A Management Plan for

L. Kirk Edwards

Wildlife and Environmental Area

2011 - 2021

Leon County, Florida

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600

A Management Plan
for
L. Kirk Edwards Wildlife and Environmental Area

Leon County, Florida

Owned by the Board of Trustees of the Internal Improvement Trust Fund and
the Florida Fish and Wildlife Conservation Commission
Managed by the Florida Fish and Wildlife Conservation Commission

October 2011

Approved Signature on file

Lawson Snyder, Interim Director
Division of Habitat and
Species Conservation

Florida Department of
Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

October 14, 2011

Mr. David Alden
Senior Conservation Planner
Florida Fish and Wildlife Conservation Commission
Conservation Acquisition and Planning
620 South Meridian Street
Tallahassee, FL 32399-1600

RE: L. Kirk Edwards Wildlife and Environmental Area – Lease # 4619

Dear ~~Mr. Alden~~ David:

The Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the L. Kirk Edwards Wildlife and Environmental Area land management plan. The next management plan update is due October 14, 2021.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Marianne

Marianne S. Gengenbach
Office of Environmental Services
Division of State Lands

MSG/ci

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: L. Kirk Edwards Wildlife and Environmental Area
Location: Leon County, Florida
Acreage Total: 1,782 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
basin marsh	163.3	9.3%
basin swamp	512	29.3%
bottomland forest	231	13.2%
cultural hardwood forest	13.6	0.8%
depression marsh	0.7	0.0%
dome swamp	18.4	1.1%
floodplain swamp	35.8	2.0%
mesic hammock	48.3	2.8%
pasture - improved	98.5	5.6%
pine plantation	95.4	5.5%
ruderal	13.8	0.8%
upland mixed forest	35.8	2.0%
upland pine forest	448.1	25.6%
wet flatwoods	34.5	2.0%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement No.: 4619 (Appendix 12.1)
Use: Single _____ Multiple X
Management Responsibilities: Agency FWC
Responsibilities: LEAD, SUBLESSEE (Wildlife and Environmental Area, resource protection, law enforcement)
Designated Land Use: Wildlife and Environmental Area
Sublease (s): None
Encumbrances: Leon County easement as described in Warranty Deed
Type Acquisition: Fish and Wildlife Habitat Program
Unique Features: Natural: Natural communities, karst formation (Wood Sink).
Archaeological/Historical: Airtank Sink and Wood Sink (pre-historic campsites), Captram Bridge, Thompson Tram, and Cap Tram Grade.
Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.
Acquisition Needs/Acreage: 9,232 acres in optimum boundary; 12,016 acres remaining in the Upper St Marks River Corridor Florida Forever Project.
Surplus Lands/Acreage: Three parcels 9.9 acres
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.2)

DO NOT WRITE BELOW THIS LINE (FOR DIVISION OF STATE LANDS USE ONLY)

ARC Approval Date _____ BTIITF Approval Date: _____
Comments: _____

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page**
18-2.021 Acquisition and Restoration Council.	
1. Executive Summary (Example #1) **This should be included in the packet and should be the first page.**	iii
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)	2-4
4. The legal description and acreage of the property.	1, 90
5. The degree of title interest held by the Board, including reservations and encumbrances such as leases.	5
6. The land acquisition program, if any, under which the property was acquired.	1
7. The designated single use or multiple use management for the property, including other managing agencies.	33
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.**	2, 7-8
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.	1
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;	10-12, 117
B. Archaeological and historical resources*;	32
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;	31
D. Fish and wildlife and their habitat;	20
E. State and federally listed endangered or threatened species and their habitat;	28-29
F. Beaches and dunes;	32
G. Swamps, marshes and other wetlands;	13
H. Mineral resources, such as oil, gas and phosphate;	32
I. Unique natural features, such as coral reefs, natural springs, caverns, large sinkholes, virgin timber stands, scenic vistas, and natural rivers and streams; and	9-32
J. Outstanding native landscapes containing relatively unaltered flora, fauna, and geological conditions.	28
11. A description of actions the agency plans , to locate and identify unknown resources such as surveys of unkhnown archeological and historical resources.	45, 55
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.*	13, 30
13. A description of past uses, including any unauthorized uses of the property. (Example #4)	32
14. A detailed description of existing and planned use(s) of the property. (Example #5)	34
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.	34
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.	35
17. A description of management needs and problems for the property.	68
18. Identification of adjacent land uses that conflict with the planned use of the property, if any.	6
19. A description of legislative or executive directives that constrain the use of such property.	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	5, 72
21. An assessment as to whether the property, or any portion, should be declared surplus.	35
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.**	46-48
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 Florida Department of State's Division of Historical Resources before taking actions that may adversely affect archaeological or historic resources.	49
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.	9
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. Management Plan Compliance Checklist - Conservation Lands.xlsx	218

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page**
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.	35-57
27. The management plan shall provide for the conservation of soil and water resources and for the control and prevention of soil erosion.	48
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, 72
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.	34
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.	72
31. A physical description of the land.	1, 9-32
32. A desired outcome	35
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.	9-32
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.	49-57
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.	57-67 70, 71
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).	70-71
37. 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;***	49
(B) Public access and recreational opportunities;	52
(C) Hydrological preservation and restoration;	53
(D) Sustainable forest management;	54
(E) Exotic and invasive species maintenance and control;	51
(F) Capital facilities and infrastructure;	55
(G) Cultural and historical resources;	55
(H) Imperiled species habitat maintenance, enhancement, restoration, or population restoration	50
253.036 Forest Management. —	
38. 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)	121
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.	
39. Individual management plans required by s. 259.032(10)(b), for parcels over 160 acres, shall be developed with input from an advisory group - **Management plan should list advisory group members and affiliations.**	9, 102
40. 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**.	9, 102
41. 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.**	9, 102
42. 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.	110
43. Summary of Advisory Group Meeting should be provided to DSL/OES.	102

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page**
44. 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	33
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.	35-49
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.	35-49
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.**	57-67
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.*	69-71
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.***	69-71
45. A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	34
259.036 Management Review Teams.—	
46. 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.***	35
Other Requirements	
47. This checklist table at front of plan (pursuant to request of ARC and consensus agreement of managing agencies.)	iv
48. Accomplishments (implementation) from last plan (format variable by agency)	n/a
49. FNAI-based natural community maps (may differ from FNAI in some cases)	17-18
50. Fire management plans (either by inclusion or reference)(259.032)	37
51. A statement regarding incompatible uses [ref. Ch. 253.034 (9)]	34
52. Cultural resources, including maps of all sites except Native American sites*	32
53. Arthropod control plan	219

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1 General Information

The following Management Plan is submitted for review to the Board of Trustees of the Internal Improvement Trust Fund (BOT) of the State of Florida through the Florida Department of Environmental Protection's Division of State Lands (DSL) in compliance with paragraph seven of Lease Agreement 4619, and pursuant to Chapters 253 and 259 Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with Acquisition and Restoration Council (ARC) requirements for management plans and the model plan outline provided by DSL staff. Terms used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1 Location

The L. Kirk Edwards Wildlife and Environmental Area (LKEWEA) consists of approximately 1,782 acres and is located in Leon County (Figures 1 - 3). The LKEWEA is located approximately seven miles east of downtown Tallahassee, with the northwestern boundary extending into city limits. The Geographic Information System (GIS) data for LKEWEA indicates its approximate eastern border to be a half mile south of the community of Capitola, and included in about four-tenths of a mile of the western portion of Section 36, Township 1 North, Range 2 East. The southern boundary borders wetlands, improved properties along Apalachee Parkway (U. S. Highway 27), and the Apalachee Solid Waste Management Facility. The western boundary lies approximately on the section lines between Sections 31 and 32, Township 1 North, Range 2 East, and between sections 5 and 6, Township 1 South, Range 2 East. This western boundary extends through waters and wetlands of Lake Lafayette, and borders property owned by Leon County and the Lafayette Heritage Trail Park (City of Tallahassee). The northern boundary of LKEWEA extends primarily through waters and wetlands of Lake Lafayette, approximately along the lines extending between sections 32 and 33, Township 1 North, Range 2 East and sections 4 and 5, Township 1 South, Range 2 East; along the CSX Railroad; and through waters and wetlands of Lake Lafayette lying within sections 3 and 4, Township 1 South Range 2 East. The GIS shapefile shows the LKEWEA lands along its northern boundary to extend approximately 200 ft. into Section 4, Township 1 North, Range 2 East; and the central area near Chaires Cross Road to border several improved properties. Across the CSX Railroad on the northern boundary of LKEWEA are the state-owned J. R. Alford Greenway (managed by Leon County), Alford Arm of Lower Lake Lafayette, and the Chaires-Capitola Community Park, owned and managed by Leon County. The LKEWEA is not located within any Aquatic Preserve or a designated Area of Critical State Concern (Chapter 380.05 F. S).

