNAI in some cases)	**94-112**
43. Fire management plans (either by inclusion or reference)(259.032)	**73-81**
44. A statement regarding incompatible uses [ref. Ch. 253.034 (9)]	
45. Cultural resources, including maps of all sites except Native American sites*	**34, 36-39**
46. Arthropod control plan	**29, 90-93**

*While maps of Native American sites should not be included in the body of the management plan, the DSL urges each managing agency to provide such information to the Division of Historical Resources for inclusion in their proprietary database. This information should be available for access to new managers to assist them in developing, implementing and coordinating their management activities.

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Fox Lake Sanctuary (FLS) is part of a sanctuary network established by the Environmentally Endangered Lands (EEL) Program in Brevard County. The intent of the Program is to acquire environmentally sensitive lands as a first step "towards long-term protection of essential natural resources, open space, green space, wildlife corridors and maintenance of natural ecosystems functions" (Brevard County EEL Program, Sanctuary Management Manual, 1997). The network of public lands also provides passive recreation and environmental education programs to Brevard County residents and visitors. Currently, title to the property is held by Brevard County through the EEL Program. FLS is located within the State of Florida's Brevard Coastal Scrub Ecosystem Project for environmentally important lands and therefore may qualify for 50% partnership funding from the State, in which time the title will be transferred to the Board of Trustees.

FLS encompasses ± 2,568 acres west of I-95 in Titusville, Brevard County, Florida. In December 2007, the EEL Program purchased ± 2,358 acres of the property from Hunters Brooke Titusville LLC. Hunters Brooke Titusville Inc. donated an additional 10 acres in September 2008. Hunters Brooke Titusville Inc. also donated 200 acres in the northwest portion of the property to the EEL Program in December 2009 with a conservation use easement in favor of Modern, Inc. An additional 480 acres of sovereign land is located within the Sanctuary boundary from South and Fox Lakes and is not reflected in the total acreage. The 2,568 acre site is located within Township 22 South, Range 34 East, Sections 01, 02, 03, 11, 12, 14, and 15. The property is south of and adjacent to Salt Lake Wildlife Management Area, east and adjacent to Seminole Ranch Conservation Area, north of St Johns National Wildlife Refuge and west of State Road 405. FLS, along with other EEL properties in the North Regional Management Area, is served by the EEL Program Management & Education Center at the Enchanted Forest Sanctuary, located south of FLS on State Road 405. As described in the Sanctuary Management Manual, FLS is a Category II site, or intermediate site. Category II sites may include nature trails, a dedicated parking area and interpretive signs along some nature trails. The single use site will be open for passive recreation to the public during daylight hours.

FLS consists primarily of wet prairie, floodplain swamp, mesic flatwoods, oak-saw palmetto scrub and scrubby flatwoods. Preliminary surveys of the site and surrounding lands noted the presence, or potential presence, of several listed plant and animal species. Protected species documented on-site during recent or past studies include Curtiss' milkweed (*Asclepias curtissii*), lacelip ladiestresses (*Spiranthes laciniata*), gopher tortoise (*Gopherus polyphemus*), American alligator (*Alligator mississippiensis*), Bald Eagles (*Haliaeetus leucocephalus*), and Florida Scrub-Jays (*Aphelocoma coerulescens*).

The primary goals of the site include the conservation and restoration of ecosystem function, natural communities, and native species habitat. The collection and documentation of natural and cultural resource data are important management goals. Other management goals include the provision of public access and environmental education.

Existing cleared roads throughout the site offer opportunities for public access including hiking, mountain biking, horseback riding, and nature observation. The property includes a portion of South Lake and Fox Lake, which provides the availability for canoeing and kayaking. These opportunities are not available on EEL lands elsewhere in the North Region. A trailhead at the end of Fox Lake Rd. will provide access to these trails. An educational kiosk will include information about the site and the EEL Program. Guided hikes can also be scheduled for the property. 5.6 miles of hiking trails are proposed for the site, offering an abundance of volunteer opportunities. The trails will be natural surface trails with minimal improvements such as boardwalks and signage where necessary. The proposed recreation and educational opportunities will provide Brevard County residents with an opportunity to enjoy of the unique and valuable natural resources available in Brevard County, thereby promoting the long-term preservation of Brevard's natural heritage.

II. INTRODUCTION

In two separate referendums in 1990 and again in 2004, Brevard County voters approved funding for the Environmentally Endangered Lands (EEL) Program. The mission of the EEL Program is "Protecting and Preserving Biological Diversity Through Responsible Stewardship of Brevard County's Natural Resources." The Program's Vision Statement is as follows:

> "The Environmentally Endangered Lands (EEL) Program acquires, protects and maintains environmentally endangered lands guided by scientific principles for conservation and the best available practices for resource stewardship and ecosystem management. The EEL Program protects the rich biological diversity of Brevard County for future generations. The EEL Program provides passive recreation and environmental education opportunities to Brevard's citizens and visitors without detracting from primary conservation goals of the program. The EEL Program encourages active citizen participation and community involvement."

The Program established a conceptual framework and funding mechanism to implement an EEL sanctuary network in Brevard County. The EEL sanctuary network represents a collection of protected natural areas that form a regional conservation effort focused upon protection of biological diversity. Within the countywide EEL sanctuary network, four management areas are geographically defined within Brevard County. For each management area, a specific site is identified as a Center for Regional Management. The sites that will function as Centers for Regional Management for the EEL Program are:

I. The Enchanted Forest Sanctuary (Regional Management Center for North Mainland)
II. Pine Island Conservation Area (Regional Management Center for Central Mainland)
III. Malabar Scrub Sanctuary (Regional Management Center for South Mainland)
IV. Barrier Island Center (Regional Management Center for South Beaches)

These Centers provide strategically located hubs for implementing the countywide conservation, passive recreation, and environmental education goals of the EEL Program.

Other EEL sanctuaries within the North Regional Management Area include: Buck Lake Conservation Area (managed jointly with SJRWMD), North Buck Lake Scrub Sanctuary, South Lake Conservation Area, Scottsmoor Flatwoods Sanctuary, Indian River Sanctuary, Indian Mound Station Sanctuary and Dicerandra Scrub Sanctuary.

The EEL Program *Sanctuary Management Manual* (SMM) guides conservation and land stewardship decisions implemented by the Brevard County EEL Program. The SMM details principles and directives for conservation, public access and environmental education within the EEL sanctuary network. The SMM also outlines the EEL Selection & Management Committee's (SMC) role in advising staff and the Brevard County Board of County Commissioners on acquisition and management related issues (Chapter 2, Section 4.3.4).

As outlined in the SMM, the EEL Program will adopt and implement an ecosystem approach to environmental management. Ecosystem management is defined as an integrative, flexible approach to the management of natural resources. Key themes of ecosystem management include the following:

1. Adaptive Management – Natural areas must be managed in the context of the landscape in which they exist and based on scientific knowledge. Resource managers must adapt to continuing advances in the scientific understanding of ecosystems and changing environmental and human influences on the resources.

2. Partnerships – Interagency and private sector partnerships are essential to manage and protect ecosystems. Natural resource management is complex and requires multi-disciplinary skills and experiences.

3. Holistic Approach – Ecosystem management includes the maintenance, protection, and improvement of both natural and human communities. This system approach to management considers the "big picture" of natural resource protection, community economic stability and quality of life.

Land management issues, such as fire management, protection and restoration of natural hydrologic cycles, threatened and endangered species, and removal of invasive exotics must be integrated with issues, such as provisions for public access and levels of human use. The integration of ecosystem protection and human needs combine to form the foundation of an effective ecosystem management strategy.

The Environmentally Endangered Lands Program SMM establishes a general framework for management of specific sites and establishes ten Principles of Conservation summarized below, to achieve the following:

1. Maintain all sites in a natural state and/or restore sites to enhance natural resource values.
2. Protect natural resource values by maintaining biological diversity and using conservation as a primary goal for decision-making.
3. Balance human use with the protection of natural resources.
4. Apply the most accurate scientific principles to strategies for conservation.
5. Collect and use the most accurate data available for developing site management plans.
6. Consider the interests and values of all citizens by using scientific information to guide management policy making.
7. Promote effective communication that is interactive, reciprocal, and continuous with the public.
8. Promote the value of natural areas to Brevard County residents and visitors through the maintenance of the quality of resource values, public services, and visitor experiences.
9. Promote the integration of natural resource conservation into discussions of economic development and quality of life in Brevard County.
10. Provide a responsible financial strategy to implement actions to achieve long-term conservation and stewardship goals.

In addition to the Principles of Conservation, this Management Plan will provide specific goals, strategies, and actions to guide management of the sanctuary in terms of the objectives of the Environmentally Endangered Lands Program. The plan is divided into the following ten sections:

I. *Executive Summary* identifies the location, size, general natural resource features and primary management goals for the site.

II. *Introduction* provides a brief introduction to the EEL Program and the site and describes the structure of the management plan.

III. *Site Description and Location* provides a detailed site location and description.

IV. *Natural Resource Descriptions* includes physical resources (climate, geology, topography, soils, and hydrology), biological resources (ecosystem function, flora, fauna, designated species, and biological diversity), and cultural resources (archaeological, historical, land-acquisition history, and public interest).

V. *Factors Influencing Management* includes natural trends, human-induced trends, external influences, legal obligations and constraints, management constraints, and public access and passive recreation.

VI. *Management Action Plans* include specific goals, strategies and actions.

VII. *Projected Timetable for Implementation* prioritizes activities and provides a time frame for Management Plan implementation.

VIII. *Financial Considerations* discusses funding mechanisms and projected management costs.

IX. *Bibliography* cites original research and publications used to develop the Management Plan.

X. *Appendices* includes supplemental information

Uses planned for FLS comply with the Conceptual State Lands Management Plan and its requirement for "balanced public utilization," and comply with the mission of the EEL program as described in the SMM. Such uses also comply with Article VIII, Section 1 of the Florida Constitution as well as Chapters 375, 380, 259, 125, and 403 of the Florida Statutes. This plan is also in conformance with the Local Government Comprehensive Plan for Brevard County, Florida, as approved and adopted. The letter confirming compliance is contained in Appendix A. Additionally, the EEL Program will consider the findings and recommendations of the Land Management Review Team in finalizing the required 10-year update should the title be transferred to the State of Florida.

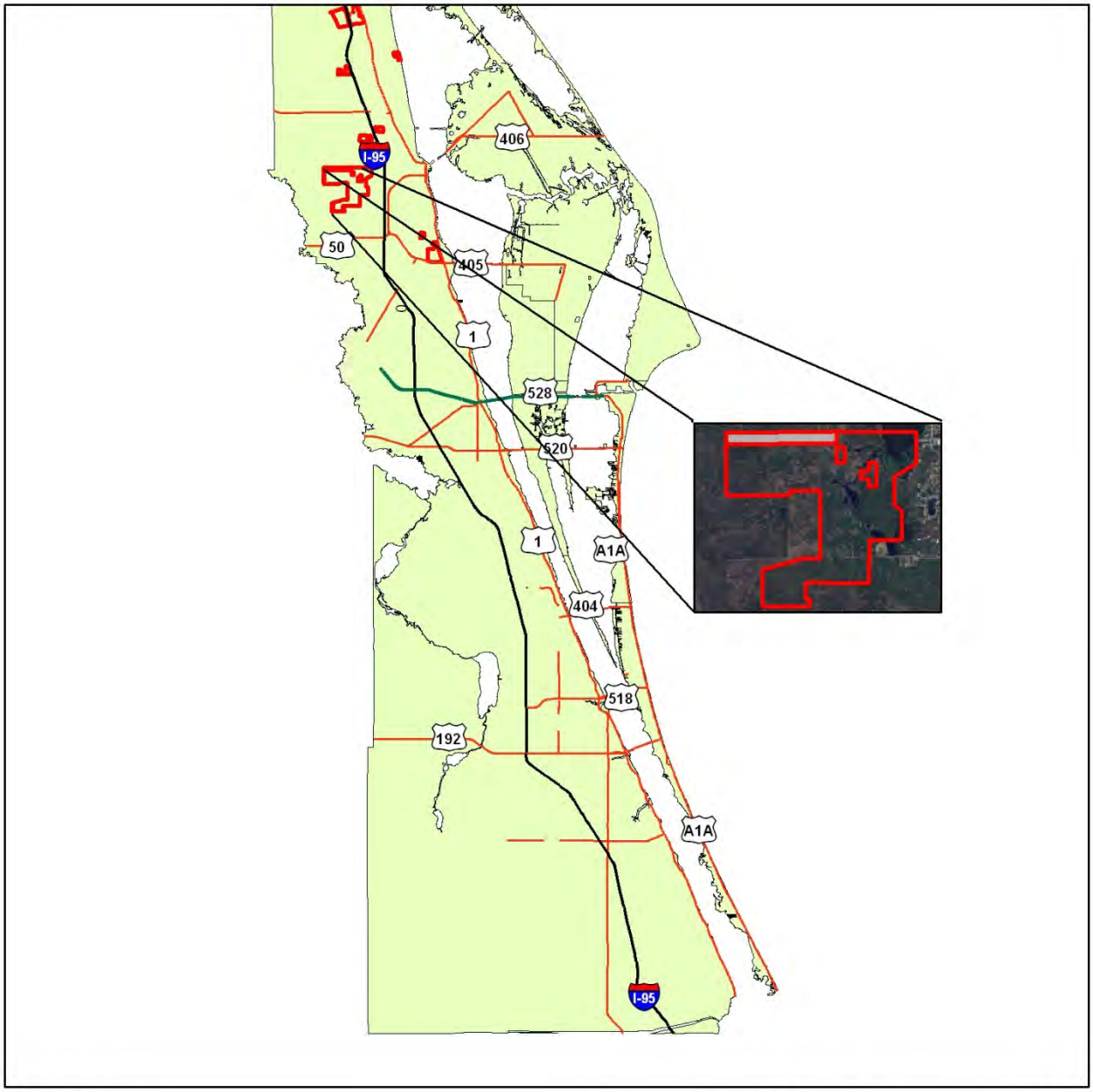
III. SITE DESCRIPTION AND LOCATION

FLS is a 2,568-acre site (Township 22 South, Range 34 East, and Sections 1, 2, 3,11,12,13, 14 and 15) located west of Interstate 95 and north of State Road 50 in Titusville, Florida (Figure 1, Appendix B). The site is located within, and is part of the Brevard County Scrub Ecosystem Project. The EEL Selection and Management Committee (SMC) considered site location, natural communities, biological diversity, habitat quality, and contribution to functional ecological integrity to determine if the acquisition of FLS met the EEL Program conservation goals. If the title is transferred to the State of Florida in the future, there is no portion of acreage at FLS that should be declared surplus.

FLS is south and adjacent to Salt Lake Wildlife Management Area (SLWMA) and is also bordered to the north by South Lake (Figure 2). Seminole Ranch Conservation Area (SRCA) and private property borders FLS to the west. SLWMA and SRCA are both owned by the St. Johns River Water Management District (SJRWMD). SLWMA is managed by the Florida Fish and Wildlife Conservation Commission (FWCC) while SRCA is managed by SJRWMD. Fox Lake is located directly east of the Sanctuary, and both the southern and eastern boundaries of the Sanctuary are adjacent to private properties. Although not directly adjacent to the FLS, the St. Johns National Wildlife Refuge (SJNWR) and Fox Lake Park are located to the south and east, respectively. SJNWR is managed by the U.S Fish and Wildlife Service (USFWS), while Brevard County Parks and Recreation Department manages Fox Lake Park.

FLS is composed of nine different natural communities including a ruderal community located at the Sanctuary entrance west of Fox Lake Road. FLS consists mainly of wet prairie, floodplain swamp, mesic flatwoods, oak-saw palmetto scrub and scrubby flatwoods.

Figure 1: Fox Lake Sanctuary General Location



Legend

Sanctuary Boundary

Conservation Easement

N
W E
S

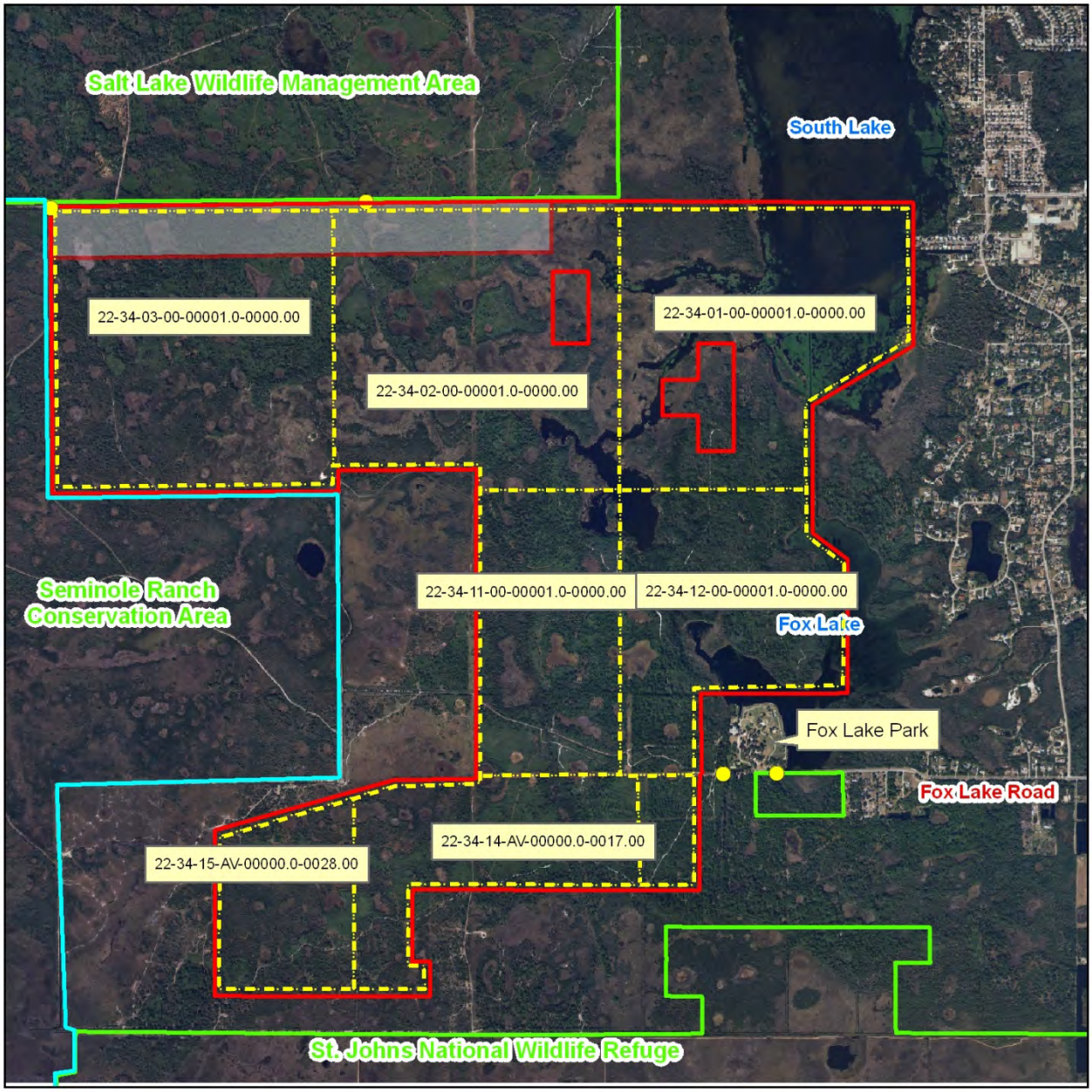
0 5 10 20 Miles

Map updated on 04/15/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 2: Fox Lake Sanctuary Location Map



Legend

- Sanctuary Boundary
- Conservation Easement
- Gate
- Parcel ID

N
W E
S

0 1,375 2,750 5,500 Feet

Map updated on 06/28/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

The wet prairie consists of a dense understory of sand cordgrass (*Spartina bakeri*) with no canopy. Other understory species present include; taperleaf waterhorehound (*Lycopus rubellus*), yellow-eyed grass (*Xyris* spp.), peelbark St. John's-wort (*Hypericum fasciculatum*), swamp fern (*Blechnum serrulatum*), clustered bushmint (*Hyptis alata*), sugarcane plumegrass (*Saccharum giganteum*), Jamaica swamp sawgrass (*Cladium jamaicense*) and Virginia buttonweed (*Diodia virginiana*) (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006). The mesic flatwood community at FLS consists of an open canopy of slash pine (*Pinus elliottii*) with occasional longleaf pine (*Pinus palustris*). The understory consists of saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), shiny lyonia (*Lyonia lucida*), yellow milkwort (*Polygala rugelii*), shiny blueberry (*Vaccinium myrsinites*), winged sumac (*Rhus copallinum*), vanillaleaf (*Carphephorus odoratissimus*), whitetop aster (*Sericocarpus tortifolius*), bottlebrush threeawn (*Aristida spiciformis*), and fireweed (*Erechtites hieraciifolius*) (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006).

IV. NATURAL RESOURCE DESCRIPTIONS

This section provides descriptions of the natural resources, including physical resources (climate, geology, topography, soils, and hydrology), biological resources (ecosystem function, flora, fauna, designated species, and biological diversity) and cultural resource information (archeological, historical, land-use history and public interest). Climatic change, seasonal variability, topographic relief, soil types, and disturbance contribute to species distribution and community composition.

A. Physical Resources

a. Climate

FLS is located in east central Florida, an isothermal area at the junction of the temperate and sub-tropical climatic zones. Temperature data from representative locations in Brevard County indicate an average annual temperature of approximately 74°F. August is typically the warmest month, averaging 82°F, whereas January is the coolest month, averaging about 62°F (Schmocker et al. 1990). Summer temperatures are moderated by frequent afternoon thunderstorms. Periods of extreme cold weather are infrequent due to the site's latitude and proximity to the Atlantic Ocean. The most recent "hard" freeze occurred in the winter of 1989. Long-term rainfall data for the area indicate an average of 54 inches per year in north Brevard County (Schmocker et al. 1990). Wet and dry seasons are typically well defined, with the wet season occurring between May and October, and the dry season occurring between November and April. Annual and seasonal rainfall is subject to large variation in both amount and distribution.

During summer, Central Florida has some of the highest frequencies of thunderstorms in the world, which is the natural ignition source in Florida (Duncan et al. 2010). Cloud to ground lightning strikes occurs frequently during summer storms. This is an important source of natural fire ignition, which determined the historic natural fire regime.

Prevailing winds are generally from north to northeast during the dry season (November to April) and from the east during the wet season (May to October) (ESMC, 1989).

b. Geology

FLS is located on the Atlantic Coastal Ridge, a geological shoreline feature estimated to have formed up to 140,000 years ago when the sea level was as much as 30 feet above the present level. The property is part of a relic beach and dune system, an important geological feature that influences the biological diversity of Brevard County. Brevard County is not aware of any mineral resources, such as oil, gas and phosphate located within the Sanctuary boundary.

The Atlantic Coastal Ridge extends along the east coast of Florida and is a major feature of the mainland of Brevard County, made of both single and multiple relict beach ridges. These ridges appear to have formed along an erosional rather than prograding shoreline, and in most places contain little carbonates. Formation of the Atlantic Coastal Ridge is associated with Pamlico time (ca. 140,000 – 120,000 years before present) (Schmalzer et al.1999).

c. Topography

Based on a review of the USGS Topographic Quadrangle Map (Figure 3), ground elevations throughout the property vary from 15’ National Geodetic Vertical Datum (NGVD) in the lower southwest corner of the property to approximately 30’ NGVD in the east central area of the property. The majority of the site is at an elevation of approximately 15’ NGVD. A few isolated ridges and knolls within the eastern portion of the property rise above an elevation of 20’ NGVD.

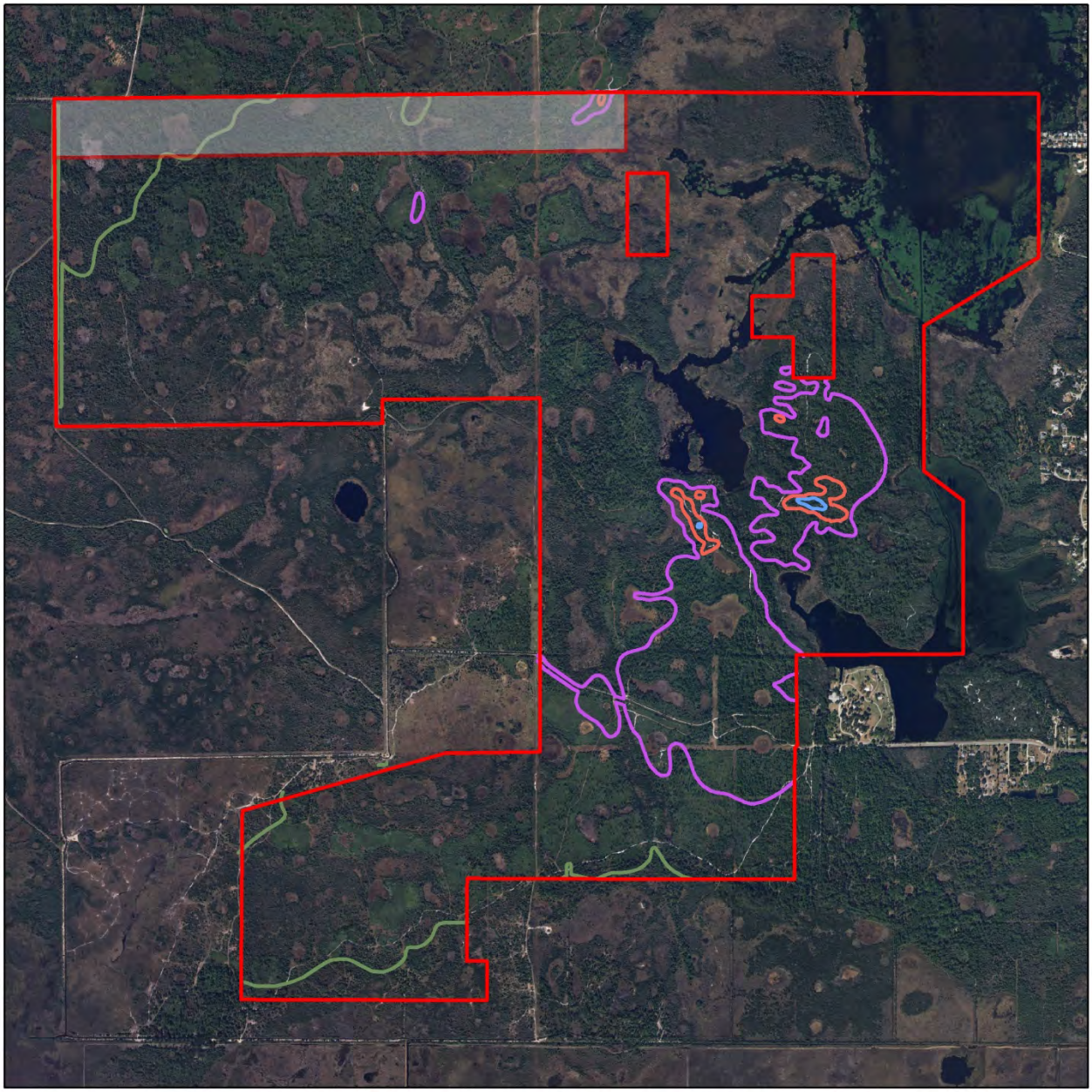
d. Soils

The soil types within the FLS, as defined by the Natural Resource Conservation Service (formerly the Soil Conservation Service), (Figure 4) are as follows:

Anclote sand (*An*) is a nearly level, very poorly drained sandy soil. This soil type is characteristic of broad areas on flood plains, marshy depressions in the flatwoods, and poorly defined drainage ways. In most years, the water table is within a depth of 10 inches for more than 6 months. In dry seasons it is deeper, but seldom below a depth of 40 inches. The soil is flooded for 2 to 7 days following heavy rains.

Eaugallie sand (*Eg*) is a nearly level, poorly drained soil. This soil type is characteristic of broad areas on low ridges in flatwoods. In most years the water table is within a depth of 10 inches for 1 to 4 months and between 10 and 40 inches for more than 6 months. In dry seasons it is below a depth of 40 inches. The soil is flooded 7 days to a month once in 5 to 20 years.

Figure 3: Fox Lake Sanctuary Topographic Map



Legend

- Sanctuary Boundary
- Conservation Easement

Elevation (NGVD)

- 15
- 20
- 25
- 30

N
W E
S

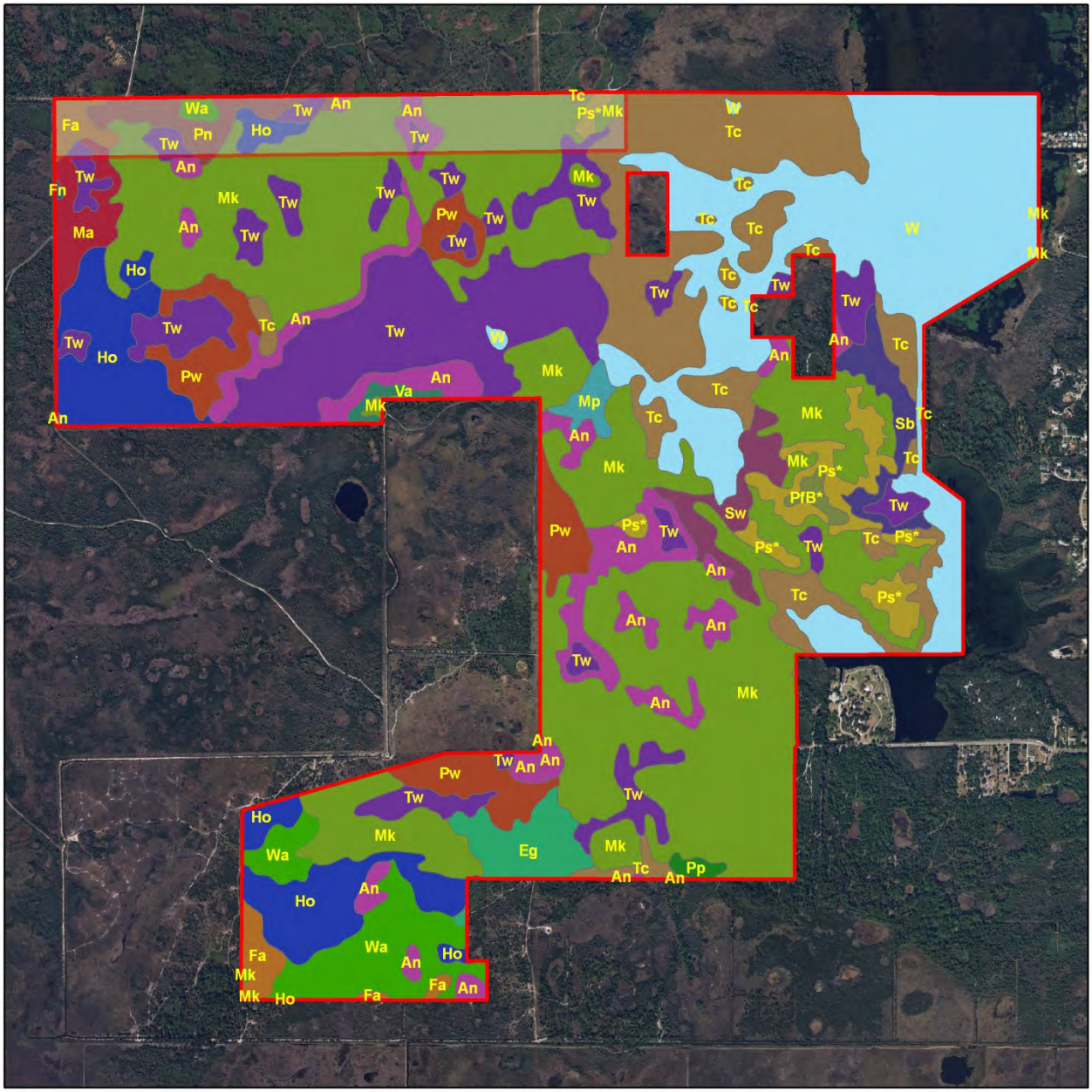
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: USGS Topographic Quadrangle.

Figure 4: Fox Lake Sanctuary Soil Map



Felda sand (*Fa*) is a nearly level, poorly drained soil on broad, low flats and in sloughs, depressions, and poorly drained drainageways. The water table is within a depth of 10 inches for 2 to 6 months in most years and is typically between 10 and 40 inches the rest of the year. Water rises above the surface for 2 to 7 days in 1 to 3 moths of the year. Depressions are flooded for more than 6 months in most years.

Floridana sand (*Fn*) is a nearly level, very poorly drained soil consisting of a surface layer of thick black sand. This soil type is characteristic of broad floodplains and in small to large marshy depressions. In most years, the water table is within a depth of 10 inches for 6 to 9 months and is typically between 10 and 30 inches the rest of the year. Water rises above the surface 2 to 7 days in 1 to 6 months of each year.

Holopaw sand (*Ho*) is a nearly level, poorly drained soil. This soil type is characteristic of broad flat areas on river flood plains, small depressions and poorly defined drainage ways. In most years, the water table is within a depth of 10 inches for 2 to 6 months and is typically between 10 and 30 inches the rest of the year. Many areas are continuously flooded for 1 to 3 months each year.

Malabar sand (*Ma*) is a nearly level, poorly drained soil. This soil type is characteristic of broad areas in low areas, in sloughs, and poorly defined drainage ways. In most years the water table is within a depth of 10 inches for 1 to 2 months and between 10 and 40 inches the majority of the year.

Myakka sand (*Mk*) is a nearly level, poorly drained sandy soil in broad areas in flatwoods and in areas between sand ridges and sloughs and ponds. In most years the water table is within a depth of 10 inches for 1 to 4 months and between 10 and 40 inches for more than 6 months. In dry seasons it is below a depth of 40 inches. The soil is flooded for 2 to 7 days once in 1 to 5 years.

Myakka sand, ponded (*Mp*) is a nearly level, poorly drained, sandy soil in shallow depressions in the flatwoods. This soil is similar to Myakka sand, but it is in low places where water accumulates. In most years it is flooded for 6 to 12 months.

Paola fine sand, 0 to 5 percent slopes (*PfB*)* is an excessively drained soil on ridges. It has a profile described as representative of the series. The water table is below a depth of 10 feet. Paolo fine sand, 0 to 5 percent slopes is an aquifer recharge soil.

Pineda sand (*Pn*) is a nearly level poorly drained sandy soil on broad hammocks and in low sloughs. It has a profile described as representative of the series. In most years the water table is within a depth of 10 inches for 1 to 2 months and between 10 and 40 inches for more than six months. In dry seasons it is below a depth of 40 inches. The soil is flooded for 2 to 7 days once in 1 to 5 years.

Pineda sand, dark surface variant (*Pp*) is a nearly level, poorly drained sandy soil on broad hammocks and in low sloughs. It has a loamy subsoil at a depth of about 40 inches. The water table is within a depth of 10 inches for 1 to 2 months in most years and is

between 10 and 40 inches for more than 6 months. In dry periods it is at a depth of more than 40 inches. This soil is flooded for 2 to 7 days once in 1 to 5 years.

Pomello sand (*Ps*)* is a nearly level, moderately well drained sandy soil on broad low ridges and low knolls. The water table is 30 to 40 inches below the surface for 2 to 4 months in most years and between 40 and 60 inches for more than 6 months. During dry periods, it is below 60 inches for short periods. Pomello sand is an aquifer recharge soil.

Pompano sand (*Pw*) is a nearly level, poorly drained sandy soil on broad flats in shallow depressions and in sloughs. In most years the water able is within 10 inches of the surface for 2 to 6 months, and occasionally following heavy rain it rises above the surface for 2 to 7 days. It is ordinarily between depths of 10 to 40 inches for 6 months or more. During dry seasons it drops below 40 inches for brief periods.

St. Johns sand (*Sb*) is a nearly level, poorly drained sandy soil on broad low ridges in flatwoods. This soil has the profile described as representative of the series. The water table is within a depth of 10 inches for 2 to 6 months in most years and typically between 10 and 40 inches the remainder of the year. During extended dry periods it is below 40 inches. This soil is occasionally flooded for 2 to 7 days following heavy rains.

Swamp (*Sw*) consists of nearly level, poorly drained and very poorly drained areas of soils that have a dense cover of wetland hardwoods, cypress trees, vines, and shrubs. Swamp is in poorly defined natural drainageways, in depressions, and in large bay heads. It is flooded with fresh water most of the time.

Terra Ceia muck (*Tc*) is a nearly level, very poorly drained muck soil, more than 52 inches thick, in broad flat marsh areas and small depressions. The water table is within a depth of 10 inches for 9 to 12 months in most years, and water stands on the surface for more than 6 months. In dry seasons the water table is lower, but seldom falls below a depth of 30 inches.

Tomoka muck (*Tw*) is a nearly level, very poorly drained muck soil in broad flat marshes, small depressions, and swamps. Sandy and loamy layers are at a depth of 16 to 40 inches. The water table is within a depth of 10 inches for 9 to 12 months in most years, and water is frequently above the surface. In dry periods it is between 10 and 30 inches.

Valkaria sand (*Va*) is a nearly level, poorly drained sandy soil in grassy sloughs, low palm hammocks, and broad low areas. It is frequently flooded for periods of 2 to 7 days following heavy rains. The water table is within a depth of 10 inches for 2 to 6 months of most years. In dry periods it is within a depth of 30 inches.

Wabasso sand (*Wa*) is a nearly level, poorly drained, sandy soil on broad areas in the flatwoods and on low ridges on the floodplains. The water table is within a depth of 10 inches for 1 to 2 months in most years and is within 30 inches most of the time. In dry seasons it falls below 30 inches for short periods. The soil is flooded for 2 to 7 days once in 1 to 5 years.

(Source: U.S Department of Agriculture. Soil Survey of Brevard County, Florida, 1974)
Note: * denotes a soil with aquifer recharge characteristics

Soil disturbing activities will be limited to creating and maintaining firelines and hiking trails. On areas that have been disturbed prior to acquisition, assessments will be made to determine if soil erosion is occurring, and, if so, the appropriate measures to stop or control the effects of the erosion.

e. Hydrology

FLS lies within Community Panel Number 175 and 180, of the FEMA maps dated April 1989 (Appendix C). The FEMA map shows that the majority of the site resides in flood zone A. Flood zone A means that no base elevation has been determined. Isolated portions of the sanctuary lies in flood zone X. Flood zone X is an area that is deemed to be outside the 500-year flood plain. The property is not located within an Aquatic Preserve, designated as an Area of Critical State Concern or under review for such designation.

The site is underlain by the Floridan Aquifer at a depth of 95 to 100 feet below the ground surface. Shallow groundwater locally flows toward South Lake and Fox Lake (two dominate hydrologic features to the east), however, a number of small to large man-made drainage ditches and swales are present throughout the site and direct much of the surface and groundwater westward toward the St. Johns River Valley.

B. Biological Resources

a. Ecosystem Function

The preservation of FLS ecosystem function depends on the enhancement of its natural communities, which will result in an increase of species viability. Restoration of the natural communities is mainly dependent upon the removal of exotic species, the reintroduction of an adequate fire regime and the restoration of the natural hydroperiod. FLS management actions include; the restoration of natural communities, restoration and enhancement of habitat for gopher tortoises and Florida Scrub-Jays, removal of invasive exotic species and implementation of prescribed fire. The FLS Fire Management Plan (Appendix D) identifies each fire dependant ecosystem with a specific fire regime, the location of each fire unit and fireline and the pre-burn treatment necessary for each unit before the implementation of prescribed burn.

FLS is approximately six miles north northwest of the Enchanted Forest Sanctuary, a 471.31-acre conservation area managed by the EEL Program. These properties along with Dicerandra Scrub Sanctuary, Salt Lake Wildlife Management Area, Seminole Ranch Conservation Area, St. Johns National Wildlife Refuge, South Lake Conservation Area, Indian Mound Station Sanctuary, Scottsmoor Flatwoods Sanctuary, North Buck Lake Scrub Sanctuary and Buck Lake Conservation Area, and other Florida Forever Board of

Trustees projects in the vicinity, help to form a conservation corridor within the urban areas of North Brevard County.

FLS preserves a fine example of the upland and wetland communities that once covered larger areas of Brevard County. These communities in a contiguous form, increases the value of the site in terms of ecosystem function. These communities support a high number of endemic plant and animal species. The preservation of ecotones (transition areas between community types) also increases the intrinsic biological value of the site. These ecotones are important due to the high diversity of plant species found in these areas, and the wide variety of animal species that depend upon these areas for significant life function requirements.

FLS wetland communities consist of wet prairie in the northwestern and southeastern corners of the Sanctuary, portions of South and Fox Lakes with floodplain swamp bordering South Lake and its tributaries. The remaining floodplain swamp is located in the southwestern portion of the FLS. Wet flatwoods occur in the western and southwestern areas of the site while the majority of hydric hammock exists in the northern portion of the property. Numerous depression marshes occur throughout the mesic, scrubby and wet flatwood communities. The Department of Environmental Protection considers all surface waters on FLS, including isolated wetlands, as Class III waters (Rule 62-302.400(12)(b)5.,FAC). The site does not include any Outstanding Florida Waters (Rule 62-302.700, Florida Administrative Code) (Appendix E).

Mesic flatwoods located in the northwest and south central areas dominate the upland communities with oak-saw palmetto scrub and scrubby flatwoods occurring in the southeastern area of the Sanctuary on a ridge of Paola and Pomello sand (Schmalzer 1993). Section 253.036 of the Florida Statues requires that plans in excess of 1,000 acres include a timber assessment prepared by a qualified professional forester to assess the feasibility of managing timber resources for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices (Appendix F). A small ruderal area is located at the Sanctuary entrance west of Fox Lake Road, which was historically mesic flatwoods and was probably disturbed during the construction of the road. The site has been impacted by invasive plant species, off road vehicles, trash dumping, hunting, commercial cabbage palm (*Sabal palmetto*) and sand cordgrass harvesting over the past 25+ years.

The Sanctuary, along with adjacent parcels of scrub habitat, is important as a surficial aquifer recharge area. Recharge occurs when water seeps through well-drained upland scrub soils down to the aquifer layer to be stored. The site is also important in the preservation of designated plant and animal species. Although commercial cabbage palm and sand cordgrass harvesting has occurred at FLS, the site still provides a significant area of unaltered flora and fauna, free from development.

b. Flora

This section describes the preliminary plant communities identified within FLS. The vegetative communities are described using the Florida Natural Areas Inventory's *Guide*

to the Natural Communities of Florida (2010) as shown in Figure 5. A complete floristic inventory has not been conducted for this conservation area. A preliminary list of the exotic plant species found on site is listed in the Management Constraints section of this management plan. To complete the plant survey, a yearlong floristic survey will be conducted.

Historical aerial photographs were reviewed to determine changes to vegetative community type and structure, as well as man-induced changes in the past fifty years. Historical aerial photographs from 1943, 1958, 1969, 1972, 1983, 1993, and 2009 are provided as Figures 6, 7, 8, 9, 10, 11, and 12, respectively. The natural community component of this property is rather diverse with excellent examples of the natural community transitions typical of this Atlantic Coastal Ridge system. Aerial photographs from 1943 to the present were examined to determine what changes have occurred within these plant communities.

After review of the historical aerial photographs, some of the unimproved roads can be seen dating back to 1943 (Figure 6), suggesting that portions of the site were utilized for turpentine, timber and or cattle farming. By 1958, a ditch was constructed along the west property line and an unimproved road running east-west through the property (Figure 7). The 1969 aerial (Figure 8) shows the most dramatic change of the aerials as the Florida Power and Light easement is now visible running north-south, Fox Lake Road is present and Fox Lake Park appears to be under construction and Fox Lake and South Lake are now joined by the construction of a canal. I-95 (3/4 mile east) was constructed and opened, while residential development begins to encroach into the area. The 1972 aerial (Figure 9) shows a portion on the central east bank of South Lake has been filled in and now supports a residential community. The 1983 aerial (Figure 10) shows Fox Lake drained as part of a multiphase drawdown. Between 1993 and 2009 (Figures 11 & 12), most of the property remained relatively unchanged as the property was mainly used for cattle grazing and native plant harvesting.

Wetland Communities

Wet prairie (G2/S2)* - This community type makes up the majority of the site. These generally consist of a treeless plain with a dense groundcover of sand cordgrass (Schmalzer 1993). Other plant species include Virginia waterhorehound, yellow-eyed-grass, St. John's-wort, swamp fern, cluster bushmint, sugarcane plumegrass, sawgrass and Virginia buttonweed (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006). Scattered patches of wet prairie also occur throughout the remainder of the site. Due to fire suppression and hydrological alteration, the wet prairie in the northwestern corner of the property has been invaded by brush species like wax myrtle (*Myrica cerifera*).

* Key: Florida Natural Areas Inventory (FNAI) natural community designations assigns two ranks for each natural community (element): G = global element rank, S = state element rank. Numbers represent: 1 = critically imperiled because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of vulnerability to extinction; 2 = imperiled because of rarity (6-20 occurrences or less than 3,000 individuals) or because of vulnerability to extinction; 3 = either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction because of other factors; 4 = apparently secure (may be rare in parts of range); 5 = demonstrably secure; #? Tentative rank; G?/S? not yet ranked (temporary).

Figure 5: Fox Lake Sanctuary Natural Communities

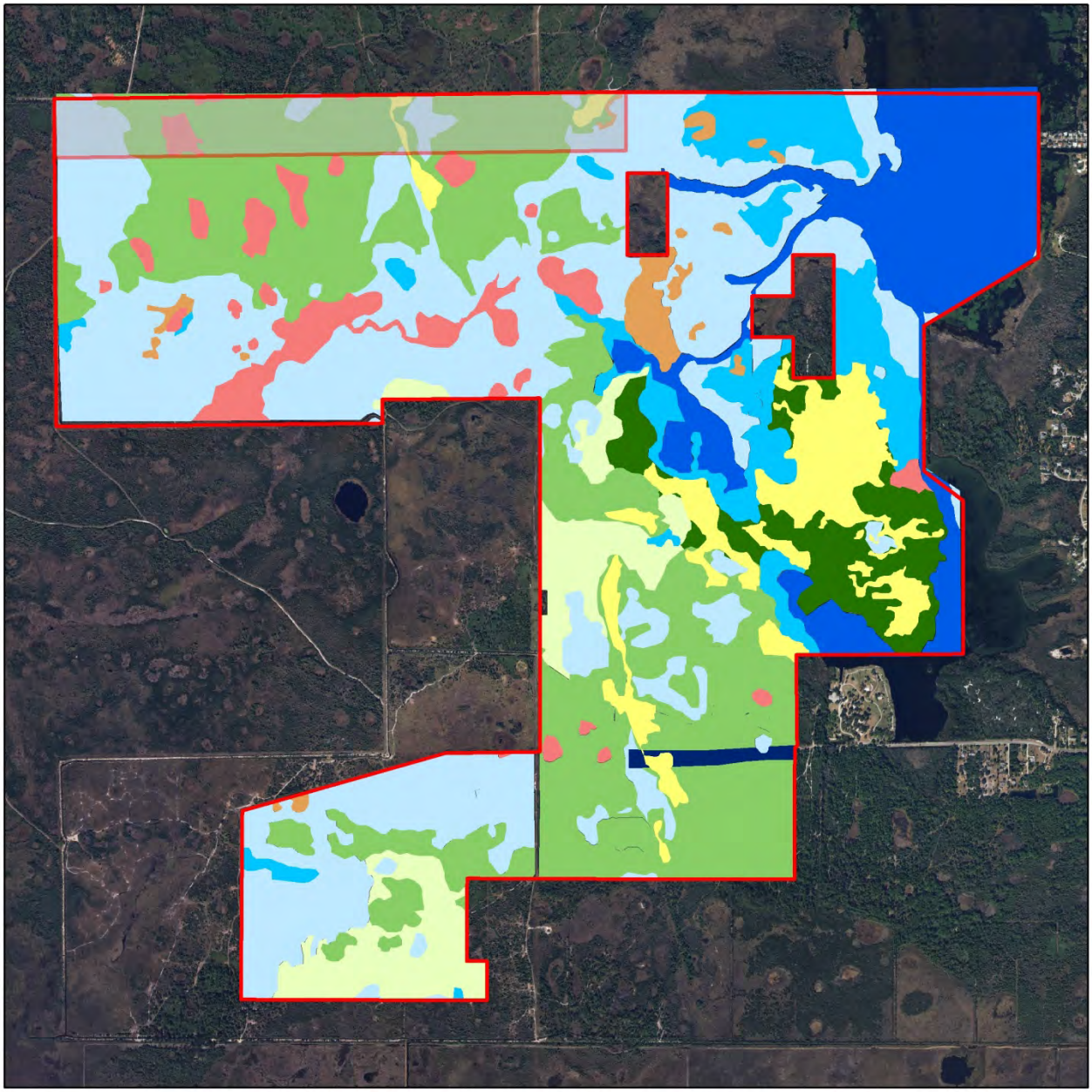
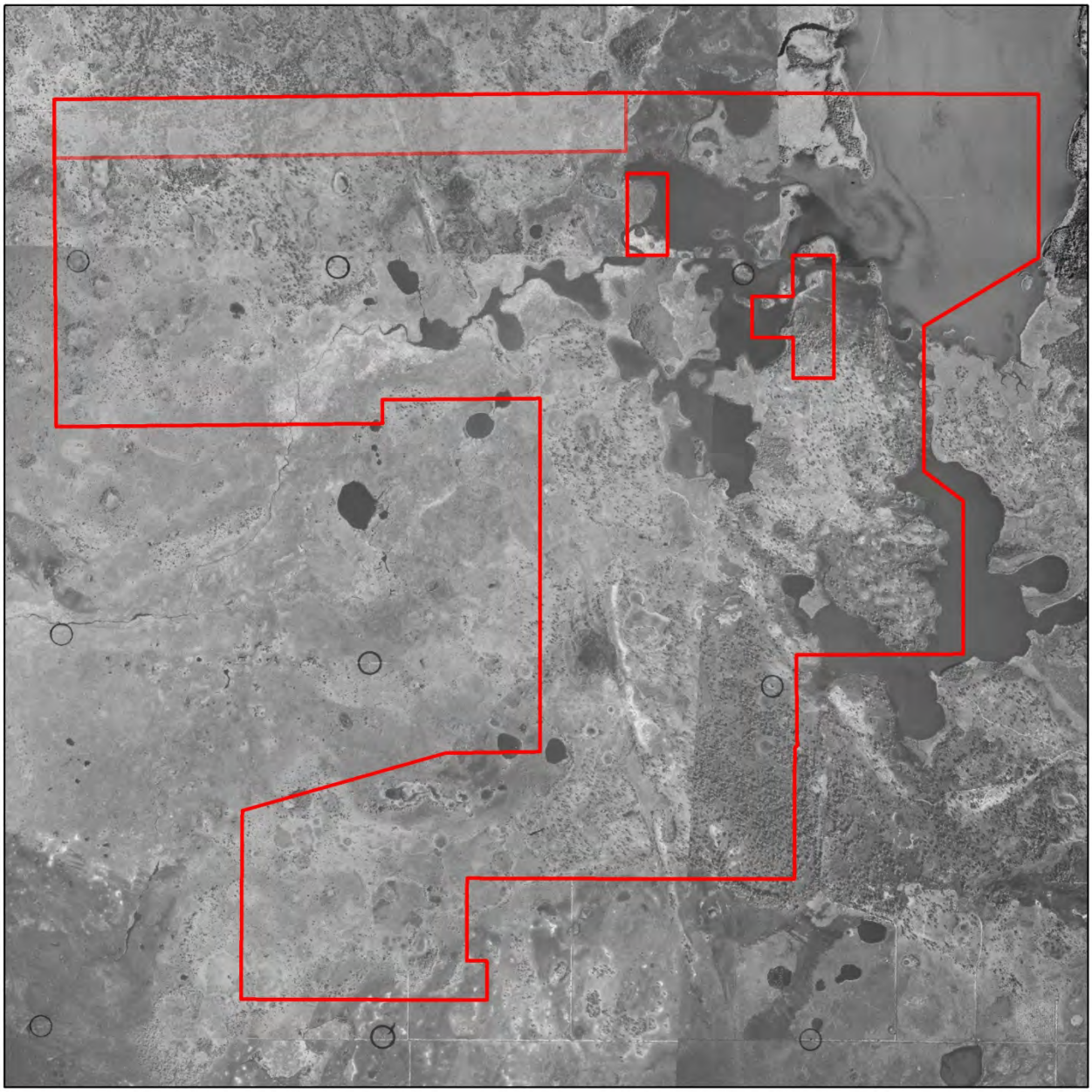


Figure 6: Fox Lake Sanctuary
1943 Aerial



Legend

Sanctuary Boundary

Conservation Easement

N
W E
S

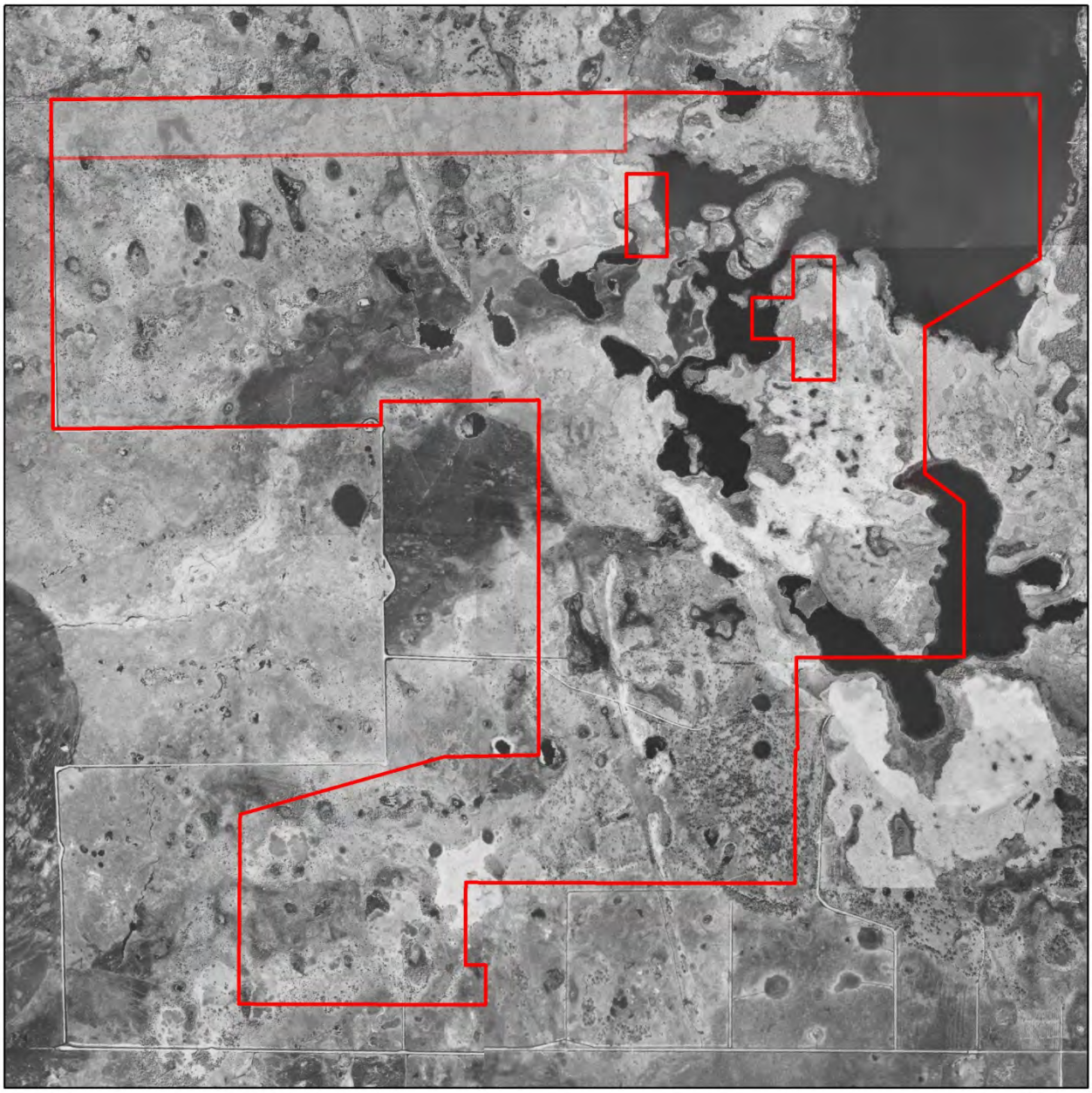
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 7: Fox Lake Sanctuary
1958 Aerial



Legend

Sanctuary Boundary

Conservation Easement

N
W E
S

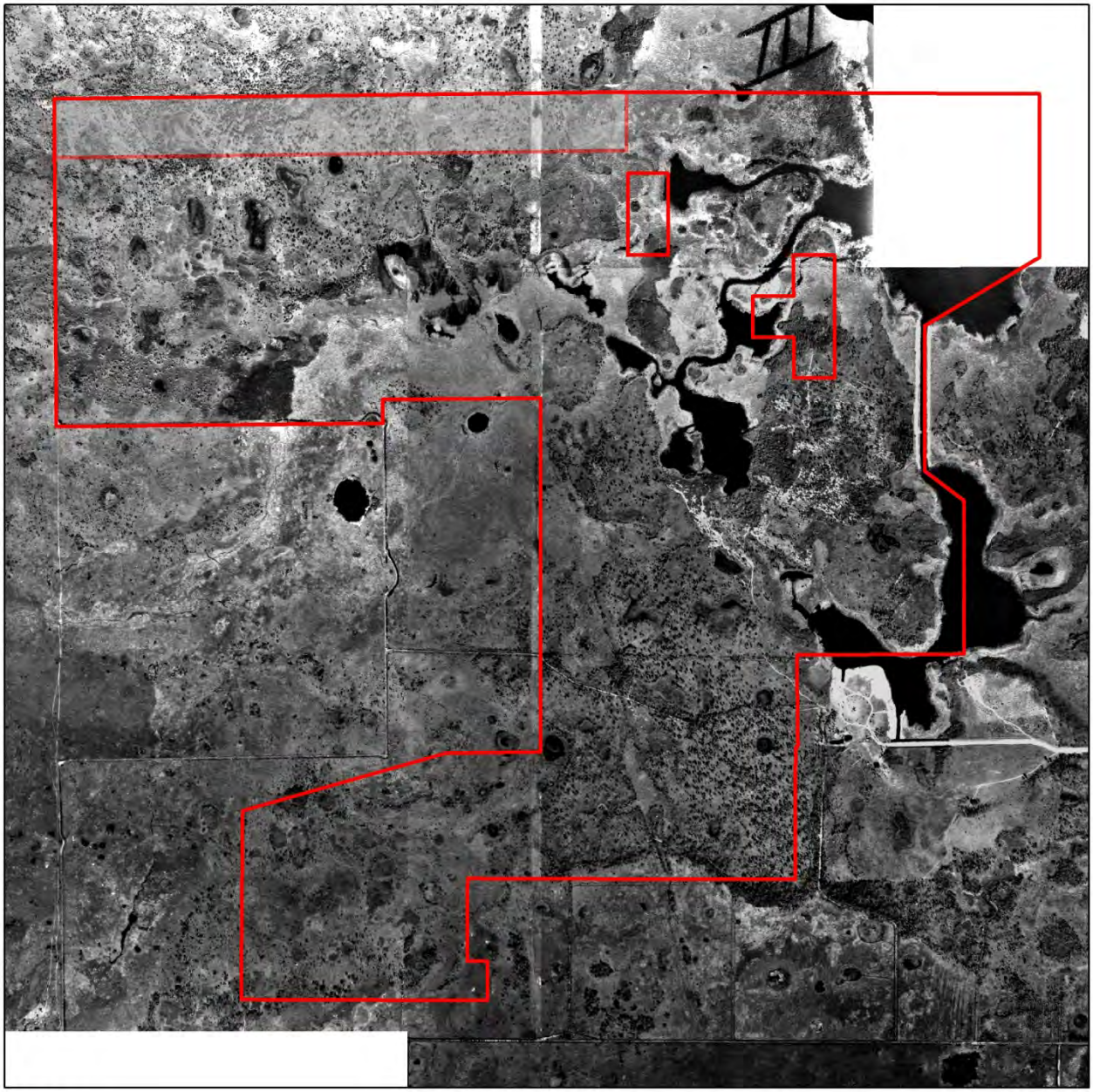
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 8: Fox Lake Sanctuary
1969 Aerial



Legend

- Sanctuary Boundary
- Conservation Easement

N
W E
S

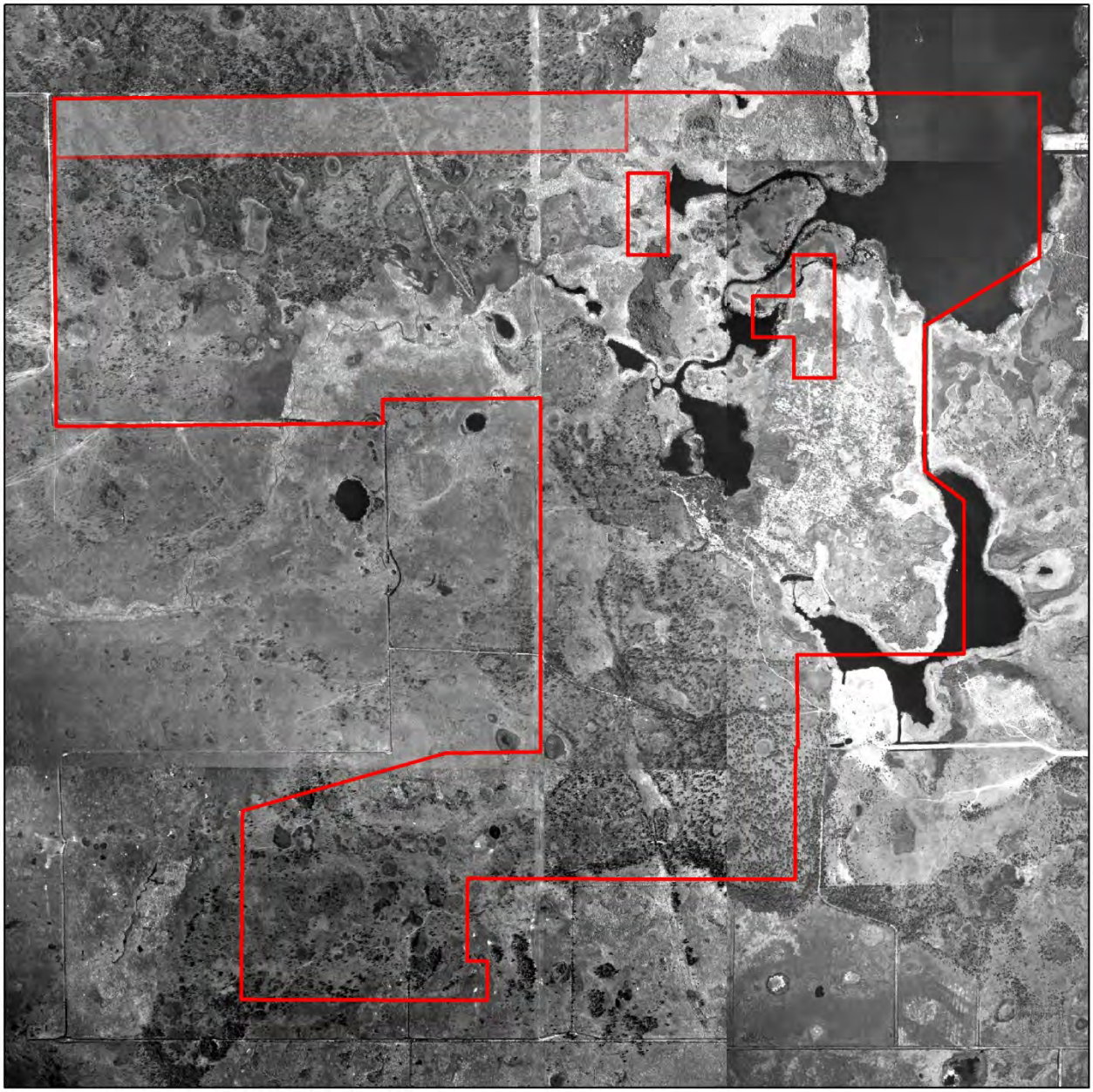
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 9: Fox Lake Sanctuary
1972 Aerial



Legend

Sanctuary Boundary

Conservation Easement

N
W E
S

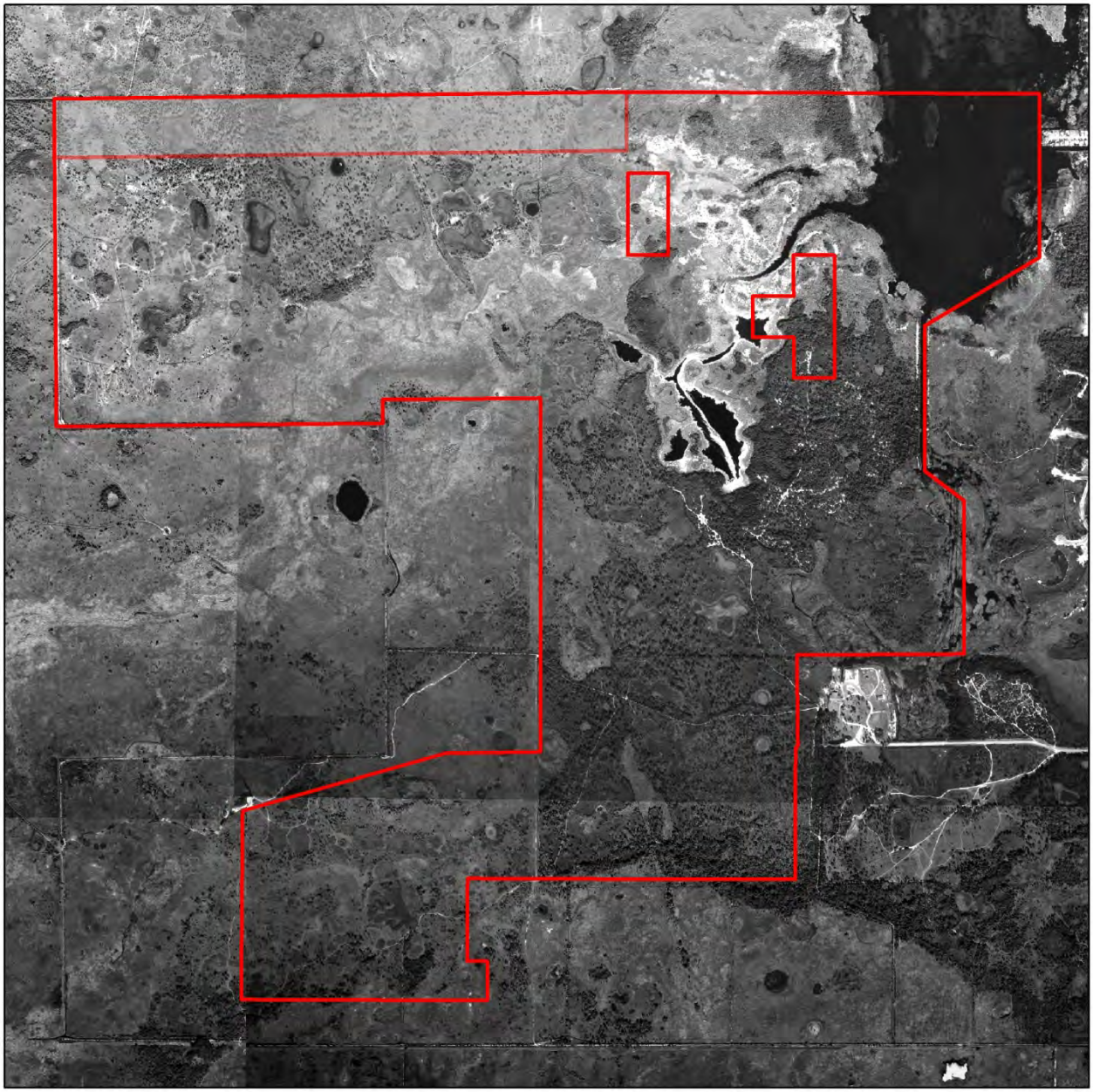
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 10: Fox Lake Sanctuary
1983 Aerial



Legend

- Sanctuary Boundary
- Conservation Easement

N
W E
S

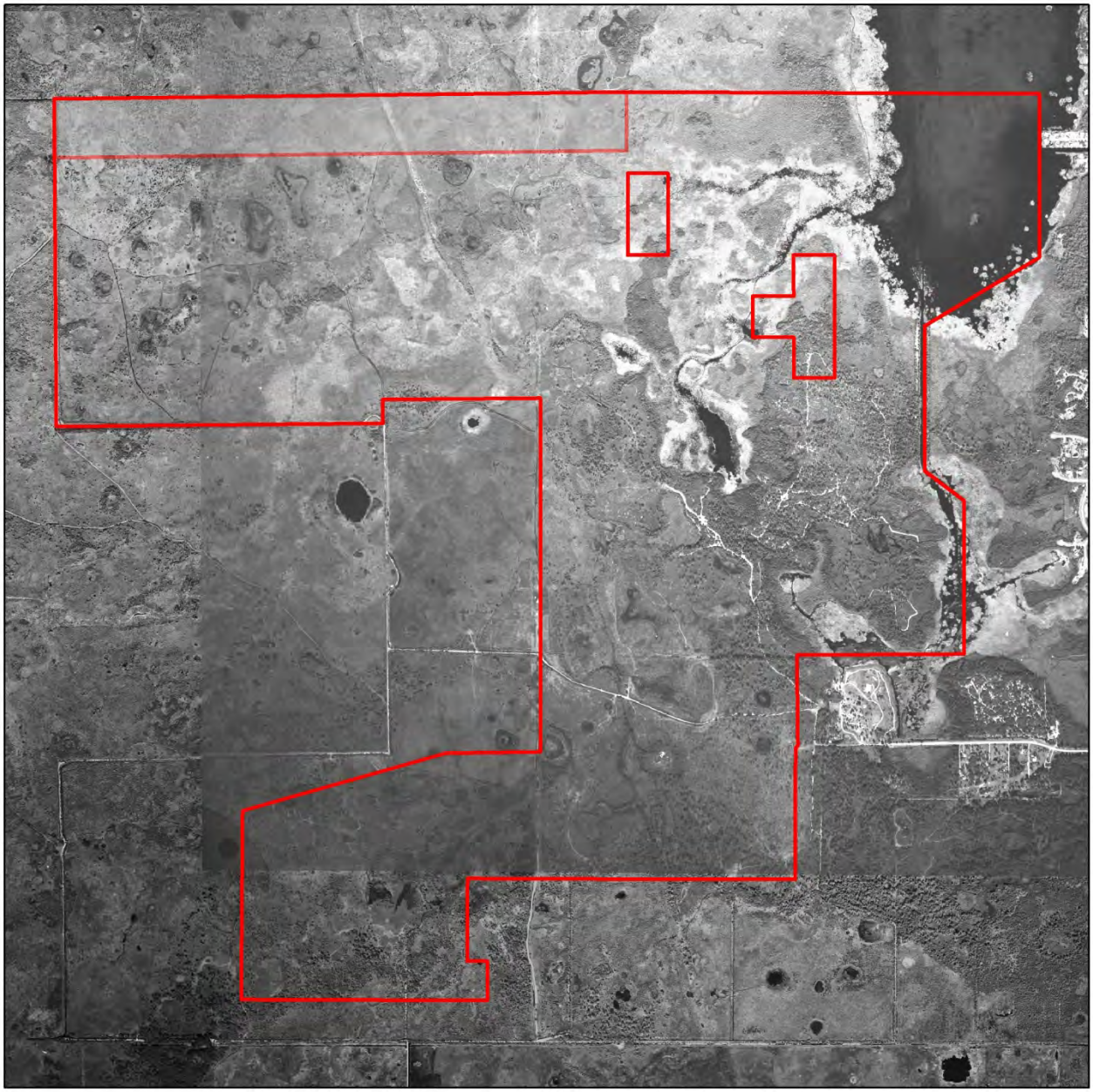
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 11: Fox Lake Sanctuary
1993 Aerial



Legend

Sanctuary Boundary

Conservation Easement

N
W E
S

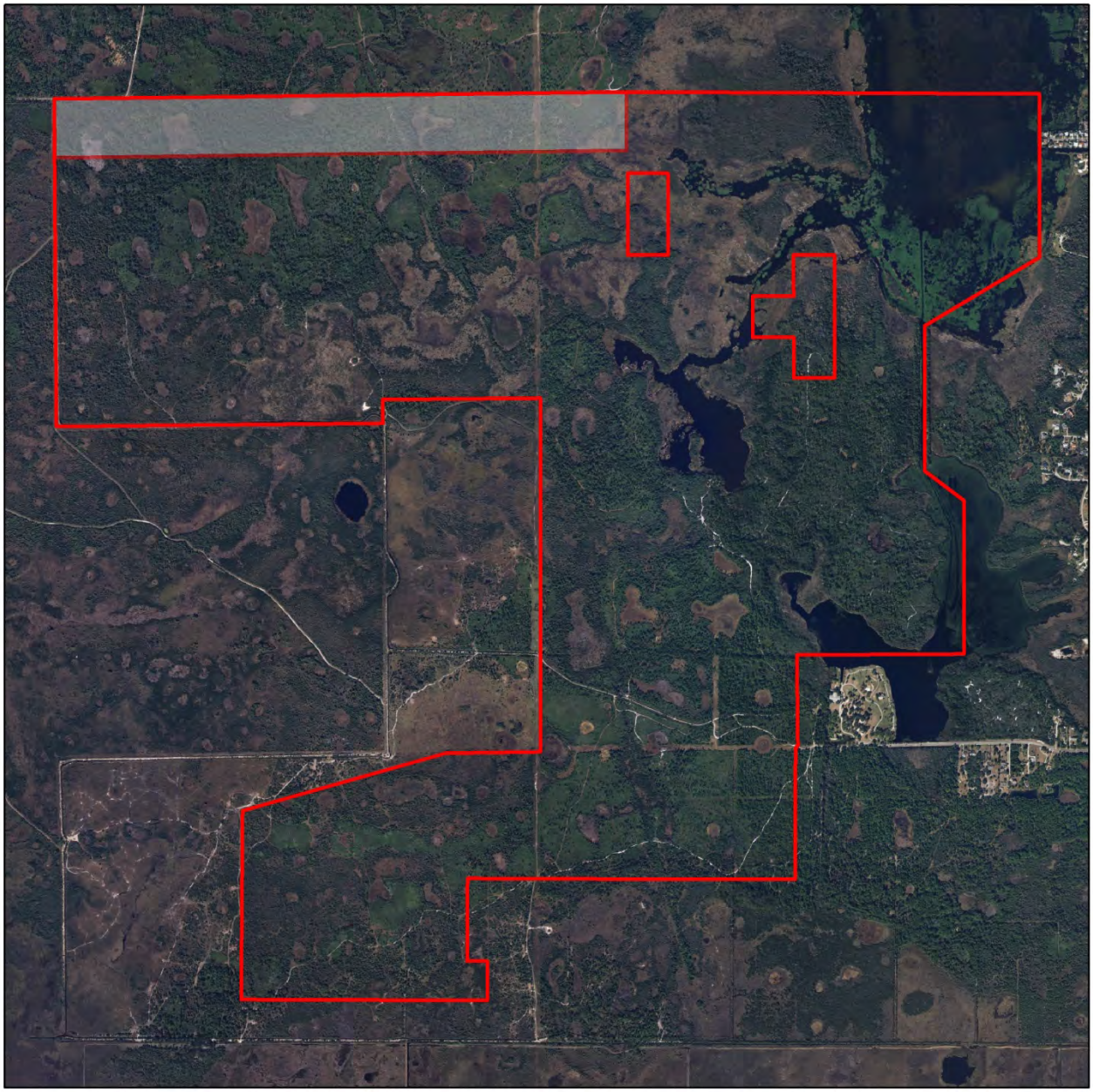
0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Figure 12: Fox Lake Sanctuary 2009 Aerial



Legend

Sanctuary Boundary

Conservation Easement

N

W E

S

0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

FLS includes portions of both South and Fox Lakes. These lakes contain a significant amount of emergent vegetation, including spatterdock (*Nuphar advena*) and water-hyacinth (*Eichhornia crassipes*). Additionally, wet prairie and floodplain swamp occurs on the littoral and tributaries of both lakes.

Floodplain Swamp (G4/S4) - Floodplain swamps occur on flooded soils along stream channels, in low spots and oxbows within river floodplains. This community occurs between the border of South Lake and its tributaries and is mixed with wet prairie. The remaining floodplain swamp is located in the southwestern portion of the site. Floodplain swamp is composed of a wide variety of marsh plants including spikerush (*Eleocharis* spp.), bluetongue arrowhead (*Sagittaria lancifolia*), pickerelweed (*Pontederia cordata*), sawgrass and swamp fern (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006). Typical plants inhabiting floodplain swamps include water tupelo (*Nyssa aquatica*), wax myrtle, dahoon holly (*Ilex cassine*), gallberry, possumhaw (*Viburnum nudum*), lizard's tail (*Saururus cernuus*), giant leather fern (*Acrostichum danaeifolium*), royal fern (*Osmunda regalis*), soft rush (*Juncus effusus*) and hawthorn (*Crataegus* spp.).

Soils of floodplain swamps are highly variable mixtures of sand, organic, and alluvial materials, although some sites, especially within sloughs or on smaller streams, may have considerable peat accumulation. Floodplain swamps are flooded for most of the year. Seasonal and often prolonged inundations restrict the growth of most shrubs and herbs, leaving most of the ground surface open or thinly mantled with leaf litter. These swamps are generally too wet to support fire.

Wet Flatwoods (G4/S4) - The majority of the wet flatwoods occurs in the western and southwestern areas of the site adjacent to mesic, dry and wet prairie. The canopy is dominated by slash pine with cabbage palms occurring in some areas (Schmalzer 1993). The understory consists of saw palmetto, shiny lyonia, and gallberry (Schmalzer 1993). Typical groundcover includes wire grass (*Aristida stricta*), bluestem (*Andropogon* spp.), pawpaw (*Asimina* spp.) and yellow milkwort (*Polygala rugelii*) (Schmalzer 1993).

Depression Marsh (G4/S4) - Depression marshes are characterized as a shallow, usually rounded depression in sand substrate with herbaceous vegetation often in concentric bands. Numerous depression marshes occur throughout the mesic flatwoods, scrubby and wet flatwoods communities. Typical plants include sand cordgrass, knotweed (*Polygonum* spp.), narrowfruit horned beaksedge (*Rhynchospora inundata*), climbing hempvine (*Mikania scandens*), flatsedges (*Cyperus* spp.) and Virginia chain fern (*Woodwardia virginica*) (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006).

Depression marshes occur as isolated wetlands within larger upland ecosystems and are of critical importance to many wetland and upland animals. Hydrological conditions vary, with most depression marshes drying in most years. Hydroperiods range widely from as few as 50 days or less to more than 200 days per year. Fire is important to maintaining this community type by restricting invasion of shrubs and trees and in the formation of peat. Fire frequency is often greatest around the periphery of the marsh and least toward the center. A severe peat fire can lower the ground surface and create a pond at the center of the marsh.

Hydric hammock (G4/S4) - Hydric hammock communities are associated with wet prairie or floodplain swamp and the majority of this community is located in the northern portion of the property. Patches of hydric hammock lie adjacent to one of South Lake's tributaries and in the southwestern portion of the site, and consist of a canopy of cabbage palms, laurel oak (*Quercus laurifolia*) and southern magnolia (*Magnolia grandiflora*) while the understory is comprised of red bay (*Persea borbonia*), swamp bay (*Persea palustris*), Simpson's stopper (*Myrcianthes fragrans*) and scattered saw palmetto, with no groundcover. The remaining hydric hammock occurs as small islands nested within wet prairie. This canopy is dominated by cabbage palms with no understory and a groundcover dominated by sand cordgrass (Schmalzer 1993).

Upland Communities

Oak-Saw Palmetto Scrub (G2/S2) – This community is characterized by an open to closed canopy of longleaf and slash pines and overgrown scrub oaks with an understory of scrub oaks, shrubs, and saw palmetto. Typical understory plants include: Chapman oak (*Quercus chapmanii*), myrtle oak (*Quercus myrtifolia*), sand live oak, fetterbush, rusty staggerbush (*Lyonia ferruginea*), gallberry, winged sumac, grapevine (*Vitis rotundifolia*), greenbrier (*Smilax auriculata*), cat greenbriar (*Smilax glauca*), persimmon (*Diospyros virginiana*), shiny blueberry, blackroot (*Pterocaulon pycnostachyum*), Hercules's club (*Zanthoxylum clava-herculis*), beautyberry (*Callicarpa americana*), pawpaw (*Asimina reticulata*), scrub hickory (*Carya floridana*), gopher apple (*Licania michauxii*), partridge pea (*Chamaecrista fasiculata*), Chapman's goldenrod (*Solidago odora var. chapmanii*), Elliott's milkpea (*Galactia elliottii*), tarflower (*Bejaria racemosa*), pokeweed (*Phytolacca americana*), wire grass and tread softly (*Cnidoscolus stimulosus*).

Reintroduction of fire and a specific fire regime needs to be implemented within the oak-saw palmetto scrub and scrubby flatwood community. An increase in fire frequency will eventually exclude or reduce sand pines, which do not sprout, and reproduce only from seed. Scrub oaks on the other hand will resprout after fire at intermediate (5-10 years) frequencies (Schmalzer and Hinkle 1992a, 1992b). Saw palmetto grows more rapidly after fire and initially dominates the >0.5 m layer in mixed stands but is temporary, as the scrub oaks will overtop saw palmetto with time (Schmalzer 2003). Scientific literature suggests that growth in long-unburned scrub is greater after initial chopping and burning compared to regularly burned scrub. Openings created by burning piled fuels do persist compared to openings in scrub burned without fuel piles which closed by 50% in seven years (Schmalzer and Adrian 2001). Therefore, this portion of the scrub community will have to be burned on a shorter return interval when a fire regime is reintroduced.

The use of mechanical reduction prior to prescribed burning can damage saw-palmetto rhizomes, which are normally unharmed by fire (Menges and Gordan 2010). This may lead to a long-term decline in saw-palmetto cover since saw palmetto grows slowly (Schmalzer and Adrian 2001, Schmalzer et al. 2003). Saw palmettos are a very important component of the scrub communities. A combination of a one-time mechanical treatment followed quickly with fire will accelerate the restoration of the oak-saw palmetto scrub

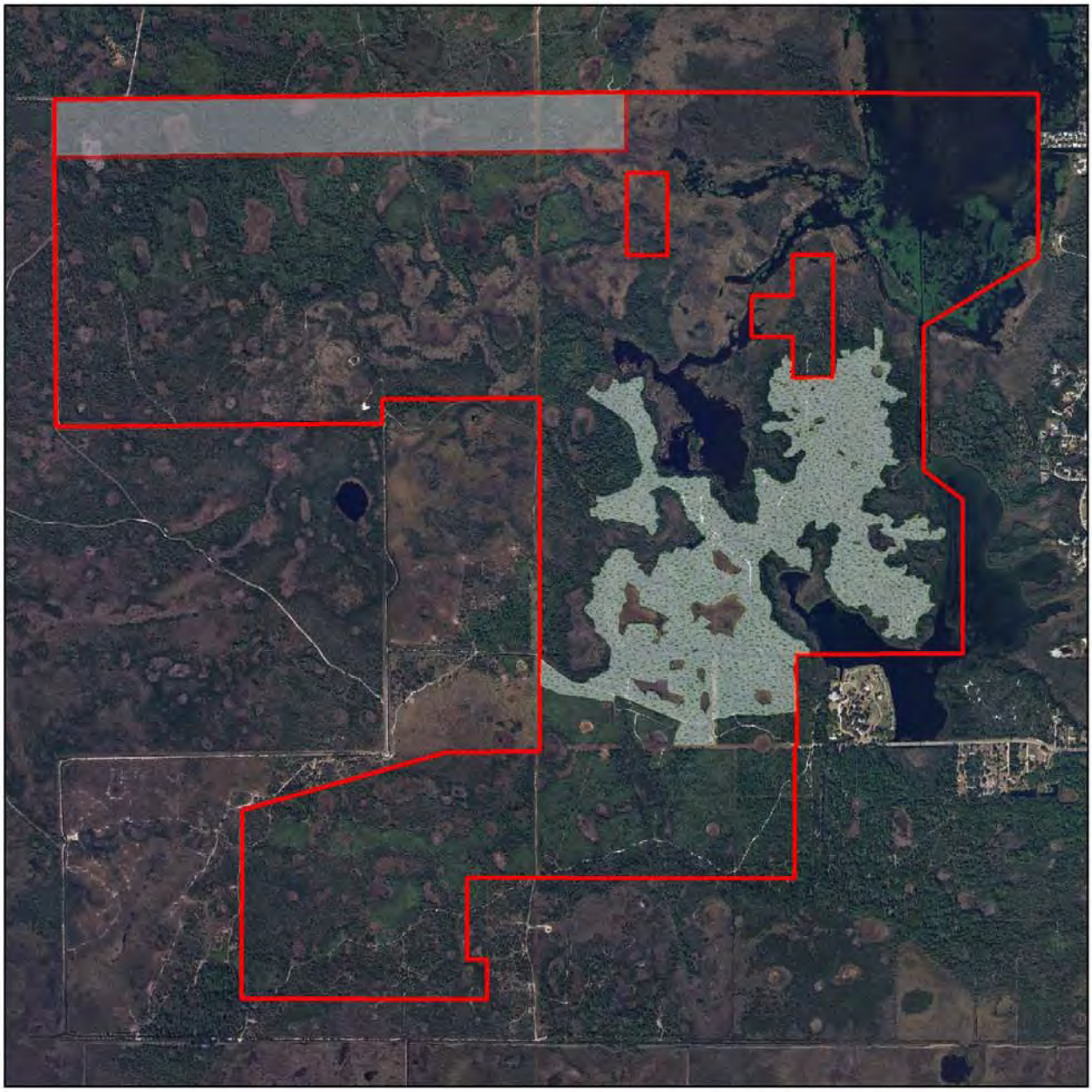
and scrubby flatwood communities which have degraded by decades of fire suppression (Rickey et al. 2007).