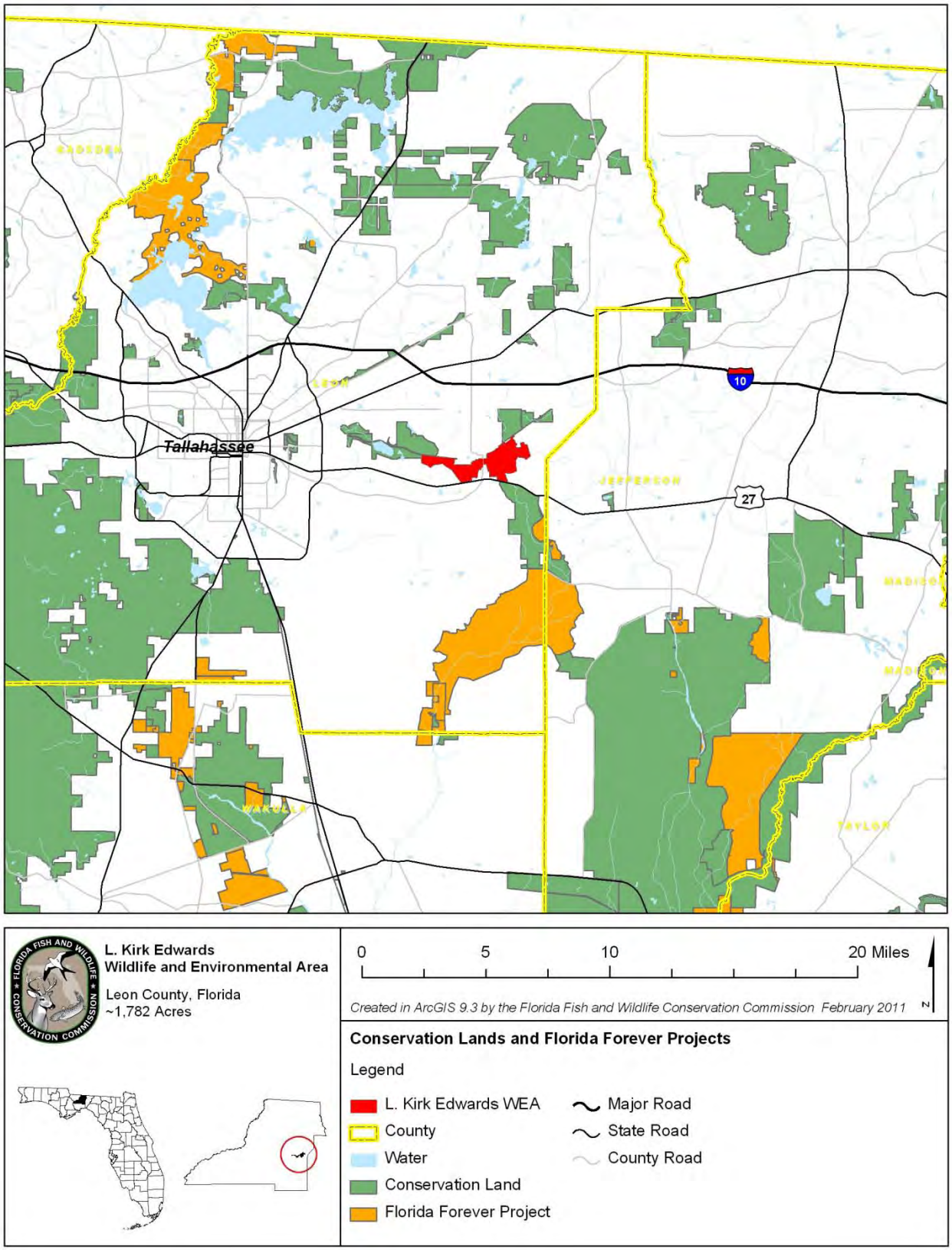


Figure 1: Location - Conservation Lands and Florida Forever Projects

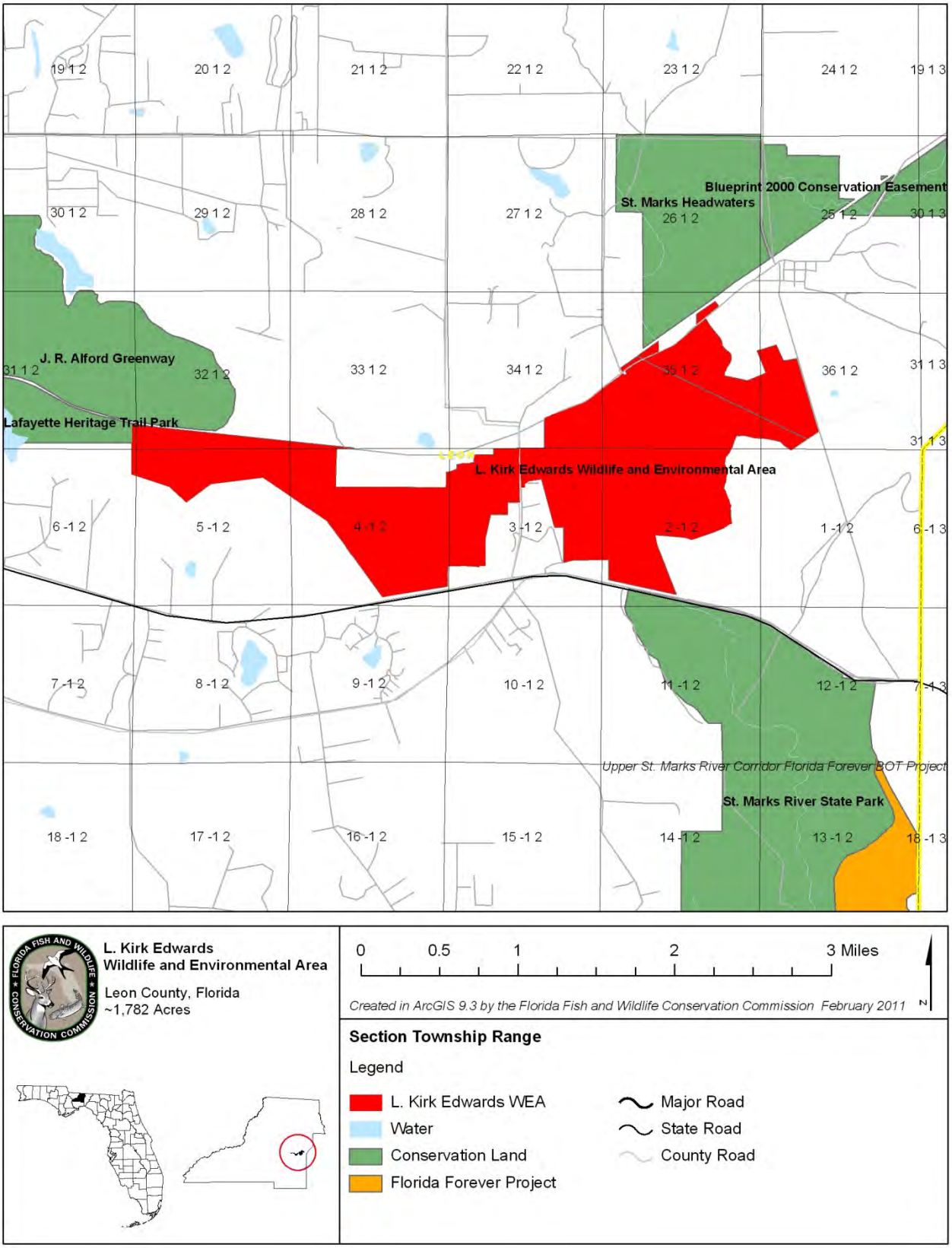


Figure 2: Location - Section, Township and Range

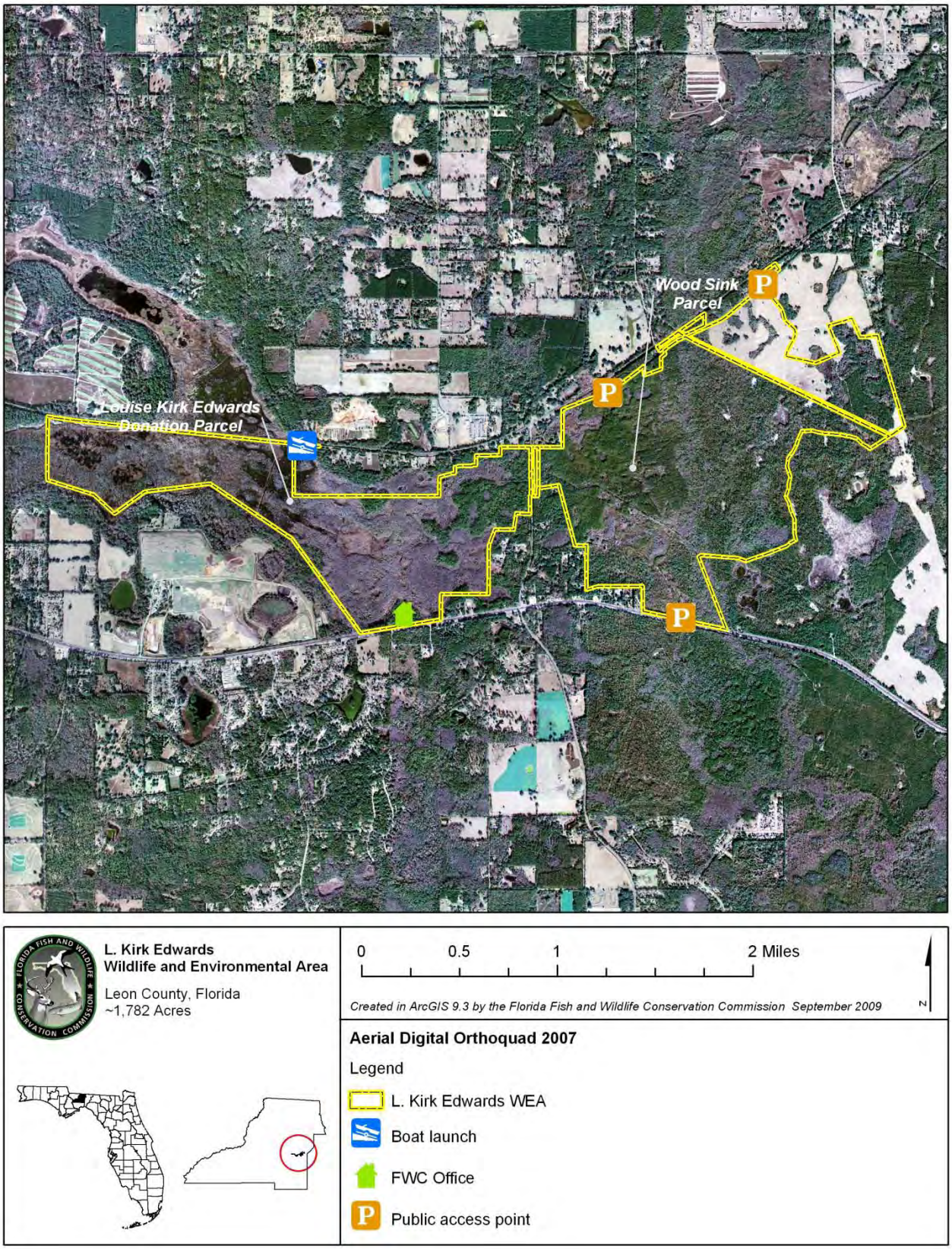


Figure 3: Aerial Imagery

1.2 Acquisition

On December 27, 1977 Louise Kirk Edwards donated to the Florida Game and Fresh Water Fish Commission (GFC), now the Florida Fish and Wildlife Conservation Commission (FWC), the LKEWEA. The total acreage acquired by this donation was 687.57 acres. On May 31, 1984, the FWC acquired a 4.82 acre addition to LKEWEA, and a 33.83 acre addition was acquired on June 4, 1987. The 1,063.66 acre Wood Sink addition, part of the Upper St. Marks River Corridor Florida Forever project, was purchased from The Nature Conservancy in December 2008. Prior to acquisition by The Nature Conservancy, this tract was owned by St. Joe (formerly known as the St. Joe Timber Company).