Initial restoration efforts will be concentrated on the oak-saw palmetto scrub and scrubby flatwood communities and will include mechanical treatment of upland areas. Mechanical treatment includes the reduction of the understory and will follow the scrub management guidelines developed for peninsular Florida by Kent and Kindell (2009) and approved by the SMC. Reduction of the understory includes all sand pines and overgrown scrub oaks. Cabbage palms located within 100 feet of firelines will also be removed. In addition, the oak-saw palmetto scrub and scrubby flatwood communities will be reduced to six slash and or longleaf pines per acre with an eventual target of one to two trees per acre after the reintroduction of fire. Trees or snags identified as hazardous for fire or recreation will be removed. A 1,000-foot buffer around potential Scrub-Jay territories will also be mechanically treated and thinned to 6 trees per acre (Kent and Kindell 2009) which will encroach into the mesic flatwoods community (Figure 13). Mechanical reduction and timbering within 660 feet of the bald eagle nest will not occur during the initial restoration. Mechanical reduction and a selective thinning of 50% of the longleaf and slash pine canopy within 660 feet of the bald eagle nest may occur outside of nesting season (May 16-Spetember 30) if it provides a benefit to the eagles and their habitat, retaining the largest pines for use as potential roost or nest trees (FWCC, Bald Eagle Management Plan, 2008). Hand reduction will be performed within 50 feet of the nest tree to ensure the nest remains undisturbed. Pre-burning within 50 feet of the nest tree is anticipated utilizing a mowed wet line 0-6 months before burning. The nest tree may also be watered down during prescribed fire for further protection. Once the timbering and mechanical reduction is completed, prescribed fire will be reintroduced completing the initial restoration.

Scrubby Flatwoods (G2/S2?) - The canopy consists of a scattered to moderately dense slash pine, with occasional longleaf pine and scattered sand pine (*Pinus clausa*). The understory includes myrtle oak, sand live oak, Chapman oak, saw palmetto, shiny lyonia, coastalplain staggerbush (*Lyonia fruticosa*), rusty staggerbush, shiny blueberry, deerberry (*Vaccinium stamineum*), dwarf huckleberry (*Gaylussacia dumosa*), winged sumac, *Hypericum* spp., wax myrtle, gopher apple, pawpaw, wiregrass, bluestem, sandyfield beaksedge (*Rhynchospora megalocarpa*), Elliott's milkpea and lupine (*Lupinus diffusus*) (Schmalzer 1993).

Mesic Flatwoods (G4/S4) - This community consists of a thick layer of saw palmetto, gallberry and shiny lyonia and has very few openings. The canopy ranges from few to scattered slash pine with occasional longleaf pine. The understory includes yellow milkwort, shiny blueberry, winged sumac, vanillaleaf, whitetop aster, bottlebrush threeawn, and fireweed (Glatting Jackson Kercher Anglin Lopez Rinehart Inc. 2006). Portions of the mesic flatwoods consist of the same understory with the notable addition of sand live oak (*Quercus geminata*) in the dry upland areas, and loblolly bay (*Gordonia lasianthus*) in damp wet areas.

Figure 13: Fox Lake Sanctuary Restoration Map



Legend

- Sanctuary Boundary
- Conservation Easement
- Tree Thinning

N
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0 1,250 2,500 5,000 Feet

Map updated on 06/28/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Restoration efforts will then be focused on maintaining an adequate fire routine. In preparation for the safe application of fire, a 30-foot reduction of the edges is anticipated for any unit prior to the application of prescribed fire.

Ruderal - This disturbed area is located at the Sanctuary entrance west of Fox Lake Road. This area was historically mesic flatwoods and was likely disturbed during the construction of a road or trail. The dominant vegetation is broomsedge (*Andropogon* spp.)

c. Fauna

A complete comprehensive faunal survey has not been initiated for FLS. However, the natural community heterogeneity characterizing the site provides suitable habitat conditions for use by a broad range of species. Beginning in October 2008, EEL staff with the assistance of the Florida Audubon Society conducted a formal yearlong bird survey at FLS. The survey was completed in September 2009 and a total of 86 species were recorded for the site (Appendix G). Although not documented during the survey, EEL staff has observed Audubon's Crested Caracara (*Polyborus plancus audubonii*) at FLS. Additional surveys will be necessary to assess the variety species of mammals and reptiles present at FLS.

In accordance with Florida Statues Section 388.4111, all environmentally sensitive and biologically highly productive lands are required to submit an arthropod control plan (Appendix H). Brevard County Mosquito Control will adulticide only when populations exceed landing rate thresholds, or when a potential for a mosquito-borne disease outbreak become sufficient for disease transmission or a quantifiable increase in numbers of pestiferous mosquitoes or other arthropods. Treatments will be in upland areas only. Spray Data from Brevard County Mosquito Control shows that FLS was treated zero times from 2005-2009. It is the understanding of the EEL Program that Mosquito Control will continue not to treat FLS unless one of the for-mentioned scenarios exists.

d. Designated Species

A primary goal of this management plan is to develop and implement strategies to enhance conservation of threatened, endangered, or endemic species. The following is information on existing listed species or species that may occur on FLS.

<u>Plants</u>

One of the initial management goals will be to conduct plant surveys to establish species presence, location and photographic documentation to detail the extent of coverage of any designated species. The location of designated species will be considered during the creation of public access trails and during other management efforts, including exotic plant removal and prescribed fires. Continued efforts to remove invasive exotics plants and the use of prescribed fire will allow for the natural progression of native species.

Curtiss' milkweed

Curtiss' milkweed (*Asclepias curtissii*) has been documented on the property by EEL Program staff. Curtiss' milkweed is not federally listed, but is considered Endangered by the Department of Agriculture and Consumer Service Division of Plant Industry, which is responsible for the State listing (Coile and Garland 2003). This species is in imminent danger of extinction within the state if a decline in the number of plants continues, as determined pursuant to the Federal Endangered Species Act of 1973, as amended (Wunderlin and Hansen 2003, Wunderlin and Hansen 2004).

Lacelip ladiestresses

Lacelip ladiestresses (*Spiranthes laciniata*) have been documented on the property by EEL Program staff and confirmed by Dr. Paul Schmalzer. Lacelip ladiestresses is not federally listed, but is considered Threatened by the Florida Department of Agriculture and Consumer Service Division of Plant Industry, which is responsible for the State listing (Coile and Garland 2003). This species is in rapid decline within the state, but which have not so decreased in such numbers as to cause them to be endangered (Wunderlin and Hansen 2003, Wunderlin and Hansen 2004).

Catesby's Lily/Pine Lily

Catesby's lily (*Lilium catesbaei*) has been documented on the property by EEL Program staff. Catesby's lily is not federally listed, but is considered Threatened by the Florida Department of Agriculture and Consumer Service Division of Plant Industry, which is responsible for the State listing (Coile and Garland 2003). This species is in rapid decline within the state due to habitat decline and fire suppression, but have not decreased in such numbers as to cause them to be endangered (Wunderlin and Hansen 2003, Wunderlin and Hansen 2004).

Other listed species are likely to occur at FLS because of its size, habitat diversity and proximity to other large conservation tracts where listed species have been documented. Potential plant species include: Fall-flowering Ixia (*Nemastylis floridana*), Florida butterfly orchid (*Encyclia tampensis*), and green-fly orchid (*Epidendrum conopseum*). Formal flora surveys are planned to help identify additional listed species occurring at FLS, however, the EEL Program will not reveal the location of any listed species to ensure that the plants are not tampered with.

Animals

The USFWS and the State of Florida under the auspices of the Florida Fish and Wildlife Conservation Commission also compile lists of protected wildlife species considered to be under possible threat of extinction. These species are categorized as either endangered or threatened. The FWCC utilizes an additional category "Species of Special Concern" (SSC) for several animal species, which may ultimately be listed as endangered or threatened. This classification provides the SSC listed animal with a particular level of protection that varies from species to species.

Florida Scrub-Jay

The Florida Scrub-Jay (*Aphelocoma coerulescens*) is listed as threatened by the USFWS and FWCC. Glatting Jackson Kercher Anglin Lopez Rinehart Inc. (2006) reported one pair of Florida Scrub-Jays located in the southeastern portion of the site during their 2006 Scrub-Jay survey. A Scrub-Jay survey performed by EEL staff in May and December 2008 confirmed that the pair of Scrub-Jays was still present. This subpopulation, however, has become isolated from other subpopulations. Due to habitat destruction and degradation, translocation may be the only viable approach to recovery (Breininger 2008). In 1993, during the first EEL Program Selection and Management Committee site visit, a minimum of five families were reported (Schmalzer 1993).

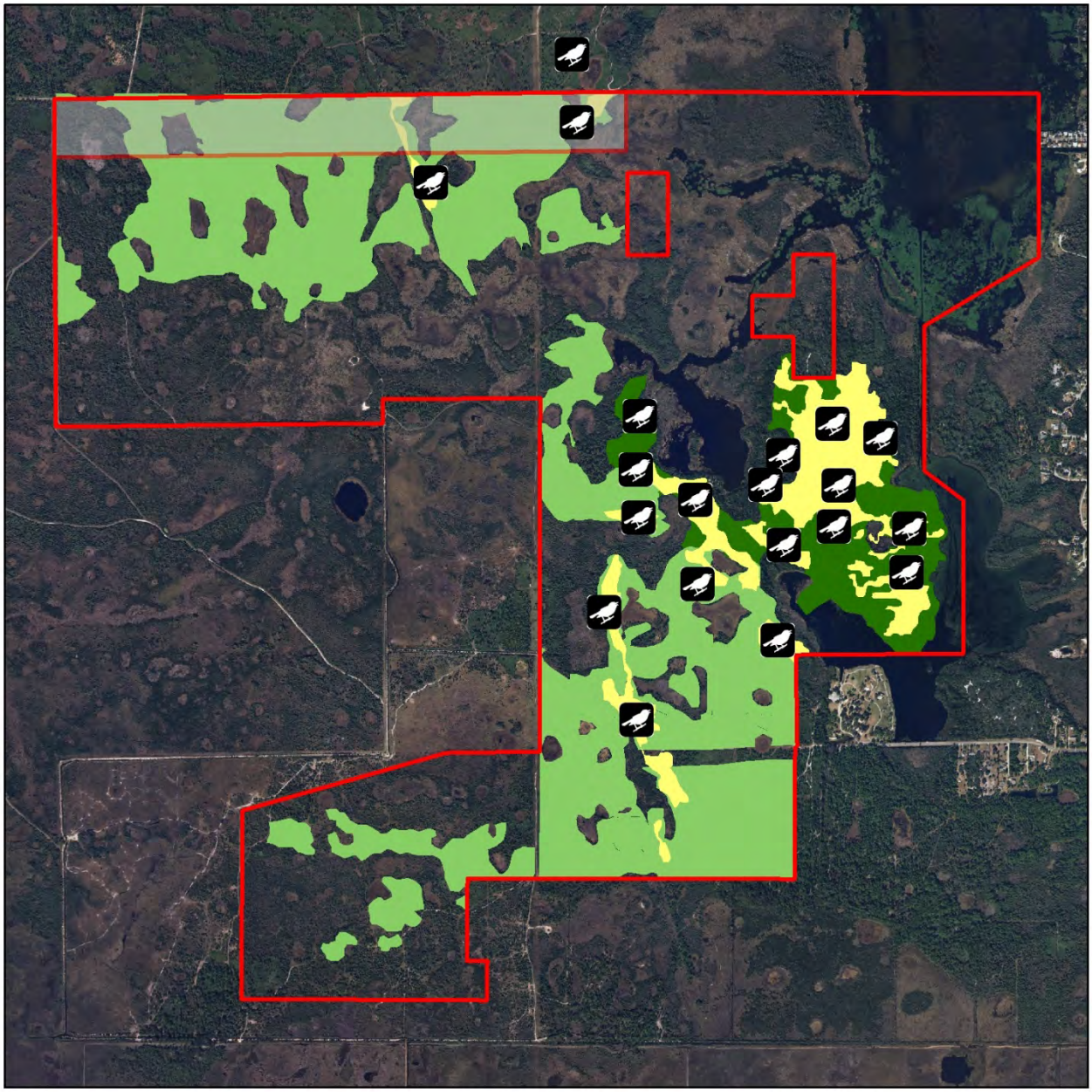
Translocation of Scrub-Jays from other areas will be considered if it complies with all Federal and State regulations as well as the EEL Program Species Translocation Policy, including Selection and Management Committee approval. An experimental translocation program is currently under development to use urban Scrub-Jays doomed to extinction because of habitat loss as sources to recover restored sites that are likely to go extinct because of small population size without intervention (Fitzpatrick et al. 1991, Stith et al 1996, Root 1998, Breininger et al. 1999). This program will only translocate Scrub-Jays from the same genetic unit as defined by Coulon et al. (2008) and carefully coordinated with the USFWS and FWCC.

FLS has enough oak-saw palmetto scrub, scrubby flatwoods and flatwoods habitat to support 13-19 Florida Scrub-Jay families (Figure14) (Breininger et al. 2003, Breininger et al. 2006). The adjacent SLWMA can support another 15 families and the EEL Programs South Lake Conservation Area adjacent to SLWMA can support 3-5 families. Population recovery of these areas would make the subpopulations one of the largest Scrub-Jay subpopulations in North Brevard. However, a long history of reduced fire due to anthropogenic fire regime alterations has led to long-term habitat degradation and population decline typical of the region (Stith et al. 1996, Breininger et al. 2003, Breininger et al. 2006). Conservation goals will be to restore habitat so that approximately 70% of the potential territories are optimal and therefore consistent with statewide recovery plans.

Gopher Tortoise

Gopher tortoises (*Gopherus polyphemus*) have been documented on the site. The Florida Fish and Wildlife Conservation Commission changed the status of the gopher tortoise from Species of Special Concern to Threatened in September 2007. A formal survey has not yet been conducted to determine if the population is stable and in good health. Gopher tortoises utilize flatwoods as well as scrub habitat (Breininger et al. 1994), thus reintroduction of prescribed fire to these communities will enhance the habitat by opening up the understory thereby increasing the amount of habitat open to foraging and colonization.

Figure 14: Fox Lake Sanctuary Potential Scrub-Jay Territories



Legend

- Sanctuary Boundary
- Conservation Easement
- Oak-Saw Palmetto Scrub
- Scrubby Flatwoods
- Mesic Flatwoods
- Potential Scrub-Jay Territory

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0 1,250 2,500 5,000 Feet

Map updated on 05/17/2012 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Bald Eagle

Bald Eagles (*Haliaeetus leucocephalus*) have been documented by FNAI (Appendix I) and FWCC. The nest (BE002) has been reported active by FWCC (2010). The USFWS removed the Bald Eagle from the list of federally endangered and threatened species in August 2007. Although no longer protected under the Endangered Species Act, the level of protection has not changed and will continue to be federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. In Florida, it continues to be protected under the state's newly enacted Bald Eagle rule, F.A.C. 68A-16.002.

American alligator

American alligators (*Alligator mississippiensis*) have been observed by EEL staff near South Lake and in the ditch in the northwestern portion of the property. FWCC currently lists American alligators as Species of Special Concern. FWCC also lists habitat loss and pollution as the greatest environmental threats affecting the alligator population

Audubon's Crested Caracara

Several Crested Caracara (*Polyborus plancus audubonii*) nests are located along the nearby St. Johns River. Crested Caracaras are listed by both the USFWS and FWCC as Threatened. A site survey by the Brevard County Natural Resources Management Office (NRMO) and the EEL Program determined that there are currently were no Crested Caracaras inhabiting the site. On a site visit after a wildfire occurred in the north northwestern portion of the property in March 2009, EEL Program observed a single Crested Caracara. Potential habitat for Crested Caracaras at FLS is overgrown and will need to be restored using prescribed fire before a population of Crested Caracara becomes established (Chris Koeppel 2008, personal communication).

Eastern Indigo Snake

Indigo snakes (*Drymarchon corais couperi*) have not been seen on the property. The USFWS and FWCC list the Indigo snake as a threatened species. It is uncertain whether there is a stable breeding population of indigo snakes in the area. Indigo snakes require large home ranges (370 to 2,500 acres) in order to maintain a stable population (Tennant 1997). Impacts from dogs, humans and roads cause habitat fragmentation and reduce indigo snake populations. Research by Breininger et al. (2004) suggested that the indigo snake population is greatly influenced by habitat fragmentation because indigo snakes readily enter urban areas and cross roads. This study recommends the protection of the indigo snake population in large upland ecosystem conservation lands that connect to other conservation land, while trying to keep the amount of roads and urban areas in the immediate vicinity low (Breininger et al. 2004). According to FNAI (Appendix I), FLS is likely to have Eastern Indigo Snakes. Indigo snakes have been documented at SLWMA, SRCA, BLCA, and South Lake Conservation Area.

Florida Panther

Florida Panthers (*Puma concolor coryi*) are listed by the USFWS and FWCC as endangered. Florida panthers have not been seen on the property. However, tracks have been photographed indicating the potential presence of a panther (Figure 15). Florida panthers utilize a diversity of warm climate habitats including wetlands, swamps, upland forests, and stands of saw palmetto. Males have larger territories than the females with territories covering over 200-250 square miles in size. Threats to Florida Panthers include habitat loss from construction which reduces available habitat, low genetic diversity, and mercury disease

Listed species that have been documented on site include: Florida sandhill crane (*Grus canadensis pratensis*), Little blue heron (*Egretta caerulea*), Reddish egret (*Egretta rufescens*), Tricolored heron (*Egretta tricolor*), and the Wood stork (*Mycteria americana*). Other listed species are likely to occur at FLS because of its size, habitat diversity and proximity to other large conservation tracts where listed species have been documented. Potential avian species include: Limpkin (*Aramus guarauna*), and Roseate Spoonbill (*Ajaia ajaja*). Potential Mammal species include: Florida mouse (*Podomys floridanus*), Sherman's Fox Squirrel (*Sciurus niger shermani*), and the Florida black bear (*Ursus americanus floridanus*). Formal fauna surveys are planned to help identify additional listed species occurring at FLS.

e. Biological Diversity

Although data collection has begun to assess the Sanctuary's biological diversity, the compilation and statistical analysis have been limited. Additional data will be collected to assess the biological diversity for richness (the number of species found with a particular community) and evenness (the distribution of individuals among species) so data collected can form a baseline which future monitoring efforts can be compared. Methodologies will need to be established for all of the relevant taxonomic groups with researchers and staff assigned to address this particular need.

C. Cultural

a. Archaeological

In 2009, a search of the Florida Master Site File (Appendix I) indicated there are no recorded sites within the FLS. However, that same year, Tom Penders, a volunteer archeologist working with the EEL Program conducted a determination of probability for archaeological sites within FLS. Based on his research it was determined there was a high probability for multiple prehistoric and historic archeological sites located within FLS with the majority of the prehistoric archaeological site being located immediately around Fox and South lakes. An archaeological survey of FLS began during the winter of 2009/2010 and will continue until the end of 2012. At this time three prehistoric occupation sites, a possible burial mound, trees bearing scars from the turpentine or naval stores industry, a historic trail, several areas of high archaeological potential, and possible cattle ranching sites are within FLS.

Figure 15: Fox Lake Sanctuary
Potential Panther Tracks

Picture 1: Potential Tracks
(Photo Credit EEL Program 2011)

Picture 2: Potential Tracks
(Photo Credit EEL Program 2011)

The prehistoric sites located within FLS are of importance to archaeologists. Overall this region of Florida is poorly understood, primarily due to lack of research. Fox Lake Sanctuary is situated along the eastern edge of the St. Johns Marsh and floodplain. This has long been considered a "backwater" by archaeologists, only occupied during summer months when the St. Johns River overflows its banks and forced prehistoric Native Americans to move to higher ground. Other than the survey underway at FLS, only two other limited projects looked at these "backwater" sites. The documented sites located within FLS are briefly described below.

Hunters Camp (8BR2508) is a prehistoric camp site consisting of a freshwater mussel midden that dates to AD 860-1100. The site also contained features suggesting a possible prehistoric structure of some type. Artifacts recovered from the site included primarily St. Johns Plain, Sandy St. Johns, Sand-Tempered Plain, St. Johns Simple Stamped, and one possible Glades Plain ceramic sherds. Considering the date range of AD 860-1110, the dearth of stamped sherds is significant. St. Johns Check-Stamped ceramics have long been used as a chronological indicator for the change from Malabar I (500 BC to AD 750) to Malabar II (AD 750 to 1565). Based on the lack of check-stamped ceramics at Hunters Camp and the other prehistoric sites, this is a significant find that will cause archaeologists to rethink the cultural chronology in this area. Other artifacts included a broken projectile point reworked into a tool, a large modified flake, a large utilized flake and a piece of daub. The results of the investigation have found this site is eligible for listing on the National Register of Historic Places due to its potential for providing additional archaeological information/data.

Palm Hammock (8BR2509) was the second of three sites and is currently under investigation. Currently, it is known to have been occupied as early as 2,000 BC. The oldest pottery in Florida, Orange Period fiber-tempered sherds, have been recovered from the site as well later period ceramics. Also found at the site were two distinctive middens. One was comprised of freshwater mussel while the second was composed animal bone only. Additional investigations will be conducted at this site in 2011/2012 and at that time a determination of NRHP eligibility will be made.

Xavier's Knoll (8BR2510) is the third of three sites and is also currently under investigation. As with Palm Hammock, Orange Period ceramics were found at this site as well, along with a freshwater mussel midden. Radiometric dating placed the midden component of the site within AD 881 to 1521. As with all three sites, the dearth of check-stamped along with firm dates call into question what constitutes Malabar I vs. Malabar II. The results of the investigation have found this site is eligible for listing on the National Register of Historic Places due to its potential for providing additional archaeological information/data.

Fox Lake Sanctuary Trail (8BR 2511) is a linear resource that runs along a relic dune ridge or series of ridges from northwest to southeast through the center of FLS. Only sections remain open and clearly visible to date. A review of historic aerial photographs indicated that the trail was part of a larger system that ran from the present location of SR 46 to SR 50. It is believed that this trail may have been associated with the naval stores/turpentine camp located on what is now Turpentine Road in Mims. Considering

the number of tapped/scarred trees within FLS this certainly makes the association of the trail with the naval stores industry plausible.

The third of the archaeological investigations should provide additional information on the sites not completely assessed during the previous field season. Numerous informants have indicated there is/was a burial mound somewhere on the property. An attempt will be made to find the burial mound. Also, the number of tapped/scarred pine trees suggests there may be processing areas within FLS. Finally, there are two possible house sites within the sanctuary that have not been found to date.

Areas of Archaeological Potential

The archaeological survey of FLS was not meant to be a comprehensive documentation of all cultural resources. The survey's goal was to identify areas of prehistoric archaeological potential (AAPs) within selected test areas based on natural communities, identify sites within selected test areas and identify potential site types within FLS. Two problems found during the survey were the inaccuracies of the USGS quadrangle maps and USDA soil survey. During the survey it was found that there were several relic dune ridges not identified in either resource. Furthermore, these relic dune ridges were not uniform. Instead, they were undulating with swales in between forming "dome-shaped" areas within the ridges. Based on the archaeological survey data the following AAPs can be defined.

High Areas of Archaeological Potential
Any land area consisting of high, well-drained sandy soil within 100 m of Fox or South Lake and has a hardwood or mixed hardwood/palm hammock. High, well-drained sandy soil ridges that were adjacent to relic (prehistoric/historic) waterways, such as creeks and tributaries.

Moderate Areas of Archaeological Potential
Land areas of moderately drained soils within 100 m of Fox or South Lake or relic (prehistoric/historic) permanent water sources and has a hardwood or mixed hardwood/palm hammock. Land areas consisting of high, well-drained sandy soil 100-300 m from Fox or South Lake and has a hardwood or mixed hardwood/palm hammock. Well-drained relic dune ridges adjacent to isolated ponds or seasonally filled ponds.

Low Areas of Archaeological Potential
Poorly drained soils, areas prone to flooding, pine and or palmetto flatwoods, low ridges with palm hammocks, depressional wetlands, wetlands, and swamps.

Historic Site Potential

While it is relatively easy to create a predictive model for prehistoric sites the potential for historic sites is more problematic. Typically, where you find High AAPs for prehistoric sites there is a historic component. However, historic research on the property and adjacent Salt Lake Wildlife Management Area has found the parcels were in use as early as the 1870s or 1880s. During this time there were three primary uses of land in

Brevard County: 1) cattle ranching, 2) naval stores industry, and 3) timber/logging. A comprehensive search was not conducted; however, the presence of a cattle trough at the south entrance to FLS and associated features on the parcel north of FLS suggests there may be archaeological evidence of cattle ranching in the central and western portions. The naval stores and logging industries typically leased the land with the tapping of trees for resin conducted first followed by logging after the trees were tapped out. Evidence in the parcel can be manifested by surface scatters of herty cups amongst scarred trees or small clearings with surface scatters of artifacts. To date several trees showing evidence of tapping have been found in FLS.

b. Historical

The history of the area ranges from the Indian burial sites (6,000 BC) located several miles to the southeast at Windover, to the development of the space industry at Cape Canaveral during the 1950's, 1960's, and 1970's. In 1982, the developer of Windover Farms subdivision in Titusville unearthed one of the best-preserved indigenous burial sites discovered with skeletal remains approximately 8,000 years old (Wentz 2012). The Ais Indians would later occupy the region around Titusville (Shoffner 1995).

Ais Indians (1000BC – 1500 AD)

The first people to inhabit Florida arrived roughly 12,000 years ago, from the central and southern areas of North America, at the end of the last ice age. During this time, much of North America was still covered by glaciers. Sea level was 200 feet below its current level and much of the earth's water was stored in glaciers (Brown 1994). The Ais (pronounced "eyes") Indians were known to inhabit Brevard County in the 16th century during the exploration and colonization of Florida by Europeans. The Ais Indians did not exhibit the traditional nomadic existence of other Native Americans, as the semi-tropical climate provided for their needs without requiring them to travel great distances.

Turn of the Century to Present

During the late 1800's and early 1900's, naturalists were the primary visitors to Brevard County. Notable scientists came to this species-rich, semi-tropical region to collect specimens for natural history museums. These specimens included rare bird life such as the now extinct Carolina parakeet (*Conuropsis carolinensis*).

During the early 1900's, people came to Brevard County from around the country via the Florida East Coast Railway. There was an increase in settlement and development of towns brought about by the creation of railroads and canals. The increase in population was also the result of the 1916 Drainage Acts of Florida and the establishment of Mosquito Control measures beginning in 1927. The Drainage Acts altered natural drainage patterns that permanently lowered water tables in areas where standing water naturally existed for six or more months each year. The introduction of mosquito control (pesticide spraying) lowered the mosquito population to acceptable levels for human settlement (Barille 1988; Woodward-Clyde consultants, 1994).

Throughout the 1920s, improved roads such as Dixie Highway (US 1) brought more cars and people to Brevard County. In 1921, a bridge was erected over the Indian River Lagoon connecting the barrier island with the main land for the development of hotels and casinos. Once air conditioning was introduced, Florida quickly became known as the residential and tourist destination it remains today.

c. Land-Acquisition History

The EEL Program purchased ±2,358-acres in December 2007 from Hunters Brooke Titusville, LLC. In September 2008, Hunters Brooke Titusville, LLC donated an additional 10-acres to the EEL Program and in December 2009, donated 200 acres with a conservation use easement in favor of Modern Inc.

As part of the EEL Program goal towards long-term protection of essential natural resources, open space, green space, wildlife corridors and maintenance of natural ecosystem functions; the EEL Program has identified an optimal sanctuary boundary as shown in Figure 16.

d. Public Interest

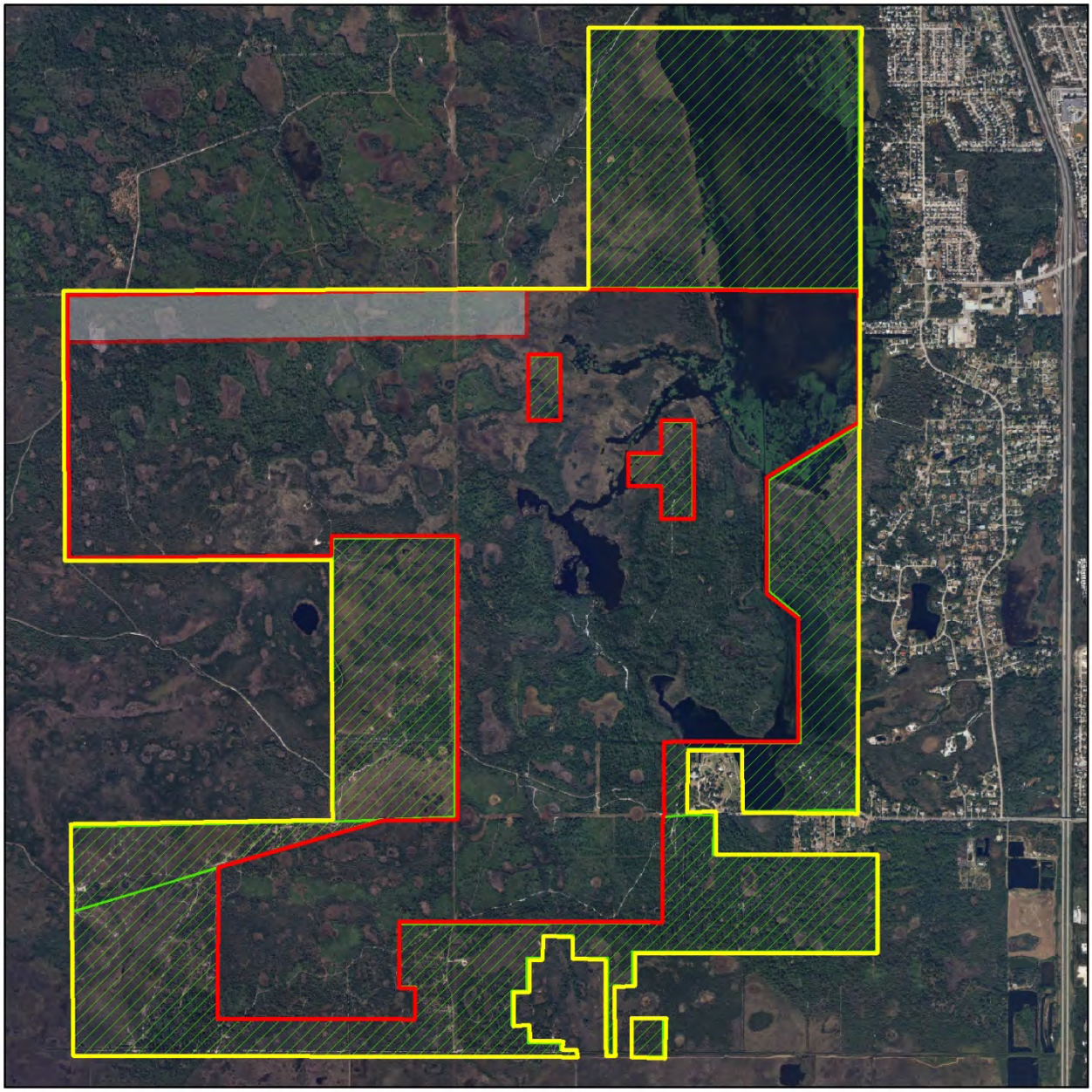
FLS is proposed as a Category II Site. Trails leading to the property have been posted with EEL Program boundary signs. FLS opportunities for public access and recreation included hiking, nature observation, nature photography, mountain biking, horseback riding, organized youth group primitive camping and environmental education. The property includes a portion of both South and Fox Lakes, which provides potential for canoeing and kayaking. These opportunities are not available on EEL lands elsewhere in the North region.

Although the majority of the site is relatively undisturbed, some past uses of the property have affected the existing natural resources and their functions. Past ATV use, partying activities, trash dumping, hunting, commercial cabbage palm and sand cordgrass harvesting have historically occurred on the site. The majority of the site remains unfenced making it very likely that illegal access still occurs. A gate located at the west end of Fox Lake Road helps prevent unauthorized vehicle access, however, some of the trails at FLS are easements or right of ways and must legally remain open to landowners and third parties for access to their properties located between the Sanctuary and other conservation lands.

V. FACTORS INFLUENCING MANAGEMENT

Part V includes information regarding natural and human-induced trends, external influences, legal obligations, and constraints, management constraints, and public access and passive recreational activities.

Figure 16: Fox Lake Sanctuary Optimal Management Boundary



Legend

- Sanctuary Boundary
- Conservation Easement
- Optimal Sanctuary Boundary
- Private Property

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Map updated on 05/16/2012 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

A. Natural Trends

Global trends, like sea level rise and global warming, are potential threats that can alter ecosystem function and biological diversity but are difficult to assess. Natural trends associated with stochastic events (fire, flood, drought, freeze) are unpredictable but their occurrence can be documented through historic records and natural systems are usually able to respond and recover from such events. Altering natural stochastic events can negatively influence the biological and natural characteristics of the site, impacting resource values or management strategies. The primary variable that influences the formation and succession of Florida's vegetative communities is fire. If natural fires are not present, or are suppressed by man, less-fire-adapted species including invasive species can invade and alter the natural successional path of the community. In scrubby flatwoods, structural changes (height, growth, density) occur more rapidly than changes in species composition.

In systems such as scrub communities, lack of fire can profoundly affect the value and usability of the community for endemic and listed plant and animal species. To occur naturally, scrub fires require drier and hotter conditions than the flatwoods community (Myers and Ewel 1990). Land management practices developed for FLS must consider the re-introduction of a "natural" fire regime through the use of prescribed fire. Using prescribed fire as a management tool ensures that the natural ecological processes are restored and protected.

Another factor affecting the communities within FLS is hydroperiod. Changes in hydroperiod have the potential to significantly alter community structure. A decrease in hydroperiod could allow the invasion of nuisance or non-native species, while an increase in hydroperiod could surpass the inundation tolerances of species present. Shallow groundwater locally flows toward South Lake and Fox Lake; the two dominant hydrologic features to the east.

B. Human-Induced Trends

a. Fire suppression

The last major wildfire at FLS occurred in March 2009. The wildfire consumed roughly 950 acres in the northwest portion of the property; units 19, 20 and 21 of the Fire Management Plan (Appendix D). In 2006, a wildfire occurred in the mesic flatwoods located southern portion of the property. Areas where sandcord grass harvesting took place have been burned utilizing prescribed fire on a regular basis by the harvesting company to promote growth. Fire suppression tends to result in plant and animal compositions that are different than what might have existed under more natural regimes. A more natural cycle under the prescribed burn plan will address this problem.

b. Hydroperiod alteration

The natural hydrologic regime and periodicity of FLS was previously altered by the construction of numerous small to large man-made drainage ditches and swales throughout the site and direct much of the surface and groundwater westward toward the St. Johns River Valley. Further investigation into the natural hydroperiod as well as the existing hydroperiod will be undertaken to better understand and enhance the natural ecological processes.

Restoration efforts will be bound by certain limitations such as the economic feasibility, potential flood impact on the adjacent private property, potential for success, and the assurance of a sound scientific basis for the restoration. The EEL Program is exploring areas proposed for restoration which be analyzed in the context of the vegetative community intended to be re- established, to ensure that the restoration is consistent with the principles set forth by the EEL Program and the primary goal of maintaining biological diversity. Ditch restoration will be investigated to ensure that there are no negative impacts to surrounding lands or private property and should be accomplished by backfilling using the soil that was previously excavated. Core soil samples will be collected to determine if any soil stratification existed. If such stratification is present, restoration will require recreating soil layers. Upon completion of the restoration, natural recruitment of native species will be monitored and any encroachment of exotic invasive species will be treated.

c. Trails and Firebreaks

An extensive web of roads is present at FLS, however, most of the existing roads will be utilized as firebreaks. Roads in the east central region can be accessed by staff through an easement located at the end of Fox Lake Road. This easement will also allow for public access onto the site by foot with parking available a Fox Lake Park. Additionally, a proposed canoe/kayak trail has been identified which would further allow public access to the property providing access to hiking trails.

Another extensive web of roads exists in the north northwest portion of the property. This network of roads is currently not linked to any other roads throughout the property and can only be accessed through a conservation easement that borders SLWMA. Access has been granted through SLWMA however, it has been deemed unsuitable for public access due to the restrictions of the conservation easement.

The management goals set forth in Section V (Management Action Plan) provide strategies and actions for reduction of human-induced impacts and restoration and enhancement of natural resources. As part of the management plan implementation, methodologies for assessing carrying capacity of the natural resources on the site will be developed. In addition, strategies for visitor impacts analysis that consider species-level, natural community-level and ecosystem-level human influences will be developed and implemented.

C. External Influences

The site shows evidence of illegal dumping, which includes several old trailers and other debris dumped within the Sanctuary. An existing fence does occur on the north, west and a small area of the south southwest portion of the property separating FLS from Salt Lake Wildlife Management Area, Seminole Ranch Conservation Area and a private land owner with cattle. A fence will be installed along common borders of Modern Inc. in areas were public access is recommended to prevent trespassing onto private property. Fencing the remaining portion of the Sanctuary may become a priority if illegal activities occur. A gate located at the west end of Fox Lake Road helps prevent unauthorized vehicle access, however, some of the trails at FLS are easements or right of ways and must legally remain open to landowners and third parties for access to their properties located between the Sanctuary and other conservation lands. Several landowners that own property within the sanctuary boundary will have the opportunity to access their property through a temporary License Agreement, which allows for personal and temporary access through an existing maintenance road. The License Agreement does not provide a formal ingress / egress easement. Any request for a formal easement would require review and approval by the EEL Selection and Management Committee and subsequent approval by the County Commission, as defined in the EEL Land Acquisition Manual, Land Sale procedures.

D. Legal Obligations and Constraints

The following is a list of possible legal constraints to management and public access.

a. Division of Forestry

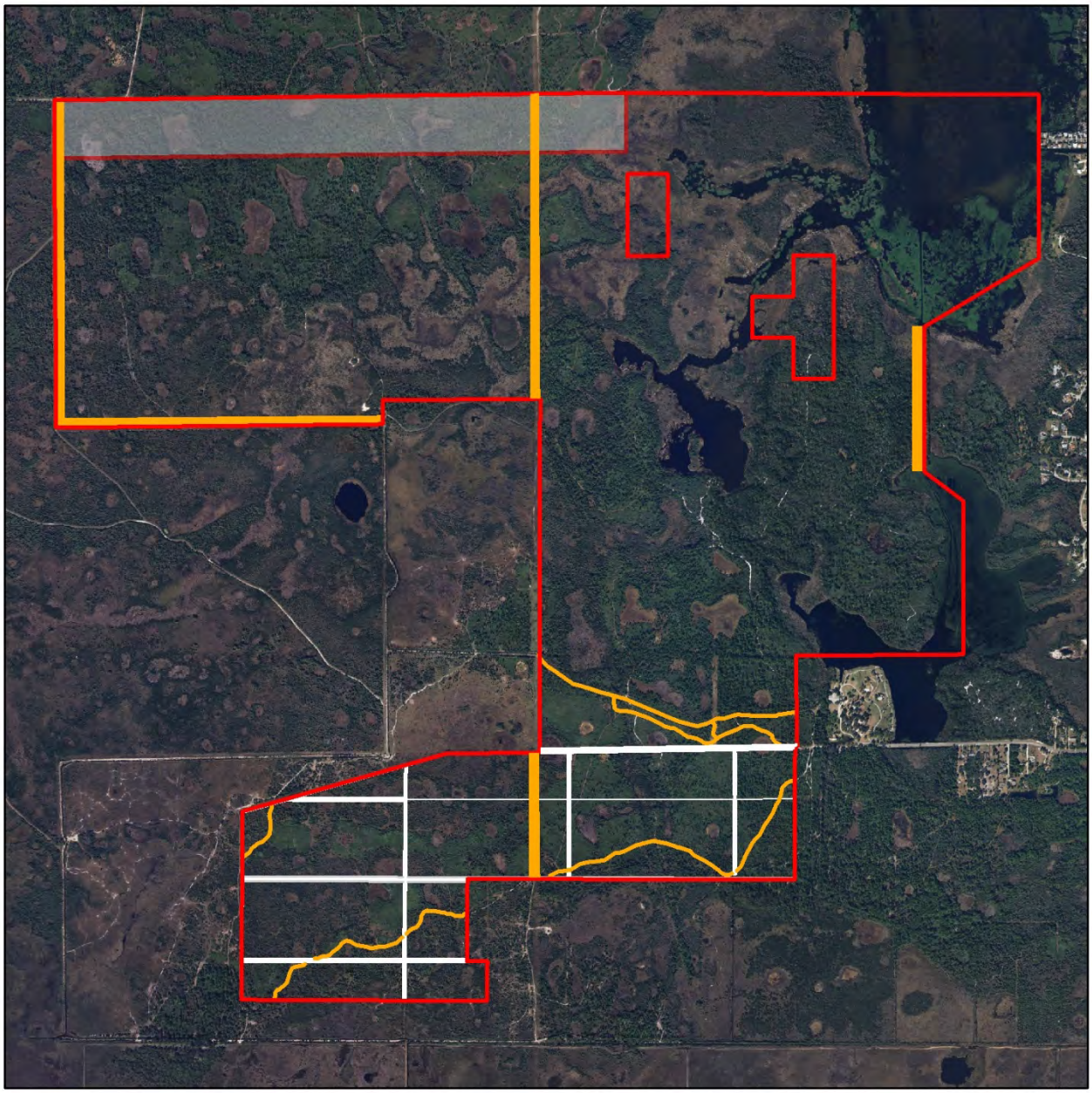
The Florida Division of Forestry (DOF) issues permits for prescribed burns for land management to Land Managers with certified burn numbers. These permits will be secured by the EEL Program Fire Manager prior to all prescribed burns.

b. Easements

Easements at FLS are shown on Figure 17. A copy of the following Easements can be found in Appendix K. The EEL Program will look into vacating easements and or right-of-ways deemed unnecessary based on legal and economic feasibility.