1.3 Management Authority

The FWC is the designated lead managing agency for LKEWEA under the authority granted by Lease Agreement 4619 (Appendix 12.1) between DSL and FWC to manage the Wood Sink tract as part of LKEWEA in May 2009. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 372, 373, 375, 378, 403, 487, 870, and 597 and of the Florida Statutes. These laws provide the authority of FWC with regard to protection and management of the State's fish and wildlife resources.

1.4 Management Directives

The 50-year BOT lease agreement with FWC directs FWC to "manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), FS..." The lease agreement further directs FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

1.5 Title Interest and Encumbrances

Title to Wood Sink portion of LKEWEA is held by the Governor and Cabinet, sitting as the BOT. In May 2009, DSL, as staff to the BOT, entered into a lease agreement with FWC as lessee and lead manager of LKEWEA. The term of this lease is 50 years.

The Special Warranty Deed of Gift from Louise Kirk Edwards to the Florida Game and Freshwater Fish Commission (now the Florida Fish and Wildlife Conservation Commission) is free of all encumbrances, except a described easement granted to Leon County in the Northwest quarter of Section 5, Township 1 South, Range 2 East and extending to the railroad right-of-way, and a specified 35-year grant to Leon County to sample the water of Lake Lafayette. A warranty deed and accompanying survey for the additional 4.82 acres, granted to the FWC and now included within the LKEWEA, indicate no encumbrances. Sovereign submerged lands, those lying below the ordinary high water line, of Lake Lafayette within the boundary of LKEWEA are state-owned. However, an ordinary high

water survey has not been conducted within the boundary of LKEWEA. In addressing this circumstance, DSL's Bureau of Survey and Mapping, recommended that proprietary requirements that normally apply to state-owned lands not be applied to the LKEWEA[1].

The Wood Sink parcel was purchased through the Florida Forever program. Title for this portion of LKEWEA is held by the BOT.

1.6 Proximity to Other Public Properties

The LKEWEA is adjacent to the Chaires-Capitola Community Park, J. R. Alford Greenway (managed by Leon County) and Lafayette Heritage Trail Park (managed by the City of Tallahassee). In addition, there are numerous conservation areas within a 25-mile radius of LKEWEA (Table 1). Some of these conservation lands include less-than-fee conservation easements on private property, in addition to private and public lands owned in full fee. The conservation easements are held by either private or public land managers, including public agencies, or other entities whose purpose is natural resource conservation.

1.7 Adjacent Land Uses

The existing landscape surrounding and within the LKEWEA includes land uses ranging from natural resource conservation lands to intensive urban development. Today, the Lake Lafayette Basin is the most intensively developed of the large lake basins in Leon County. Land uses in the watershed have reportedly affected water levels in Lake Lafayette, causing occasional problems due to flooding. While much of the Wood Sink parcel remains in a relatively natural condition, portions were previously used for pine tree production and intensive agriculture.

More recently, acquisition of conservation lands and establishment of city and county park lands have provided increased landscape connectivity extending towards Tom Brown Park and the adjacent Lafayette Heritage Trail Park to the west, the J. R. Alford Greenway to the north, and hydrological connection to the St. Marks River to the east. Lake Piney Z is managed by the FWC as a fish management area in cooperation with the City of Tallahassee and Leon County. The 876-acre J. R. Alford Greenway, acquired by the Florida Forever Program in 2001, is managed by Leon County and is contiguous with the northern boundary of LKEWEA. The Lafayette Heritage Trail, managed by the City of Tallahassee has been purchased through the Department of Community Affairs, Florida Communities Trust under the Preservation 2000 Program and the Florida Forever Program. Acquisition of these park lands have been a cooperative project among the City of Tallahassee, Leon County and the State of Florida.

Public lands adjacent to the southern boundary of LKEWEA include the Apalachee Solid Waste Management Facility, which is also intended to become a regional park. This facility was purchased by Leon County in 1977. Historically, it has operated as a Class I (municipal garbage) landfill, Class III (furniture, carpet, packaging, C&D debris, etc.)

Table 1. Conservation lands within a 25-mile radius of LKEWEA

Federal	**Manager**
Apalachicola National Forest	USDA-USFS
St. Marks National Wildlife Refuge	USDI-FWS
State of Florida	**Manager**
Alfred B. Maclay Gardens State Park	DEP-DRP
Aucilla Wildlife Management Area	FWC
DeSoto Site Historic State Park	DEP-DRP
Edward Ball Wakulla Springs State Park	DEP-DRP
Joe Budd Wildlife Management Area	FWC
Lake Jackson Mounds Archaeological State Park	DEP-DRP
Lake Talquin State Forest	DACS-DOF
Lake Talquin State Park	DEP-DRP
Letchworth Mounds Archaeological State Park	DEP-DRP
Letchworth Mounds Conservation Easement	DEP-DRP
Natural Bridge Battlefield Historic State Park	DEP-DRP
San Marcos de Apalachee Historic State Park	DEP-DRP
Snipe Island Wildlife Management Area	FWC
St. Marks River State Park	DEP-DRP
Wakulla State Forest	DACS-DOF
Water Management District	**Manager**
Bailey/Cubabay Conservation Easement	SRWMD
Blueprint 2000 Conservation Easement	NWFWMD
Carlton Farms Conservation Easement	NWFWMD
Carroll Conservation Easement	NWFWMD
Davidson Conservation Easement	SRWMD
Econfina Conservation Area	SRWMD
Middle Aucilla Conservation Area	SRWMD
Middle Aucilla Conservation Easement	SRWMD
Moore Conservation Easement	SRWMD
Pace Conservation Easement	NWFWMD
Robert Feagin Conservation Easement	SRWMD
Upper Aucilla Conservation Area	SRWMD
Wacissa Conservation Area	SRWMD
Whit Foster Conservation Easement	SRWMD

Table 1. Conservation lands within a 25-mile radius of LKEWEA (continued).

Local Government	**Manager**
Golden Aster Preserve	CT-PRD
Lafayette Heritage Trail Park	CT-PRD
Indian Head Acres Park	CT-PRD
Miccosukee Canopy Road Greenway	LC
Northwest Park	CT-PRD
J. R. Alford Greenway	LC
St. Marks Headwaters	LC
Timberlane Ravine	CT-PRD
Private Landowners	**Manager**
Avalon Plantation Conservation Easement	TNC
Chemonie Plantation Conservation Easement	TTRS
Davidson-Riverview Conservation Easement	TTRS
Foshalee Plantation Conservation Easement	TTRS
Horseshoe Plantation Conservation Easement	TTRS
Lick Skillet Conservation Easement	TTRS
Mays Pond Plantation Conservation Easement	TTRS
Mistletoe Conservation Easement	TTRS
Oak Hill Conservation Easement	TTRS
Pinckney Hill Plantation Conservation Easement	TTRS
Straw Pond Conservation Easement	TTRS
Sunny Hill Plantation Conservation Easement	TTRS
Swamp Creek Preserve Conservation Easement	TTRS
Tall Timbers Research Station	TTRS
Turkey Scratch Plantation Conservation Easement	TNC
Woodfield Springs Plantation Conservation Easement	TTRS

Acronym Key	Agency Name
CT-PRD	City of Tallahassee-Parks and Recreation Department
DACS-DOF	Florida Department of Agriculture and Consumer Services, Division of Forestry
DEP-DRP	Florida Department of Environmental Protection, Division of Recreation and Parks
FWC	Florida Fish and Wildlife Conservation Commission
LC	Leon County
NWFWMD	Northwest Florida Water Management District
SRWMD	Suwannee River Water Management District
TTRS	Tall Timbers Research Station
TNC	The Nature Conservancy
USDA-USFS	United States Department of Agriculture-U. S. Forest Service
USDI-FWS	United States Department of Interior-U. S. Fish and Wildlife Service

landfill, and a center for processing recyclable materials such as waste tires, used appliances and vegetative yard waste. The original Class I landfill cell is unlined and closed. Subsequent Class I cells are lined, not closed, but inactive. No Class I waste has been accepted at the facility since April, 2003. This facility is presently operating as a Class III landfill and continues to process special waste for recycling, which now includes used electronics. The facility hosts a household hazardous waste (HHW) collection center and a drop-off area for household garbage. The site has an estimated Class III disposal capacity through 2015. The solid waste management component will remain active for the foreseeable future. It will transition from a disposal facility into a processing facility, with non-recyclables being transported to a regional disposal facility. The site will be comprised of administrative offices for solid waste staff, a Class III processing/recycling building, a building for processing recyclables, HHW center, electronics recycling center, and an area to manage waste tires, yard trash, and used appliances.