- 80’ minimum Right of Way/Easement Per ORB 5470, Pg. 1145
- 80’ minimum Right of Way/Easement Per ORB 5470, Pg. 1145
- 80’ minimum Right of Way/Easement Per ORB 5470, Pg. 1145
- 80’ minimum Right of Way/Easement Per ORB 5470, Pg. 1145
- 80’ minimum Right of Way/Easement Per ORB 5470, Pg. 1145
- 50’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145

Figure 17: Fox Lake Sanctuary Easements and Right-of-Ways



Legend

- Sanctuary Boundary
- Conservation Easement
- Access Easements (Existing)
- Easements & Right of Ways (Platted)

N
W E
S

0 1,250 2,500 5,000 Feet

Map updated on 02/06/2011 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 30’ Permanent Easement ORB 5470, Pg. 1145
- 25’ Permanent Easement ORB 5470, Pg. 1145
- 25’ Permanent Easement ORB 5470, Pg. 1145
- 25’ Permanent Easement ORB 5470, Pg. 1145
- 25’ Permanent Easement ORB 5470, Pg. 1145
- 15’ Permanent Easement ORB 5470, Pg. 1145
- 15’ Permanent Easement ORB 5470, Pg. 1145
- 15’ Permanent Easement ORB 5470, Pg. 1145
- 15’ Permanent Easement ORB 5470, Pg. 1145
- 15’ Permanent Easement ORB 5470, Pg. 1145
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
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- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 60’ Temporary Access Easement Per ORB 5470, Pg. 1150
- 80’ Access Drainage and Maintenance Easement Per ORB 5470, Pg. 1145
- 25’ Non-Exclusive Access and Utility Easement Per ORB 5470, Pg. 1145
- Plat of Titusville Fruit and Farmlands Company as recorded in Plat Book 2, Page 29 of the public records of Brevard County, Florida.
- Conservation Easement

c. Right of Ways

- Florida Power and Light Company as recorded in circuit court minute book 62, pg. 754
- Florida Power and Light Company Powerline Easement/Right of Way as recorded in official records book 54, Pages 858-860 of the public records of Brevard County.
- Parcel #2, ORB 576, pg. 547
- Parcel #3, ORB 576, pg. 547

E. Management Constraints

Potential management constraints and challenges are associated with site security and limited on-site presence. There are no conflicts with any adjacent lands that would restrict the planned use of the property; however, the following is a description of the major management issues and constraints associated with the FLS.

a. Fire

Natural communities within FLS were and will continue to be evaluated to determine any constraints upon the use of prescribed fire posed by natural site conditions and adjacent land uses. Existing (17.6 miles) and proposed (5.3 miles) firelines within the Sanctuary are shown on Figure 18. Reinstating a fire regime is needed in the oak-saw palmetto scrub, scrubby flatwoods, mesic flatwoods, wet flatwoods, wet prairie, and depression marsh communities.

The Fire Management Plan (Appendix D) includes fire return intervals, desired habitat conditions and required preparations needed for each burn unit. In 2010, 4.6 miles of firelines was installed by DOF at no cost to the county. In preparation for prescribed fire, vegetation along the edge of firelines may be reduced and ignition strips created within a fire unit to help carry fire.

b. Exotic Species

Exotic, non-indigenous, non-native, and alien species are all terms used to describe plants and animals of foreign origin. Some exotic species can become invasive when they harm, displace or outcompete native species while altering native ecosystem function.

Plants

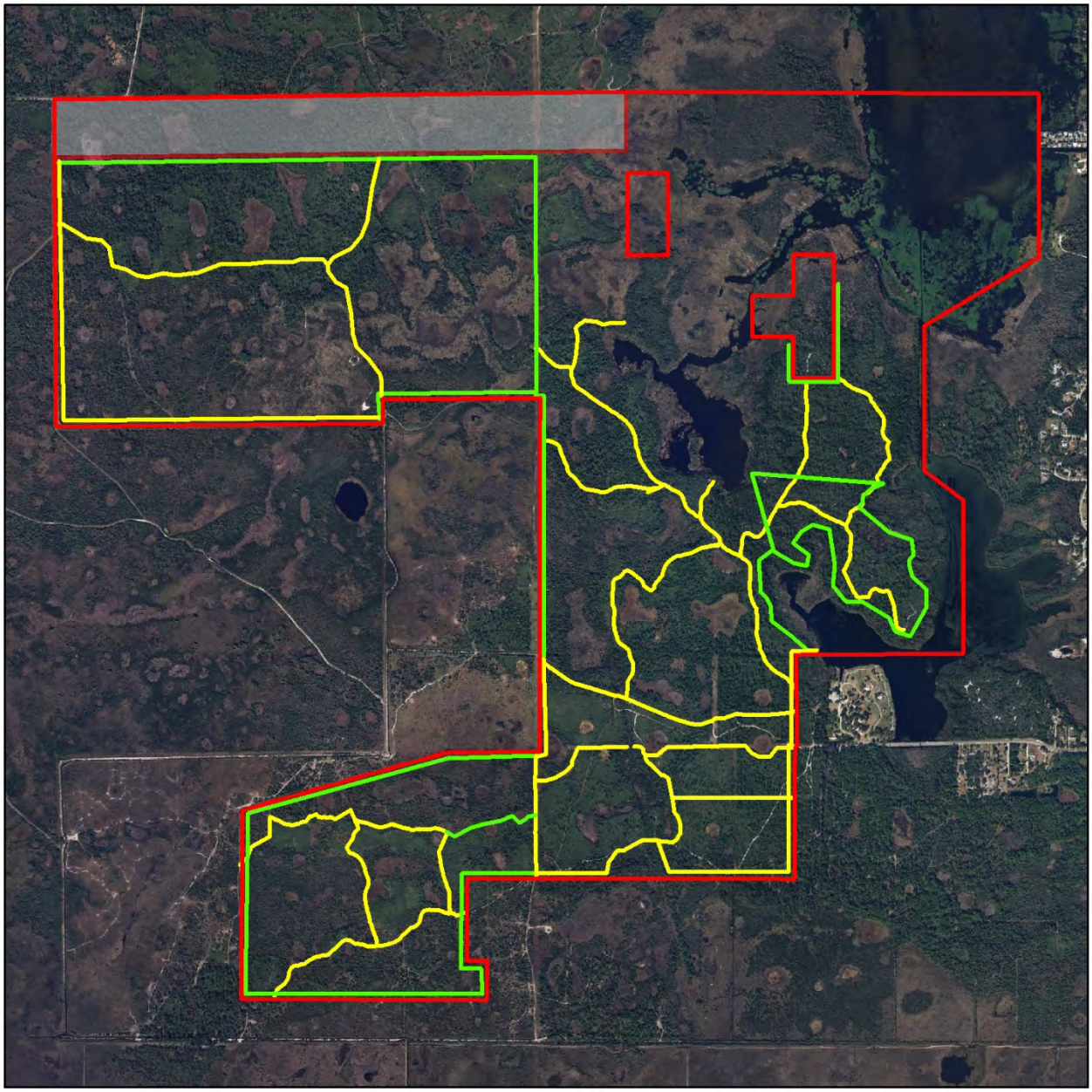
A list of exotic species identified thus far is provided in Table 1. FLS does not support a large number of invasive exotics. However, invasive exotics currently present in the Sanctuary should be treated and monitored to avoid spreading. Brazilian pepper (*Schinus terebinthifolius*), Chinese Tallowtree (*Sapium sebiferum*), and Caesarweed (*Urena lobata*) are the most prevalent invasive species found on the property and will be the first targeted for treatment. Isolated patches of Cogongrass (*Imperata cylindrica*) have been found and treated on the property. It should also be noted that a detailed inventory of exotic/invasive/nuisance plants has not been conducted, and other exotic species are likely to exist on-site.

Table 1: FLS Exotic Plants Species List

Scientific Name	Common Name	Category*
Imperata cylindrica	Cogongrass	**I**
Sapium sebiferum	Chinese Tallowtree	**I**
Schinus terebinthifolius	Brazilian pepper	**I**
Panicum repens	Torpedo Grass	**I**
Urena lobata	Caesar's weed	**II**

Category * (FEPPC 2009)
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.
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.
E- Exotics that are not or not yet in classified in any other Category.

Figure 18: Fox Lake Sanctuary Existing and Proposed Firelines



Legend

- Sanctuary Boundary
- Conservation Easement
- Existing Fireline
- Proposed Fireline

N
W E
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0 1,250 2,500 5,000 Feet

Map updated on 05/07/2012 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Animals

Exotic animal species also have the potential to adversely affect ecosystem function and to significantly alter population levels of native animals through predation or displacement. The fire ant (*Solenopsis invicta*) and the nine-banded armadillo (*Dasypus novemcinctus*) have become a common throughout Central Florida. A significant population of feral hogs (*Sus scrofa*) has been documented on the property. Feral hogs can cause significant harm to vegetation and soils due to their rooting (Engeman et al. 2004, 2007; Jolley et al. 2010). In an attempt to avoid an increase in the hog population, the EEL Program is using the service of a volunteer hog trapper. The property was also used for cattle grazing for at least 25 years before its purchase by the EEL Program; however, cattle grazing does still occur on adjacent property in an enclosed area. Any feral cats and dogs found on the property will be removed.

Laurel Wilt Disease

Laurel Wilt Disease has been documented at FLS on several red bays located adjacent to Fox Lake. Laurel Wilt disease is caused by a fungus introduced into plants of the Lauraceae family by the red bay ambrosia beetle (*Xyleborus glabratus*) which is native to Asia (Fraedrich et al. 2008; Mayfield et al. 2008). The fungus causing the vascular disease was a previously undescribed species of *Raffealea*. Female red bay ambrosia beetles carry the spores of *Raffealea* and transmit them into host trees by boring holes into the sapwood of stems and branches; restricting the flow of water and causing the leaves to wilt (Florida Department of Agriculture & Consumer Services 2008).

A list of non-indigenous animal species has not been collected. An investigation into the levels and impacts of these species needs to be conducted prior to the establishment of a control strategy.

F. Public Access and Passive Recreation

Public access and opportunities for passive recreation will be provided at FLS pursuant to public use and recreational policies of the EEL Program Sanctuary Management Manual adopted by Brevard County Board of County Commissioners. It has been determined that passive recreational activities best support the EEL Program goals. The EEL Program Sanctuary Management Manual (SMM) defines passive recreation as follows:

> "A recreational type of use, level of use and combination of uses that do not, individually or collectively, degrade the resource values, biological diversity, and aesthetic or environmental qualities of a site."

This site is proposed as a "Category 2 site" within the EEL Program and as such, minimal capital improvements will be allowed on-site. Activities that will be permitted include hiking, nature observation, environmental education, canoeing/kayaking, horseback riding, mountain biking and primitive youth camping. Firebreaks may also be used for these activities unless otherwise posted. Staff retains the ability to close off trails due to seasonal conditions, management activities or if unacceptable impacts result from use.

Pets will not be permitted on the sanctuary. No other alternative or multiple uses are being considered other than passive recreation, as they do not fit within the EEL program goals.

By necessity, firebreaks are occasionally used as recreational trails on EEL sites. This minimizes the amount of habitat removed in order to properly manage for conservation while still providing public access. These dual-use trails are periodically impacted by maintenance and prescribed fire activities which include vehicle traffic, disking or tilling by tractor, and mechanically reducing adjacent vegetation. While staff attempts to minimize the extent and duration of impacts that may hinder recreational use, well-maintained firebreaks are vital to public safety and effective conservation management. At FLS, the 5.6 miles of hiking/biking trails and a 2.0 mile proposed hiking/biking trail shown in Figure 19, will not be used as firebreaks unless emergency circumstances arise. Alternatively, a 5.7 mile equestrian trail will utilize existing firebreaks as well as a proposed 1.9 mile equestrian trail connecting FLS to SLWMA. Perimeter firebreaks will be disked regularly to maintain a mineral soil fireline.

On September 21, 2010, a public meeting was held at the Enchanted Forest Sanctuary in Titusville, FL to present the planned restoration and recreational assessment prepared by EEL Program staff to Sanctuary stakeholders including; neighbors, bikers, hikers, equestrians, birders, the St. Johns River Water Management District and tourists. Minutes from the meeting can be found in Appendix L.

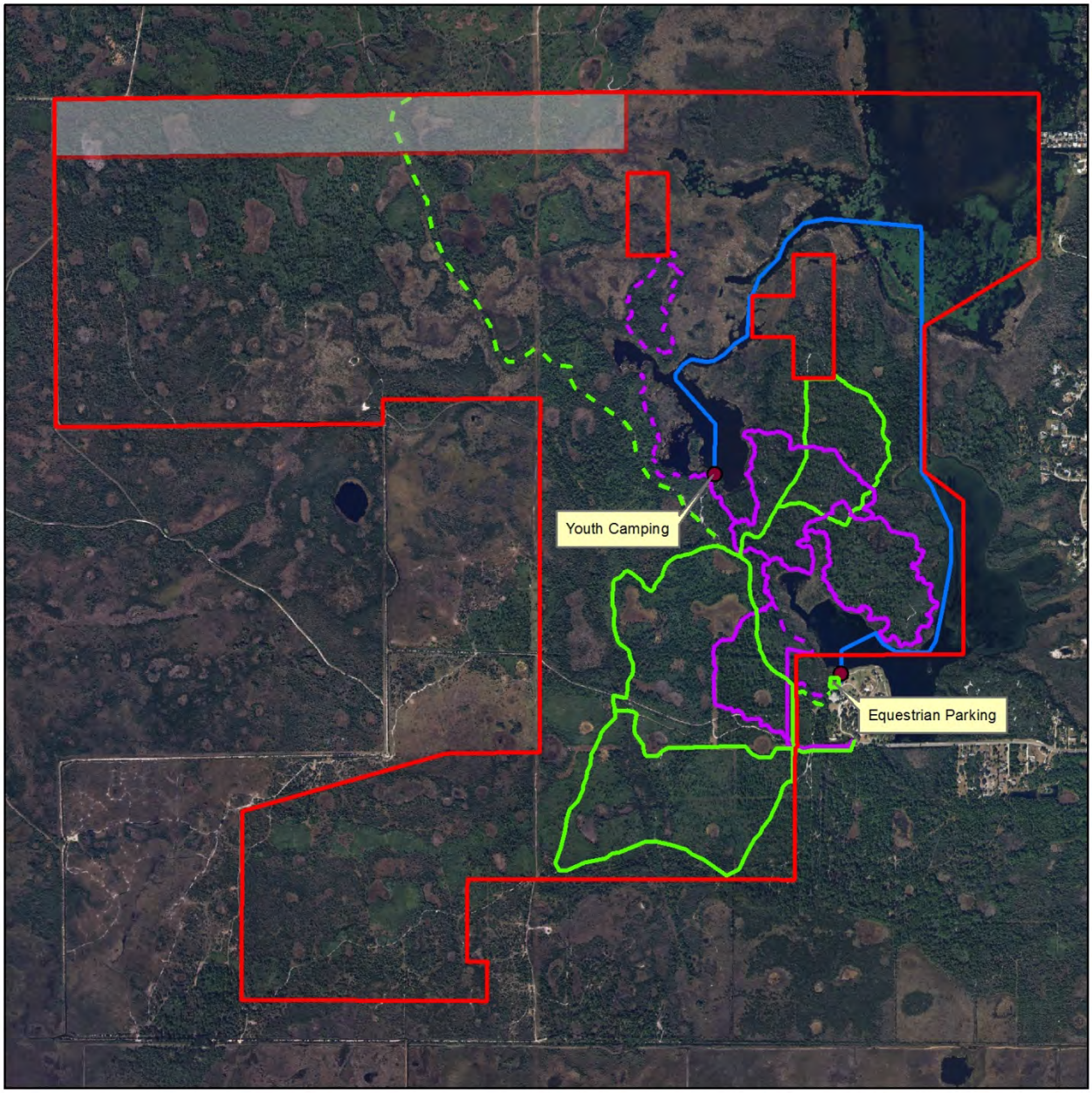
On March 3, 2011, a public meeting was held at the EEL Program Office in Melbourne, FL with the EEL Program Recreation and Education Advisory Committee (REAC). Minutes from this meeting can be found in Appendix M. The FLS public access plan was presented to REAC, and the committee members moved to support the plan.

This management plan was available for a 30-day public review from November 4, 2011 through December 4, 2011. All identified stakeholders were notified of the 30-day public review and the draft management plan was available at several local libraries, the EEL Office, the Enchanted Forest Sanctuary, and the EEL Program website. During the 30-day public review, the EEL Program received comments (Appendix N) from Modern Inc.; an adjacent private land owner.

On May 22, 2012, a public meeting was held in Melbourne, FL with the EEL Program SMC. The management plan was presented for approval and the committee members moved to recommend the plan. Minutes from this meeting can be found in Appendix O. On April 23, 2013, the plan was presented again to include a new proposed trail.

The EEL Program is coordinating with an adjacent landowner to establish a public access trail across Modern Inc. property from Fox Lake Park. If approved, this trail will become the primary public access to the sanctuary trail system. Additionally, a canoe/kayak trail will be established from Fox Lake Park to the southernmost tributary of South Lake near the youth campsite by utilizing the man-made canal joining the two lakes. A designated loop trail would then allow public access on existing trails located on the eastern portion of the site, between Fox and South Lakes (Figure 19).

Figure 19: Fox Lake Sanctuary Public Access



Legend

- Sanctuary Boundary
- Conservation Easement
- Proposed Canoe Landing
- Hiking Trail
- Canoe Trail
- Equestrian & Mountain Bike Trail
- Future Hiking Trail
- Future Equestrian & Mountain Bike Trail

N W E S

0 1,250 2,500 5,000 Feet

Map updated on 03/19/2013 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Guided canoe and kayak trips as well as hikes could also be scheduled for the property, providing a unique opportunity for ecotourism activities. Other potential opportunities include youth group camping. Organized youth groups, under adult supervision and with proper reservations, could be allowed overnight access. Overnight camping would be confined to a single location designated by the EEL Program (Figure 19). In May 2010, an Eagle Scout improved the designated campsite for youth camping as past of a formal Eagle Scout Project. The EEL Program is looking to restore an old shallow well piston pump located at the cabin to provide a non-potable water source. A fire pit was constructed to allow safe fire containment for cooking meals.

a. Parking and Public Access

Parking for visitor and equestrian access will be located at Fox Lake Park between the boat launch and the pavilion. Informational kiosks will be installed at the trail head and the boat ramp at Fox Lake Park to inform visitors about the site and provide an informational brochure highlighting hiking, biking, equestrian and canoe/kayak trail options.

b. Hiking

Hiking trails will be designed to give visitors an opportunity to experience the diverse habitats within the Sanctuary. These hiking trails will take visitors through the diverse habitats of FLS from oak-saw palmetto scrub to floodplain swamp. Hiking will be encouraged on the designated trail system (Figure 19) and allowed on firelines located throughout the property. All trails will be developed as natural surface foot paths and will be adequately marked to facilitate easy navigation by visitors.

c. Bird Watching

Bird watching is a passive recreational activity that will be encouraged at the Sanctuary. Specific areas will be designated as overlooks for bird watching and some signage may be established along the hiking trails.

d. Mountain Biking

Mountain biking will be permitted on the designated trail and firelines located throughout the property with the exception of private property.

e. Horseback Riding

Horseback riding will be permitted on all designated firelines. A designated equestrian loop will be marked with trail signs providing riders new to the site an overall sense of direction.

d. Hunting

Hunting will not be allowed within the Sanctuary. Hunting opportunities do exist on the adjacent SLWMA and SRCA.

VI. MANAGEMENT ACTION PLANS

The following is a comprehensive outline of the goals, strategies, and actions necessary to manage FLS.

A. Goals

The *Sanctuary Management Manual* of the EEL Program provides the following management goals for FLS.

- Documentation of historic public use
- Conservation of ecosystem function
- Conservation of natural (native) communities
- Conservation of species (including endemic, rare, threatened and endangered species)
- Documentation of significant archeological and historic sites
- Provision of public access and responsible public use
- Assessment of carrying capacity of natural resources with public use
- Provision of environmental education programs
- Opportunities for multiple uses and compatibility
- General upkeep and security of the property

B. Strategies and Actions

The following is an outline of the specific management strategies and actions that are needed to meet the management goals for FLS.

GOAL: DOCUMENTATION OF HISTORIC PUBLIC USE

Strategy 1: Document historic public use

Actions:
- Collect historic information (such as aerials, historic photos, interviews with previous landowners) regarding the types of activities that have occurred on-site;
- Evaluate how historic use impacted the site's natural resources;
- Consider historic use patterns in planning future public uses;
- Map all existing trails using GIS/GPS.

GOAL: CONSERVATION OF ECOSYSTEM FUNCTION

Strategy 2: Protect, maintain, and restore native diversity, ecological patterns, and the processes that maintain diversity.

Actions:
- Research and monitor baseline conditions of natural systems;

- Install 4 baseline vegetation monitoring transects;
- Research the connection of on-site natural resources with adjacent resources;
- Research hydrologic patterns on and off-site;
- Restore natural communities to improve efforts on enhancing native diversity;
- Investigate the historic hydroperiod;
- Install one photopoint in each habitat within FLS.

Strategy 3: Ensure that natural upland-wetland interfaces are protected and enhanced.

Actions:
- Collect data to analyze the public access on the natural resources;
- Protect communities from deleterious impacts deriving from external influences;
- Restore/enhance natural communities where and as possible.

GOAL: CONSERVATION OF NATURAL (NATIVE) COMMUNITIES

Strategy 4: Restore degraded, disturbed, or altered wetlands within FLS.

Actions:
- Establish baseline conditions within wetlands;
- Consult local experts and current literature regarding best scientific methods for wetland restoration;
- Use native plants for restoration efforts (if needed);
- Prioritize the wetland communities in need of restoration based upon ease of accomplishment, expected habitat value yield, or financial considerations;
- Use off-site mitigation projects to fund on-site wetland restoration;
- Assess possible impacts of proposed restoration on adjacent communities and offsite properties;
- Implement the selected restoration activities (i.e., remove exotic species, restore natural hydrologic flood, etc.);
- Monitor the effects of the restoration activities, evaluate the success of the restoration projects, and revise the restoration plan, as necessary;
- Manage invasive exotic plant species at a maintenance level (0-5%); continue to periodically treat FLEPPC cat. 1 & 2 invasive exotic plant species.

Strategy 5: Restore degraded, disturbed, or altered uplands within FLS.

Actions:
- Establish baseline conditions within the upland communities;
- Consult local experts and current literature regarding best scientific methods for upland restoration;
- Prioritize the upland communities in need of restoration based upon ease of accomplishment, expected habitat value yield, or financial considerations;
- Assess possible impacts of proposed restoration on adjacent communities and offsite properties;

- Implement the selected restoration activities (i.e., remove exotic species, restore natural disturbance regime, replant native species, etc.);
- Monitor the effects of the restoration activities, evaluate the success of the restoration projects, and revise the restoration plan, as necessary;
- Manage invasive exotic plant species at a maintenance level (0-5%), continue to periodically treat FLEPPC cat. 1 & 2 invasive exotic plant species;
- Restore 216 acres of scrubby flatwoods.

Strategy 6: Design and implement a "natural" fire management program.

Actions:

- Identify natural communities that require prescribed fire management;
- Identify and evaluate individual proposed burn management units;
- Identify the goal of the application of fire to each proposed burn unit;
- Document listed species within each burn unit;
- Identify and plan perimeter and internal fire breaks;
- Create a site-specific Fire Management Plan;
- Develop and implement public education campaign including programs and literature regarding the need for periodic controlled burns;
- Meet with local HOA's to help educate neighbors to the prescribed fire program;
- Secure the necessary permits from the State Division of Forestry and other agencies;
- Mechanical reduction of overgrown vegetation when necessary before fire implementation;
- Begin prescribed fire management program;
- Monitor the effects of the fire management activities, evaluate the success of the program, and revise the program strategies as needed;
- Reintroduce and continue prescribed fire to fire adapted communities every 3-5 years or as needed.

GOAL: CONSERVATION OF SPECIES (INCLUDING ENDEMIC, RARE, THREATENED AND ENDANGERED)

Strategy 7: Protect on-site populations of endemic, rare, threatened and endangered species through the utilization of existing habitat management and species recovery plans.

Actions:

- Develop a methodology and work plan to accomplish the identification of designated plant and animal species;
- Survey for, and identify listed/protected plant and animal species;
- Plot the location of identified designated species within and/or adjacent to the sanctuary for use in the implementation, or re-distribution, of amenities or site improvements;
- Periodically update these baseline survey data to determine possible changes in designated species distribution or density;

- Review management plans for consistency with USFWS and FWC guidance concerning listed species;
- Implement habitat restoration activities for listed species (i.e., removal of exotic/nuisance species, restoration of ecosystem function);
- Establish periodic monitoring of habitat suitability (where indices are available for a given species), species population levels, diversity levels, and exotic/nuisance species, as a means of evaluating the success of management strategies;
- Map gopher tortoise burrows post burns or once every five years.

GOAL: DOCUMENTATION AND RESTORATION OF SIGNIFICANT ARCHAEOLOGICAL AND HISTORIC SITES

Strategy 8: Survey and document archaeological and historical areas

Actions:
- Work with an Archaeologist to develop probability zones for potential sites;
- Conduct a Phase 1 survey of high probability sites;
- Review available maps and historic records for indications of past usage of the site;
- Map all archaeological and historic sites for future reference.

GOAL: PROVISION FOR PUBLIC ACCESS AND RESPONSIBLE PUBLIC USE

Strategy 9: Establish and enforce specific policies and management techniques for public access and responsible public use.

Actions:
- Plan appropriate public facilities by examining the site's natural and cultural resources and reviewing public input;
- Perform public access site assessment;
- Install boundary fence and post with EEL Program signage;
- Evaluate design and proposed public facilities for consistency with ADA guidelines;
- Establish social and environmental carrying capacities for proposed public facilities;
- Use daily or seasonal quotas, restricted access or limited parking to enforce established carrying capacities;
- Coordinate recreational use with the ecological burning strategies of the EEL Program;
- Minimize unauthorized trail expansion by establishing sufficient trails, constructing handrails, and the development of written guidelines;
- Install informational kiosks at the Sanctuary entrance and educational signage along approved trails.

GOAL: ASSESSMENT OF CARRYING CAPACITY OF NATURAL RESOURCES WITH PUBLIC USE

Strategy 10: Establish a monitoring program to assess effects of public usage on natural resources.

Actions:
- Establish and monitor 5 vegetation monitoring transects;
- Establish a methodology and record keeping system to document public use;
- Conduct regular monitoring to assess impacts of public use on natural habitats;
- Conduct regular "walk-throughs" over frequently used sites to assess the need for changes in routing/user types, or user intensity;
- Re-route users from sensitive areas or popular sites on a regular or as-needed basis;
- Re-align public use to avoid areas which observations or data indicate are too sensitive for the level of use originally planned.

GOAL: PROVISION OF ENVIRONMENTAL EDUCATION PROGRAMS

Strategy 11: Develop a plan to provide on-going environmental education programs to Brevard County residents and visitors.

Actions:
- Determine target audiences and types of programming best suited to those groups;
- Design and develop indoor and outdoor exhibits, signs and printed materials;
- Provide a trail brochure for visitors to the Sanctuary;
- Include educators, friends groups and other organizations in the design, development and delivery of programs;
- Develop and coordinate a docent program to assist in program delivery;
- Develop and provide training and site specific informational materials for use by docents and other educators;
- Develop criteria and process of evaluation for program review and refinement;
- Coordinate outreach and on-site programs for school-aged children with school board and area schools;
- Provide a "special collection" of books and other materials specifically related to the environmental and cultural character of the Sanctuary.

GOAL: OPPORTUNITIES FOR MULTIPLE USES AND COMPATIBILITY

Strategy 12: Provide opportunities for multiple use and compatibility when practical.

Actions:
- Use fire breaks for multi-use recreation trails when not needed for resource management;
- Reroute trails, where possible off firebreaks to provide improved public access;
- Include multiple benefits of natural community restoration efforts in education program.

GOAL: GENERAL UPKEEP AND SECURITY OF THE PROPERTY

Strategy 13: Secure and maintain the Sanctuary to the highest degree possible using EEL staff, Parks and Recreation staff, contract employees and volunteers.

Actions:

- Install perimeter fencing and or signs clearly marking the site's boundary;
- Contract with outside contractors or with Brevard County, Parks and Recreation for maintenance of parking areas, fire breaks, trails, boardwalks, bridges, benches etc.;
- Coordinate daily maintenance tasks using staff and volunteers.

VII. PROJECTED TIMETABLE FOR IMPLEMENTATION

Part VII recommends a timeline for management plan implementation. The timeline has been divided into immediate, short-term and long-term time frames. Immediate is defined as within one year of the adoption of this management plan, short term is 1 to 5 years, and long-term is more than 5 years. Some actions are also defined as on-going, if the activity is required for the on-going maintenance of the Sanctuary.

ACTION	**ACTIVITY TIMELINE**
Strategy 1: Document historic public use	
Collect historic information (such as aerials, historic photos, interviews with previous landowners) regarding the types of activities that have occurred on-site	Completed
Evaluate how historic public use impacted the site's natural resources	Completed
Consider historic public use patterns in planning future public uses	Completed
Map all existing trails using GIS/GPS	Completed
Strategy 2: Protect, maintain, and restore native diversity, ecological patterns, and the processes that maintain diversity	
Research and monitor baseline conditions of natural systems	On-Going
Install 4 baseline vegetation monitoring transects	Short-Term
Research the connection of on-site natural resources with adjacent resources	On-Going
Research hydrologic patterns on and off-site	Short-Term
Restore natural communities to improve efforts on enhancing native diversity	Short-Term
Investigate the historic hydroperiod	Short-Term
Install one photopoint in each habitat within FLS	Short-Term
Strategy 3: Ensure that natural upland-wetland interfaces are protected and enhanced	
Collect data to analyze the public access on the natural resources	Short-Term
Protect communities from deleterious impacts deriving from external influences	On-Going
Restore/enhance natural communities where and as possible	On-Going
Strategy 4: Restore degraded, disturbed, or altered wetlands within FLS	
Establish baseline conditions within wetlands	Immediate

Consult local experts and current literature regarding best scientific methods for wetland restoration	Immediate
Use native plants for restoration efforts (if needed)	Immediate
Prioritize the wetland communities in need of restoration based upon ease of accomplishment, expected habitat value yield, or financial considerations	Immediate
Use off-site mitigation projects to fund on-site wetland restoration	Short-Term
Assess possible impacts of proposed restoration on adjacent communities and offsite properties	Immediate
Implement the selected restoration activities (i.e., remove exotic species, restore natural hydrologic flood, etc.)	On-Going
Monitor the effects of the restoration activities, evaluate the success of the restoration projects, and revise the restoration plan, as necessary	On-Going
Manage invasive exotic plant species at a maintenance level (0-5%), continue to periodically treat FLEPPC cat. 1 & 2 invasive exotic plant species	On-Going

Strategy 5: Restore degraded, disturbed or altered uplands within FLS

Establish baseline conditions within the upland communities	Immediate
Consult local experts and current literature regarding best scientific methods for upland restoration	Immediate
Prioritize the upland communities in need of restoration based upon ease of accomplishment, expected habitat value yield, or financial considerations	On-Going
Assess possible impacts of proposed restoration on adjacent communities and offsite properties	On-Going
Implement the selected restoration activities (i.e., remove exotic species, restore natural disturbance regime, replant native species, etc.)	On-Going
Monitor the effects of the restoration activities, evaluate the success of the restoration projects, and revise the restoration plan, as necessary	Shot-Term
Manage invasive exotic plant species at a maintenance level (0-5%), continue to periodically treat FLEPPC cat. 1 & 2 invasive exotic plant species	On-going
Restore 216 acres of scrubby flatwoods	On-Going

Strategy 6: Design and implement a "natural" fire management program

Identify natural communities that require prescribed fire management	Completed
Identify and evaluate individual proposed burn management units	Immediate
Identify the goal of the application of fire to each proposed burn unit	Completed
Document listed species within each burn unit	On-Going
Identify and plan perimeter and internal fire breaks	Immediate
Create a site-specific Fire Management Plan	Completed
Develop and implement public education campaign including programs and literature regarding the need for periodic controlled burns	On-Going
Meet with local HOA's to help educate neighbors to the prescribed fire program	Completed

Secure the necessary permits from the State Division of Forestry and other agencies	On-Going
Mechanical reduction of overgrown vegetation when necessary before fire implementation	Immediate
Implement prescribed fire management program	Immediate
Monitor the effects of the fire management activities, evaluate the success of the program, and revise the program strategies as needed	On-Going
Reintroduce and continue prescribed fire to fire adapted communities every 3-5 years or as needed	On-Going

Strategy 7: Protect on-site populations of endemic, rare, threatened and endangered species through the utilization of existing habitat management and species recovery plans

Develop a methodology and work plan to accomplish the identification of designated plant and animal species	On-Going
Survey for, and identify listed/protected plant and animal species	On-Going
Plot the location of identified designated species within and/or adjacent to the sanctuary for use in the implementation, or re-distribution, of amenities or site improvements	On-Going
Periodically update these baseline survey data to determine possible changes in designated species distribution or density	On-Going
Review management plans for consistency with USFWS and FWC guidance concerning listed species	Short-Term
Implement habitat restoration activities for listed species (i.e., removal of exotic/nuisance species, restoration of ecosystem function)	On-Going
Establish periodic monitoring of habitat suitability (where indices are available for a given species), species population levels, diversity levels, and exotic/nuisance species, as a means of evaluating the success of management strategies	On-Going
Map gopher tortoise burrows post burns or once every five years	On-Going

Strategy 8: Survey and document archaeological and historical areas

Work with an Archaeologist to develop probability zones for potential sites	On-Going
Conduct a Phase 1 survey of high probability sites	On-Going
Review available maps and historic records for indications of past usage of the site	Completed
Map all archaeological and historic sites for future reference	On-Going

Strategy 9: Establish and enforce specific policies and management techniques for public access and responsible public use

Plan appropriate public facilities by examining the site's natural and cultural resources and reviewing public input	Immediate
Perform public access site assessment	Completed
Install boundary fence and post with EEL Program signage	Short-Term
Evaluate design and proposed public facilities for consistency with ADA guidelines	Short-Term
Establish social and environmental carrying capacities for proposed public facilities	Short-Term

Use daily or seasonal quotas, restricted access or limited parking to enforce established carrying capacities	Short-Term
Coordinate recreational use with the ecological burning strategies of the EEL Program	Short-Term
Minimize unauthorized trail expansion by establishing sufficient trails, constructing handrails, and the development of written guidelines	Short-Term
Install informational kiosks at the Sanctuary entrance and educational signage along approved trails	Short-Term

Strategy 10: Establish a monitoring program to assess effects of public usage on natural resources

Establish and monitor 5 vegetation monitoring transects	Short-Term
Establish a methodology and record keeping system to document public use	On-Going
Conduct regular monitoring to assess impacts of public use on natural habitats	On-Going
Conduct regular “walk-throughs” over frequently used sites to assess the need for changes in routing/user types, or user intensity	On-Going
Re-route users from sensitive areas or popular sites on a regular or as-needed basis	On-Going
Re-align public use to avoid areas which observations or data indicate are too sensitive for the level of use originally planned	On-Going

Strategy 11: Develop a plan to provide on-going environmental education programs to Brevard County residents and visitors

Determine target audiences and types of programming best suited to those groups	Short-Term
Design and develop indoor and outdoor exhibits, signs and printed materials	Short-Term
Provide a trail brochure for visitors to the Sanctuary	Immediate
Include educators, friends groups and other organizations in the design, development and delivery of programs	Short-Term
Develop and coordinate a docent program to assist in program delivery	Short-Term
Develop and provide training and site specific informational materials for use by docents and other educators	Short-Term
Develop criteria and process of evaluation for program review and refinement	Short-Term
Coordinate outreach and on-site programs for school-aged children with school board and area schools	Long-Term
Provide a “special collection” of books and other materials specifically related to the environmental and cultural character of the Sanctuary	Long-Term

Strategy 12: Provide opportunities for multiple use and compatibility when practical

Use fire breaks for multi-use recreation trails when not needed for resource management	Short-term
Reroute trails, where possible off firebreaks to provide improved public access	Short-term

Include multiple benefits of natural community restoration efforts in education program	Short-Term

Strategy 13: Secure and maintain the Sanctuary to the highest degree possible using EEL staff, EEL Interns, Parks and Recreation staff, contract employees and volunteers

Install perimeter fencing and or signs clearly marking the site's boundary	Complete
Contract with outside contractors or with Brevard County, Parks and Recreation for maintenance of parking areas, fire breaks, trails, boardwalks, bridges, benches etc.	On-Going
Coordinate daily maintenance tasks using staff and volunteers	On-going

VIII. FINANCIAL CONSIDERATIONS

The Brevard County EEL Program receives land acquisition and management revenues from ad valorem revenues collected pursuant to the 2004 voter-approved EEL Referendum. The EEL Program allocates bond funds to capital land acquisition and one-time capital expenditures. Ad valorem revenue collected during each fiscal year that are not required for bond debt services can be used for any legal purpose within the EEL Program pursuant to §200.181 and §125.013 of the Florida Statutes. The EEL Program collected ad valorem revenues from the 1990 referendum until the Year 2011 and continues to collect as valorem revenue from the 2004 referendum until 2024, the sunset dates of the ad valorem collections, respectively.

Based on financial projections, the EEL Program shall annually appropriate a portion of the EEL Program ad valorem revenue not required for bond debt services to fund annual EEL Program capital and non-capital expenditures. Specific appropriations for FLS will be made each fiscal year as part of this overall annual budget process. The EEL Program budget will be reviewed and adopted annually as part of the Brevard County budget process and as authorized by the Board of County Commissioners. The Board of County Commissioners will consider other funding options and financial resources to address the long-term management responsibilities of the EEL Program.

A Land Manager has been hired to oversee maintenance, security and resource management for FLS and other properties located within the North Region Management Area. An Assistant Land Manager and two Land Management Technicians will assist the Land Manager with maintenance, security, and resource management for all properties in the north region. A Naturalist will design and develop interpretive signage based on the Sanctuaries natural resources, historical and archeological resources. The Fire Manager will be responsible for all fire related activities during ignition and mop-up of a prescribed fire. The cost estimate for personnel assumes that volunteers will be utilized to assist with maintenance and research. The maintenance and operations cost includes estimates for travel activities, office supplies, repair and maintenance services, printing and training. The cost estimate for resource management includes activities such as research and monitoring contracts, developing and implementing the prescribed burn program, environmental education programs and exotic species removal.

The following is a breakdown of the general costs estimated for annual management operations of FLS:

Staff Salaries/ Benefits* (Staff also responsible for other North Region sites.)

Land Manager (f.t.)	$7,228.90 (incl. benefits)
Assistant Land Manager (f.t.)	$5,881.80 (incl. benefits)
Two Land Management Technicians (f.t.)	$9,767.30 (incl. benefits)
Management Activities	$2,014.60

(Exotic treatment, fire management, trails environmental education, boundary maintenance, etc.)

Total	**$24,892.60**

In addition to the on-going maintenance and operation costs estimate, the EEL Program has funding for the following capital start-up costs outlined below.

Capital Improvement

Mechanical Reduction and Canopy Thinning	$72,000.00
Heavy Equipment Rental	$8,000.00
Boardwalk	$4,000.00
Kiosks and Signs	$2,000.00
Fencing	$8,000.00
Total	**$94,000.00**

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X. APPENDICES

Appendix A: Letter of Compliance

Appendix B: Legal Description

Appendix C: FEMA Map

Appendix D: Fire Management Plan

Appendix E: Surface Water Quality Classification

Appendix F: Timber Assessment

Appendix G: Bird Survey

Appendix H: Arthropod Plan

Appendix I: Florida Natural Areas Inventory

Appendix J: Florida Master Site File

Appendix K: Easements and Right of Ways

Appendix L: Public Meeting Minutes

Appendix M: REAC Meeting Minutes

Appendix A
Letter of Compliance

BREVARD COUNTY
BOARD OF COUNTY COMMISSIONERS

INTER-OFFICE MEMORANDUM

TO: Michael Wielenga
North Region Assistant Land Manager
Environmentally Endangered Lands Program

FROM: Robin M. Sobrino, AICP
Director, Planning & Development Department

DATE: July 1, 2009

SUBJECT: Letter of Compliance for IRS, SFS, and FLS

IRS:
The subject property is situated within the unincorporated area of Brevard County. The property is zoned AU (Agricultural Residential). Section 62-1334 of the Zoning Regulations governing AU zoning states that parks and public recreational facilities are permitted uses.

The Future Land Use Map designates this property as Residential 1:2.5. This land use designation permits park and public recreational facilities. An amendment to the Future Land Use Map will be initiated during the next Comprehensive Plan amendment cycle to change the designation to Public Conservation.

SFS:
The subject property is situated within the unincorporated area of Brevard County. The property is zoned PUD (Planned Unit Development). Section 62-1443 of the Zoning Regulations governing PUD zoning states that parks and public recreational facilities are permitted uses.

The Future Land Use Map designates this property as Residential 1. This land use designation permits park and public recreational facilities. An amendment to the Future Land Use Map will be initiated during the next Comprehensive Plan amendment cycle to change the designation to Public Conservation.

FLS:
The subject property is situated within the unincorporated area of Brevard County. The property is zoned GU (General Use). Section 62-1331 of the Zoning Regulations governing GU zoning states that parks and public recreational facilities are permitted uses.

The Future Land Use Map designates this property as Agricultural and Residential 1:2.5. These land use designations permits park and public recreational facilities. An amendment to the Future Land Use Map will be initiated during the next Comprehensive Plan amendment cycle to change the designation to Public Conservation.

Also enclosed for your records are maps depicting the zoning and Future Land Use designations for these properties. If you have any questions, please do not hesitate to contact me.

enc.

Appendix B
Legal Description

LEGAL DESCRIPTION:

(PER TITLE COMMITMENT CDO7-112135)

ALL OF SECTION 1, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, LESS AND EXCEPT THE FOLLOWING DESCRIBED LANDS:

THE WEST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4; THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4; THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4.

AND

ALL OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, LESS AND EXCEPT THE FOLLOWING DESCRIBED LANDS:

THE WEST 1/2 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4; THE NORTH 950 FEET OF THE WEST 3/4; THE SOUTH 380 FEET OF SAID SECTION 2, LYING WEST OF THE EAST LINE OF THE FLORIDA POWER & LIGHT COMPANY RIGHT OF WAY, AS DESCRIBED IN THAT CERTAIN ORDER OF TAKING RECORDED MAY 31, 1965 IN CIRCUIT COURT MINUTE BOOK 54, PAGE 858 AND AMENDED ORDER OF TAKING RECORDED NOVEMBER 29, 1966 IN CIRCUIT COURT MINUTE BOOK 62, PAGE 754, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

AND

ALL OF SECTION 3, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, LESS AND EXCEPT THE FOLLOWING DESCRIBED LANDS:

THE NORTH 950 FEET OF SECTION 3, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

SUBJECT TO AN 80 FOOT WIDE ACCESS/DRAINAGE/MAINTENANCE EASEMENT ALONG THE WEST AND SOUTH BOUNDARIES OF SAID SECTION 3, RESERVED BY MODERN, INC. FOR ITS BENEFICIARIES AND/OR ITS ASSIGNEES AND SUCCESSORS.

AND

ALL OF SECTION 11, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, LYING EAST OF THE EAST LINE OF THE FLORIDA POWER & LIGHT COMPANY RIGHT OF WAY, AS DESCRIBED IN THAT CERTAIN ORDER OF TAKING RECORDED MAY 31, 1965 IN CIRCUIT COURT MINUTE BOOK 54, PAGE 858 AND AMENDED ORDER OF TAKING RECORDED NOVEMBER 29, 1966 IN CIRCUIT COURT MINUTE BOOK 62, PAGE 754, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

AND

ALL OF SECTION 12, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, LESS AND EXCEPT THE FOLLOWING DESCRIBED LANDS:

THE EAST 1/2 OF THE SOUTHEAST 1/4; THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4; THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4; THE SOUTH 150 FEET OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4; THE SOUTH 150 FEET OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4.

AND

THE FOLLOWING LOTS LYING IN SECTION 13, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA:

LOTS 17 THROUGH 19, INCLUSIVE AND LOTS 46 THROUGH 51, INCLUSIVE, ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY, AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

AND

THE FOLLOWING LOTS LYING IN SECTION 14, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA:

LOTS 17 THROUGH 64, INCLUSIVE; LOTS 78 THROUGH 83, INCLUSIVE AND LOTS 109 THROUGH 112, INCLUSIVE, ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY, AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

AND

THE FOLLOWING LOTS LYING IN SECTION 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA:

THE FOLLOWING LOTS LYING IN SECTION 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA:

LOTS 28 THROUGH 40, INCLUSIVE; LOTS 57 THROUGH 72, INCLUSIVE AND LOTS 89 THROUGH 104, INCLUSIVE, ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY, AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

TOGETHER WITH A NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT ALONG THE NORTH 25 FEET OF LOTS 20, 21 AND 22; SECTION 13; TOWNSHIP 22 SOUTH; RANGE 34 EAST.

AFORESAID LOTS (PREDOMINATELY 5 ACRES EACH) BEING AS SHOWN UPON AND ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

ALL OF THE AFORESAID LOCATED IN TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

ALL THE AFORESAID LANDS ARE SUBJECT TO ALL RECORDED RIGHTS OF WAY, EASEMENTS, CONSERVATION EASEMENTS AND RIGHTS CONVEYANCES.

ALL OF THE AFORESAID LANDS ARE SUBJECT TO THE FOLLOWING PERMANENT NON-EXCLUSIVE EASEMENTS/RIGHTS OF WAY HEREBY RESERVED BY MODERN, INC. FOR ITS BENEFICIARIES, ITS ASSIGNS, AND ITS SUCCESSORS BENEFIT FOR ACCESS, DRAINAGE, ROADWAYS/TRAILS, UTILITIES, AND RIGHTS OF WAY CONSTRUCTION USE. THE PERMANENT EASEMENTS/RIGHTS OF WAY IN SECTIONS 11, 12, 13, 14, AND 15 ARE ADDITIONAL TO AND ADJACENT TO CERTAIN EXISTING RIGHTS OF WAY AS PER THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY, AS RECORDED IN PLAT BOOK 2, PAGES 29 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND PROVIDE FOR MAKING 80 FEET WIDE MINIMUM RIGHTS OF WAY/EASEMENT ALONG THOSE PLATTED AS 20 FEET AND 50 FEET.

SECTION 3:

80 FEET ALONG THE ENTIRE WEST SECTION LINE AND THE ENTIRE SOUTH SECTION LINE (SHOWN ON SURVEY AS PERMANENT EASEMENT S).

SECTION 11:

THE SOUTH 50 FEET OF THE PORTION LYING EAST OF THE FLORIDA POWER AND LIGHT CO. EASEMENT AS RECORDED IN CIRCUIT COURT MINUTE BOOK 54, PAGE 858 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 12:

THE SOUTH 50 FEET OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 13:

THE NORTH 25 FEET OF LOTS 17 THRU 19, INCLUSIVE; THE WEST 15 FEET OF LOTS 17, 48 AND 49; AND THE SOUTH 30 FEET OF LOTS 49 THRU 51, INCLUSIVE (SHOWN ON SURVEY AS PERMANENT EASEMENTS F & I).

SECTION 14:

THE NORTH 25 FEET OF LOTS 17 THRU 32, INCLUSIVE; THE EAST 15 FEET OF LOTS 32, 33 AND 64; THE SOUTH 30 FEET OF LOTS 81 THRU 83, INCLUSIVE; THE NORTH 30 FEET OF LOTS 109 THRU 112, INCLUSIVE; THE SOUTH 30 FEET OF LOTS 49 THRU 64, INCLUSIVE; THE NORTH 30 FEET OF LOTS 78 THRU 80, INCLUSIVE; THE WEST 30 FEET OF LOTS 25, 40 AND 57; THE EAST 30 FEET OF LOTS 24, 41 AND 56; AND THE WEST 15 FEET OF LOTS 17, 48, 49, 80, 81 AND 112 (SHOWN ON SURVEY AS PERMANENT EASEMENTS A, B, C, F, G, & I).

SECTION 15:

THE NORTHERLY 25 FEET OF LOTS 28 THRU 32, INCLUSIVE; THE SOUTH 30 FEET OF LOTS 28 THRU 32, INCLUSIVE; THE NORTH 30 FEET OF LOTS 35 THRU 40, INCLUSIVE; THE SOUTH 30 FEET OF LOTS 57 THRU 64, INCLUSIVE; THE NORTH 30 FEET OF LOTS 65 THRU 72, INCLUSIVE; THE SOUTH 30 FEET OF LOTS 89 THRU 96, INCLUSIVE; THE NORTH 30 FEET OF LOTS 97 THRU 104; THE EAST 15 FEET OF LOTS 32, 33, 64, 65, 96 AND 97; AND THE WEST 15 FEET OF LOTS 40, 57, 72, 89, AND 104 (SHOWN ON SURVEY AS PERMANENT EASEMENTS C, D, E, F, G, AND I).

LESS THE FOLLOWING DESCRIBED PARCEL:

EASTERN PARCEL LEGAL DESCRIPTION:

A PARCEL OF LAND LOCATED IN SECTIONS 1 AND 12, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHEAST CORNER OF SECTION 12, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; THENCE RUN S01°06'44"E, ALONG THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 12, A DISTANCE OF 2607.40 FEET TO THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SAID SECTION 12; THENCE RUN S89°31'04"W, ALONG THE SOUTH LINE OF SAID NORTHEAST 1/4, A DISTANCE OF 1331.63 FEET TO THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF SAID NORTHEAST 1/4; THENCE RUN N00°59'59"W, ALONG THE WEST LINE OF SAID SOUTHEAST 1/4 OF THE NORTHEAST 1/4, A DISTANCE OF 1310.18 FEET TO THE NORTHWEST CORNER OF SAID SOUTHEAST 1/4 OF THE NORTHEAST 1/4; THENCE DEPARTING SAID WEST LINE RUN N49°13'21"W, A DISTANCE OF 632.17 FEET TO THE SOUTHEAST CORNER OF A CANAL RIGHT-OF-WAY AS RECORDED IN OFFICIAL RECORDS BOOK 576, PAGE 547, PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA; THENCE RUN N01°06'44"W, ALONG THE EAST LINE OF SAID CANAL RIGHT-OF-WAY, A DISTANCE OF 2400.00 FEET TO THE NORTHEAST CORNER OF SAID CANAL RIGHT-OF-WAY; THENCE DEPARTING SAID CANAL RIGHT-OF-WAY, RUN N58°28'10"E, A DISTANCE OF 2171.55 FEET TO NORTHEAST CORNER OF THE SOUTHEAST 1/4 OF SECTION 1, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA; THENCE RUN S00°28'24"W, ALONG THE EAST LINE OF SAID SOUTHEAST 1/4, A DISTANCE OF 2640.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 178.546 ACRES, MORE OR LESS.

THE SUBJECT PROPERTY CONTAINS A TOTAL OF 2838.540 ACRES, MORE OR LESS. THIS DOES NOT INCLUDE THE LANDS DESCRIBED ABOVE AS LESS OUT PARCELS. INTERNAL RIGHT-OF-WAYS WITHIN SECTIONS 13, 14 & 15 ARE INCLUDED.

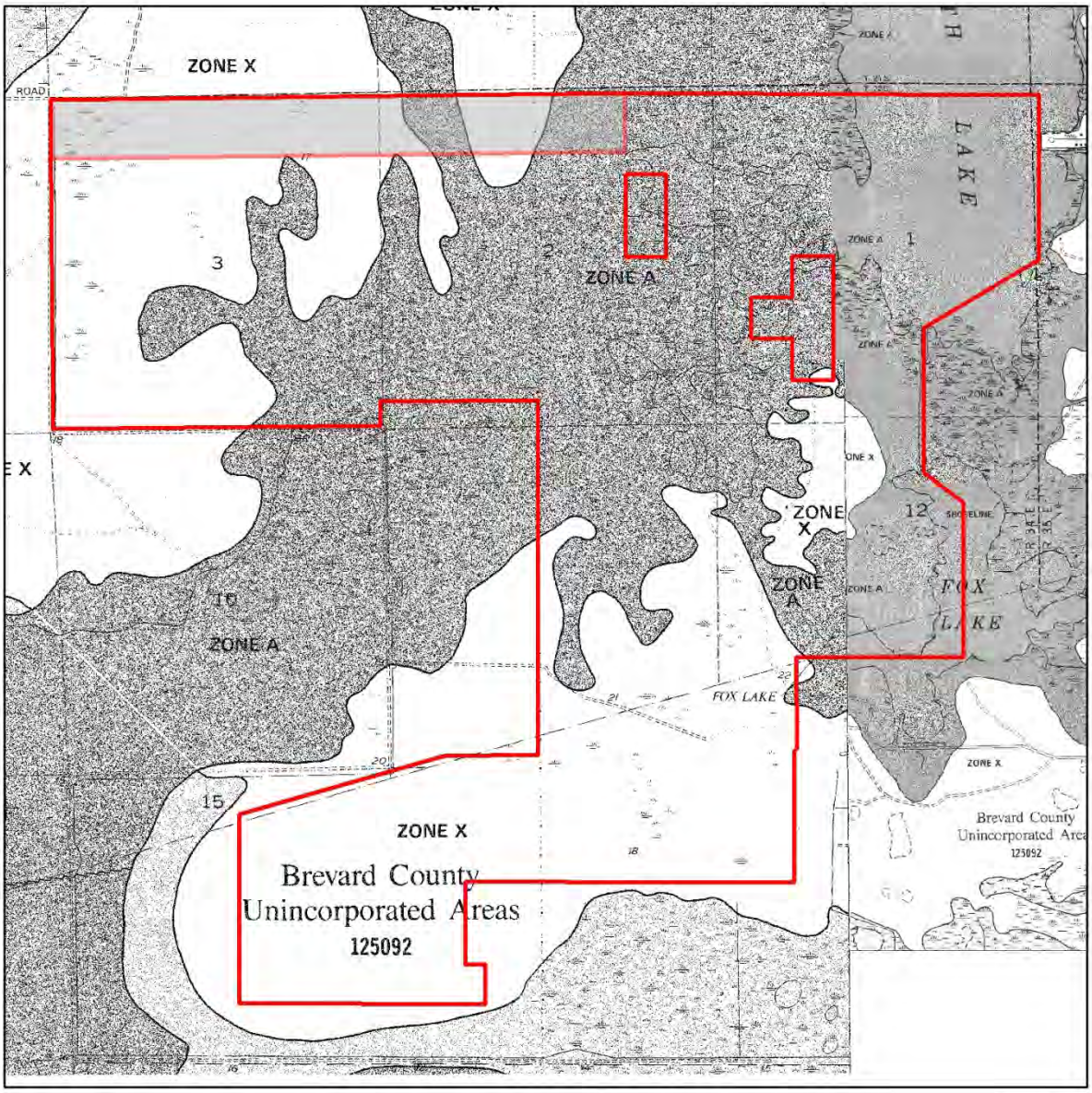
LEGAL DESCRIPTION:

(PER TITLE COMMITMENT NO. CD07-112134)

THE NORTH 950 FEET OF SECTION 3, TOWNSHIP 22 SOUTH, RANGE 34 EAST AND THE NORTH 950 FEET OF THE WEST 3/4 OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

(THE ABOVE PARCEL CONTAINS 201.641 ACRES, MORE OR LESS.)

Appendix C
FEMA Map



Appendix D
Fire Management Plan

FOX LAKE SANCTUARY
FIRE MANAGEMENT PLAN

Introduction

Historically, fires have played a vital role in shaping and maintaining Florida's natural communities. The combination of past fuel conditions and specific fire events (wildfires, prescribed fires) shapes both the short term (seed germination, sprouting, mortality and species shifts) and long term (succession, aging, ecosystem composition) effects upon the landscape. Human culture and land use often influences fire/ecosystem dynamics and the nature and continuity of the fuel environment within the landscape (Pyne 1982, Guyette and Dey, 2000).

Sanctuary Fire Management Goals

- Restore, maintain and preserve fire-adapted communities with the reintroduction of fire
- Improve wildlife habitat
- Manage Threatened and Endangered species
- Reduce fire hazards by managing fuels and fire
- Control exotic vegetation

Smoke Management Issues

Transport winds, dispersal index and surface winds are of primary concern when trying to optimize the lofting and dispersal of smoke. To mitigate smoke impacts, burning should be conducted when mixing heights are in excess of 1,600 feet and transport winds greater than 9 mph (Southern Forest Laboratory 1976, Crow and Shilling 1983). Areas in close proximity of FLS that might be influenced by smoke include: Interstate 95, State Road 50, State Road 405 and residential areas to the east.

Cooperation with Other Agencies

Personnel from Brevard County Fire/Rescue and Division of Forestry may be utilized during the planning and implementation of prescribed fire. Other agencies that may be involved include the Florida Fish and Wildlife Conservation Commission, St. Johns River Water Management District and the Fish and Wildlife Service.

Desired fire return interval

Depression Marsh:	2-5 years.
Mesic Flatwoods:	2-5 years.

Oak-Saw Palmetto Scrub	2-5 years
Scrubby Flatwoods:	2-5 years.
Wet Flatwoods:	2-5 years.
Wet Prairie:	2-5 years.
Floodplain Swamp:	50-100 years.
Hydric hammock:	50-100 years.

Desired structural conditions of habitat

Depression Marsh:	Treeless, 75-100% of vegetation is herbaceous.
Mesic Flatwoods:	Open canopy of pines with a dense low understory of shrubs and grasses (FNAI 2010). Mesic flatwoods located within 1000 feet of scrubby flatwoods should have 2 pine trees per acre or less (Kent and Kindell 2009).
Oak-Saw Palmetto Scrub	70% of scrub oaks are 1.7 meters in height, one pine tree or less per acre and 10-50% bare sand or sparse herbaceous vegetation (Kent and Kindell 2009).
Scrubby Flatwoods:	70% of scrub oaks are 1.7 meters in height, one pine tree or less per acre and 10-50% bare sand or sparse herbaceous vegetation (Kent and Kindell 2009).
Wet Flatwoods:	Pine forest with a dense groundcover of hydrophytic grasses, herbs, and low shrubs (FNAI 2010). Wet flatwoods located within 1000 feet of scrubby flatwoods should have 2 pine trees per acre or less (Kent and Kindell 2009).
Wet Prairie:	Treeless, 75-100% of vegetation is herbaceous.
Floodplain Swamp:	Closed-canopy of hydrophytic trees with little to no understory (FNAI 2010).
Hydric hammock:	Closed-canopy of oaks and palms with an open understory of palms and ferns (FNAI 2010).

Burn Unit Descriptions

Figure A shows the location of each burn unit at FLS.

Unit 1: 103 acres

Habitat types

Wet prairie, floodplain swamp, mesic and wet flatwoods.

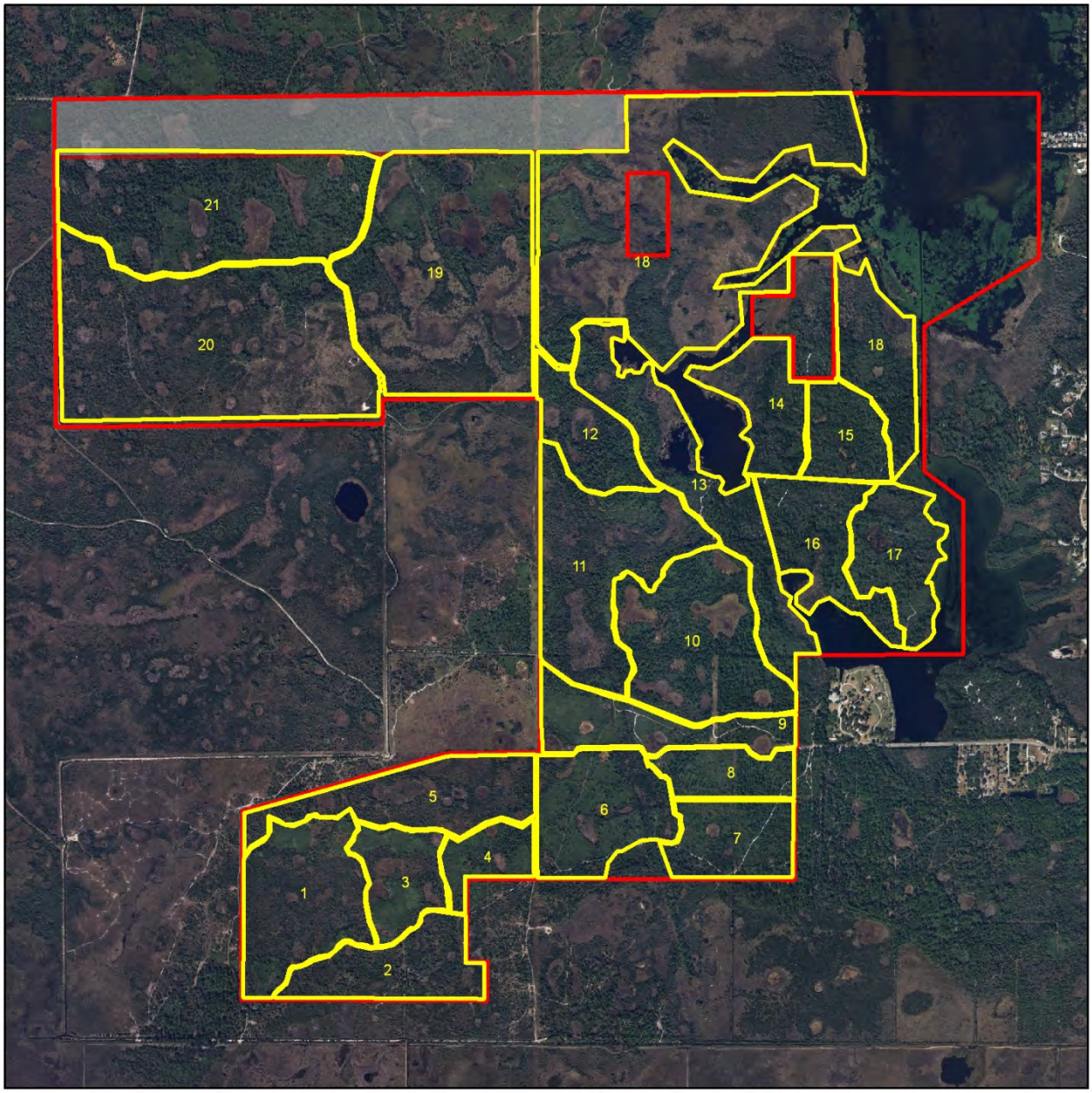
Habitat Condition

Overgrown/High Fuel Load

Required preparations (firelines, timbering, vegetation reduction)

Reduce understory of mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Figure A: Fox Lake Sanctuary Burn Unit Map



Legend

- Sanctuary Boundary
- Conservation Easement
- Burn Units

N
W E
S

0 1,250 2,500 5,000 Feet

Map updated on 05/07/2012 for
Fox Lake Sanctuary Management Plan.

Disclaimer: Calculated acreages indicated on the map are based solely on secondary mapping sources. No warranties or representations of accuracy are expressed or implied.

Source: Florida Aerial Photography Archive Collection

Unit 2: 67 acres
Habitat types
Wet prairie, floodplain swamp, mesic and wet flatwoods.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Unit 3: 48 acres
Habitat types
Wet prairie, mesic and wet flatwoods.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Unit 4: 30 acres
Habitat types
Wet prairie, mesic and wet flatwoods.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Unit 5: 86 acres
Habitat types
Wet prairie, hydric hammock, depression marsh and floodplain swamp.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Install firelines and widen existing firelines to minimum 15 feet.

Unit 6: 87 acres
Habitat types
Mesic flatwoods, oak-saw palmetto scrub, wet prairie and depression marsh.
Habitat Condition
Maintenance Stage/Low Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
None

Unit 7: 55 acres
Habitat types
Mesic flatwoods and oak-saw palmetto scrub.

Habitat Condition
Maintenance Stage/Low Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
None

Unit 8: 38 acres
Habitat types
Mesic flatwoods and oak-saw palmetto scrub.
Habitat Condition
Maintenance Stage/Low Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
None

Unit 9: 65 acres
Habitat types
Mesic flatwoods, oak-saw palmetto scrub, wet prairie and depression marsh.
Habitat Condition
Overgrown/Medium Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Timber to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 10: 128 acres
Habitat types
Depression marsh, mesic, wet and scrubby flatwoods, oak-saw palmetto scrub, and wet prairie.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub, scrubby, mesic and wet flatwoods if necessary. Widen firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre. Timber wet and mesic flatwoods to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 11: 137 acres
Habitat types
Mesic, wet and scrubby flatwoods, oak-saw palmetto scrub, wet prairie and floodplain swamp.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub, scrubby, mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre. Timber wet and mesic flatwoods to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 12: 51 acres
Habitat types

Mesic, wet and scrubby flatwoods, oak-saw palmetto scrub, and wet prairie.

Habitat Condition

Overgrown/High Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)

Reduce understory of oak-saw palmetto scrub, scrubby, mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre. Timber wet and mesic flatwoods to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat. Timber 50% of pine trees within 660 feet of the eagle nest; excluding all trees within 50 feet of the nest.

Unit 13: 112 acres

Habitat types

Mesic, wet and scrubby flatwoods, oak-saw palmetto scrub, floodplain swamp, and wet prairie.

Habitat Condition

Overgrown/High Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)

Reduce understory of oak-saw palmetto scrub, scrubby, mesic and wet flatwoods if necessary. Widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre. Timber wet and mesic flatwoods to 2 pines trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 14: 54 acres

Habitat types

Scrubby flatwoods, oak-saw palmetto scrub, floodplain swamp, wet prairie and hydric hammock.

Habitat Condition

Overgrown/High Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)

Reduce understory of oak-saw palmetto scrub and scrubby flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre.

Unit 15: 43 acres

Habitat types

Oak-saw palmetto scrub, scrubby flatwoods, and floodplain swamp.

Habitat Condition

Overgrown/High Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)

Reduce understory of oak-saw palmetto scrub and scrubby flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre.

Unit 16: 69 acres

Habitat types

Scrubby and mesic flatwoods, oak-saw palmetto scrub, floodplain swamp.

Habitat Condition

Overgrown/High Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub, scrubby and mesic flatwoods if necessary. Widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre. Timber mesic flatwoods to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 17: 62 acres
Habitat types
Scrubby flatwoods, oak-saw palmetto scrub, wet prairie, depression marsh and floodplain swamp.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub and scrubby flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber oak-saw palmetto scrub and scrubby flatwoods to 1 tree per acre.

Unit 18: 408 acres
Habitat types
Mesic flatwoods, oak-saw palmetto scrub, wet prairie, depression marsh, hydric hammock, floodplain swamp.
Habitat Condition
Overgrown/High Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub and mesic flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet. Timber mesic flatwoods to 2 pine trees per acre within 1000ft of the adjacent oak-saw palmetto scrub and scrubby flatwoods habitat.

Unit 19: 246 acres
Habitat types
Mesic and wet flatwoods, oak-saw palmetto scrub, wet prairie, depression marsh, floodplain swamp.
Habitat Condition
Maintenance Stage/Low Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of oak-saw palmetto scrub, mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Unit 20: 277 acres
Habitat types
Mesic and wet flatwoods, wet prairie, depression marsh, hydric hammock, floodplain swamp.
Habitat Condition
Maintenance Stage/Low Fuel Load
Required preparations (fire lines, timbering, vegetation reduction)
Reduce understory of mesic and wet flatwoods if necessary. Widen existing firelines to minimum 15 feet.

Unit 21: 200 acres

Habitat types

Mesic and wet flatwoods, wet prairie, depression marsh.

Habitat Condition

Maintenance Stage/Low Fuel Load

Required preparations (fire lines, timbering, vegetation reduction)

Reduce understory of mesic and wet flatwoods if necessary. Install firelines and widen existing firelines to minimum 15 feet.

Literature Cited

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Pyne, S.J. 1982. Fire in America: a cultural history of wildland and rural fire. Princeton, NJ: Princeton University Press. 654 pp.

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Appendix E
Surface Water Quality Classification

Florida Department of
Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

March 30, 2009

Michael Wielenga
North Region Assistant Land Manager
Brevard County Environmentally Endangered Lands Program
Parks & Recreation Department
444 Columbia Blvd.
Titusville, FL 32780

RE: Land Use Plan for Fox Lake Property

Dear Mr. Wielenga:

Thank you for your inquiry regarding the surface water quality classifications on and near the Fox Lake Property in Brevard County. The St. Johns National Wildlife Refuge lies just south of the property, although there appears to be a narrow strip of land separating Fox Lake Property from the Refuge for much of its length. These properties may abut each other at the southeastern corner of the Fox Lake Property. The St. Johns National Wildlife Refuge has been designated as Outstanding Florida Waters (OFW) under subparagraph 62-302.700(9)(b)26., Florida Administrative Code (FAC). Otherwise, there are no other OFW located on or immediately adjacent to the site. Any surface waters on or immediately adjacent to these parcels are classified as Class III waters (subparagraph 62-302.400(12)(b)5., FAC), which is the statewide default classification.

If you have any questions or need additional information, please feel free to contact me at the letterhead address (mail station 6511), by phone at 850/245-8429, or via E-mail at Eric.Shaw@dep.state.fl.us.

Sincerely,

Eric R. Shaw

Eric R. Shaw
Environmental Manager
Standards and Assessments Section

Appendix F
Timber Assessment

BREVARD COUNTY ENVIRONMENTALLY ENDANGERED LANDS PROGRAM PROPERTIES

TIMBER MANAGEMENT ASSESSMENT

Prepared by John T. Marshall
Region 5, Other Public Lands Forester
Florida Division of Forestry
Updated June 2009

Purpose

This document is intended to fulfill the timber assessment requirements for public lands in the state of Florida as required in section 253.036, Florida Statutes. It is being written for portions of the Brevard County Environmentally Endangered Lands (EEL) Program properties in Brevard County, Florida. The goal of this assessment is to evaluate the potential and feasibility of utilizing silvicultural techniques to help managers with their timber resources being managed for conservation and revenue generating purposes on the Brevard County EEL Program's property.

Forest Resource Background and History

The Brevard County Environmentally Endangered Lands Program was established in 1990 after citizens voted to increase their taxes to help purchase and maintain environmentally sensitive lands within the county. The initial length of this taxing period is for 20 years. Matching funds have been provided by the State of Florida through the Preservation 2000 and Florida Forever Acts for these types of purchases as well. The Brevard EEL Program also partners with other conservation and preservation organizations such as the St. Johns River Water Management District and the North American Wetlands Conservation Act to help with the purchase and management of sensitive lands.

Approximately 20,195 acres of environmentally sensitive lands across the county have been purchased at this time and are being managed under the EEL Program. This assessment will only cover a portion of these lands in the inland portion of the county. The properties included are the Helen and Allan Cruickshank Sanctuary, Malabar Scrub, Jordan Scrub, Micco Scrub, Grant Flatwoods Sanctuaries, Turkey Creek Sanctuary, Pine Island Conservation Area, Enchanted Forest Sanctuary, Dicerandra Scrub Sanctuary, North Buck Lake Scrub Sanctuary, Indian Mound Station Sanctuary, South Lake Conservation Area, Tico Scrub Sanctuary, Fox Lake Sanctuary and the Scottsmoor Property.

The Valkaria Scrub Sanctuary is also included and currently comprises approximately 7394 acres. This area was subdivided and sold as residential type lots. The EEL Program is in the acquisition phase on this property and due to the numerous landowners, the property is not all contiguous at this time. Present and future goals include purchasing as many of the lots as possible to secure this property into one manageable tract. It is difficult to discern the boundaries on the ground since no physical lot boundaries are evident. Only with the use of GIS is it possible to overlay boundary lines with aerial photography and distinguish community types and property boundaries. The management options offered in this assessment may not be feasible at this time on all the property of the sanctuary. When more acquisitions

are made and larger, more manageable blocks are created and defined, these options should prove valuable to the EEL Program resource managers.

Development in this part of the state is steadily increasing. These properties were purchased to protect and preserve environmentally sensitive lands and the plants and animals associated with them. They also provide educational opportunities and recreation.

Past land uses of much of the property in Brevard County has included naval stores operations and cattle grazing. The EEL Program properties have probably included both at some time in the past. Prescribed burning was an important part of both. Forage production and brush control was dependent on frequent fires. Historically, fire has always been part of the Florida ecosystem and many communities are dependant on fire to maintain their diversity. Lightning caused, low intensity fires burned frequently. Small shrubs and many hardwood species were kept from overtaking the pine forest because of frequent fires. Burning techniques have been revised over the years and more growing season burns are attempted as weather permits. If heavy fuel loads are allowed to accumulate, winter or cool season fuel reduction burns should be done first to minimize timber mortality before growing season burns are attempted again.

Management Goals and Objectives

The Brevard County EEL Program lands are acquired in an attempt to help preserve and restore diminishing natural communities. Their mission statement and primary management objective is to protect and preserve the biological diversity on these lands. These tracts are called sanctuaries and provide for conservation of natural resources, education, and recreation.

Ecological Trends

Human disturbances such as drainage, urbanization, and land use changes such as mining and crop production have occurred throughout the state causing the degradation or loss of many natural communities. Frequent fire that helped create and maintain many natural communities in Florida has been altered or removed. This has allowed an increase of both endemic and non-endemic plants to these once fire dependant communities. Timber management can be useful aid in the restoration of these sites by eliminating the overcrowding of naturally occurring trees and removing the species that are not typically found in these community types. By removing this additional fuel load, prescribed fire can be reintroduced safely to mimic the natural fire cycles that once existed. Timber management can also help develop multi-aged structures in stands that help maintain dynamic ecosystems. Opening the overstory will also increase the amount of sunlight reaching the forest floor, aiding in natural groundcover recovery and maintenance.

Timber Resources and Management Options

The majority of the timber resources on the EEL Program property that would benefit from silvicultural treatments exist in the pine flatwoods. Mesic, wet, and scrubby flatwoods all fall into this general category. Slash and longleaf pine are the dominant overstory species that currently exist with an understory of palmetto, gallberry, wiregrass, scrub oaks and other understory grasses and woody plants.

General Timber Management Guidelines

Basal Area (BA) is a common measurement used to identify stand density. The basal area is measured on a tree four and one half feet above the ground, identified as diameter at breast height or DBH, and is

expressed in square feet ($ft.^2$). The BA is the total measure of the cross sectional area in square feet of the stems of trees occupying space on one acre of land. Fewer large diameter trees are needed to equal the same BA as many small diameter trees. For example, 509 evenly distributed six inch diameter trees over one acre has a BA of 100 $ft.^2$. Only 127 twelve inch diameter trees, evenly spaced on one acre, are needed to create the same 100 $ft.^2$ of BA.

Basal area can also be correlated to crown coverage. Basal areas around 50 square feet per acre of mature, healthy trees can help prescribed burning efforts by increasing the fuel dispersion and loads with needle cast. This needle cast should allow prescribed fires to carry across areas while still allowing adequate sunlight to reach the forest floor to maintain native grasses.

Current Timber Resources

The Brevard County EEL Program Lands encompass many thousands of acres. Identifying and defining individual stands and treatments for each stand is not the goal of this assessment. Detailed stand descriptions would be necessary to help plan for long term timber management on these sites. While timber management is not the primary goal for these properties, many of the silvicultural recommendations can be implemented along with preservation activities to maintain or restore these areas to their once natural condition.

The following are general descriptions and management recommendations. The diversity of the EEL Programs land and the management objectives for each will be the ultimate guiding principal. Areas with populations of gopher tortoises can sustain higher BA's than those being managed for scrub jays but less than some of the wetter flatwoods sites.

Natural Pine:
All of these areas have been harvested or have burned hot enough to reduce the standing timber to an unmerchantable volume. They all appear to have supported stands of large timber at one time, but the lack of any forestry type management in the past has converted these forest to fire-climax communities composed mainly of saw-palmetto that are fire hazards. The one exception is the North Buck Lake Scrub Sanctuary that has a fair stand of young sand pine. Saw-palmetto responds to fire by resprouting immediately and can return to preburn levels in as little as 1 year. This makes it very hard to regenerate a stand of trees because the seedlings have a hard time getting through the saw palmetto and if they do they stand a good chance burning up because of the volume of fuel produced by the saw-palmetto. If a forest community is desired, burning alone will not restore these communities to their original forested state. Saw-palmetto flourishes **in** full sun light but is also somewhat tolerant of shade**.** A complete overstory of trees creates shade and slows the growth. Shade with prescribe fire seems to keep it in check but some mechanical removal will be required to get the trees established.

Planted Pine:
There are 205 acres of planted pine in the Micco Scrub Sanctuary. It appears to be north Florida slash pine planted in an area that should have been planted in south Florida slash or longleaf. It was an old field, pasture, or had some heavy site preparation before it was planted as there is very little saw palmetto in the understory. The rows of trees were planted with about 8 feet between rows which is very close at today's standards. When the basal area reaches 100 this area should be thinned. This could be done by removing every other row, every third row, or every third row and thinning in between, depending on the desired remaining stand.

In under stocked areas, longleaf pine can be planted if sites are suitable. This species is more adapted to fire and is longer lived than the other southern pines. A "rule of thumb" is that if palmetto is dominant,

longleaf can be planted. If gallberry dominates, then it is probably too wet for longleaf and slash pine should be planted.

Access

Adequate access is a necessity for land management activities. Law enforcement patrol, prescribed burning activities and fire suppression are but a few of the activities that benefit from improved road access. Most of the EEL Program's land is adjacent to a paved road of some sort. Internal access to some of the properties is limited by weather. Low areas become very wet and high areas become excessively dry depending on the season. Parts of the road system would need improvements to facilitate movement of heavy equipment for restoration or maintenance purposes. Widening current roads, installing culverts or low water crossings, or capping soft roads with shell, rock or clay are some of the possibilities for needed upgrades.

Economics

It is difficult to predict with any certainty the amount of revenue that can be derived through timber harvests on the Brevard County Environmentally Endangered Lands. Brevard County is approximately 100 miles to the nearest major wood processing facilities in Palatka, Florida. Market conditions, harvest prescriptions, product mix, logging conditions and distance to manufacturing facilities are factors in stumpage prices. Even though economics are hard to predict, they should be analyzed before making any management decisions.

Summary

There are approximately 10,000 acres in the EEL Program with current or future potential for timber management. Exclusive timber management would not meet the objectives for which this property was purchased, however, silviculture is a valuable tool to help restore and maintain native ecosystems, increase diversity and improve wildlife habitat. It is possible to manage nearly all of the sandhill, mesic flatwood, scrubby flatwood, and ruderal areas in order to retain their natural appearance and produce revenue from timber harvests. Currently a market does exist for timber products in the Brevard County area.

Road access within would need to be improved in some areas to allow for silvicultural activities**.** Public roads and highways to the park need to be monitored for weight restrictions on bridges.

Appendix G
Bird Survey

October 2008-September 2009

Family	Genus	Species	FWCC	Common Name
Accipitridae	*Accipiter*	*cooperii*		Coopers Hawk
Accipitridae	*Accipiter*	*striatus*		Sharp-shinned hawk
Accipitridae	*Buteo*	*lineatus*		Red-Shouldered Hawk
Accipitridae	*Buteo*	*jamaicensis*		Red-tailed Hawk
Accipitridae	*Elanoides*	*forficatus*		Swallow-tailed Kite
Accipitridae	*Haliaeetus*	*leucocephalus*		Bald Eagle
Accipitridae	*Pandion*	*haliaetus*	SSC	Osprey
Alcedinidae	*Ceryle*	*alcyon*		Belted Kingfisher
Anatidae	*Anas*	*fulvigula*		Mottled Duck
Apodidae	*Chaetura*	*pelagica*		Chimney Swift
Ardeidae	*Ardea*	*herodias*		Great Blue Heron
Ardeidae	*Ardea*	*alba*		Great Egret
Ardeidae	*Bubulcus*	*ibis*		Cattle Egret
Ardeidae	*Egretta*	*caerulea*	SSC	Little Blue Heron
Ardeidae	*Egretta*	*thula*	SSC	Snowy Egret
Ardeidae	*Egretta*	*tricolor*	SSC	Tricolored Heron
Ardeidae	*Egretta*	*rufescens*	SSC	Reddish Egret
Bombycillidae	*Bombycilla*	*cedrorum*		Cedar Waxwing
Caprimulgidae	*Caprimulgus*	*carolinensis*		Chuck-will's-widow
Caprimulgidae	*Chordeiles*	*minor*		Common Nighthawk
Cardinalidae	*Cardinalis*	*cardinalis*		Northern Cardinal
Cardinalidae	*Passerina*	*caerulea*		Blue Grosbeak
Cathartidae	*Cathartes*	*aura*		Turkey Vulture
Cathartidae	*Coragyps*	*atratus*		Black Vulture
Cathartidae	*Zenaida*	*macroura*		Mourning Dove
Ciconiidae	*Mycteria*	*americana*	E	Wood Stork
Columbidae	*Columbina*	*passerina*		Common Ground Dove
Columbidae	*Zenaida*	*asiatica*		White Winged Dove
Corvidae	*Aphelocoma*	*coerulescens*	T	Florida Scrub-Jay
Corvidae	*Corvus*	*ossifragus*		Fish Crow
Corvidae	*Cyanocitta*	*cristata*		Blue Jay
Emberizidae	*Aimophila*	*aestivalis*		Bachman's Sparrow
Emberizidae	*Pipilo*	*erythrophthalmus*		Eastern Towhee
Falconidae	*Falco*	*sparverius*		American Kestrel
Falconidae	*Falco*	*columbarius*		Merlin

Gruidae	*Grus*	*canadensis*	T	Sandhill Crane
Hirundinidae	*Cassidix*	*mexicanus*		Boat-tailed Grackle
Hirundinidae	*Hirundo*	*rustica*		Barn Swallow
Hirundinidae	*Progne*	*subis*		Purple Martin
Hirundinidae	*Tachycineta*	*bicolor*		Tree Swallow
Icteridae	*Agelaius*	*phoeniceus*		Red-winged Blackbird
Icteridae	*Mimus*	*polyglottos*		Northern Mockingbird
Icteridae	*Quiscalus*	*quiscula*		Common Grackle
Laniidae	*Lanius*	*ludovicianus*		Loggerhead Shrike
Mimidae	*Dumetella*	*carolinensis*		Grey Cat Bird
Mimidae	*Toxostoma*	*rufum*		Brown thrasher
Odontophoridae	*Colinus*	*virginianus*		Northern Bobwhite
Paridae	*Baeolophus*	*bicolor*		Tufted Titmouse
Parulidae	*Centurus*	*carolinus*		Red-bellied Woodpecker
Parulidae	*Dendroica*	*striata*		Blackpoll Warbler
Parulidae	*Dendroica*	*caerulescens*		Black-Throated Blue Warbler
Parulidae	*Dendroica*	*palmarum*		Palm Warbler
Parulidae	*Dendroica*	*pinus*		Pine Warbler
Parulidae	*Dendroica*	*discolor*		Prairie warbler
Parulidae	*Dendroica*	*dominica*		Yellow Throated Warbler
Parulidae	*Dendroica*	*coronata*		Yellow-Rumped Warbler
Parulidae	*Geothlypis*	*trichas*		Common Yellowthroat
Parulidae	*Parula*	*americana*		Northern Parula Warbler
Parulidae	*Vermivora*	*celata*		Orange-Crowned Warbler
Pelecaniformes	*Anhinga*	*anhinga*		Anhinga
Pelecaniformes	*Pelecanus*	*erythrorhynchos*		American White Pelican
Phalacrocoracidae	*Phalacrocorax*	*auritus*		Double-Crested Cormorant
Picidae	*Colaptes*	*auratus*		Northern Flicker
Picidae	*Dryocopus*	*pileatus*		Pileated Woodpecker
Picidae	*Picoides*	*pubescens*		Downy Woodpecker
Picidae	*Polioptila*	*caerulea*		Blue-gray Gnatcatcher
Picidae	*Sphyrapicus*	*varius*		Yellow-bellied Sapsucker
Rallidae	*Gallinula*	*chloropus*		Common Moorhen
Rallidae	*Rallus*	*longirostris*		Clapper Rail
Recurvirostridae	*Himantopus*	*mexicanus*		Black-necked Stilt
Regulidae	*Regulus*	*calendula*		Ruby Crowned Kinglet
Regulidae	*Troglodytes*	*aedon*		House Wren
Scolopacidae	*Gallinago*	*delicata*		Wilson's Snipe
Strigidae	*Bubo*	*virginianus*		Great Horned Owl

Strigidae	*Otus*	*asio*		Eastern Screech Owl
Sturnidae	*Sturnus*	*vulgaris*		European Starling
Threskiornithidae	*Eudocimus*	*albus*	SSC	White Ibis
Threskiornithidae	*Plegadis*	*falcinellus*		Glossy Ibis
Troglodytidae	*Thryothorus*	*ludovicianus*		Carolina Wren
Turdidae	*Sayornis*	*phoebe*		Eastern Phoebe
Turdidae	*Turdus*	*migratorius*		American Robin
Tyrannidae	*Myiarchus*	*crinitus*		Great Crested Flycatcher
Vireonidae	*Vireo*	*solitarius*		Blue -headed Vireo
Vireonidae	*Vireo*	*philadelphicus*		Philadelphia Vireo
Vireonidae	*Vireo*	*olivaceus*		Red-eyed Vireo
Vireonidae	*Vireo*	*griseus*		White-eyed Vireo

Status was determined using the Florida Fish and Wildlife Commission Florida's Endangered Species, Threatened Species, and Species of Special Concern June 2010

E = Endangered

T = Threatened

SSC = Species of Special Concern

Appendix H
Arthropod Plan

CHARLES H. BRONSON
COMMISSIONER

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Chapters 388.4111, F.S. and 5E-13.042(4)(b), F.A.C.
Telephone: (850) 922-7011

For use in documenting an Arthropod control plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein.