1.8 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Tallahassee, Florida on October 14, 2009 to obtain input from both public and private stakeholders regarding management of LKEWEA. Results of this meeting were used by FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. The FWC recorded and summarized the issues and opportunities raised by the MAG, and considered their recommendations in the development of this management plan (Appendix 12.2.1). Furthermore, as required by Chapter 259.032(10) FS, the draft management plan was presented to the general public at a public hearing held in Tallahassee on September 8, 2010 (Appendix 12.2.4). A website was also maintained for receipt of public input at myFWC.com/WILDLIFEHABITATS/WMA_Planning_index.htm. Further testimony and input is received at a public hearing held by ARC. Input received from all public involvement efforts has been considered in the development of this management plan.

2 Natural and Cultural Resources

2.1 Physiography

2.1.1 Climate

The climate in the LKEWEA area, located near the City of Tallahassee, is characterized by a hot and humid subtropical climate, with long summers and mild, short winters. Summers in Tallahassee are hotter than in the Florida peninsula, and it is one of the few cities in the state to occasionally record temperatures above 100 degrees Fahrenheit (38 °C). The summer weather is characterized by brief intense showers and thunderstorms that form along the afternoon sea breeze from the Gulf of Mexico. The average high temperature in July (the hottest month of the year) is 92° F (32 °C). Conversely, the city is much cooler in the winter. In December and January, the average high temperature is 64 °F (18°C) and

the average low is 42°F (6°C). On occasion, temperatures fall into the 15° to 25 °F (-4° to -9 °C) range at night, and though very rare, temperatures in the single digits (below -12°C) have been recorded. Over the last 100 years, the city has also recorded several snowfalls; the heaviest was 2.8 inches (7.1 cm) on February 13, 1958. Historically, the city usually records at least observed flurries every three to four years, but on average, measurable amounts of snow 1.0 inch (2.5 cm) occur only every 17 years. The last measurable snowfall took place in December 1989. The natural snow line (regular yearly snowfalls) ends 200 miles (320 km) to the north at Macon, Georgia. In addition, the city averages 34 nights where the temperature falls below freezing. The coldest temperature in Florida history was recorded in the city before the Great Blizzard of 1899, when it dropped to −2°F (−19 °C) on February 13. Annual mean total precipitation is 61.88 inches (157.18 cm).

2.1.2 Topography

The eastern portion of Leon County around Lower Lake Lafayette and LKEWEA is located approximately 1.3 - 3.4 miles north of the Cody Scarp, which is a prominent topographic break created by wave erosion dividing the topographic uplands known as the Tallahassee Hills north of the scarp, and the Woodville Karst Plain to the South. The Tallahassee Hills are characterized by rolling hills created as the result of stream and river erosion or by dissolution of the underlying limestone and subsidence. The Lake Lafayette Sink, in the upper end (west) of Lake Lafayette formed in this manner and provides direct access to the Floridan aquifer system. Lower Lake Lafayette and LKEWEA is surrounded by elevations typically between 75 and 200 feet above mean sea level. The named lithstratigrahic units around LKEWEA are the Hawthorn Group, Torreya Formation and Miccosukee Formation.

2.1.3 Soils

Soils data from the U.S. Natural Resource Conservation Service (NRCS) indicate 11 soil series located within the boundary of LKEWEA (Figure 4). These include Albany, Lucy, Ocilla, Orangeburg, Ortega, Pelham, Plummer, Pickney, Blayton, Yonges, and Chipley (Appendix 12.3). Soil depth to water table ranges from 0 cm to 168 cm (Figure 5).

2.1.4 Regional Geologic Conditions

At or near land surface, north of the Cody Scarp, at elevations typically between 75 and 200 feet above mean sea level is the Hawthorn Group Torreya Formation and Miccosukee Formation. These sediments are up to 150 feet thick or more and are composed of predominately sands and clay with some carbonate beds in the lower Torreya. These less permeable materials retard ground-water recharge and direct runoff to stream, rivers and sinkholes. At water monitoring well W-3092, forty feet of sands, with varying amounts of clay, overlay the carbonates of the St. Marks Limestone. At some depth beneath the St. Marks Limestone, the Suwannee Limestone occurs. South of and bordering the Cody Scarp, marine processes have deposited beach ridges, dunes and nearshore deposits composed of undifferentiated sediments. Between the coast and the Cody Scarp, the St. Marks and Suwannee Limestones are covered with generally less than 10 feet of permeable