Name of Designated Land: Brevard County EELS Program – Sites include the following impoundments: From C-2 North, C-2 South, C-2A, Jefferson Marsh area, Crystal Lakes area, to Honest Johns Area.

Specific sites include:

1. Ocean Ridge Sanctuary
2. Coconut Point
3. Hog Point Cove
4. Washburn Cove
5. Maritime Hammock area
6. Barrier Island Sanctuary
7. Hardwood Hammock
8. 1000 Islands
9. Capron Ridge area
10. Crane Creek
11. Cruickshank
12. Dicerandra Scrub
13. Enchanted Forest
14. Fox Lake
15. Grant Flatwoods
16. Indian Mound
17. Indian River Sanctuary
18. Johnson (Hall Road)
19. Jordan Scrub Sanctuary
20. Kabboord
21. Kings Park
22. Malabar Scrub Sanctuary
23. Micco Scrub Sanctuary
24. North Buck Lake Scrub Sanctuary
25. Pine Island Conservation Area
26. Scottsmoor Flatwoods Sanctuary
27. Southlake Conservation Area
28. Sykes Creek

Is Control Work Necessary: ☒ Yes ☐ No

Location: Brevard County Florida

Land Management Agency: Environmentally Endangered Lands Program
Mike Knight, Program Manager
91 East Drive
Melbourne, FL 32904

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain:

According to the Florida Administrative Code 5E-13 surveillance shall be conducted to determine the species and numbers of both pestiferous and disease bearing arthropods. Our surveillance program provides information as to species and amounts of mosquitoes which may require larviciding.

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Environmentally Endangered Lands Program

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- 1 -

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

☒ Landing Rate Counts	☒ Light Traps	☒ Sentinel Chickens
☒ Citizen Complaints	☒ Larval Dips	☐ Other

If "Other", please explain:

Arthropod Species for Which Control is Proposed: *Aedes taeniorhynchus*
Aedes sollicitans
Culex nigripalpus (ground treatment only)
Culex salinarius

Proposed Larval Control:

Number of dips per site: 3+ per location at specific site.

Proposed larval monitoring procedure: When 10% or more of the dips are positive for mosquito larvae, control action will typically be taken

Are post treatment counts being obtained: ☒ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☒ Yes ☐ No

Other biological controls that might be used:

Material to be Used for Larviciding Applications:

(Please Check All That Apply:)

☒ Bti (*Bacillus thuringiensis israeliensis)*
☒ Bs (*Bacillus sphaericus*)
☒ Methoprene
☒ Non-Petroleum Surface Film
☐ Other, please specify:

DACS-13668 07/08

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Please specify the following for each larvacide:

Chemical or Common name: BTI (=VectoBac)
Bs (= Vectolex)

☒ Ground ☒ Aerial

Rate of application: 12 lb-18lb/acre = VectoBac

Method of application: liquid by hand or granular by air.

Proposed Adult Mosquito Control:

Aerial adulticiding ☒ Yes ☐ No

Ground adulticiding ☒ Yes ☐ No

Please specify the following for each adulticide: N/A

Chemical or common name: Dibrom/ Permethrin

Rate of application: 0.6 oz/acre (Dibrom), 0.5 oz/acre (Permethrin)

Method of application: Ultra low volume

Adult mosquito control will be conducted only if requested, or if populations are above background.

Proposed Modifications for Public Health Emergency Control:
BMCD may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Proposed Notification Procedure for Control Activities: Approval of this plan is intended as notification.

Records:

Are records being kept in accordance with Chapter 388, F.S.:
☒ Yes ☐ No

Records Location: In District office Titusville.

How long are records maintained: 5+ Years

Vegetation Modification: ☒ Yes ☐ No

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
Minor trail trimming for surveillance and for ground larviciding will be done as needed.
Some herbiciding with AquaStar, Reward or Rodeo for control of *exotic* vegetation will be carried out only as needed.

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Proposed Land Modifications: ☐ Yes ☒ No

Is any land modification, *i.e.*, rotary ditching, proposed: ☐ Yes ☒ No

Include proposed operational schedules for water fluctuations: Impoundments managed under RIM program (Rotational Impoundment Management), controlling water levels in impoundments from June-Oct. (sometimes as early as May), depending on water level in Indian River Lagoon system. Impoundments open to the lagoon during other months of year.

List any periodic restrictions, as applicable, for example peak fish spawning times: NA

Proposed Modification of Aquatic Vegetation: ☐ Yes ☒ No

Land Manager Comments:

Arthropod Control Agency Comments:

Signature of Lands Manager or Representative Date

Signature of Mosquito Control Department Director Date 8/12/04

Signature of Mosquito Control District Director Date 8/12/04

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Appendix I
Florida Natural Areas Inventory

FLORIDA Natural Areas INVENTORY

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

February 16, 2009

Michael Wielenga
Brevard County Environmentally Endangered Lands Program
444 Columbia Boulevard
Titusville, FL32780

Dear Mr. Wielenga,

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: Fox Lake Sanctuary

Date Received: January 9, 2009

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

Florida Resources and Environmental Analysis Center
Institute of Science and Public Affairs
The Florida State University

Tracking Florida's Biodiversity

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.

Managed Areas
Portions of the site appear to be located within the Fox Lake Sanctuary and the Hunters Brooke Conservation Easement, all managed by Brevard County.

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

Land Acquisition Projects
This site appears to be located within the Brevard Coastal Scrub Ecosystem 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.

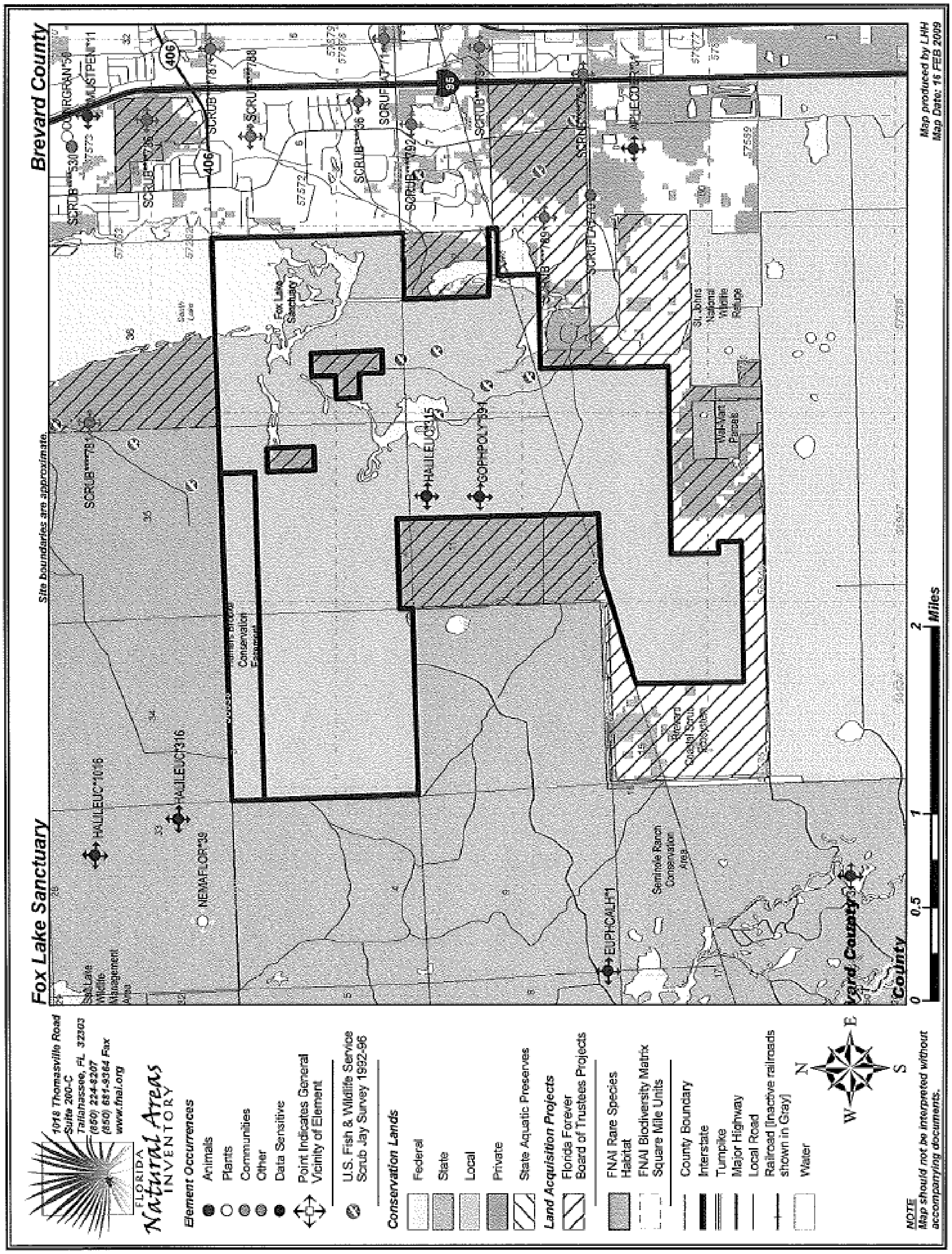
Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,

Lindsay Horton

Lindsay Horton
Data Services Coordinator

Encl


Fox Lake Sanctuary
Brevard County
Site boundaries are approximate.
1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax
www.fnai.org
FLORIDA Natural Areas INVENTORY
Element Occurrences
Animals
Plants
Communities
Other
Data Sensitive
Point Indicates General Vicinity of Element
U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96
Conservation Lands
Federal
State
Local
Private
State Aquatic Preserves
Land Acquisition Projects
Florida Forever
Board of Trustees Projects
FNAI Rare Species Habitat
FNAI Biodiversity Matrix Square Mile Units
County Boundary
Interstate
Turnpike
Major Highway
Local Road
Railroad [Inactive railroads shown in Gray]
Water
NOTE
Map should not be interpreted without accompanying documents.
Map produced by LHH
Map Date: 16 FEB 2009
Miles
0
0.5
1
2
Fox Lake Sanctuary
St. Johns National Wildlife Refuge
Wal-Mart Parcels
Seminole Ranch Conservation Area
Brevard Coastal Scrub Ecosystem
Buck Lake Wildlife Management Area
Hatten Brooke Conservation Easement
South Lake
HALILEUC*1016
HALILEUC*316
NEMAFLOR*39
EUPHCALH*1
HALILEUC*315
GOPHPOLY*594
406
95

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR
Fox Lake Sanctuary

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
SCRUB****36	Scrub		G2	S2	N	N	1987-08-09	OAK SCRUB.	OCCURRENCE AT SITE. COX VISITED SITE 1981-07-25. MINNO VISITED SITE 1987-08-09.
APHECOER*31	Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT	1991-07-20	OAK SCRUB.	1981-07-25: 2 SCRUB JAYS (U81COX01). 1991-07-20: TWO ADULTS AND ONE JUVENILE REPORTED (U91SNO01); SNODGRASS ET AL. ESTIMATED THIS RECORD TO CONSTITUTE A MEDIUM POPULATION OF 6-30 FAMILY GROUPS DURING 1991 INVENTORY.
MUSTPENI*11	Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N	1972-12-28	No general description given	1972-12-28: J.C. Bryant, observation. Skin. Univ. Central Fla. No. LME-7307.
CONRGRAN*50	Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT	1983-09-01	SAND PINE SCRUB ON PAOLA FINE SAND. DUNE RIDGES PRESENT. UNDERSTORY MADE UP OF OAKS, PALMETTO, VACCINIUM AND XIMENIA.	MORE THAN 50 PLANTS (F83STO16).
SCRUFLAT*70	Scrubby flatwoods		G3	S3	N	N	1991	No general description given	EO PRESENT ON SITE.
SCRUB****530	Scrub		G2	S2	N	N	1991	SAND PINE SCRUB ON PAOLA FINE SAND. DUNE RIDGES PRESENT. UNDERSTORY MADE UP OF OAKS, PALMETTO, VACCINIUM AND XIMENIA (U88CHR01). THIS SITE IS PART OF A ONCE EXTENSIVE DUNE SYSTEM THAT RUNS NORTH-SOUTH NEAR MIMS. THE SOIL IS CLASSIFIED AS PAOLA FINE SAND	SAND PINES RANGE FROM 40-50 CM D6H SIZE.
GOPHPOLY*591	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	ZZ	No general description given	2 SPEC. (AMNH 66111-12), COLLECTED BY A.B. KLOTA, DATE N/A.
HALILEUC*1016	Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 1999; Not active, 2000;(U03FWC01FLUS)
SCRUB****788	Scrub		G2	S2	N	N	2004	OAK SCRUB/SAND PINE SCRUB.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). CA. 50% OAK SCRUB AND 50% SAND PINE SCRUB.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR
Fox Lake Sanctuary

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
SCRUB****786	Scrub		G2	S2	N	N	2004	SAND PINE SCRUB THAT IS COMPLETELY SURROUNDED BY DEVELOPMENT.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). EO PRESENT ON SITE.
SCRUB****787	Scrub		G2	S2	N	N	2004	SAND PINE SCRUB/OAK SCRUB.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). CA. 50% OAK SCRUB AND 50% SAND PINE SCRUB.
SCRUFLAT*71	Scrubby flatwoods		G3	S3	N	N	2004	No general description given	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). EO PRESENT ON SITE.
SCRUB****792	Scrub		G2	S2	N	N	2004	SAND PINE SCRUB.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). COMMUNITY IS AT A VERY MATURE STAGE.
SCRUB****790	Scrub		G2	S2	N	N	2004	OAK SCRUB.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). EO PRESENT ON SITE.
SCRUB****789	Scrub		G2	S2	N	N	2004	No general description given	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). EO PRESENT ON SITE.
SCRUB****781	Scrub		G2	S2	N	N	2004	1996-05-13: sand pine scrub - young pine, diverse, nice structure (F96JOH02FLUS). 1991: Oak Scrub/Sand Pine Scrub (U91SNO01FLUS).	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). 1996-05-13: scrub at north end of South Lake - scattered clumps of young (10-15 years) sand pines with oak understory grown to short
SCRUB****791	Scrub		G2	S2	N	N	2004	OAK SCRUB/SAND PINE SCRUB.	2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991) (U05FNA02FLUS). CA. 40% SAND PINE SCRUB AND 60% OAK SCRUB. SANDPINE SCRUB IS AT A VERY MATURE STAGE.

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FLORIDA Natural Areas INVENTORY

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
HALILEUC*315	Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N	2003	No general description given	Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) ACTIVE NEST; 1995: PRODUCED 2 YOUNG; 1994: PRODUCED 1 YOUNG; 1993: PRODUCED 1 YOUNG; 1992: PRODUCED 1 YOUNG; 2 YOUNG IN 1981, 1980, 1978, 1975; 1 YOUNG IN 1
HALILEUC*316	Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N	2003	No general description given	Nest status 1999-2003: Continuously active; Status 1995-98: Active - 1998, 1996, 1995; Inactive - 1997; (U03FWC01FLUS). Previous data (note different format) NEST: 1995: PRODUCED 2 YOUNG; 1994: PRODUCED 2 YOUNG; 1993: ACTIVE, PRODUCED 0 YOUNG; 1992: PROD
NEMAFLOR*39	Nemastylis floridana	Celestial Lily	G2	S2	N	LE	2006-10-10	2006-10-10: Nemastylis floridana is found at Salt Lake WMA most commonly in recently burned wet flatwoods with a canopy of slash pine and a subcanopy of abundant cabbage palms. These flatwoods are found in a matrix of mesic flatwoods with numerous wette	2006: ca. 550 plants seen mostly in flower in wet flatwoods, disturbed roadsides, and marsh edges. Plants flowering most vigorously in recently burned wet flatwoods with slash pine, cabbage palm, and wax myrtle. More plants probably at site, but diffic
EUPHCALH*1	Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N	2006-05	2006-05: The area is described being in or near roadside ditches with pickerelweek, butonbush, and coastal plain willow near a hydric hammock with sabal palmetto and red cedars (N07KEI01FLUS).	2006-05: One Duke's Skipper was found (N07KEI01FLUS). 2005-09: One Duke's Skipper was found with diagnostic photo (N07KEI01FLUS)
CALLSWEA*3	Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N	2006-05-27	2006-05: The area is described being in or near roadside ditches with pickerelweek, buttonbush, and coastal plain willow near a hydric hammock with sabal palmetto and red cedars (N07KEI01FLUS).	2006-05-27: One individual seen (N07KEI01FLUS). 2006-02: One individual seen (N07KEI01FLUS). 2005-09: One individual seen (N07KEI01FLUS). 2005-06: Two individuals seen (N07KEI01FLUS).

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.

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,

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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FLORIDA
Natural Areas
INVENTORY

Tracking Florida's Biodiversity

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 56321					
Likely					
Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N
Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56322					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Likely					
Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N
Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	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.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Platanthera integra	Yellow Fringeless Orchid	G3G4	S3	N	LE
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56635					
Likely					
Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N
Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56636					
Likely					
Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N

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Florida Natural Areas Inventory

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Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Rana capito	Gopher Frog	G3	S3	N	LS
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56637					
Likely					
Callophrys gryneus sweadneri	Florida Olive Hairstreak	G5T2	S2	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Euphyes dukesi calhouni	Calhoun's Skipper	G3T2T3	S1	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56638					
Documented					
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Platanthera integra	Yellow Fringeless Orchid	G3G4	S3	N	LE
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56948					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT

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Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56949					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS

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1018 Thomasville Road
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Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax

FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Rana capito	Gopher Frog	G3	S3	N	LS
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56950					
Documented					
Haliaeetus leucocephalus	Bald Eagle	G5	S3	N	N
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Salix floridana	Florida Willow	G2	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 56951					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N

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Mycteria americana	Wood Stork	G4	S2	LE	LE
Scrub		G2	S2	N	N
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Salix floridana	Florida Willow	G2	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 57260					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Sandhill		G3	S2	N	N
Scrub		G2	S2	N	N
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Calamovilfa curtissii	Curtiss' Sandgrass	G3	S3	N	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE

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Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Rana capito	Gopher Frog	G3	S3	N	LS
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 57261					
Likely					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Calamovilfa curtissii	Curtiss' Sandgrass	G3	S3	N	LT
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Dicerandra thinicola	Titusville Balm	G1Q	S1	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Nolina atopocarpa	Florida Beargrass	G3	S3	N	LT
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Salix floridana	Florida Willow	G2	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N

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Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Scrub		G2	S2	N	N
Warea carteri	Carter's Warea	G3	S3	LE	LE
Matrix Unit ID: 57262					
Likely					
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Mycteria americana	Wood Stork	G4	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Calopogon multiflorus	Many-flowered Grass-pink	G2G3	S2S3	N	LE
Carex chapmanii	Chapman's Sedge	G3	S3	N	LE
Centrosema arenicola	Sand Butterfly Pea	G2Q	S2	N	LE
Conradina brevifolia	Short-leaved Rosemary	G2Q	S2	LE	LE
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	N	N
Deeringothamnus pulchellus	Beautiful Pawpaw	G1	S1	LE	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Gymnopogon chapmanianus	Chapman's Skeletongrass	G3	S3	N	N
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Mustela frenata peninsulae	Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rana capito	Gopher Frog	G3	S3	N	LS
Salix floridana	Florida Willow	G2	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Sciurus niger shermani	Sherman's Fox Squirrel	G5T3	S3	N	LS
Scrub		G2	S2	N	N
Warea carteri	Carter's Warea	G3	S3	LE	LE

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Appendix J
Florida Master Site File

STOP **This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.**

May 5, 2009

Florida Master Site File

Michael Wielenga
Environmentally Endangered Lands
444 Columbia Blvd.
Titusville, FL 32780
Email: michael.wielenga@brevardparks.com

In response to your inquiry of February 8th, 2009, the Florida Master Site File lists no previously recorded cultural resources in the following parcel of Brevard County:

T22S, R34E, Sections 1, 2, 3, 11, 12, 13, 14, & 15

When interpreting the results of this search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Erin Michelle Bailey
Archaeological Data Analyst
Florida Master Site File

500 South Bronough Street • Tallahassee, FL 32399-0250 • www.flheritage.com/preservation/sitefile
850-245-6440 ph | 850-245-6439 fax | SiteFile@dos.state.fl.us

Appendix K
Easements and Right of Ways

Prepared By and Return To:
Leanne M. Shufelt
Fidelity National Title Insurance Company
1355 N. Courtenay Parkway, Suite D
Merritt Island, FL 32953

File No. 05-008-1802717

Property Appraiser's Parcel I.D. (folio) Number (s)

SS#: _____

Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 5 #Names: 2
Trust: 3.00 Rec: 41.00 Serv: 0.00
Deed: 108,500.00 Excise: 0.00
Mtg: 0.00 nt Tax: 0.00

CFN 2005177928 05-19-2005 01:53 pm
OR Book/Page: 5470 / 1145

WARRANTY DEED

THIS WARRANTY DEED made and executed May 16, 2005, by Modern, Inc., a corporation existing under the laws of Florida, and having its principal place of business at Post Office Box 1417, Cocoa Beach, Florida hereinafter called the grantor, to Hunters Brooke Titusville, LLC whose post office address is 201 South Orange Avenue, Suite 1510, Orlando, Florida 32801, hereinafter call the grantee:

(Wherever used herein the terms "grantor" and "grantee" include all the parties to the instrument and the heirs, legal representative and assigns of individuals, and the successors and assigns of corporations)

WITNESSETH: That the grantor, for and in consideration of the sum of $10.00 and other valuable consideration, receipt, whereof is hereby acknowledged, by these presents does grant, bargain, sell, alien, remise, release, convey and confirm unto the grantee, all that certain land situated in Brevard County, Florida viz:

SEE EXHIBIT ONE ATTACHED HERETO AND MADE A PART HEREOF

Subject to easements, restrictions, reservations and limitations of recorded, if any.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in any wise appertaining. **TO HAVE AND TO HOLD** the same in fee simple forever.

AND the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to date: December 31, 2004.

CFN 2005177928
OR Book/Page: 5470 / 1146

IN WITNESS WHEREOF, the grantor has caused these presents to be executed in its name, and its corporate seal to be hereunto affixed, by its proper officers duly authorized, the day and year first above written.

ATTEST: _____
Secretary

Signed, sealed and delivered in the presence of:

_____
Witness Signature

Leanne Shufelt
Witness Printed Name

Candice Brill
Witness Signature

Candice Brill
Witness Printed Name

Modern, Inc., a Florida corporation

By: _____
Charles F. Moehle, pres.

STATE OF Florida
COUNTY OF Brevard

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgements, personally appeared Charles F. Moehle

to me known to be the _____ President and _____ respectively of the corporation named as the grantor in the foregoing deed, or who have produced D.L. as identification and that they severally acknowledged executing the same in the presence of two subscribing witnesses freely and voluntarily under the authority duly vested in them by said corporation and that the seal affixed thereto is the true corporate seal of said corporation.

WITNESS my hand and official seal in the County and State last aforesaid this 13th day of May 2005

LEANNE M. KUGELMANN
Notary Public - State of Florida
My Commission Expires Dec 12 2006
Commission # DD169295
Bonded By National Notary Assn.

_____
Notary Public

_____
Printed Name of Notary
My Commission Expires:

CFN 2005177928
OR Book/Page: 5470 / 1147

EXHIBIT "A"

SECTION 1:

ALL EXCEPT THE W1/2 OF NE1/4 OF SW1/4, THE SE1/4 OF NW1/4 OF SW1/4, THE NE1/4 OF SW1/4 OF SW1/4, AND THE NW1/4 OF SE1/4 OF SW1/4.

SECTION 2:

ALL EXCEPT THE SOUTH 380' (THREE HUNDRED AND EIGHTY FEET) LYING BETWEEN THE EAST LINE OF THE FLORIDA POWER & LIGHT CO. R/W AND THE WEST SECTION LINE; W1/2 OF SE1/4 OF NE1/4; AND SUBJECT TO A CONSERVATION EASEMENT BEING THE NORTH 950' (NINE HUNDRED FIFTY FEET) OF THE WEST 3/4 OF SECTION 2 (I.E. NORTH 950 FEET OF GL-2, GL-3, GL-4). THIS CONSERVATION EASEMENT IS RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS PURPOSE AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OF SPECIES AND HABITAT, ETC.

SECTION 3:

ALL. SUBJECT TO AN 80 FT. (EIGHTY FEET) WIDE ACCESS / DRAINAGE / MAINTENANCE EASEMENT ALONG THE WEST AND SOUTH BOUNDARIES RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS AND SUBJECT TO A CONSERVATION EASEMENT ALONG THE NORTH 950' (NINE HUNDRED FIFTY FEET). THIS CONSERVATION EASEMENT IS RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS PURPOSE AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OF SPECIES AND HABITAT, ETC.

SECTION 11:

ALL EAST OF FLORIDA POWER & LIGHT CO. POWERLINE EASEMENT/RIGHT-OF-WAY AS RECORDED IN OFFICIAL RECORDS BOOK 54, PAGES 858-860 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FL.

SECTION 12:

ALL EXCEPT E1/2 OF SE1/4, SW1/4 OF SE1/4, SE1/4 OF SW1/4, SOUTH 150 FT. OF NW1/4 OF SE1/4, AND THE SOUTH 150 FT. OF NE1/4 OF SW1/4.

SECTION 13:

LOTS 17 THRU 19, INCLUSIVE, AND 46 THRU 51, INCLUSIVE.

SECTION 14:

LOTS 17 THRU 64, INCLUSIVE, 78 THRU 83, INCLUSIVE, AND 109 THRU 112, INCLUSIVE.

SECTION 15:

LOTS 28 THRU 40, INCLUSIVE, 57 THRU 72, INCLUSIVE, AND 89 THRU 104, INCLUSIVE.

TOGETHER WITH A NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT ALONG THE NORTH 25' (TWENTY FIVE FEET) OF LOTS 20, 21 AND 22; SECTION 13; TOWNSHIP 22 SOUTH; RANGE 34 EAST.

AFORESAID LOTS (PREDOMINATELY 5 ACRES EACH) BEING AS SHOWN UPON AND ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

ALL OF THE AFORESAID LOCATED IN TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

ALL THE AFORESAID LANDS ARE SUBJECT TO ALL RECORDED RIGHTS-OF-WAY, EASEMENTS, CONSERVATION EASEMENTS, AND RIGHTS CONVEYANCES.

ALL OF THE AFORESAID LANDS ARE SUBJECT TO THE FOLLOWING PERMANENT NON-EXCLUSIVE EASEMENTS/RIGHTS OF WAY HEREBY RESERVED BY MODERN, INC. FOR ITS BENEFICIARIES, ITS ASSIGNS, AND ITS SUCCESSORS BENEFIT FOR ACCESS, DRAINAGE, ROADWAYS/TRAILS, UTILITIES, AND RIGHTS OF WAY CONSTRUCTION USE. THE PERMANENT EASEMENTS/RIGHTS-OF-WAY IN SECTIONS 11, 12, 13, 14 AND 15 ARE ADDITIONAL TO AND ADJACENT TO CERTAIN EXISTING RIGHTS-OF-WAY AS PER THE PLAT OF TITUSVILLE FRUIT FARM LAND COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND PROVIDE FOR MAKING EIGHTY (80) FEET WIDE MINIMUM RIGHTS-OF-WAY/EASEMENT ALONG THOSE PLATTED AS TWENTY (20) FEET AND FIFTY (50) FEET.

SECTION 3:

EIGHTY (80) FEET ALONG THE ENTIRE WEST SECTION LINE AND THE ENTIRE SOUTH SECTION LINE (SHOWN ON SURVEY AS PERMANENT EASEMENT S).

SECTION 11:

THE SOUTH FIFTY (50) FEET OF THAT PORTION LYING EAST OF THE FLORIDA POWER AND LIGHT CO. EASEMENT AS RECORDED IN OR BOOK 54, PAGE 858 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 12:

THE SOUTH FIFTY (50) FEET OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 13:

THE NORTH TWENTY-FIVE (25) FEET OF THE LOTS 17 THRU 19, INCLUSIVE; THE WEST FIFTEEN (15) FEET OF LOTS 17, 48 AND 49; AND THE SOUTH THIRTY (30) FEET OF LOTS 49 THRU 51, INCLUSIVE (SHOWN ON SURVEY AS PERMANENT EASEMENTS F & I).

SECTION 14:

THE NORTH TWENTY-FIVE (25) FEET OF LOTS 17 THRU 32, INCLUSIVE; THE EAST FIFTEEN (15) FEET OF LOTS 32, 33 AND 64; THE SOUTH THIRTY (30) FEET OF LOTS 81 THRU 83, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 109 THRU 112, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 49 THRU 64, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 78 THRU 80, INCLUSIVE; THE WEST THIRTY (30) FEET OF LOTS 25, 40 AND 57; THE EAST THIRTY (30) FEET OF LOTS 24, 41 AND 56; AND THE WEST FIFTEEN (15) FEET OF LOTS 17, 48, 49, 80, 81 AND 112 (SHOWN ON SURVEY AS PERMANENT EASEMENTS A, B, C, F, G & I).

SECTION 15:

THE NORTHERLY TWENTY-FIVE (25) FEET OF LOTS 28 THRU 32, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 28 THRU 32, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 33 THRU 40, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 57 THRU 64, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 65 THRU 72, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 89 THRU 96, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 65 THRU 72, INCLUSIVE; THE SOUTH THIRTY

(30) FEET OF LOTS 89 THRU 96, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 97 THRU 104; THE EAST FIFTEEN (15) FEET OF LOTS 32, 33, 64, 65, 96 AND 97; AND THE WEST FIFTEEN (15) FEET OF LOTS 40, 57, 72, 89 AND 104 (SHOWN ON SURVEY AS PERMANENT EASEMENTS C, D, E, F, G & I).

A CONSERVATION EASEMENT, BEING AN EXCLUSIVE EASEMENT FOR AND RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS BENEFIT, PURPOSE, AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OR IMPROVEMENT OF SPECIES AND HABITAT, ETC. PROHIBITED CONSTRUCTION AND USES BY ANYONE EXCEPT IN THE FLORIDA POWER & LIGHT CO. RIGHT-OF-WAY/EASEMENT, ARE HARDENED ROADS AND STRUCTURES EXCEPT AS MAY BE REQUIRED FOR MAINTENANCE AND MANAGEMENT BY A MITIGATION PERMIT AND AGREEMENT OF MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES. THIS EASEMENT WILL NOT BE USED FOR A HARDENED DEVELOPMENT PROJECT BY ANYONE OR USED BY ANYONE EXCEPT MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES FOR MITIGATION PURPOSES OF ANY KIND FOR ANY REASON. THE LEGAL DESCRIPTION OF THIS CONSERVATION EASEMENT IS:

THE NORTH 950 (NINE HUNDRED FIFTY) FEET OF SECTION 3, AND NORTH 950 (NINE HUNDRED FIFTY) FEET OF THE WEST 3/4 OF SECTION 2 (I.E. NORTH 950 FEET OF GL-2, GL-3, GL-4).

THE AFORESAID LOTS ARE AS SHOWN ON THE PLAT OF TITUSVILLE FRUIT AND FARMLANDS COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

ALL OF THE AFORESAID LANDS ARE LOCATED IN TOWNSHIP 22 SOUTH; RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

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Scott Ellis
Clerk Of Courts, Brevard County
#Pgs: 16 #Names: 2
Trust: 8.50 Rec: 129.00 Serv: 0.00
Deed: 0.70 Excise: 0.00
Mtg: 0.00 nt Tax: 0.00

CFN 2005177929 05-19-2005 01:53 pm
OR Book/Page: 5470 / 1150

This instrument was prepared
by and should be returned to

Jason W. Searl, Esq.
Jason W. Searl, P.A.
1518 Mount Vernon Street
Orlando, Florida 32803

Return To
FIDELITY NATIONAL TITLE INSURANCE CO.
1355 N. COURTENAY PKWY, STE D
MERRITT ISLAND, FL 32953
1802717

TEMPORARY ACCESS EASEMENT

THIS TEMPORARY ACCESS EASEMENT is hereby made and executed as of the 16th day of May, 2005, by and between HUNTERS BROOKE TITUSVILLE, a Florida limited liability company, whose address is 201 South Orange Avenue, Suite 1510, Orlando, Florida 32801 (the "First Party"), and MODERN, INC., a Florida corporation, whose address is P.O. Box 1417, Cocoa Beach, Florida 32932 (the "Second Party").

WITNESSETH:

WHEREAS, First Party is the record owner of fee simple title to that certain parcel of real property located in Brevard County, Florida, more particularly described on Exhibit "A" attached hereto (the "Property"); and

WHEREAS, Second Party has requested the First Party grant and convey certain access easements over portions of the Property for the benefit of the Second Party and his successors and/or assigns in connection with the Second Party's agricultural, silviculture, plant and tree harvesting, and plant nursery activities on contiguous real property owned by Second Party, which certain access easements granted herein shall be deemed abandoned upon the dedication of public rights of way by the First Party, and the parties desire hereby to create such easements on the terms set forth hereinbelow.

NOW, THEREFORE, for and in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, First Party and Second Party hereby agree as follows;

1. Grant of Easement by First Party: First Party does hereby grant and convey to Second Party a non-exclusive easement over, upon, under and across that portion of the First Property more particularly described on Exhibit "B" attached hereto (the "Easement Area") for ingress and egress for the benefit of the Second Party.

2. Duration: The easements hereby granted and conveyed shall be temporary in duration and may be changed, amended, modified, cancelled or terminated by sixty (60) days prior written notice executed by the First Party with the consent of the Second Party, which consent shall not be unreasonably withheld by the Second Party. Any easement granted herein shall not be canceled by the First Party until such time as the First Party, in

accordance with applicable governing standards, constructs a road and dedicates a public right of way that provides the Second Party with ingress and egress.

3. Incidental Rights: The easements hereby granted and conveyed include the creation of all incidental rights reasonably necessary for the use and enjoyment of such easements for their intended purposes, including, specifically, the right of entry for purposes of maintenance, repair and construction of the easement areas and any facilities now or thereafter located therein.

4. Mutual Indemnification: Each party shall indemnify, insure, save, and hold harmless the other from and against all liens or other losses, damages, expenses or liabilities (including reasonable attorneys' fees) incurred by the indemnified party and arising out of or in connection the use of the Easement Area by the indemnifying, its tenants, guests, agents, employees, customers, licensees, and invitees, as well as the successors and assigns of each of them.

5. Maintenance: There currently exists on the Easement Area an unpaved access roadway with related improvements (hereinafter collectively referred to as the "Improvements"). First Party shall be responsible for the repair and maintenance of the Improvements.

6. Estoppel Certificates: In the event that either party hereto or its successors or assigns shall desire to inquire as to the status of the other party's performance of or compliance with the obligations imposed in this instrument, the inquiring party shall be entitled to receive from the other party on twenty (20) days prior written notice, an estoppel certificate which states whether any party hereto is in default of its obligations hereunder and whether, when, and to what extent any monies may be due from one party to another hereunder.

7. Default: In the event either party fails to perform the terms, provisions, agreements, or covenants hereunder, the same shall constitute an event of default under this Agreement. Upon an event of default that is not cured within fifteen (15) days after receipt of written notice thereof from the non-defaulting party to the defaulting party, the non-defaulting party shall be entitled to pursue any available remedy at law or equity.

8. Notices: Any notice or other communication permitted or required to be given hereunder by one party to the other shall be in writing and shall be either (i) mailed by registered or certified United States mail, postage prepaid, return receipt requested, or (ii) sent by Federal Express or other overnight delivery service to the party entitled or required to receive the same at the address specified hereinabove or at such other address as may hereafter be designated in writing by any such party. Such notice shall be deemed delivered three (3) business days after deposit in the United States mail (as aforesaid) or one (1) day after delivery to the overnight delivery service, which ever is applicable.

9. Litigation and Attorneys Fees: In the event it shall be necessary for either party to this Agreement to bring suit to enforce any provision hereof or for damages on account of any breach hereof, the prevailing party in any such litigation and any appeals therefrom shall be entitled to recover from the other party, in addition to any damages or other relief

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granted as a result of such litigation, all costs or expenses of such litigation and a reasonable attorneys fee as fixed by the Court.

10. Miscellaneous: The easements hereby granted and conveyed are easements appurtenant, and, with or without specific reference thereto, the conveyance of an interest in any portion of the Property shall be subject to the respective burdens and benefits of the easements hereby granted and conveyed to the same extent as if all of the terms of this instrument were set forth in such conveyance in full and shall run with the land and be binding upon and inure to the benefit of the parties hereto, their respective successors and assigns, any purchaser at a foreclosure sale, the successors and assigns of all of such parties, as well as the tenants, guests, agents, employees, customers, licensees and invitees of each of them.

IN WITNESS WHEREOF, First Party and Second Party have caused this Temporary Access Easement to be executed in manner and form sufficient to bind them as of the date and year first above written.

[SIGNATURE PAGES TO FOLLOW]

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Signed, seal and delivered
in the presence of:

Name: EVANS A. HOOD

Name: SHAWN GANTHOUSKI

Name: EVANS A. HOOD

Name: SHAWN GANTHOUSKI

HUNTERS BROOKE TITUSVILLE, LLC,
a Florida limited liability company

By: DTR, LLC, a Florida limited liability company, its managing member

By: _____
John W. DuBrule, Manager
Date: 5/13/15

and

By: TD DEVELOPMENT, LLC,
a Florida limited liability company,
its managing member

By: HAGEN CUSTOM HOMES, LLC,
a Florida limited liability company,
its Manager

By: _____
Deborah D. Hagen, Manager
Date: 5/13/15

STATE OF Florida
COUNTY OF Seminole

The foregoing instrument was sworn to and acknowledged before me this 13th day of May, 2015, by John W. DuBrule and Deborah D. Hagen as Managers of Hunters Brooke Titusville, a Florida limited liability company, on behalf of said Company. He/she is personally known to me or has produced _____ as identification.

(NOTARY SEAL)

Jason W. Searl
Commission # DD381730
Expires December 26, 2008
Bonded Troy Fain - Insurance, Inc. 800-385-7019

_____
Signature of Notary Public
Jason W. Searl
Typed, Printed or Stamped Name of Notary
Commission No.:
My Commission Expires:

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Name: _____

Name: Candice Bull
Candice Bull

MODERN, INC., a Florida corporation

Name: Charles F. Moehle
Its: President

STATE OF Florida
COUNTY OF Brevard

The foregoing instrument was sworn to and acknowledged before me this 16 day of May, 2005, by Charles F. Moehle as President of Modern, Inc., a Florida Corp., on behalf of said _____. He/she is personally known to me or has produced D.L. as identification.

(NOTARY SEAL)

LEANNE M. KUGELMANN
Notary Public - State of Florida
My Commission Expires Dec 12 2006
Commission # DD169295
Bonded By National Notary Assn.