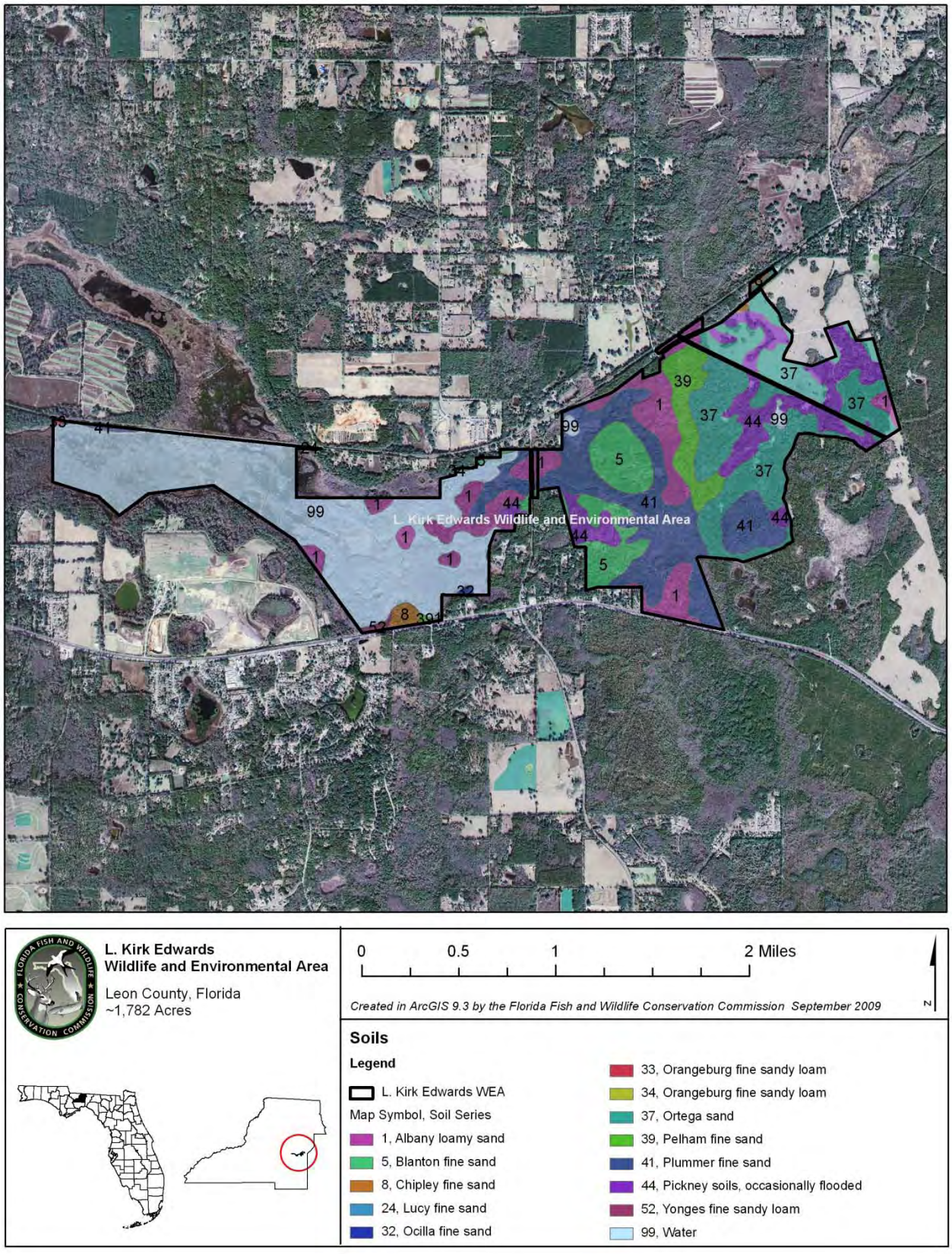


Figure 4: Soils

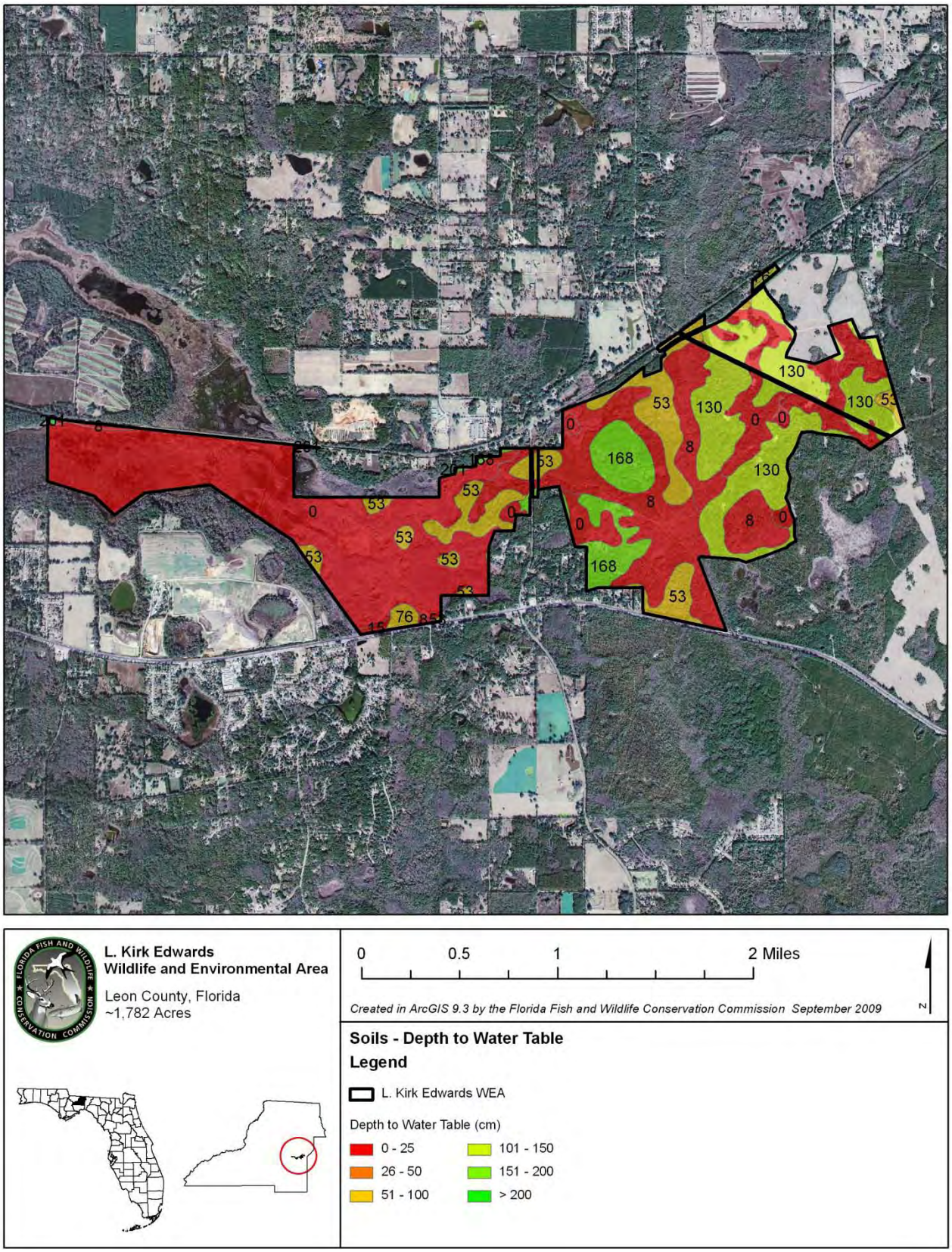


Figure 5: Soils – Depth to Water Table

clean sands. Residual clays may occur on the top of the limestone in places. At water monitoring well W-18052, the St. Marks Limestone was encountered at 10 feet below land surface and the Suwannee Limestone at 70 feet. The Floridan Aquifer System is unconfined south of the Cody Scarp.

2.2 Vegetation

The Florida Natural Areas Inventory (FNAI) has completed the mapping of the historic and current natural communities of LKEWEA, and has compiled a list of observed plant species (Tables 2 - 3, Figures 6 - 7).

Table 2. FNAI Natural Communities*

FNAI Natural Community	Acres
Basin marsh	163.3
Basin swamp	512.0
Bottomland forest	231.0
Cultural hardwood forest	13.6
Depression marsh	0.7
Dome swamp	18.4
Floodplain swamp	35.8
Mesic hammock	48.3
Pasture - improved	98.5
Pine plantation	95.4
Ruderal	13.8
Upland mixed forest	35.8
Upland pine forest	448.1
Wet flatwoods	34.5

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.

Table 3. Plant species observed at LKEWEA.

Common name	Scientific name
Adam's needle	*Yucca filamentosa*
American beautyberry	*Callicarpa americana*
American burreed	*Sparganium americanum*
American cupscale	*Sacciolepis striata*
American holly	*Ilex opaca*
American snowbell	*Styrax americanus*
American white waterlily	*Nymphaea odorata*
anglestem primrosewillow	*Ludwigia leptocarpa*
Atlantic pigeon-wing	*Clitoria mariana*
Bahiagrass	*Paspalum notatum*
Bald cypress	*Taxodium distichum*
Beaked panicum	*Panicum anceps*
Beaksedge	*Rhynchospora* sp.
Bedstraw St. John's wort	*Hypericum galioides*
Big floatingheart	*Nymphoides aquatica*
Bigleaf snowbell	*Styrax grandifolius*
Black cherry	*Prunus serotina*
Blackgum	*Nyssa sylvatica*
Blackroot	*Pterocaulon pycnostachyum*
Blazing star	*Liatris* sp.
Blue huckleberry	*Gaylussacia frondosa* var. *tomentosa*
Blue maidencane	*Amphicarpum muhlenbergianum*
Bluestem	*Andropogon* sp.
Bracken fern	*Pteridium aquilinum*
Bristly greenbrier	*Smilax tamnoides*
Broadleaf cattail	*Typha latifolia*
Broomsedge bluestem	*Andropogon virginicus*
Carolina laurelcherry	*Prunus caroliniana*
Carolina mosquito fern	*Azolla caroliniana*
Carolina redroot	*Lachnanthes caroliana*
Cat greenbrier	*Smilax glauca*
Chalky bluestem	*Andropogon virginicus* var. *glaucus*
Chinquapin	*Castanea pumila*
Cinnamon fern	*Osmunda cinnamomea*
Clustered sedge	*Carex glaucescens*
Coastal sweetpepperbush	*Clethra alnifolia*
Coastalplain chaffhead	*Carphephorus corymbosus*
Coastalplain staggerbush	*Lyonia fruticosa*

Table 3. Plant species observed at LKEWEA (continued).

Common name	Scientific name
Combleaf mermaidweed	*Proserpinaca pectinata*
Comfortroot	*Hibiscus aculeatus*
Common buttonbush	*Cephalanthus occidentalis*
Common persimmon	*Diospyros virginiana*
Creeping primrosewillow	*Ludwigia repens*
Crossvine	*Bignonia capreolata*
Crowngrass	*Paspalum* sp.
Cutgrass	*Leersia* sp.
Cypress swamp sedge	*Carex joorii*
Deerberry	*Vaccinium stamineum*
Devil's walkingstick	*Aralia spinosa*
Dogfennel	*Eupatorium capillifolium*
Duckweed	*Lemna* sp.
Dwarf huckleberry	*Gaylussacia dumosa*
Earleaf greenbrier	*Smilax auriculata*
Eastern gamagrass	*Tripsacum dactyloides*
Eastern poison ivy	*Toxicodendron radicans*
Eastern poison oak	*Toxicodendron pubescens*
False nettle	*Boehmeria cylindrica*
Fascicled beaksedge	*Rhynchospora fascicularis*
Fetterbush	*Lyonia lucida*
Fimbry	*Fimbristylis* sp.
Flatwoods St. John's wort	*Hypericum microsepalum*
Florida dropseed	*Sporobolus floridanus*
Frog's bit	*Limnobium spongia*
Gallberry	*Ilex glabra*
Goldenrod	*Solidago* sp.
Grassleaf rush	*Juncus marginatus*
Greenbriar	*Smilax smallii*
Gulf Sebastian bush	*Sebastiania fruticosa*
Hairy lespedeza	*Lespedeza hirta*
Hawthorn	*Crataegus* sp.
Highbush blueberry	*Vaccinium corymbosum*
Hoarypea	*Tephrosia* sp.
Horned bladderwort	*Utricularia cornuta*
Jointed spikerush	*Eleocharis equisetoides*
Lanceleaf greenbrier	*Smilax smallii*
Largeleaf marshpennywort	*Hydrocotyle bonariensis*

Table 3. Plant species observed at LKEWEA (continued).

Common name	Scientific name
Laurel greenbrier	*Smilax laurifolia*
Laurel oak	*Quercus laurifolia*
Leafy bladderwort	*Utricularia foliosa*
Lemon bacopa	*Bacopa caroliniana*
Lesser creeping rush	*Juncus repens*
Live oak	*Quercus virginiana*
Lizard's tail	*Saururus cernuus*
Loblolly pine	*Pinus taeda*
Maidencane	*Panicum hemitomon*
Maleberry	*Lyonia ligustrina var. foliosiflora*
Manyflower beardtongue	*Penstemon multiflorus*
Michaux's croton	*Croton michauxii*
Mockernut hickory	*Carya alba*
Mohr's thoroughwort	*Eupatorium mohrii*
Muscadine	*Vitis rotundifolia*
Myrtle dahoon	*Ilex cassine var. myrtifolia*
Myrtleleaf St. John's wort	*Hypericum myrtifolium*
Myrtle-leaved holly	*Ilex cassine* var. *myrtifolia*
Narrowfruit horned beaksedge	*Rhynchospora inundata*
Narrowleaf silkgrass	*Pityopsis graminifolia*
Netted chain fern	*Woodwardia areolata*
Orange milkwort	*Polygala lutea*
Pale meadowbeauty	*Rhexia mariana*
Panic grass	*Panicum* sp.
Partridge pea	*Chamaecrista fasciculata*
Partridgeberry	*Mitchella repens*
Peelbark St. John's wort	*Hypericum fasciculatum*
Pickerelweed	*Pontederia cordata*
Piedmont blacksenna	*Seymeria pectinata*
Piedmont staggerbush	*Lyonia mariana*
Pignut hickory	*Carya glabra*
Poison ivy	*Toxicodendron radicans*
Pond cypress	*Taxodium ascendens*
Prairie iris	*Iris hexagona*
Purple bluestem	*Andropogon glomeratus* var. *glaucopsis*
Purple passion-flower	*Passiflora incarnata*
Queen's delight	*Stillingia sylvatica*
Red maple	*Acer rubrum*

Table 3. Plant species observed at LKEWEA (continued).