Signature of Notary Public

Typed, Printed or Stamped Name of Notary
Commission No.:
My Commission Expires:

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EXHIBIT "A"

SECTION 1:

ALL EXCEPT THE W1/2 OF NE1/4 OF SW1/4, THE SE1/4 OF NW1/4 OF SW1/4, THE NE1/4 OF SW1/4 OF SW1/4, AND THE NW1/4 OF SE1/4 OF SW1/4.

SECTION 2:

ALL EXCEPT THE SOUTH 380' (THREE HUNDRED AND EIGHTY FEET) LYING BETWEEN THE EAST LINE OF THE FLORIDA POWER & LIGHT CO. R/W AND THE WEST SECTION LINE; W1/2 OF SE1/4 OF NE1/4; AND SUBJECT TO A CONSERVATION EASEMENT BEING THE NORTH 950' (NINE HUNDRED FIFTY FEET) OF THE WEST 3/4 OF SECTION 2 (I.E. NORTH 950 FEET OF GL-2, GL-3, GL-4). THIS CONSERVATION EASEMENT IS RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS PURPOSE AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OF SPECIES AND HABITAT, ETC.

SECTION 3:

ALL. SUBJECT TO AN 80 FT. (EIGHTY FEET) WIDE ACCESS / DRAINAGE / MAINTENANCE EASEMENT ALONG THE WEST AND SOUTH BOUNDARIES RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS AND SUBJECT TO A CONSERVATION EASEMENT ALONG THE NORTH 950' (NINE HUNDRED FIFTY FEET). THIS CONSERVATION EASEMENT IS RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS PURPOSE AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OF SPECIES AND HABITAT, ETC.

SECTION 11:

ALL EAST OF FLORIDA POWER & LIGHT CO. POWERLINE EASEMENT/RIGHT-OF-WAY AS RECORDED IN OFFICIAL RECORDS BOOK 54, PAGES 858-860 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FL.

SECTION 12:

ALL EXCEPT E1/2 OF SE1/4, SW1/4 OF SE1/4, SE1/4 OF SW1/4, SOUTH 150 FT. OF NW1/4 OF SE1/4, AND THE SOUTH 150 FT. OF NE1/4 OF SW1/4.

SECTION 13:

LOTS 17 THRU 19, INCLUSIVE, AND 46 THRU 51, INCLUSIVE.

SECTION 14:

LOTS 17 THRU 64, INCLUSIVE, 78 THRU 83, INCLUSIVE, AND 109 THRU 112, INCLUSIVE.

SECTION 15:

LOTS 28 THRU 40, INCLUSIVE, 57 THRU 72, INCLUSIVE, AND 89 THRU 104, INCLUSIVE.

TOGETHER WITH A NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT ALONG THE NORTH 25' (TWENTY FIVE FEET) OF LOTS 20, 21 AND 22; SECTION 13; TOWNSHIP 22 SOUTH; RANGE 34 EAST.

AFORESAID LOTS (PREDOMINATELY 5 ACRES EACH) BEING AS SHOWN UPON AND ACCORDING TO THE PLAT OF TITUSVILLE FRUIT AND FARM LANDS COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29, OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

ALL OF THE AFORESAID LOCATED IN TOWNSHIP 22 SOUTH, RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

ALL THE AFORESAID LANDS ARE SUBJECT TO ALL RECORDED RIGHTS-OF-WAY, EASEMENTS, CONSERVATION EASEMENTS, AND RIGHTS CONVEYANCES.

ALL OF THE AFORESAID LANDS ARE SUBJECT TO THE FOLLOWING PERMANENT NON-EXCLUSIVE EASEMENTS/RIGHTS OF WAY HEREBY RESERVED BY MODERN, INC. FOR ITS BENEFICIARIES, ITS ASSIGNS, AND ITS SUCCESSORS BENEFIT FOR ACCESS, DRAINAGE, ROADWAYS/TRAILS, UTILITIES, AND RIGHTS OF WAY CONSTRUCTION USE. THE PERMANENT EASEMENTS/RIGHTS-OF-WAY IN SECTIONS 11, 12, 13, 14 AND 15 ARE ADDITIONAL TO AND ADJACENT TO CERTAIN EXISTING RIGHTS-OF-WAY AS PER THE PLAT OF TITUSVILLE FRUIT FARM LAND COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND PROVIDE FOR MAKING EIGHTY (80) FEET WIDE MINIMUM RIGHTS-OF-WAY/EASEMENT ALONG THOSE PLATTED AS TWENTY (20) FEET AND FIFTY (50) FEET.

SECTION 3:

EIGHTY (80) FEET ALONG THE ENTIRE WEST SECTION LINE AND THE ENTIRE SOUTH SECTION LINE (SHOWN ON SURVEY AS PERMANENT EASEMENT S).

SECTION 11:

THE SOUTH FIFTY (50) FEET OF THAT PORTION LYING EAST OF THE FLORIDA POWER AND LIGHT CO. EASEMENT AS RECORDED IN OR BOOK 54, PAGE 858 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 12:

THE SOUTH FIFTY (50) FEET OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (SHOWN ON SURVEY AS PERMANENT EASEMENT H).

SECTION 13:

THE NORTH TWENTY-FIVE (25) FEET OF THE LOTS 17 THRU 19, INCLUSIVE; THE WEST FIFTEEN (15) FEET OF LOTS 17, 48 AND 49; AND THE SOUTH THIRTY (30) FEET OF LOTS 49 THRU 51, INCLUSIVE (SHOWN ON SURVEY AS PERMANENT EASEMENTS F & I).

SECTION 14:

THE NORTH TWENTY-FIVE (25) FEET OF LOTS 17 THRU 32, INCLUSIVE; THE EAST FIFTEEN (15) FEET OF LOTS 32, 33 AND 64; THE SOUTH THIRTY (30) FEET OF LOTS 81 THRU 83, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 109 THRU 112, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 49 THRU 64, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 78 THRU 80, INCLUSIVE; THE WEST THIRTY (30) FEET OF LOTS 25, 40 AND 57; THE EAST THIRTY (30) FEET OF LOTS 24, 41 AND 56; AND THE WEST FIFTEEN (15) FEET OF LOTS 17, 48, 49, 80, 81 AND 112 (SHOWN ON SURVEY AS PERMANENT EASEMENTS A, B, C, F, G & I).

SECTION 15:

THE NORTHERLY TWENTY-FIVE (25) FEET OF LOTS 28 THRU 32, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 28 THRU 32, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 33 THRU 40, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 57 THRU 64, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 65 THRU 72, INCLUSIVE; THE SOUTH THIRTY (30) FEET OF LOTS 89 THRU 96, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 65 THRU 72, INCLUSIVE; THE SOUTH THIRTY

(30) FEET OF LOTS 89 THRU 96, INCLUSIVE; THE NORTH THIRTY (30) FEET OF LOTS 97 THRU 104; THE EAST FIFTEEN (15) FEET OF LOTS 32, 33, 64, 65, 96 AND 97; AND THE WEST FIFTEEN (15) FEET OF LOTS 40, 57, 72, 89 AND 104 (SHOWN ON SURVEY AS PERMANENT EASEMENTS C, D, E, F, G & I).

A CONSERVATION EASEMENT, BEING AN EXCLUSIVE EASEMENT FOR AND RESERVED BY MODERN, INC. FOR ITS AND/OR ITS ASSIGNEES AND SUCCESSORS BENEFIT, PURPOSE, AND USE, AND PRESERVES ALL RIGHTS OF PRESENT AND FUTURE USES, PURPOSES, AND MANAGEMENT AS DETERMINED BY MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES INCLUDING BUT NOT LIMITED TO AGRICULTURE, SILVICULTURE, CATTLE GRAZING, HUNTING, PRESERVATION OR IMPROVEMENT OF SPECIES AND HABITAT, ETC. PROHIBITED CONSTRUCTION AND USES BY ANYONE EXCEPT IN THE FLORIDA POWER & LIGHT CO. RIGHT-OF-WAY/EASEMENT, ARE HARDENED ROADS AND STRUCTURES EXCEPT AS MAY BE REQUIRED FOR MAINTENANCE AND MANAGEMENT BY A MITIGATION PERMIT AND AGREEMENT OF MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES. THIS EASEMENT WILL NOT BE USED FOR A HARDENED DEVELOPMENT PROJECT BY ANYONE OR USED BY ANYONE EXCEPT MODERN, INC., ITS SUCCESSORS AND/OR ASSIGNEES FOR MITIGATION PURPOSES OF ANY KIND FOR ANY REASON. THE LEGAL DESCRIPTION OF THIS CONSERVATION EASEMENT IS:

THE NORTH 950 (NINE HUNDRED FIFTY) FEET OF SECTION 3, AND NORTH 950 (NINE HUNDRED FIFTY) FEET OF THE WEST 3/4 OF SECTION 2 (I.E. NORTH 950 FEET OF GL-2, GL-3, GL-4).

THE AFORESAID LOTS ARE AS SHOWN ON THE PLAT OF TITUSVILLE FRUIT AND FARMLANDS COMPANY AS RECORDED IN PLAT BOOK 2, PAGE 29 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA.

ALL OF THE AFORESAID LANDS ARE LOCATED IN TOWNSHIP 22 SOUTH; RANGE 34 EAST, BREVARD COUNTY, FLORIDA.

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EXHIBIT B

TEMPORARY EASEMENTS

TEMPORARY EASEMENT J

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE, FOLLOWING DESCRIBED CENTERLINE :

COMMENCE AT THE NORTH ONE-QUARTER CORNER OF SECTION 13, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE SOUTH 89E01'22" WEST, 1384.30 FEET; THENCE SOUTH 00E58'38" EAST 542.67 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 74E34'34" WEST, A DISTANCE OF 48.30 FEET; THENCE SOUTH 72E29'05" WEST: 55.65 FEET, THENCE SOUTH 55E14'11" WEST, 72.55 FEET; THENCE SOUTH 38E08'32" WEST, 53.41 FEET; THENCE SOUTH 24E49'21" WEST, 51.76 FEET; THENCE SOUTH 15E41'45" WEST, 63.46 FEET; THENCE SOUTH 15E06'48" WEST, 55.90 FEET; THENCE SOUTH 16E00'45" WEST, 50.15 FEET; THENCE SOUTH 27E49'11" WEST, 128.86 FEET; THENCE SOUTH 27E21'42" WEST, 55.07 FEET; THENCE SOUTH 27E29'27" WEST, 70.35 FEET; THENCE SOUTH 24E38'14" WEST, 55.79 FEET; THENCE SOUTH 32E36'16" WEST, 73.14 FEET; THENCE SOUTH 35E47'21" WEST, 56.81 FEET; THENCE SOUTH 33E59'26" WEST, 56.19 FEET; THENCE SOUTH 28E03'00" WEST, 70.35 FEET THENCE SOUTH 28E54'54" WEST, 83.72 FEET; THENCE SOUTH 40E11'22" WEST, 52.74 FEET; THENCE SOUTH 49E32'36" WEST, 56.84 FEET; THENCE SOUTH 39E41'40" WEST, 51.52 FEET; THENCE SOUTH 29E27'50" WEST, 86.59 FEET; THENCE SOUTH 26E57'52" WEST, 56.77 FEET; THENCE SOUTH 27E34'01" WEST, 56.52 FEET; THENCE SOUTH 25E55'28" WEST, 100.13 FEET; THENCE SOUTH 25E20'19" WEST, 51.07 FEET; THENCE SOUTH 26E29'20" WEST, 59.80 FEET; THENCE SOUTH 32E38'31" WEST, 70.16 FEET; THENCE SOUTH 43E30'08" WEST, 62.85 FEET THENCE SOUTH 47E10'22" WEST 23.01 FEET, TO THE POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT K

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCE AT THE NORTHEAST CORNER OF SECTION 14, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE NORTH 89E01'22" EAST, 209.48 FEET; THENCE SOUTH 00E58'38" EAST 2049.35 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 70E54'37" WEST, A DISTANCE OF 39.37 FEET; THENCE. NORTH

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72El1 '02" WEST 82.15 FEET; THENCE NORTH 55E29'42" WEST, 52.60 FEET; THENCE NORTH 55E05'19" WEST, 52.62 FEET; THENCE NORTH 51E39'06" WEST, 52.90 FEET; THENCE NORTH 51E29'17" WEST, 74.88 FEET; THENCE NORTH 50E00'46" WEST, 50.19 FEET; THENCE NORTH 53E27'25" WEST, 55.23 FEET; THENCE NORTH 66E52'09" WEST, 57.05 FEET; THENCE NORTH 67E55'48" WEST, 75.25 FEET; THENCE NORTH 65E25'30" WEST, 54.20 FEET; THENCE NORTH 63E12'27" WEST, 74.68 FEET; THENCE NORTH 61E45'24" WEST, 60.30 FEET; THENCE NORTH 63E59'24" WEST, 56.92 FEET; THENCE NORTH 70E20'23" WEST, 50.45 FEET; THENCE NORTH 67E13'09" WEST, 53.21 FEET; THENCE NORTH 65E21' 45" WEST, 86.32 FEET; THENCE NORTH 68E34'26" WEST, 58.02 FEET; THENCE NORTH 73E10'40" WEST, 58.41 FEBT; THBNCE NORTH 73E45'38" WEST, 54.14 FEET; THENCE NORTH 76E43'16" WEST, 55.40 FEET; THENCE NORTH 75E33'16" WEST, 58.16 FEET; THENCE NORTH 79E38'23" WEST, 55.55 FEET; THENCE SOUTH 85E42'59" 55.69 FEET; THENCE SOUTH 79E34'55" WEST, 55.05 FEET; THENCE SOUTH 73E55'32" WEST, 69.32 FEET; THENCE SOUTH 70E23'22" WEST, 59.47 FEET; THENCE SOUTH 75E20'50" WEST, 71.94 FEET; THENCE SOUTH 71E23'11" WEST, 76.30 FEET; THENCE SOUTH 60E10'55" WEST, 76.32 FEET; THENCE SOUTH 58E39'49" WEST, 80.21 FEET; THENCE SOUTH 78E04'19" WERST, 87.85 FEET; THENCE SOUTH 84E44'40" WEST, 57.54 FEET; THENCE SOUTH 73E38'16" WEST, 50.11 FEET; THENCE SOUTH 55E06'38" WEST, 107.68 FEET; THENCE SOUTH 61E37'46" WEST, 53.37 FEET; THENCE SOUTH 77E28'28" WEST, 214.75 FEET; THENCE SOUTH 88E15'12" WEST, 52.74 FEET; THENCE SOUTH 75E35'57" EAST, 84.66 FEET; THENCE SOUTH 65E58'16" WEST, 57.74 FEET; THENCE SOUTH 59E58'22" WEST, 80.62 FEET; THENCE SOUTH 65E23'17" WEST, 76.10 FEET; THENCE SOUTH 75E25'29" WEST, 85.25 FEET; THENCE SOUTH 84E13'46" WEST, 61.48 FEET; THENCE SOUTH 71E35'49" WEST, 118.82 FEET; THENCE SOUTH 64E07'59" WEST, 122.71 FEET; THENCE SOUTH 70E54'07" WEST, 0.51 FEET TO A POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT L

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE :

COMMENCE AT THE NORTHWEST CORNER OF SECTION 14, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE NORTH 89E08'05" EAST, 1265.82 FEET; THENCE SOUTH 00E51'55" BAST 2542.89 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 81E21'58" WEST, A DTSTANCF. OF 49.74 FEET; THENCE. SOUTH 70E49'22" WEST,. 85.60 FEET; THENCE NORTH 89E58'27" WEST, 71.20 FEET; THENCE NORTH 80E20'48" WEST, 76.06 FEET; THENCE NORTH 82E50'36" WEST, 69.86 FEET;

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THENCE NORTH 72E06'23" WEST, 89.10 FEET; THENCE NORTH 78E27'50" WEST, 29.88 FEET; THENCE NORTH 83E24'09" WEST, 146.22 FEET; THENCE SOUTH 87E16'45" WEST, 92.59 FEET; THENCE SOUTH 37E38 '46" WEST, 128.17 FEET; THENCE SOUTH 15E42'10" WEST, 60.02 FEET; THENCE SOUTH 26E30'15" WEST, 50.62 FEET; THENCE SOUTH 34E47'24" WEST, 40.68 FEET; THENCE SOUTH 56E51'34" WEST, 39.15 FEET; THENCE SOUTH 63E59'36" WEST, 88.78 FEET; THENCE SOUTH 49E24'36" WEST, 23.07 FEET TO THE POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT M

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE :

COMMENCE AT THE NORTHEAST CORNER OF SECTION 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE NORTH 89E08'05" EAST, 212.25 FEET; THENCE SOUTH 00E51'55" EAST 2884.28 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 44E41' 08" WEST, A DISTANCE, OF 31.67 FEET; THENCE SOUTH 45E48'13" WEST, 63.52 FEET; THENCE SOUTH 54E47'45" WEST, 83.20 FEET; THENCE SOUTH 68E36'46" WEST, 7.11 FEET; THENCE SOUTH 68E36'46" WEST, 64.05 FEET; THENCE
SOUTH 73E05'01" WEST, 102.80 FEET; THENCE SOUTH 83E21'37" WEST, 99.28 FEET; THENCE SOUTH 81E23'25" WEST, 89.73 FEET; THENCE SOUTH 89E32'57" WEST, 86.22 FEET; THENCE NORTH 76E57'06" WEST 136.06 FEET; THENCE NORTH 77E59'45" WEST, 84.41 FEET; THENCE NORTH 61E19'23" WEST, 62.47 FEET; THENCE NORTH 62E51'39" WEST, 60.34 FEET; THENCE SOUTH 87E45'17" WEST, 64.77 FEET; THENCE SOUTH 57E04'07" WEST, 65.87 FEET; THENCE SOUTH 36E52'58" WEST, 62.79 FEET; THENCE SOUTH 49E24'03" WEST, 77.91 FEET; THENCE SOUTH 49E30'39" WEST, 75.49 FEET; THENCE SOUTH 47E22'26" WEST, 52.36 FEET; THENCE SOUTH 71E28'29" WEST, 65.32 FEET; THENCE SOUTH 83E10'02" WEST, 63.34 FEET; THENCE SOUTH 70E24' 09" WEST, 62.14 FEET; THENCE SOUTH 73E49'49" WEST, 72.64 FEET; THENCE SOUTH 63E00'15" WEST, 56.01 FEET; THENCE SOUTH 59E44'17" WEST 30.22 FEET TO THE POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT N

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE :

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COMMENCE AT THE NORTHEAST CORNER OF SECTION 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE SOUTH 89E08'05" WEST, 1529.15 FEET; THENCE SOUTH 00E51'55" EAST 3361.46 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 69E47'41" WEST, A DISTANCE. OF 62.24 FEET; THENCE SOUTH 47E47 '41 WEST; 59.27 FEET; THENCE SOUTH 19E22'17" WEST, 56.63 FEET; THENCE SOUTH 13E18'19" WEST, 68.45 FEET; THENCE SOUTH 23E47'28" WEST, 55.55 FEET; THENCE SOUTH 32E25'15" WEST, 55.28 FEET; THENCE SOUTH 48E05'10" WEST, 69.07 FEET; THENCE SOUTH 48E35'42" WEST, 61.49 FEET; THENCE SOUTH 49E04'08" WEST, 51.08 FEET; THENCE SOUTH 33E49'24" WEST, 40.28 FEET; THENCE SOUTH 18E22'36" WEST, 98.91 FEET; THENCE SOUTH 36E56'20" WEST, 49.94 FEET; THENCE SOUTH 81E48'50" WEST, 56.73 FEET; THENCE SOUTH 47E13'39" WEST, 60.54 FEET TO THE POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT 0

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCE AT THE NORTHEAST CORNER OF SECTION 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE SOUTH 89E08'05" WEST, 1858.30 FEET; THENCE SOUTH 00E51'55" EAST 801.14 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 20E12'48" WEST, A DISTANCE OF 48.83 FEET THENCE SOUTH 19E21 '23" WEST 51.70 FEET; THENCE, SOUTH 06E01'26" WEST, 77.43 FEET; THENCE SOUTH 20E00'18" EAST, 30.70 FEET; THENCE SOUTH 00E31'41" WEST, 73.24 FEET; THENCE SOUTH 03E21'42" EAST, 52.87 FEET; THENCE SOUTH 06E41'06" WEST, 115.74 FEET; THENCE SOUTH 21E01'11" WEST, 55.61 FEET; THENCE SOUTH 32E10'12" WEST, 53.09 FEET; THENCE SOUTH 45E07'40" WEST, 56.68 FEET; THENCE SOUTH 60E26'02" WEST, 58.07 FEET; THENCE SOUTH 65E07'41" WEST, 69.43 FEET; THENCE SOUTH 60E05'10" WEST, 51.09 FEET; THENCE SOUTH 48E06'55" WEST, 60.80 FEET; THENCE SOUTH 24E43'51" WEST, 51.58 FEET; THENCE SOUTH 21E26'30" WEST, 105.46 FEET; THENCE SOUTH 37E21'51" WEST, 102.79 FEET; THENCE SOUTH 47E42'33" WEST, 5.29 FEET TO THE POINT OF TERMINATION. SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

TEMPORARY EASEMENT P

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

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COMMENCE AT THE SOUTHWEST CORNER OF SEC'TION 12, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE SOUTH 89E01'22" WEST, 1336.76 FEET; THENCE NORTH 00E35'32" EAST 557.33 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE SOUTH 82E02'03" WEST, A DISTANCE OF 24.99 FEET; THENCE SOUTH 82E22'45" WEST 50.45 FEET; THENCE, SOUTH 83E30'18" WEST, 117.62 FEET; THENCE SOUTH 80E38'10" WEST, 61.41 FEET; THENCE SOUTH 76E41'08" WEST, 53.50 FEET; THENCE SOUTH 82E23'03" WEST, 60.22 FEET; THENCE SOUTH 84E24'51" WEST, 92.41 FEET; THENCE SOUTH 87E34'02" WEST, 51.63 FEET; THENCE NORTH 87E20'04" WEST, 53.26 FEET; THENCE NORTH 89E16'53" WEST, 54.31 FEET; THENCE NORTH 85E52'04" WEST, 97.59 FEET; THENCE SOUTH 83E52'49" WEST, 80.15 FEET; THENCE NORTH 84E48'56" WEST, 54.87 FEET; THENCE NORTH 80E11'17" WEST, 53.79 FEET; THENCE NORTH 81E35'38" WEST, 51.36 FEET; THENCE SOUTH 82E35'48" WEST, 58.58 FEET; THENCE SOUTH 73E48'52" WEST, 56.27 FEET: THENCE SOUTH 69E25'00" WEST, 53.35 FEET; THENCE SOUTH 73E41'46" WEST, 100.60 FEET; THENCE NORTH 87E28'27" WEST, 54.91 FEET; THENCE SOUTH 83E56'18" WEST, 57.61 FEET; THENCE SOUTH 69E53'28" WEST, 56.63 FEET; THENCE SOUTH 62E50'16" WEST 59.14 FEET; THENCE SOUTH 67E13'21" WEST, 51.60 FEET; THENCE SOUTH 71E49'09" WEST, 50.75 FEET; THENCE SOUTH 78E25"48" WEST 53.19 FEET; THENCE SOUTH 89E46'45" WEST, 56.58 FEET; THENCE NORTH 81E33'43" WEST, 62.64 FEET; THENCE NORTH 75E57'49" WEST, 64.18 FEET; THENCE NORTH 74E47'08" WEST, 61.86 FEET; THENCE NORTH 73E08'10" WEST, 56.19 FEET; THENCE NORTH 71E55'23" WEST 57.12 FEET: THENCE NORTH 71E23' 54" WEST, 56.29 FEET; THENCE NORTH 69E05'07" WEST, 52.66 FEET; THENCE NORTH 67E40'15" WEST 54.54 FEET; THENCE NORTH 67E21'36" WEST, 56.90 FEET; THENCE NORTH 67E'51'16" WEST, 57.65 FEET; THENCE NORTH 66E05'53" WEST, 57.38 FEET; THENCE NORTH 67E03'21" WEST, 58.87 FEET, THENCE NORTH 67E08'13" WEST, 57.77 FEET; THENCE NORTH 66E23'39" WEST, 51.77 FEET; THENCE NORTH 66E48'15" WEST, 53.10 FEET; THENCE NORTH 68E10'26" WEST, 55.50 FEET; THENCE NORTH 67E12'57" WEST, 54.90 FEET; THENCE NORTH 66E15'50" WEST, 52.79 FEET; THENCE NORTH 65E39'26" WEST, 53.75 FEET: THENCE NORTH 67E57'20" WEST, 53.74 FEET; THENCE NORTH 67E24'38" WEST, 58.51 FEET; THENCE NORTH 69E15'11" WEST, 57.96 FEET; THENCE NORTH 71E34'24" WEST, 64.37 FEET; THENCE NORTH 80E31'24" WEST, 83.10 FEET; THENCE NORTH 72'20'46" WEST, 52.86 FEET; THENCE NORTH 72E22'32" WEST, 56.61 FEET; THENCE NORTH 73E23'18" WEST, 50.95 FEET; THENCE NORTH 72E44'35" WEST, 53.66 FEET; THENCE NORTH 74E03'42" WEST, 55.26 FEET; THENCE NORTH 72E51'16" WEST, 55.00 FEET; THENCE NORTH 71E20'41" WEST, 53.72 FEET; THENCE NORTH 72E51'59" WEST, 50.14 FEET; THENCE NORTH 73E53'06" WEST, 97.45 FEET; THENCE NORTH 72E44'43" WEST, 61.88 FEET; THENCE NORTH 73E41'50" WEST, 55.31 FEET; THENCE NORTH 71E11'50" WEST, 60.07 FEET; THENCE NORTH 64E36'28" WEST, 59.94

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FEET; THENCE NORTH 57E15'28" WEST, 53.58 FEET; THENCE NORTH 54E51'12" WEST, 116.22 FEET; THENCE NORTH 53E39'52" WEST, 59.09 FEET; THENCE NORTH 54E45'51" WEST, 57.00 FEET; THENCE NORTH 55E37'39" WEST, 51.53 FEET; THENCE NORTH 55E26'25" WEST, 54.30 FEET; THENCE NORTH 56E01'12" WEST, 56.41 FEET; THENCE NORTH 49E42' 32" WEST, 54.42 FEET; THENCE NORTH 38E54 '21" WEST, 58.56 FEET; THENCE NORTH 32E12' 55" WEST, 50.66 FEET; THENCE NORTH 41E23'55" WEST, 34.61 FEET TO THE POINT OF TERMINATION. WITH THE SIDE LINES BEING LENGTHENED AND SHORTENED AS REQUIRED TO TERMINATE ON THE WEST LINE OF THE FLORIDA POWER EASEMENT RECORDED IN O.R. BOOK 54 PAGE 858 OF THE PUBLIC RECORDS OF BREVARD COUNTY, FLORIDA AND ON THE EAST LINE OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 12. SAID LANDS LYING TN RREVARD COUNTY. FLORIDA.

TEMPORARY EASEMENT Q

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE :

COMMENCE AT THE SOUTHWEST CORNER OF SECTION 12, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE NORTH 89E01'22" EAST, 1048.33 FEET; THENCE NORTH 00E58'38" WEST 50 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE NORTH 75E29'57" WEST, A DISTANCE OF 10.98 FEET: THENCE, NORTH 65E59'33" WEST, 56.60 FEET; THENCE, NORTH 48E35'22" WEST, 58.44 FEET; THENCE NORTH 37E29'00" WEST, 55.26 FEET; THENCE NORTH 39E52'40" WEST, 58.50 FEET; THENCE NORTH 42E52'24" WEST, 54.85 FEET; THENCE NORTH 69E17'38" WEST, 51.12 FEET; THENCE NORTH 70E50'07" WEST, 59.42 FEET; THENCE NORTH 71E45'39" WEST, 65.97 FEET; THENCE NORTH 70E49'21" WEST, 57.81 FEET; THENCE NORTH 89'55'27" WEST, 60.10 FEET; THENCE NORTH 86E26'48" WEST, 51.87 FEET; THENCE SOUTH 88E00'22" WEST, 54.14 FEET; THENCE SOUTH 78E11'33" WEST, 56.65 FEET; THENCE SOUTH 68E12'20" WEST, 56.94 FEET; THENCE SOUTH 65E44' 15" WEST, 58.61 FEET; THENCE SOUTH 67E43'25" WEST, 60.91 FEET; THENCE SOUTH 66E36'42" WEST, 60.66 FEET; THENCE SOUTH 56E12'49" WEST, 59.08 FEET; THENCE SOUTH 55E28'21" WEST, 3.82 FEET; THENCE SOUTH 55E35'43" WEST, 48.85 FEET; THENCE SOUTH 67E16'53" WEST, 51.39 FEET; THENCE SOUTH 59E25'56" WEST, 53.10 FEET; THENCE SOUTH 61E51'19" WEST, 59.11 FEET; THENCE SOUTH 67E57'56" WEST, 52.01 FEET; THENCE NORTH 88E45'26" WEST, 54.53 FEET; THENCE NORTH 69E35'41" WEST, 62.54 FEET; THENCE NORTH 63E01'09" WEST, 63.66 FEET; THENCE NORTH 67E43'01" WEST, 104.74 FEET; THENCE NORTH 67E14'32" WEST, 51.32 FEET; THENCE NORTH 66E08'33" WEST, 59.52 FEET: THENCE NORTH 64E21'05" WEST, 62.60 FEET; THENCE NORTH 57E21'25" WEST, 64.24 FEET; THENCE NORTH 62E30'55" WEST, 62.18 FEET; THENCE NORTH 80E00'17" WEST, 50.06 FEET; THENCE NORTH 76E47'19" WEST, 53.87

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OR Book/Page: 5470 / 1163

FEET; THENCE NORTH 67E11'34" WEST, 57.90 FEET; THENCE NORTH 65E48'57" WEST, 55.12 FEET; THENCE NORTH 62E49'47" WEST, 53.14 FEET, THENCE NORTH 62E32'22" WEST, 60.10 FEET; THENCE NORTH 62E05'23" WEST, 58.02 FEET; THENCE NORTH 62E27'15" WEST, 55.04 FEET; THENCE NORTH 64E25'25" WEST, 55.02 FEET; THENCE NORTH 69E39'12" WEST, 53.52 FEET; THENCE NORTH 72E11'21" WEST, 52.73 FEET; THENCE NORTH 69E42'30" WEST, 54.42 FEET; THENCE NORTH 67E11'03" WEST, 54.15 FEET; THENCE NORTH 70E01'13" WEST, 54.04 FEET; THENCE NORTH 78E56'02" WEST, 64.79 FEET; THENCE SOUTH 87E06'40" WEST, 57.49 FEET; THENCE SOUTH 85E26'48" WEST, 60.21 FEET; THENCE NORTH 69E57'26" WEST, 54.53 FEET; THENCE NORTH 34E24'48" WEST, 63.34 FEET; THENCE NORTH 13E29'02" WEST, 51.41 FEET; THENCE NORTH 02E44' 27" EAST, 59.28 FEET; THENCE NORTH 14E09'12" EAST, 37.75 FEET TO THE POINT OF TERMINATION. WITH THE SIDE LINES BEING LENGTHENED AND SHORTENED AS REQUIRED TO TERMINATE ON EASEMENT "H". SAID LANDS LYING IN BREVARD COUNTY FLORIDA.

TEMPORARY EASEMENT R

A STRIP OF LAND 60 FEET IN WIDTH LYING 30 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE :

COMMENCE AT THE SOUTHWEST CORNER OF SECTION 11, TOWNSHIP 22 SOUTH, RANGE 34 EAST; THENCE NORTH 00E34'36" WEST, 179.433 FEET; THENCE NORTH 89E25'24" EAST 18.94 FEET TO THE POINT OF BEGINNING OF SAID CENTERLINE; THENCE NORTH 47E26'00" WEST, A DISTANCE OF 40.16 FEET; THENCE. NORTH 07E51'56" WEST, 58.34 FEET THENCE: NORTH 09E03'56" EAST, 57.30 FEET; THENCE NORTH 05E17'58" WEST, 57.38 FEET; THENCE NORTH 39E10'22" WEST, 42.66 FEET TO THE POINT OF TERMINATION. WITH THE SIDE LINES BEING LENGTHENED AND SHORTENED AS REQUIRED TO TERMINATE ON EASEMENT "P" AND EASEMENT "Q". SAID LANDS LYING IN BREVARD COUNTY, FLORIDA.

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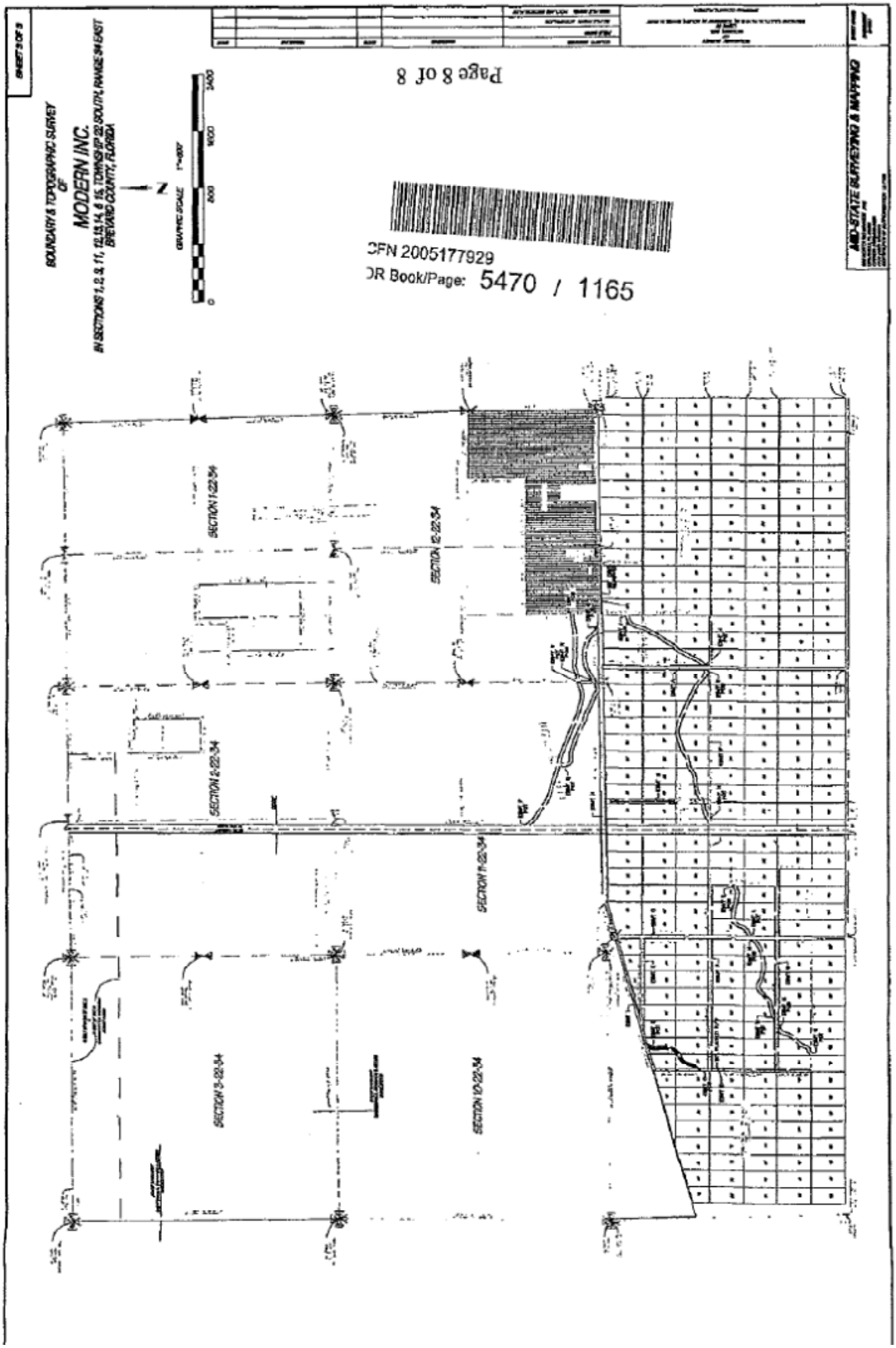
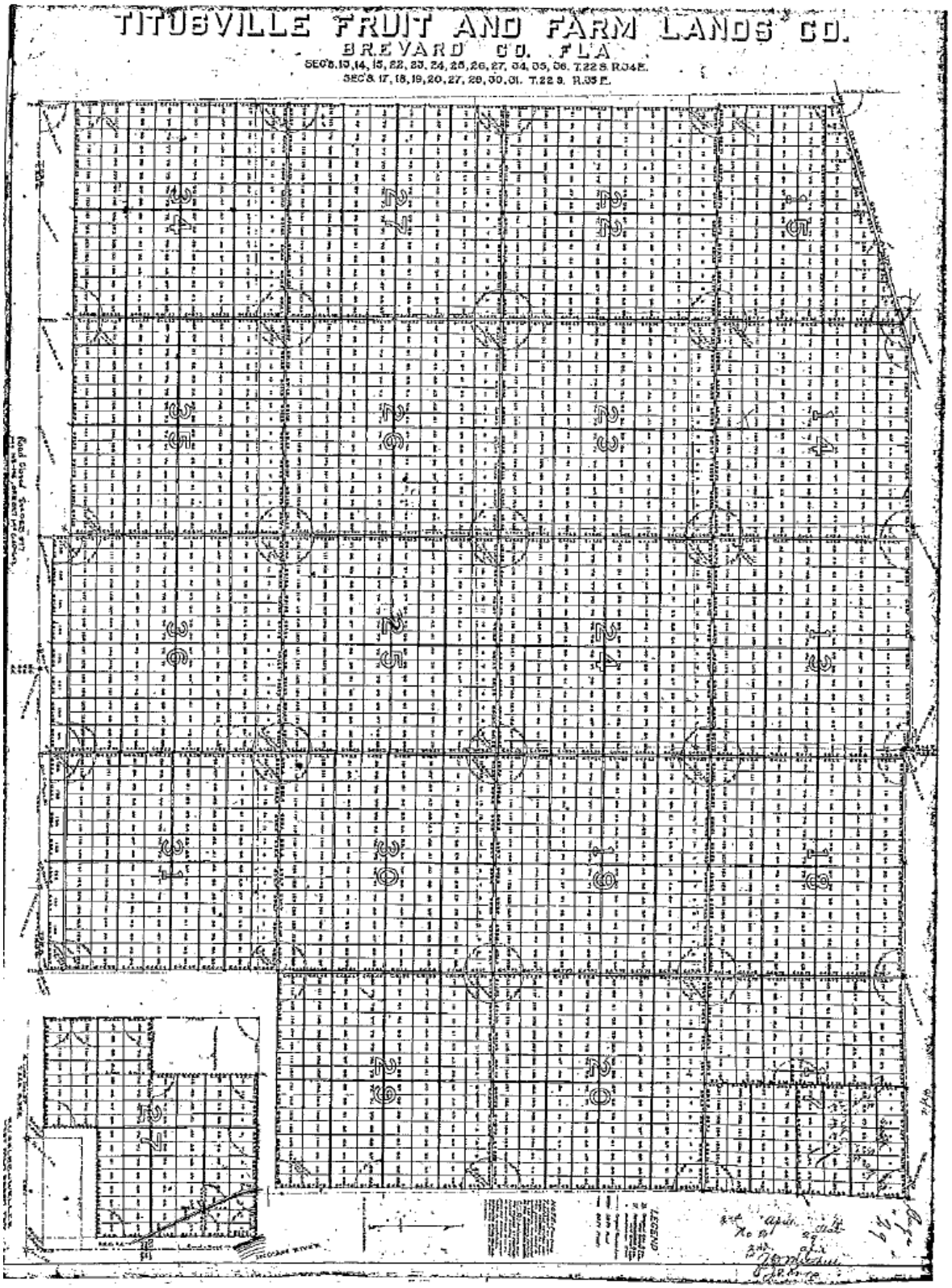
OR Book/Page: 5470 / 1164


SHEET 3 OF 3
BOUNDARY & TOPOGRAPHIC SURVEY
OF
MODERN INC.
IN SECTIONS 1, 2, & 11, 12, 13, 14, & 15, TOWNSHIP 22 SOUTH, RANGE 34 EAST
BREVARD COUNTY, FLORIDA
GRAPHIC SCALE 1"=400'
0
200
400
800
MID-STATE SURVEYING & MAPPING
Page 8 of 8
CFN 2005177929
OR Book/Page: 5470 / 1165
SECTION 1-22-34
SECTION 12-22-34
SECTION 2-22-34
SECTION 11-22-34
SECTION 3-22-34
SECTION 10-22-34


TITUSVILLE FRUIT AND FARM LANDS CO.
BREVARD CO. FLA.
SEC'S. 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36. T. 22 S. R. 34 E.
SEC'S. 17, 18, 19, 20, 27, 29, 30, 31. T. 22 S. R. 35 E.

117006

CIRCUIT COURT MINUTES
BOOK 62 PAGE 754

IN THE CIRCUIT COURT OF THE NINTH JUDICIAL CIRCUIT OF FLORIDA, IN AND FOR BREVARD COUNTY, AT LAW

NO. 31268

FLORIDA POWER & LIGHT COMPANY, a Florida corporation,

Plaintiff,

-vs-

ROBERT C. FOX, et al.,

Defendants.

AMENDED ORDER OF TAKING

FILED IN OFFICE
Nov 29 4 17 PM '65
CURTIS E. BARNES CLERK
CIR. CT. BREVARD CO. FLA.

THIS CAUSE coming on to be heard upon motion of plaintiff, FLORIDA POWER & LIGHT COMPANY, for leave to amend the Petition in Eminent Domain Proceedings, Declaration of Taking, and Order of Taking previously filed or entered in this cause, and

It appearing to the Court that all of the parties defendant to this cause, individually or through their attorneys, have consented to the amendments sought by plaintiff, and the Court being otherwise fully advised in the premises, it is, upon consideration

ORDERED AND ADJUDGED as follows:

1. The plaintiff's Motion to Amend its Petition in Eminent Domain Proceedings and Declaration of Taking previously filed in this cause, be and the same is hereby granted. The plaintiff is hereby authorized to file with the Clerk of this Court its Amendment to Petition in Eminent Domain Proceedings and Declaration of Taking, and is directed to serve copies thereof on the attorneys for all the defendants herein.

2. The plaintiff's Motion to Amend the Order of Taking entered in this cause on May 31, 1965, be and the same is hereby granted. The property rights taken by plaintiff as set out in said Order of Taking are amended to be:

> An easement to be used for the construction, operation and maintenance of one or more electric transmission lines, including wires, poles, "H" frame structures, towers, anchors, guys and necessary appurtenant equipment, in, over, upon and across the lands described in the original Order of Taking of May 31, 1965, entered in this cause, together with the right and privilege to reconstruct, inspect, alter, improve, remove and relocate such

CIRCUIT COURT MINUTES
BOOK 62 PAGE 755

transmission lines on said lands with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the above mentioned purposes, including the right to cut and keep clear all trees and undergrowth and other obstructions within said lands, and also including the right of ingress and egress over adjoining lands owned by the owner of said parcels of land and adjoining said parcels of land, which right of ingress and egress shall be exercised by utilizing roads and trails and shall be only for the purposes of Petitioner constructing, operating and maintaining said lines.

RESERVING to the owners, however, the right and privilege to use the above described parcels of land for agricultural and all other purposes except as herein stated or as might interfere with the Petitioner's use, occupation or enjoyment thereof, and provided further, that no buildings or structures other than fences will be located or constructed by the owners on said parcels of land, and

RESERVING to the owners, however, the right to construct roads, canals, culverts or underground utility facilities at their own cost and expense across the above described parcels of land, provided such roads, canals, culverts or underground utility facilities do not interfere with said electric transmission lines.

The original Order of Taking of May 31, 1965 is, except as amended above, hereby ratified and confirmed.

DONE AND ORDERED at Titusville, Florida, this November 29, 1966.

Circuit Judge

Recorded & Record Verified, Curtis R. Barnes Clerk, Circuit Court

-2-

CIRCUIT COURT MINUTES

BOOK 54 PAGE 858

101501

IN THE CIRCUIT COURT OF THE NINTH JUDICIAL CIRCUIT OF FLORIDA, IN AND FOR BREVARD COUNTY

LAW NO. 31268

FLORIDA POWER & LIGHT COMPANY, a Florida corporation,

Plaintiff,

vs.

ROBERT C. FOX, et al.,

Defendants.

FILED IN OFFICE
1965 MAY 31 PM 3:58
CURTIS R. BARNEY, CLERK
CIR. CT. BREVARD CO., FLA.
BY [illegible] D.C.

ORDER OF [illegible]

This cause coming on to be heard by the Court, and it appearing that proper notice was given first to all the defendants, and all persons having or claiming any equity, lien or title in or to the real property described in the Petition and Notice, that Plaintiff would apply to this Court on the 19th day of May, A.D. 1965, for an Order appointing appraisers herein and, pursuant thereto, an Order was issued on the 19th day of May, A.D. 1965, appointing two appraisers, and the 31st day of May, A.D. 1965, was set as the date to consider and hear the report of the appraisers and any testimony of the respective parties, and the Court being fully advised in the premises, it is, therefore,

CONSIDERED, ORDERED and ADJUDGED that the Plaintiff is entitled to possession of the following described property prior to the final judgment, upon payment into the Registry of this Court, the deposit hereafter specified:

An easement to be used for the construction, operation and maintenance of one or more electric transmission lines, including wires, poles, "H" frame structures, towers, anchors, guys and necessary appurtenant equipment, in, over, upon and across the lands described as follows:

A tract of land 170 feet in width, lying 85 feet on each side of, contiguous to and parallel with the following described centerline: Commence at the Northeast corner of the Northwest one-quarter of Section 2, Township 22 South, Range 34 East, Brevard County, Florida; thence run South 89° 25' 38" West,

along the North line of the said Northwest one-quarter, a distance of 135.00 feet to the point of beginning of said centerline:

Thence for a first course, run South 00° 48' 15" West, a distance of 15,385.77 feet, through Sections 2 and 11, Township 22 South, Range 34 East, Lots 23, 42, 55, 74, 87, 106 and 119 Block 14, to a point on the North line of Lot 10, Block 23 of the Titusville Fruit and Farm Lands Co. Subdivision, Plat Book 2, Page 29 of the Public Records of Brevard County, Florida; said point being 85.00 feet Easterly of the Northwest corner of the said Lot 10; thence for a second and final course, run South 00° 56' 58" West, 85.00 feet Easterly of and parallel with the West line of Lots 10 and 23, a distance of 1290.42 feet to the South line of said Lot 23, Block 23 of the Titusville Fruit and Farm Lands Co. Subdivision and the end of said centerline; less and excepting therefrom all right of ways of record; containing 64.55 acres, more or less.

TOGETHER with the right and privilege to reconstruct, inspect, alter, improve, remove and relocate such transmission lines on said lands with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the above mentioned purposes, including the right to cut and keep clear all trees and undergrowth and other obstructions within said lands, and also including the right of ingress and egress over lands owned by the owner of said parcels of land and adjoining said parcels of land, which right of ingress and egress shall be exercised only for the purpose of Petitioner constructing said lines and then only for a period of time not to exceed twelve (12) months from the date on which Petitioner is given possession of or title to the said parcels of land, and which right of ingress and egress shall terminate at the end of said twelve (12) months.

RESERVING to the owners, however, the right and privilege to use the above described parcels of land for agricultural and all other purposes except as herein stated or as might interfere with the Petitioner's use, occupation or enjoyment thereof, and provided further that no buildings or structures other than fences will be located or constructed by the owners on said parcels of land, and

RESERVING to the owners, however, the right to construct roads, canals, culverts or underground utility facilities at their own cost and expense across the above described parcels of land, provided such roads, canals, culverts or underground utility facilities do not interfere with the structures or facilities or both, constructed or installed by Petitioner; and provided further, that no such construction of roads, canals, culverts or underground utility facilities shall be made without written permission of the Petitioner, which written permission shall not be unreasonably withheld by the Petitioner.

and that said deposit of money will fully secure and fully compensate the persons lawfully entitled to compensation, as will be determined ultimately by final judgment of the Court, and which said sum of

CIRCUIT COURT MINUTES

BOOK 54 PAGE 860

money to be deposited is in no instance less than the value of said land, as fixed by the appraisers appointed by the Court.

PROVIDED, FURTHER, that the said sum of money in the total amount of $ Sixty Four Thousand and No/100 ——— Dollars shall be deposited in the Registry of this Court within twenty (20) days after the date of this Order and, upon making such deposit, the Plaintiff shall notify, in writing, all attorneys of record, and those Defendants not represented by counsel, that the deposit has been made, and that ~~on~~ thereupon ~~, 1965~~, the Plaintiff shall be entitled to possession of the property described in the Petition without further notice or Order of this Court. It is further provided that no money shall be withdrawn from the Registry of this Court by the Defendants, pursuant to Section 74.07, Florida Statutes, until possession of the property is in the Plaintiff.

If the Plaintiff shall default in the depositing of said sum of money within the time provided, this Order shall be void and of no further force or effect.

It is further CONSIDERED, ORDERED and ADJUDGED that said cause is hereby set for trial to commence at 9:30 A.M. on the 28th day of June, 1965.

DONE and ORDERED in Chambers at Titusville, Brevard County, Florida, this 31st day of May, 1965.

Roger W. Dykes
Circuit Judge

Recorded & Record Verified, Curtis R. Barnes Clerk, Circuit Court

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OFFICIAL RECORDS 576 PAGE 547

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RIGHT-OF-WAY DEED

This Indenture, Made this the 1st day of APRIL A. D. 19 63 between ROBERT C. FOX, Individually and as TRUSTEE, joined by his wife, BETTY FOX, and DOROTHY B. DAVID, surviving spouse and Administratrix of the Estate of ROBERT T. DAVID, DECEASED,

parties of the first part, and BREVARD COUNTY of the STATE OF FLORIDA, party of the second part.

WITNESSETH: That the said parties of the first part, for and in consideration of the sum of One Dollar ($1.00) and other valuable considerations to them in hand paid by the party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained and sold, and by these presents do grant, bargain and sell to the said party of the second part, its successors and assigns, a right-of-way and easement Road 50' Canal 200' feet wide in Sections 1 and 12 Township 22 South, of Range 34 East, in Brevard County, Florida, described as follows, to-wit:

PARCEL #2: The east 2350 feet of the south 50 feet of Section 12 Township 22 South, Range 34 East. Said strip of land to be used as a road right of way.

PARCEL #3: A strip of land in Sections 1 and 12, Township 22 South, Range 34 East. The centerline of which is described as follows:

From the northeast corner of Section 12, go westerly along the north line of said Section 12 a distance of 1900'; thence southerly and parallel to the east line of said Section 12 a distance of 900 feet to and into the waters of an inland lake known as Fox Lake, said point being the POB of centerline of land herein described. From said POB go northerly and parallel to the east line of Sections 1 and 12 a distance of 2400 feet. Said strip of land to be used for a canal right of way connecting two inland lakes known as South Lake and Fox Lake, said strip of land being 200 feet wide and lying 100 feet east of and 100 feet west of the aforementioned centerline.

This deed is made for the purpose of giving and granting to the party of the second part, its successors, legal representatives and assigns, a right-of-way and easement in and to said lands for public highway purposes and for canal right of way and is made, executed and delivered with the express understanding and condition that should the same ever be discontinued or abandoned as a public highway or canal right of way the title to the same shall thereupon revert to and revest in the parties of the first part their heirs, executors or assigns.

And the said parties of the first part do hereby fully warrant the title to said lands, and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals this the day and year first above written.

[signature] Individually and as Trustee (SEAL)

[signature] (SEAL)

[signature] Surviving Spouse and Administratrix of the Estate of Robert T. David, Dec'd. (SEAL)

(SEAL)

Signed, sealed and delivered in the presence of:

[signature]

[signature]

BREVARD COUNTY — STATE OF FLORIDA DOCUMENTARY STAMP TAX APR-8'63 = 0 20 COMPTROLLER PB.10914

Appendix L
Public Meeting Minutes

ENVIRONMENTALLY ENDANGERED LANDS PROGRAM
Fox Lake Sanctuary
Public Access Plan Review Public Meeting
September 21, 2010
Minutes

CALL TO ORDER:
Xavier de Seguin des Hons, Land Manager for the EEL Program's North Region welcomed the group at 5:06 PM and thanked everyone for their interest in the Fox Lake Sanctuary.

PRESENTATION:
Xavier provided information regarding the Conceptual Public Access Plan. Highlights included:

EEL Program Mission Statement: To protect and Preserve Biodiversity Through Responsible Stewardship of Brevard County's Natural Resources.

EEL Program Vision Statement
To acquire, protect, and maintain endangered lands
To protect Brevard County's biodiversity
To provide passive recreation and education opportunities
To support active volunteers and community involvement

Management Regions
North Region
Central Region
South Region
South Beach Region

North Region Sanctuaries
Enchanted Forest (462 acres) **
Dicerandra Scrub Sanctuary (44 acres) **
South Lake Conservation Area (155 acres) **
Indian Mount Station Sanctuary (85 acres)
North Buck Lake Scrub Sanctuary (165 acres)""
Fox Lake Sanctuary (2,568 acres)
Scottsmoor Flatwoods Sanctuary (1,521 acres) **
Indian River Sanctuary (43 acres) **
(**Sanctuaries currently open to the public in the North Region)

Land Management Tools
Prescribed Fire
Invasive, Exotic Plant and Animal Control
Native Plantings
Public Access

Management Plan Approval Process
Interim Management Plan drafted within 3 months of acquisition
Approved by Selection and Management Committee (SMC)
Public Access Site Assessment completed by EEL Program Staff

Conceptual Public Access Plan
Drafted by EEL Program Staff
Reviewed at public Meeting (September 2010)
Review by Recreation and Education Advisory Committee (REAC)

Draft of complete Management Plan will be reviewed by:
EEL Program staff
30 day public review
SMC
BOCC

Recreation Assessment
Resources identified
Protected Species
Gopher Tortoise
Bald eagle
Florida Scrub-Jays
Likely indigo snakes, celestial lily, and Wood Stork
Nine different ecosystems
Existing trails
Passive Recreation Activities Identified
Hiking
Birding/Wildlife observation
Horseback riding (future plan)
Boy Scouts/Organized youth camping
Canoeing/Kayaking
Mountain biking (non-motorized)

Recreation Plan
Parking area, Kiosk and walkthrough gate located at Fox Lake Park
7 mile hiking and mountain biking trail
4 mile equestrian trail (future)
3 mile canoe/kayak trail
Educational and interpretive signs along the trails

Public Comment and Additional Discussion
Charles Moehle mentioned that he was the owner of an easement over approximately 200 acres in the north east corner of the Sanctuary and that he has offered to sell his interest in the easement to the EEL Program.

Mike Knight, EEL Program Manager, confirmed Mr. Moehle's statement and he suggested that the footprint of the Moehle/Modern Inc. easement should be represented in the Fox Lake Sanctuary map.

Mr. Moehle stated that they did not object to the fire lines as represented on the map being shown, and he emphasized his request that the fire lines not be disked.

Mike confirmed there were no plans to disk the fire lines within the privately owned easement area.

The main access point for the Sanctuary will be through Parks & Recreation's Fox Lake Park.

Mr. Moehle explained he also owned property to the south of the main access point which extends from the Fox Lake Park to the interior of the Fox Lake Sanctuary.

The EEL Program will be using an access easement over Mr. Moehle's property as the entrance into the Fox Lake Sanctuary.

EEL Program staff will take care to lay out the entrance area in a way that will guide visitors into the Sanctuary in a manner that should prevent folks from wandering into Mr. Moehle's property.

Equestrian use may be possible at some time in the future, but there is no room for trailer parking within the Sanctuary and animals are currently not allowed within Fox Lake Park.

EEL Program staff will ensure that Charles and Mike Moehle are notified when the Fox Lake Sanctuary is released for the 30 day public review period.

Xavier explained that if anyone would like additional information, they should contact him at the EEL Program's Office, and he distributed business cards to those citizens who requested them.

ADJOURNED:
The meeting was adjourned at 6:15 PM.

Appendix M
REAC Meeting Minutes

ENVIRONMENTALLY ENDANGERED LANDS (EEL) PROGRAM
RECREATION AND EDUCATION ADVISORY COMMITTEE (REAC)
March 3, 2011
Attendance List

RECREATION AND EDUCATION ADVISORY COMMITTEE MEMBERS
Bob Champaigne
Tom Dunkerton
Jim Durocher
Jim Heath
Beverly Morgan
Mark Nathan
Ayn Samuelson
Doug Sphar

SUB-COMMITTEE MEMBERS
Paul Schmalzer, Selection and Management Committee

EEL PROGRAM STAFF
Laura Clark
Mike Knight
Brad Manley
Chris O'Hara

GUESTS
None

"Protecting and Preserving Biological Diversity
Through Responsible Stewardship of Brevard County's Natural Resources"
March 3, 2011
Approved November 10, 2011

ENVIRONMENTALLY ENDANGERED LANDS (EEL) PROGRAM
RECREATION AND EDUCATION ADVISORY COMMITTEE
March 3, 2011
Meeting Minutes

CALL TO ORDER:
Doug Sphar, Chairman, called the meeting to order at 6:00 PM.

Public Comment
None.

MINUTES:
The May 13, 2010 REAC meeting minutes were presented for approval.

MOTION ONE
Jim Durocher moved to approve the May 13, 2010 minutes as presented.
Beverly Morgan seconded the motion.
The motion carried unanimously.

The September 17, 2010 minutes from the REAC Field Trip to the Jordan Scrub Sanctuary were presented for approval.

MOTION TWO
Bob Champaigne moved to approve the September 17, 2010 minutes as written.
Jim Durocher seconded the motion.
The motion carried unanimously.

The September 30, 2010 REAC meeting minutes were presented for approval. It was noted that a quorum of members were not present at the meeting, so no motions were presented.

MOTION THREE
Jim Durocher moved to approve the September 30, 2010 minutes as presented.
Beverly Morgan seconded the motion.
The motion carried unanimously.

The November 20, 2010 minutes from the REAC Field Trip to the Fox Lake Sanctuary were presented for approval.

Paul Schmalzer provided the following suggestions for revision:

- Page 1, par. 2, line 2. Insert comma after "des Hons" and remove comma after "maps".
- Page 1, par. 2, line 6. Remove comma after "consulted".
- Page 1, par. 5, line 1. Remove comma after "vehicles".

MOTION FOUR
Bob Champaigne moved to approve the November 20, 2010 minutes as amended.
Jim Durocher seconded the motion.
The motion carried unanimously.

ADMINISTRATIVE REVIEW:

Paul Schmalzer stated that acquisition contracts for the following two properties would be presented to the Board of County Commissioners for final approval on March 8, 2011:

- Florida Power and Light: 6 acres, immediately adjacent to the Cruickshank Sanctuary in Rockledge. Contract price is 65% of the appraised value.
- Viera DRI Tract A: 10 acres, across the road on the south side of the Cruickshank Sanctuary and immediately adjacent to the Viera Scrub Conservation Easement property. Contract price is 77% of the appraised value.

Clarification was provided that both properties qualify for 50% partnership funding from the USAF which means the actual cost to the County would be half of the contract price.

These sites represent the last opportunities to expand the footprint of the Cruickshank Sanctuary. Additional information was provided on the importance of the Viera DRI Tract A site as a connection between the Cruickshank Sanctuary and the Viera Scrub Conservation Easement property.

AGENDA ITEMS:

Jordan Scrub Sanctuary Public Access Plan

Chris O'Hara, South Region Land Manager, provided information on the revised Public Access Plan for the Jordan Scrub Sanctuary, which is being updated as a result of the addition of more than 400 acres of property to the Sanctuary since the previous public access plan was reviewed in 2005.

The following items were reviewed:

- A small parking area which would accommodate 5-6 cars is being planned on the west side of the Sanctuary, adjacent to the Town of Malabar vegetation dump.
- The previous plan included three trails. The new plan involves moving portions of previous trails that were located on fire breaks to new areas, and adds additional trails on the new parcels. Most of the new trails will be on dirt roads made previously by illegal ATV use prior to acquisition.
- An overlook is being considered at the southernmost lake, if a funding source can be identified.
- Appropriate uses include hiking, biking, horseback riding, wildlife observation.
- Firebreaks can be used as trails if desired, but they will not be maintained at the same level as the other trails.

Additional Discussion

Mike explained that an easement down the west side of the sanctuary in the area acquired from Coastal Jewel has been granted to the Town of Malabar. The easement will become part of the Al Tuttle Trail. The mulched trail will be maintained by the Town of Malabar.

MOTION FIVE
Mark Nathan moved to support the Jordan Scrub Sanctuary as presented by staff.
Jim Durocher seconded the motion.
The motion carried unanimously.

Fox Lake Sanctuary Proposed Public Access Plan

Brad Manley, EEL Program Public Access Coordinator, provided a presentation on the proposed Public Access Plan for the Fox Lake Sanctuary, as Xavier de Seguin des Hons, the EEL Program's North Region Land Manager, was assisting with control of the Iron Horse Wildfire. The Fox Lake Sanctuary is a 2,000+ acre site near Titusville.

The following information was provided:

Management Plan Approval Process:

- Interim Management Plan drafted within 3 months of acquisition
- SMC review/approval of Interim Management Plan (July 30, 2008)
- Public Access Site Assessment completed by EEL Program Staff
- Conceptual Public Access Plan drafted by EEL Program Staff and Presented at Public Meeting (September 21, 2010)
- REAC Field Trip to Sanctuary (November 20, 2010)
- **Proposed Public Access Plan to REAC for review (March 3, 2011)**
- Draft of complete Management Plan receives following reviews:
  - EEL Program Staff
  - SMC review/approval
- 30 day Public Review
- All comments received from the public during the Management Plan Approval Process are incorporated into the Management Plan
- SMC review/approval
- BOCC review/approval
- All Management Plans for land in State title as a result of partnership funding from the State must receive final approval from the Acquisition and Restoration Council in Tallahassee. Final approval for the Fox Lake Sanctuary Management Plan will come from the Board of County Commissioners as no partnership funding from the State was not used for this acquisition.

Recreation Assessment

- Resources identified:
  - Protected Species: Gopher tortoise, Bald eagle, Florida Scrub-Jays
  - Likely Indigo snake, celestial lily and wood stork
- Ecosystems: Nine different ecosystems
- Existing Trails
- Passive Recreation Activities Identified: Hiking, Birding/Wildlife Observation, Horseback Riding, Canoeing/Kayaking, Mountain Biking, (future phase, Boy Scouts/Organized youth camping)

Recreation Plan

- Parking area, kiosk, and walkthrough gate are located at Parks & Recreation's Fox Lake Park
- 7 miles of hiking and biking trails
- 4 miles of equestrian trail (future phase)

- 3 miles canoe/kayak trail
- Educational and interpretive signs along the trails

Additional Discussion
Clarification was provided that it is anticipated that equestrian use would be limited to locals.

Jim Durocher noted that in his opinion, horses and mountain bikes on the same trails could be problematic.

It is anticipated that an equestrian access will provided at some point in the future.

It is anticipated that volunteer adopt a trail groups will be critical in the maintenance of this sanctuary. Several Scouting groups have expressed interest in volunteering for this site.

Approximately 200 acres of this Sanctuary are covered by a privately owned easement. There is one privately held inholding.

MOTION SIX
Jim Durocher moved to support the Fox Lake Pubic Access Plan as presented by staff.
Beverly Morgan seconded the motion.
The motion carried unanimously.

Additional Discussion
The group reviewed several short movies on wildlife activities at EEL Program Sanctuaries in addition to a few related to feral hogs which generate substantial damage to natural areas.

Public Comment
None.

NEXT MEETING
To be determined.

ADJOURNED:
The meeting was adjourned at 7:55 PM.

SUMMARY OF MEETING MOTIONS:

1. **Motion to approve the May 13, 2010 REAC meeting minutes as presented.**
2. **Motion to approve the September 17, 2010 REAC Field Trip to the Jordan Scrub Sanctuary minutes as written.**
3. **Motion to approve the September 30, 2010 REAC meeting minutes as presented.**
4. **Motion to approve the November 20, 2010 REAC Field Trip to the Fox Lake Sanctuary meeting minutes as amended.**
5. **Motion to support the Jordan Scrub Sanctuary Public Access Plan as presented by staff.**
6. **Motion to support the Fox Lake Sanctuary Public Access Plan as presented by staff.**

Appendix N
Public Comment

MODERN, INC.

December 3, 2011

To: Xavier de Seguin des Hons
North Region Land Manager
Brevard County ELLs Program

Sent via: Email to - xavier.deseguin@brevardparks.com
Fax # - 321-264-5190

Re: Fox Lake Sanctuary Management Plan

Dear Mr. Des Seguin des Hons,

As you know. Modern Inc. is the owner of The Fox Lake Ranch. The ranch is located to the west of and south of the Fox Lake Sanctuary (FLS). The Fox Lake Ranch and the FLS share a large common boarder. Modern accesses it's ranch through a combination of platted rights of way and recorded easements which run through the FLS. Modern regularly moves heavy equipment to and from the Fox Lake Ranch via these platted right of way and recorded easements. Our comments regarding your proposed Fox Lake Sanctuary Management Plan are as follows.

1) The Fox Lake Ranch is not for sale to the ELLs at this time. Modern is not a willing seller. We have previously advised Florida Forever, SAVE, US Fish & Wildlife etc. that we do not want Modern's property identified by any environmental agency as "Future" or "Proposed" or "Possible" acquisition. In the past we have found such designations to be a form of "Condemnation Blight".

2) We have previously advised you and submitted willing seller paper work to you regarding the approximately 200 acres Conservation Easement Property (north portion of sections 2 & 3). This is the only property we are a "willing seller" of at this time.

3) The Conservation Easement is a Use Easement for uses by Modern, Inc. Or its assigns.

4) The platted rights of way within the plat of the Titusville Fruit and Farm Lands Company which run through the FLS are not public rights of way as they have never been accepted by the County either through formal acceptance or construction and maintenance. These rights of way are for the exclusive use of owners of property within the subdivision for "road" purposes.

5) We do not object to Modern's access roads being used a fire breaks. We do object to these roads being disced, harrowed, plowed, or raked or disturbed to increase their utility as fire breaks and reduce their utility as roads. We also object to the public using these access roads for hiking, horseback, riding, etc as trucks and heavy equipment use these roads regularly and many of the roads have limited visibility and width. We do not want any accidents or other incidents.

6) Modern relies upon the existing drainage system. Any destruction of existing ditches must not effect Modern's property. Modern does not want the historic hydro period restored on any of it's property. We do not want any increase in surface water or ground water levels on Modern's property. We do not want any increase in either stage or duration of flooding events. We do not want any wetlands created, restored, or enhanced on Modern's property.

7) Before public uses are allowed you must erect boundary fencing along our common boarders and undertake other measures as needed to prevent trespassing on Modern's property or any malicious acts to equipment or livestock owned by Modern.

Very Truly Yours,

Charles F. Moehle
President

Post Office Box 321417 • Cocoa Beach • Florida • 32932-1417 • (321)783-1712 • Fax (321) 784-3613

BREVARD County
BOARD OF COUNTY COMMISSIONERS

FLORIDA'S SPACE COAST

PARKS AND RECREATION DEPARTMENT
Enchanted Forest Sanctuary
Environmentally Endangered Land Program
444 Columbia Blvd.
Titusville, FL 32780

Telephone: (321) 264-5185
Fax: (321) 264-5190

Mr. Moehle
PO Box 321417
Cocoa Beach, FL 32932

April 2nd 2012,

Re: Fox Lake Sanctuary Management Plan

Dear Mr. Moehle,

Thank you for your interest in the Brevard County Environmentally Endangered Lands (EEL) Program. Your comments on the Fox Lake Sanctuary Management Plan will be taken into consideration. The management plan will be reviewed by the EEL Selection and Management Committee as well as by the Brevard County Board of County Commissioner before it is formally approved. Both are public meetings and you are welcome to attend to provide comments or ask questions about the plan. If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Xavier de Seguin des Hons
North Region Land Manager
Brevard County Environmentally Endangered Lands Program
Parks & Recreation Department
444 Columbia Blvd.
Titusville, FL 32780
V: 321-264-5185
F: 321-264-5190
email: xavier.deseguin@brevardparks.com
web: www.eelbrevard.com

Appendix O
SMC Meeting Minutes for Approval

ENVIRONMENTALLY ENDANGERED LANDS (EEL) PROGRAM
SELECTION & MANAGEMENT COMMITTEE (SMC)
May 22, 2012
Attendance List

SELECTION & MANAGEMENT COMMITTEE MEMBERS
Mark Bush
Dave Breininger
Ross Hinkle
Randy Parkinson
Paul Schmalzer
Laurilee Thompson
Kim Zarillo

EEL PROGRAM STAFF
Laura Clark
Mike Knight

GUESTS
Linda Behret, Procedures Committee
Jabez Coggan, Citizen
Vince Lamb, Procedures Committee, Friends of Ulumay

ENVIRONMENTALLY ENDANGERED LANDS (EEL) PROGRAM
SELECTION & MANAGEMENT COMMITTEE (SMC)
May 22, 2012
Meeting Minutes

CALL TO ORDER:

Randy Parkinson, Chairman, called the meeting to order at 1:05 PM.

PUBLIC COMMENT:

Vince Lamb, Friends of Ulumay, stated that support for the concept of a Brevard Corridor Expedition has been strong. It is anticipated that the Brevard Nature Alliance will discuss this topic at their meeting next Wednesday.

Ross Hinkle spoke of the opportunities for education about the EEL Program that could be part of the event. He mentioned that the Rosen College of Hospitality, has recently entered into an agreement with an organization in Costa Rica to build an agriculture element into their plans for tourism.

Jack Masson, Director of Parks & Recreation, said that publicity for an event like the Brevard Corridor Expedition could be an effective means of bringing lots of new people into the EEL Program's activities.

MINUTES:

The April 26, 2012 minutes were presented for approval.

Paul Schmalzer provided the following:

- Page 3, 1st bullet under South Region Discussion
  - Suggested language change: from *budget restraints*, to *budget constraints*.
  - Suggested language change: from *The other 3 Centers are operational* to *Those 3 Centers are operational*.
- Page 5, Clarification is required regarding which properties are actually in active negotiations. Staff confirmed clarification will be provided that the Franklin property is also in active negotiations.
- Page 8, Motion 4 should have been listed as Motion 5.
- Page 8, Summary of motions. Add Motion 5 to summary.

MOTION ONE:
Paul Schmalzer moved to approve the April 26, 2012 minutes as amended.
Ross Hinkle seconded the motion.
The motion carried unanimously.

ADMINISTRATIVE REVIEW:

Mike reported that several people participated in the Fox Lake Sanctuary Restoration Area tour the previous Sunday and that one of the main comments he had received related to citizens' new understanding that only a portion of the 2,500 acres was targeted for tree reduction.

Public Comment
Linda Behret, Procedures Committee member, stated she had been on one of the recent tours and until she got to the site, she had not realized how overgrown the area is, or how high the fuel load would be in the event of a wildfire. Linda stated that she was very familiar with the restoration which had occurred at the Cruickshank Sanctuary in Rockledge, and that it would be good for other folks to understand that although an area appears to be severely damaged immediately after a prescribed fire, the recovery time is short; things begin to grow back within just a few weeks; and the long term benefits are amazing.

SMC REPORTS
REAC Update.
None.

STAFF REPORTS:
None.

OTHER SMC REPORTS:
Kim Zarillo mentioned that she attended the Florida Native Plant Society conference and that during her brief conversation with Lisa Roberts from the Florida Wildflower Foundation (FWF), she had learned that there were a total of 6 submittals in response to their Request for Information. She also stated her understanding that it is possible that representatives from the Foundation could visit all 6 sites.

Additional Discussion
Paul stated that he had a few follow up questions relating to information within the April 26, 2012 SMC minutes and he asked if it would be appropriate to discuss them then, or to wait until later.

Mike indicated that was a good time to discuss them.

Page 1, Greensboro Mitigation Donation Property
Paul requested clarification regarding the information in the minutes related to the Greensboro Mitigation property and the site's previous names.

Clarification was provided that this mitigation donation was approved by the SMC in 2006 under the names of Port St. John Investments and ELM properties, so those names were included in the April 26th minutes for tracking purposes.

Mike also stated that staff met with the mitigants and that although he has not received written confirmation; they have indicated that they expect to donate the property to the EEL Program, with the burn done in advance. In addition, staff is requiring that an amount equal to the cost of paying a private contractor to complete the prescribed fire be held in escrow, so that if, at the end of the 12 month period, they have not had an opportunity to get the burn done due to weather conditions, they carry out the burn within a reasonable amount of time, in order to get their money back, or the EEL Program would keep the funds and implement the burn. He also explained that the fee for the prescribed fire was in addition to the normal management fee.

Xavier de Seguin des Hons, the EEL Program's North Region Land Manager, provided clarification that the Greensboro folks received written notification from the EEL Program regarding the need for coordination of these arrangements.

Page 3, Acquisition Funding, 6th bullet
Paul requested additional information on the reference to computers being listed as a capital expenditure item coming from the land acquisition account, adding that he would have concerns related to any expenses coming from the land acquisition account that were not tied to acquisition or land management.

Mike stated that replacement computers need to come from Operations funding. He also explained that staff is no longer buying new computers, just replacing existing ones.

Status of willing sellers for Plan One, Losch, and Elhoim Christian Church properties
Mike reported that staff has sent letters to these owners and is waiting on responses.

Page 5 includes: Need to identify by name and rank all remaining unidentified inholdings
The group reviewed the land acquisition status report to determine if this information was included. It was determined that it would be best to wait until Jenny Ashbury returned to get clarification on this item.

Page 7: Moehle Easement: Fox Lake Sanctuary
Paul asked if any additional clarification had been received from the County Attorney's Office regarding the privately held easement at Fox Lake Sanctuary.

Mike stated that it is the opinion of Christine Lepore, from the County Attorney's Office, that as the owner of the property, the County has the right to utilize it, whether for burning, or for a trail, as long as that activity doesn't conflict with the terms of the easement. He explained that the complication is that the County Attorney's Office and the easement's owner are not in agreement on the highest and best use of the property, so staff has not been able to order the appraisals required to begin negotiations for purchasing the rights of the easement. It was also noted that the owner feels he has the right to operate an RV park on the site, although the County Attorney's Office is not in agreement with that perception.

Mike also mentioned that staff is planning to meet with the owners to discuss the easement, the front access issue of bringing people down the right of way, and a trail connector to the Salt Lake Wildlife Management Area.

Pinter Property
Mike explained staff was continuing to compile information on this potential donation and that the topic would probably be on the next meeting agenda for consideration of a 2nd Majority Vote.

Additional Discussion
Laurilee Thompson requested clarification of the location for the Acosta Groves mitigation property, which is not part of the EEL Program sanctuary network.

Mike said staff will research and provide follow up information. He also explained that one of the issues related to properties along the Indian River Lagoon is related to differences of opinion on whether there is legal access, or public access, along with the requirements for each category.

Staff Reports
None.

Land Acquisition Status Update
Mike explained that staff has updated the land acquisition status report with the information from the last meeting and he asked for comments to the layout of the revised document.

Randy asked for clarification of the significance of the information which was provided in red.

Paul noted that it appeared that there were two very different groups of information, one in alphabetical order, and one grouped by location, and he added that it was difficult to use the information on the lists as it was presented.

Mike stated that he had suggested that particular presentation for this meeting, in order to keep the new properties that were added to the list separate, and he asked if the SMC would rather have the information presented according to location, or listed alphabetically.

Paul noted his preference listing by location and sanctuary, while including clarification of whether the properties were inholdings or adjacent parcels.

Mike stated that Jenny had indicated that nothing else has changed as far as progress on any of the acquisitions.

Paul asked if there was any update on the 20 acres of mitigation donations that page 5 of the April minutes indicated were expected to close last month.

Additional information on the status of the pending donations will be provided at the next meeting.

AGENDA ITEMS:

Election of Chairman and Vice-Chairman

Mike explained that it was time for the annual election of Chairman and Vice-Chairman for the SMC.

MOTION TWO
Ross Hinkle nominated Randy Parkinson as Chairman.
Dave Breininger seconded the motion.
Additional Discussion
Randy asked if there were any additional questions or comments. None were **received.**
The motion carried unanimously.

MOTION THREE
Paul Schmalzer nominated Ross Hinkle as Vice-Chairman
Kim Zarillo seconded the motion.
The motion carried unanimously.

Fox Lake Sanctuary Management Plan

Mike explained that Xavier would provide a brief update related to the latest revisions on the Fox Lake Sanctuary Management Plan, which had been made since the draft management plan was submitted to the SMC for second review, a few weeks earlier.

Xavier stated that comments received from Paul, along with staff's responses were included as part of the meeting handout and that he would review them, along with a couple of additional changes which had been added by staff.

Comment	*Response*
Page 5, par. 1 2nd sentence. Reword sentence "Such uses also comply with as derived..." Something is omitted or extraneous or otherwise confusing with this wording.	Text reworded
2. Page 27, last sentence. Sand live oak is not a species of damp wet areas...	Text reworded.

3. Page 29, par 4. The statement regarding the Arthropod Control Plan is better than in the September 2011 draft. However, there is no information on the history of Brevard County Mosquito Control treatment of the Fox Lake Sanctuary area. Therefore, there is still not an adequate basis for determining the potential for detrimental effects of adulticide treatments.	Mike confirmed that the 5 year Mosquito Control spray history received previously from the Mosquito Control Dept. would be included in the Management Plan, and that this history indicates the area was not sprayed during that time.
4. Page 38, Historical. Should include a reference for the Windover site...	Reference added.
5. Page 40, Figure 16. The optimal management boundary contains an isolated parcel at upper right of the map. Why is this included?	Garden Street parcel added by BCSE by ARC at citizen's request, but action was unrelated to EEL Program. Map revised, parcel removed.
6. Page 42, par. 4. The status of the 200 acre Conservation Easement remains a concern. It was my understanding that the County Attorney was reviewing the details of this easement as regards its possible acquisition by the EEL Program. However, the SMC received no report on this review. A direct reading of the easement language in Appendix K, Page 118 does not suggest that it would prohibit a trail crossing.	Mike confirmed staff will meet with landowner to discuss options for prescribed fire activity and non-vehicular trail access. Land Manager review of easement language indicates it appears there is a restriction on hard improvements to the land.
7. Page 46, par. 4. *Schinus terebinthifolius.*	Text reworded.
8. Page 62. The plan mentions fencing (Page 43), but there is no capital expenditure identified for it.	The estimated cost for fencing is $8,000. It was added to management plan.

Mike added that most of the 200 acres covered by the private easement burned in the wildfire that occurred there a few years ago, so the area is in pretty good shape.

Xavier added that staff had also included a couple of additional changes including:

- Page 28, Figure 13: Restoration Map: A couple of mesic flatwoods areas, one of which is along a trail, were removed from the area planned for restoration, because they are outside the 1,000' buffer zone.
- Page 31 and 32, Figure 14: Scrub-Jay Territories Discussion and Map: Number of potential territories was increased after discussion with Dave Breininger. Mark Bush suggested color coding the existing and potential territories differently.

Mike explained that these changes related to clarification that trees would be thinned to 6 trees per acre, even though the ultimate goal is 2, because it is understood that a few trees will be killed during the prescribed fire and it was easier to work with a buffer and remove the extra trees later, if needed.

Mike also stated that when dealing with mesic flatwoods within the 1,000' buffer for Florida Scrub-Jay habitat, the Scrub Management Guidelines for the State of Florida indicate you should reach into the mesic flatwoods and reduce pine densities to allow for the dispersal and use of those areas by the Jays.

Dave added that he could not think of any natural mesic flatwoods landscapes that are maintained anywhere near that dense and that he believes the area is a forestry landscape, not a natural one.

Paul agreed that although the trees are not in rows, they are very dense and that many of the pines are very young, which indicates there has been a transition to current conditions, probably

as a result of fire suppression. He added that in Central Florida, mesic flatwoods were not historically dense forests, they were open savannahs.

Dave noted that Central Florida has also historically included dry prairies.

The group reviewed a 1943 aerial photograph of the area, along with Florida Natural Areas (FNAI) photographs of scrub and mesic flatwoods habitats that have been properly managed.

Kim mentioned she thought the FNAI photographs were a really good reference because they show what the area will look like a few years after the application of prescribed fire.

Laurilee asked if there were plans to leave the pines along the canal between Fox Lake and South Lake.

Mike explained that the area was not going to be timbered, but some of the trees would be thinned out during the prescribed fire.

Dave stated that the forest on the east will definitely have a detrimental effect on the scrub to the west, because it created a predator friendly area near the scrub.

Xavier agreed.

Mike also stated that the Sanctuary is located near South Carpenter Road, in Titusville and the overgrown area immediately west of the neighborhood was a concern due to the heavy fuel load and potential wildfire risks.

Ross asked for clarification of the plans for hydrological management.

Xavier confirmed there are some large ditches which drain the wetlands.

Randy suggested consideration of using a few weirs to control the water table as a possible step towards eliminating the ditches at the level that they currently drain.

Ross stated the wet prairie component of the landscape was also important and that he understands there is a balancing act. He added that it could be beneficial to restore some of the natural drainage.

Dave expressed concern related to potential impacts on ephemeral (sometimes wet, sometimes dry) ponds and marsh areas because they provide habitats for completely different sets of plants and animals than areas that are constantly wet. He asked if it was possible that mitigation work could include a hydrological study.

Kim stated that she felt there was not enough information available at the current time to make decisions on hydrologic restorations. She added that the management plan provides overview information on the need for restoration, and details can be worked out at a later time.

The group agreed.

Ross mentioned that the combination of mesic flatwoods, dry ridges, and wet prairies are part of the landscape and you don't have wet prairies if you dig a lot of ditches. He said that looking at this long term, the goal of reintroducing some natural drainage will encourage some of the wet prairie seepage marshes to develop, which will go a long way toward the hydrological management that is important in this area. He added that he has seen amazing results from just filling ditches.

Jack asked if anyone knew when the ditch between Fox Lake and South Lake was dug.

Staff estimated that based on pictures of the area that were available; the ditch was created some time between 1943 and 1958.

MOTION FOUR
Paul Schmalzer moved to approve the Fox Lake Sanctuary Management Plan as amended.
Kim Zarillo seconded the motion.
The motion carried unanimously.

Additional Discussion
Randy noted that he needed to leave after the next agenda item. Confirmation was provided that Ross could act as Chairman for the rest of the meeting and that there would still be a quorum in attendance at the meeting.

Fox Lake Sanctuary Restoration Letter
The group reviewed the Chairman's draft letter to the Board of County Commissioners related to the May 29, 2012 agenda item for restoration of the Fox Lake Sanctuary.

Kim stated that she could attend the meeting and speak on the item, if the letter could be sent to all Commissioners prior to the meeting.

The following suggestions were presented for consideration:

- Include confirmation that individual members of the SMC have visited the Fox Lake Sanctuary various times, for research and other purposes, in addition to the 1993 and 2007 site visits, and that they are very familiar with the current conditions of the site.
- Revise last paragraph, 3rd line from the bottom, changing utilized to utilize.
- Reword 2nd sentence to indicate the letter provides the Committee's perspective.
- Clarify that the Committee includes people with a collective experience on Central Florida's natural communities of over 100 years.

Jack suggested consideration of including clarification of what will happen if the restoration is not carried out as planned.

It was determined that Kim could address this point during her comments.

Mike stated that any other letters written by committee members could be sent to him and he would distribute the letters to be read aloud by citizens who were planning to attend the meeting.

Kim requested that the additional committee member letters be forwarded to her for her reference.

Mike stated he would forward the letters to all the committee members.

MOTION FIVE
Kim Zarillo moved to present the letter on the Fox Lake Sanctuary Restoration Plan to the Board of Commissioners, as amended, on May 29, 2012.
Laurilee Thompson seconded the motion.
The motion carried unanimously.

A copy of the SMC's letters to the Board are provided as attachments to these minutes.

Klarenbeek Property
Mike explained that the owner of a 2.3 acre property, which is adjacent to the western side of the Turnbull Farms portion of the Scottsmoor Flatwoods Sanctuary, submitted an unsolicited, willing seller application for his property. He added the habitat is very similar to the rest of the Turnbull