Common name	Scientific name
Resurrection fern	*Pleopeltis polypodioides*
Roundleaf thoroughwort	*Eupatorium rotundifolium*
Royal fern	*Osmunda regalis* var. *spectabilis*
Runner oak	*Quercus elliottii*
Sand blackberry	*Rubus cuneifolius*
Sand post oak	*Quercus margaretta*
Sassafras	*Sassafras albidum*
Saw greenbrier	*Smilax bona-nox*
Saw palmetto	*Serenoa repens*
Sawgrass	*Cladium jamaicense*
Sawtooth blackberry	*Rubus argutus*
Sedge	*Carex* sp.
Seedbox	*Ludwigia alternifolia*
Shaggy hedgehyssop	*Gratiola pilosa*
Shiny blueberry	*Vaccinium myrsinites*
Shrubby primrosewillow	*Ludwigia suffruticosa*
Slash pine	*Pinus elliottii*
Slender beaksedge	*Rhynchospora gracilenta*
Slender flattop goldenrod	*Euthamia caroliniana*
Slender woodoats	*Chasmanthium laxum*
Slimleaf pawpaw	*Asimina angustifolia*
Smallfruit beggarticks	*Bidens mitis*
Smooth beggarticks	*Bidens laevis*
Southeastern sneezeweed	*Helenium pinnatifidum*
Southern dewberry	*Rubus trivialis*
Southern magnolia	*Magnolia grandiflora*
Southern red oak	*Quercus falcata*
Southern umbrellasedge	*Fuirena scirpoidea*
Spadeleaf	*Centella asiatica*
Spanish moss	*Tillandsia usneoides*
Sparkleberry	*Vaccinium arboreum*
Sphagnum moss	*Sphagnum* sp.
Spikerush	*Eleocharis* sp.
St. Andrew's cross	*Hypericum hypericoides*
String lily	*Crinum americanum*
Sugarcane plumegrass	*Saccharum giganteum*
Swamp azalea	*Rhododendron viscosum*
Swamp bay	*Persea palustris*

Table 3. Plant species observed at LKEWEA (continued).

Common name	Scientific name
Swamp doghobble	*Leucothoe racemosa*
Swamp laurel oak	*Quercus laurifolia*
Swamp smartweed	*Polygonum hydropiperoides*
Swamp tupelo	*Nyssa sylvatica* var. *biflora*
Sweet goldenrod	*Solidago odora*
Sweet pepperbush	*Clethra alnifolia*
Sweetbay magnolia	*Magnolia virginiana*
Sweetgum	*Liquidambar styraciflua*
Switchgrass	*Panicum virgatum*
Tall elephantsfoot	*Elephantopus elatus*
Tall ironweed	*Vernonia angustifolia*
Taperleaf waterhorehound	*Lycopus rubellus*
Tenangle pipewort	*Eriocaulon decangulare*
Threadleaf arrowhead	*Sagittaria filiformis*
Titi	*Cyrilla racemiflora*
Trumpet creeper	*Campsis radicans*
Trumpet vine	*Campsis radicans*
Turkey oak	*Quercus laevis*
Vanillaleaf	*Carphephorus odoratissimus*
Virginia buttonweed	*Diodia virginiana*
Virginia chain fern	*Woodwardia virginica*
Virginia marsh St John's wort	*Triadenum virginicum*
Virginia snakeroot	*Aristolochia serpentaria*
Virginia willow	*Itea virginica*
Water oak	*Quercus nigra*
Water spangles	*Salvinia minima*
Watershield	*Brasenia schreberi*
Wavyleaf noseburn	*Tragia urens*
Wax myrtle	*Myrica cerifera*
White waterlily	*Nymphaea odorata*
White wild indigo	*Baptisia alba*
Whitehead bogbutton	*Lachnocaulon anceps*
Whitetop aster	*Sericocarpus tortifolius*
Willow herb	*Decodon verticillatus*
Winged sumac	*Rhus copallinum*
Winter grape-fern	*Botrychium lunarioides*
Wiregrass	*Aristida stricta* var. *beyrichiana*
Witchgrass	*Dichanthelium* sp.

Table 3. Plant species observed at LKEWEA (continued).

Common name	Scientific name
Woolgrass	*Scirpus cyperinus*
Woolly huckleberry	*Gaylussacia mosieri*
Yankeeweed	*Eupatorium compositifolium*
Yellow jessamine	*Gelsemium sempervirens*
Yellow-eyed grass	*Xyris* sp.

2.2.1 FNAI Natural Community Descriptions

The following are descriptions of the predominant natural communities of LKEWEA. These descriptions have been adapted specifically for LKEWEA by FNAI from their Guide to the Natural Communities of Florida 2010 Edition. Data used to produce a map delineating the major natural community types found on LKEWEA were developed by the FNAI using multiple data sources that included aerial photography from 1937. This photography was geo-rectified to aid in historic community determinations. Historic aerial photography gives insight into natural condition, past management, and land use but is insufficient to exactly determine historic community structure of many areas. Soil maps (USDA Soil survey: Leon County, FL), 2007 true color imagery, 2004 true color Digital Orthographic Quarter Quads (DOQQ), 1999 Infrared DOQQs, 1995 Infrared DOQQs, and contour lines were also examined to help determine the natural community boundaries. Additionally, FNAI completed a comprehensive site-specific field survey

Basin Marsh (163.3 acres)

Basin marshes are large, irregularly shaped, herb-dominated wetlands, maintained by fires, which usually occur every 1-10 years. The deepest areas within basin marshes may remain saturated year-round and burn less frequently. They are distinguished from depression marsh by their irregular shape, large size, and the presence of deep peat areas. Basin marsh on LKEWEA occurs in association with basin swamp. It may have scattered pond cypress and swamp tupelo of various ages, but areas with a canopy cover greater than an estimated 20 percent were classified as basin swamp. The tall shrub layer of basin marsh included common buttonbush, coastal sweetpepperbush, titi, myrtle dahoon, Virginia willow, Piedmont staggerbush, wax myrtle. Herbaceous dominants varied with location; species included lemon bacopa, smooth beggarticks, smallfruit beggarticks, cypress swamp sedge, jointed spikerush, southern umbrellasedge, largeleaf marshpennywort, lesser creeping rush, frog's bit, anglestem, primrosewillow, creeping primrosewillow, American white waterlily, maidencane, swamp smartweed, pickerelweed, combleaf mermaidweed, sugarcane plumegrass, American cupscale, lizard's tail, Virginia marsh St John's wort,

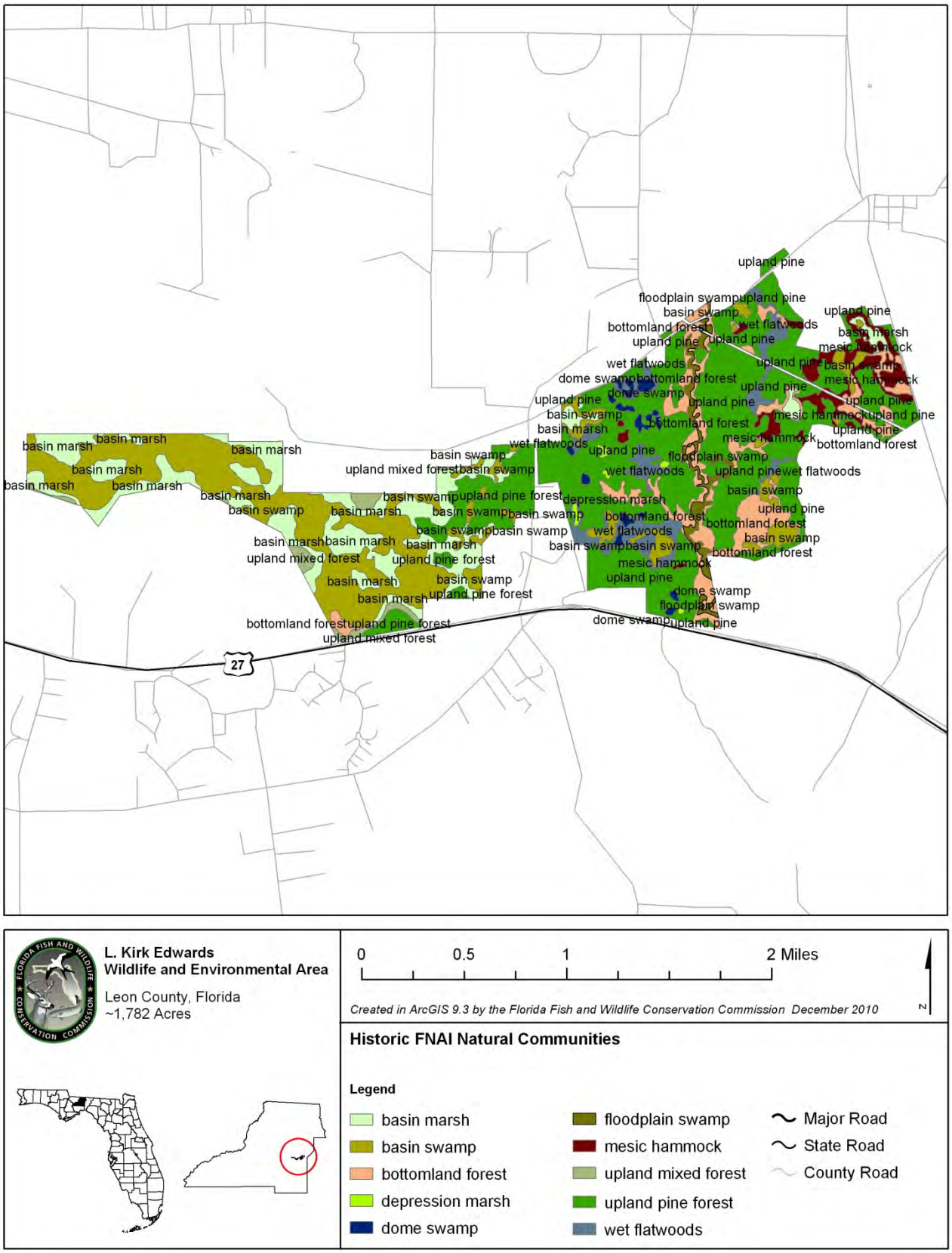


Figure 6: Historic FNAI Natural Communities

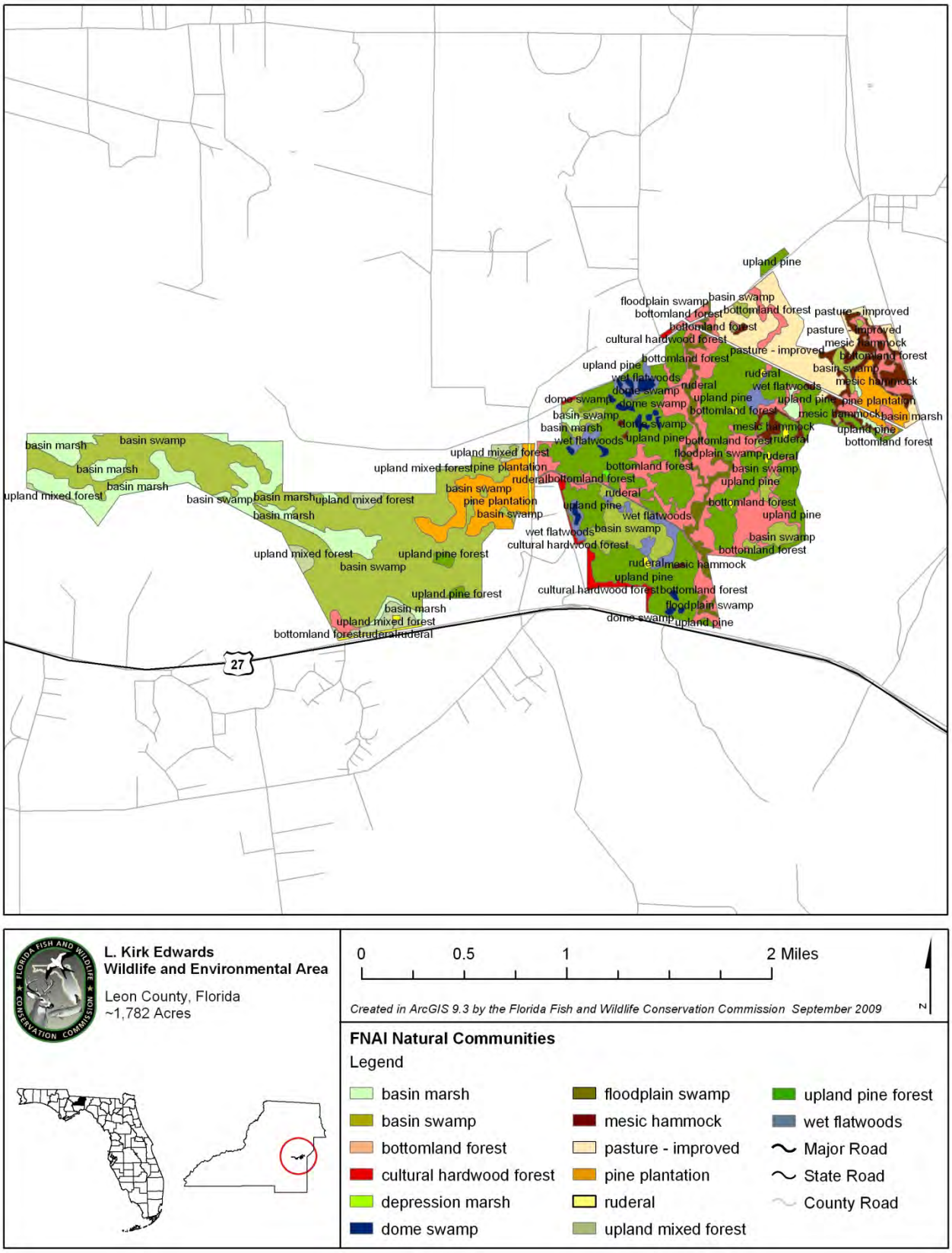


Figure 7: Current FNAI Natural Communities

horned bladderwort, and leafy bladderwort. No disturbance is evident in the basin marsh, however, the water level has apparently been increased considerably by damming to the west. The result is a very deep marsh that will not likely burn and may succeed to basin swamp or swamp lake.

Basin Swamp (512.0 acres)
Basin swamps are forested wetlands of primarily deciduous trees occurring in large (generally >10acres), irregularly shaped depressions. The canopy and sub-canopy is dominated by pond cypress, but may have a few swamp tupelo. The tall shrub layer is patchy and includes common buttonbush, titi, willow herb, maleberry, Piedmont staggerbush, wax myrtle, and pond cypress. The short shrub layer also is patchy and includes those species listed in the tall shrub layer as well as coastal sweetpepperbush, Virginia willow, and Piedmont staggerbush. The herbaceous layer of the basin swamp is moderately dense in open areas. Species observed include Carolina mosquito fern, dogfennel, frog's bit, anglestem primrosewillow, creeping primrosewillow, taperleaf waterhorehound, big floatingheart, maidencane, pickerelweed, water spangles, American burreed, and broadleaf cattail. Epiphytes are represented by Spanish moss. The basin swamp also is affected by the increased water level. Cypress recruitment will be limited to extremely dry periods. Few other trees can tolerate the near permanent water conditions.

Bottomland Forest (231.0 acres)
Bottomland forest is characterized as a low-lying, closed-canopy forest of tall, straight trees with either a dense shrubby understory and little ground cover, or an open understory and groundcover of ferns, herbs, and grasses. This is found in situations intermediate between swamp and upland communities. This community has replaced wet flatwoods, basin marsh, and the wetter, lower slopes of the upland pine community. In a few locations, fire has converted bottomland forest into basin marsh by removing much of the woody component. This conversion may become more common as historic fire frequencies are returned to the surrounding upland communities.

The canopy layer of the bottomland forest community is often closed and consists of a young to mature age class of red maple, sweetgum, swamp tupelo, slash pine, loblolly pine, swamp laurel oak, water oak, and live oak. The variable subcanopy, when present, includes red maple, sweetgum, blackgum, swamp tupelo, swamp laurel oak, water oak, and pond cypress. The shrub layer is often dense and is composed of titi, common buttonbush, sweet pepperbush, common persimmon, gallberry, Virginia willow, fetterbush, sweetgum, wax myrtle, plus seedlings and young saplings of canopy species. The herb layer is typically composed of shade-tolerant ferns such as cinnamon fern, royal fern, and Virginia chain fern. Additional groundcover associates include clustered sedge, slender woodoats, prairie iris, Carolina redroot, fascicled beaksedge, and lizard's tail. Vines are observed occasionally, but can be quite dense along the upland ecotone and include trumpet creeper, saw greenbrier , cat greenbrier, laurel greenbrier, eastern poison ivy, and muscadine.

Cultural Hardwood Forest (13.6 acres)

Cultural hardwood forest is dominated by fast growing hardwoods such as laurel oak, water oak, and sweetgum, often with remnant pines. The sub-canopy and shrub layers of these forests are often dense and dominated by smaller individuals of the canopy species. Cultural hardwood forests can contain remnant species of the former natural community. At Wood Sink tract of LKEWEA, cultural hardwood forest has been identified along the urban interfaces associated with the perimeter of the site.

The nearly closed canopy layer of the cultural hardwood forest includes swamp laurel oak, live oak and to a lesser extent, slash pine and loblolly pine. The subcanopy is usually poorly formed and contains swamp laurel oak and water oak. Shrubs are often sparse due to the dense canopy layer sweetgum, Carolina laurelcherry, swamp laurel oak, water oak, live oak, sparkleberry, highbush blueberry, deerberry, American beautyberry, common persimmon, and winged sumac. The herbaceous layer of the cultural hardwood forest community infrequently includes slender woodoats, partridgeberry, and bracken fern. Vines are represented by trumpet creeper, yellow jessamine, southern dewberry, earleaf greenbrier, saw greenbrier, and muscadine.

Dome Swamp (18.4 acres)

Dome swamp is an isolated, forested, depressional wetland occurring within a fire-maintained community. Fire occurs occasionally along the periphery, spreading from the surrounding uplands, but is infrequent in the deeper portions of the swamp due to decreased fuels and wetter conditions. Dome swamp was only identified in the western half of the Wood Sink Tract.

The canopy layer of the dome swamp community is often very sparse and includes red maple, titi, myrtle-leaved holly, swamp tupelo, slash pine, loblolly pine, and pond cypress. The shrub layer is often very dense and shades out the groundcover. Titi is the dominant shrub. Other shrub associates include red maple, common buttonbush, myrtle-leaved holly, fetterbush, swamp tupelo, pond cypress, sweet pepperbush, and highbush blueberry. The herbaceous layer of the dome swamp community includes purple bluestem, sawgrass, tenangle pipewort, Carolina redroot, whitehead bogbutton, white waterlily, maidencane, fascicled beaksedge, slender beaksedge, threadleaf arrowhead, sphagnum moss, and Virginia chain fern. Herbaceous coverage is generally low, with higher density only in areas that are open due to depth of water. Vines are sparse and include cat greenbrier and laurel greenbrier.

Floodplain Swamp (35.8 acres)

Floodplain swamps are deciduous wetland forests occurring along streams and rivers. This community at the Wood Sink tract of LKEWEA seasonally receives floodwater inputs from the adjacent St Marks River. Floodplain swamp is limited to lands immediately adjacent to the river. Basin swamp occupies a large depressional area adjacent to the floodplain, but lacks the regular input of river flooding. Standing water is common and collects in depressions that are scattered throughout. Many areas of the upper St Marks River have poorly formed stream channels and the flow of the river often braids through the floodplain swamp community.

The canopy of the floodplain swamp is typically closed and formed by a mature age class of trees. Canopy openings only occur in areas where standing or flowing water limits tree establishment. The canopy layer of the floodplain swamp community includes red maple, sweetgum, swamp tupelo, swamp laurel oak, pond cypress, and bald cypress. The sub-canopy layer of the floodplain swamp is often clearly developed and contains red maple, sweetgum, swamp tupelo, swamp laurel oak, and water oak. Shrubs are often sparse as a result of the closed canopy. Shrub associates include red maple, common buttonbush, titi, Virginia willow, wax myrtle, swamp laurel oak, and American snowbell. The herbaceous layer is also thinly vegetated with smartweed, lizard's tail, netted chain fern, and Virginia chain fern. The vine species crossvine, trumpet creeper, saw greenbrier, laurel greenbrier, and eastern poison ivy are common, but are rarely found growing in thick tangles.

Mesic Hammock (48.3 acres)

Mesic hammocks are closed-canopy forests of temperate hardwood species occurring along wetlands or as islands within wetlands where they are sheltered from fire. Fire is rare, and when mesic hammocks burn they may convert to the pyrogenic community they border. Mesic hammock at the Wood Sink Tract has increased in acreage from historic conditions. This community has advantageously expanded due to reduced fire frequency. Mesic hammock is evident in the 1938 photography, but its extent may be an artifact of previous fire exclusion.

The canopy layer of the mesic hammock community includes live oak, swamp laurel oak, slash pine, and loblolly pine. The poorly formed subcanopy layer includes red maple, sweetgum, blackgum, swamp laurel oak, water oak, and live oak. The shrub layer can be highly variable in structure. Where canopy trees, such as live oak, have become well developed, shrubs are quite sparse. Hammocks that have a young age class canopy have dense shrub thickets in there understory. Common shrub associates include persimmon, gallberry, sweetgum, blackgum, swamp laurel oak, water oak, live oak, Piedmont staggerbush, saw palmetto, and sparkleberry. Vines are abundant throughout this community and include trumpet creeper, earleaf greenbrier, saw greenbrier, cat greenbrier,

and eastern poison ivy. The herbaceous layer of the mesic hammock community is often sparse and includes slender woodoats and beaked panicum. The epiphytic resurrection fern is common, especially on the larger live oak canopy trees.

Pine Plantation (95.4 acres)

Pine plantation is mapped at the eastern end of LKEWEA on mesic soils that formerly supported upland pine forests or mesic flatwoods. There is a moderately dense canopy layer of slash pine. The sub-canopy layer has swamp laurel oak, sweetgum, live oak and water oak. The tall shrub layer has a moderate cover of water oak and sweetgum. Short shrubs are patchy, dominated by Piedmont staggerbush, saw palmetto, and highbush blueberry.

Sinkhole (<1 acre)

Sinkholes are generally characterized as cylindrical or conical depressions with steep walls, often with exposed limestone. This community can also be sand-lined, with or without a seasonal water table at the surface. This depends on the age and development of the sink. More recently created sinks have exposed sand. At least seventeen individual sinks exist on the property. These sinkholes are fairly small and lack herbaceous vegetation or exposed limestone.

The surrounding canopy of the sinkhole community is often semi-closed to closed and includes red maple, sweetgum, blackgum, swamp tupelo, slash pine, swamp laurel oak, water oak, and live oak. The shrubs include saplings of the canopy species in addition to common buttonbush, saw palmetto, titi, and sparkleberry. The shrub component is often thinly vegetated due to the overtopping canopy. Virginia chain fern is very infrequently present in the herb layer. Leaf litter and open water are often completely covering the ground surface of the sinkhole community. The epiphyte, Spanish moss is commonly found on live oaks that are overhanging the sinkhole depression. The vine layer occasionally includes trumpet creeper, cat greenbrier, lanceleaf greenbrier, and muscadine. No rare or invasive exotic species were documented within this community.

Upland Mixed Forest (35.8 acres)
Upland mixed forests occur on mesic soils in areas that are generally protected from fire. They are typically closed-canopied forests of deciduous and evergreen trees. The upland mixed forest at LKEWEA have a canopy of sweetgum, slash pine, loblolly pine, southern red oak, swamp laurel oak, pignut hickory, water oak, and live oak. The sub-canopy includes the same species as present in the canopy. The tall shrub layer includes red maple, titi, southern magnolia, wax myrtle, water oak, common sweetleaf, sparkleberry, and highbush blueberry. Short shrubs include titi, gallberry, wax myrtle, water oak, eastern poison ivy, and highbush blueberry. The herbaceous layer cover is typically sparse

to moderate and includes Virginia snakeroot, winter grape-fern, tall elephantsfoot, and partridgeberry. Epiphytes are resurrection fern, and Spanish moss. Woody vines are represented by trumpet creeper, yellow jessamine, earleaf greenbrier, saw greenbrier, bristly greenbrier, and eastern poison ivy. Although a few invasive exotic plants were observed in upland mixed forest on adjacent property, including scratchthroat, mimosa, and Japanese climbing fern, none were observed on LKEWEA.

Upland Pine Forest (448.1 acres)
Upland pine forest is characterized by an open canopy of pine species (typically longleaf pine and loblolly pine on rolling to flat lands with clay soils at or neat the surface. The two small areas mapped as upland pine forest at LKEWEA are low lying forests with substantial organic material at the surface, but with clayey subsoil. These forests are similar to mesic flatwoods, but lack (or have low cover percentages of) some of the characteristic species, most notably saw palmetto. There is a canopy of slash pine, and loblolly pine. There is a live oak subcanopy that has apparently become established through many years of fire suppression. The tall shrub layer is dominated by titi, and wax myrtle. The short shrub layer also included titi as well as Piedmont staggerbush. The herbaceous layer was not evident because of a dense cover of pine needles and other leaf litter. Woody vines are earleaf greenbrier, saw greenbrier, and bristly greenbrier. The pine plantation on the eastern end of LKEWEA is apparently former upland pine forest; this and the areas currently mapped as upland pine are in poor condition as a result of many years of fire suppression and possibly past clearing. These areas also are affected by the increased water table resulting from water damming to the west. Titi has become well established in the moist organic soils now present in these areas.

Wet Flatwoods (34.5 acres)

Wet flatwoods are forests with an open pine canopy and an understory of hydrophytic herbs and shrubs. Wet flatwoods that burn frequently typically have a sparse understory of shrubs and a dense complement of herbs. All of the wet flatwoods mapped at the Wood Sink tract of LKEWEA are former pine plantations that have been thinned. Light bedding from historic silviculture operations is evident in many wet flatwoods areas.

The canopy layer is often sparse to moderately dense and includes slash pine, loblolly pine, sweetgum, water oak, and live oak.. The sub-canopy is often poorly formed, but scattered subcanopy individuals are often present. The sub-canopy includes red maple, sweetgum, blackgum, swamp laurel oak, water oak, and live oak. Shrubs are often sparse to moderately dense with generally short to moderately tall individuals. The shrub layer of the wet flatwoods community includes red maple, titi, sweetgum, wax myrtle, common buttonbush, sweet pepperbush, common persimmon, bedstraw St. John's wort, gallberry, fetterbush, and Piedmont staggerbush. The herbaceous layer is often dense with hydrophytic herbs including blue maidencane, purple bluestem, wiregrass, vanillaleaf,

spadeleaf, witchgrass , spikerush, dogfennel, Mohr's thoroughwort, roundleaf thoroughwort, shaggy hedgehyssop, comfortroot, grassleaf rush, Carolina redroot, whitehead bogbutton, seedbox, shrubby primrosewillow, cinnamon fern, beaked panicum, maidencane, orange milkwort, pale meadowbeauty, fascicled beaksedge, slender beaksedge, sugarcane plumegrass, Piedmont blacksenna, Florida dropseed, Virginia chain fern, and yellow-eyed grass. Vines are observed occasionally and include trumpet creeper, yellow jessamine, earleaf greenbrier, saw greenbrier, cat greenbrier, laurel greenbrier, eastern poison ivy, and muscadine.

2.2.2 Forest Resources

The forest resources of LKEWEA include pine plantation and various natural communities as described above in Section 2.2.1. In conjunction with other natural community and biological data, a Timber Assessment (Appendix 12.4) will be used as a reference to help guide forest resources management activities.

2.3 Fish and Wildlife Resources

Lists of fish and wildlife species expected to occur on or near LKEWEA have been compiled by FWC (Tables 4 – 7). The FWC has also identified focal species of greatest conservation need for which there is potential habitat within LKEWEA (Table 8).

Table 4. Potential mammalian species of LKEWEA.

Common name	Scientific name
Beaver	*Castor canadensis*
Bobcat	*Lynx rufus*
Cotton mouse	*Peromyscus gossypinus*
Coyote	*Canis latrans*
Eastern big-eared bat	*Corynorhinus rafinesquii*
Eastern cottontail	*Sylvilagus floridanus*
Southeastern fox squirrel	*Sciurus niger niger*
Eastern gray squirrel	*Sciurus carolinensis*
Eastern harvest mouse	*Reithrodontomys humulis*
Eastern mole	*Scalopus aquaticus*
Eastern pipistrelle	*Pipistrellus subflavus*
Eastern wood rat	*Neotoma floridana*
Eastern yellow bat	*Lasiurus intermedius*
Evening bat	*Nycticeius humeralis*
Feral hog	*Sus scrofa*
Florida black bear	*Ursus americanus floridanus*
Golden mouse	*Ochrotomys nuttalli*
Gray fox	*Urocyon cinereoargenteus*

Table 4. Potential mammalian species of LKEWEA (continued).

Common name	Scientific name
Hispid cotton rat	*Sigmodon hispidus*
Hoary bat	*Lasiurus cinereus*
Least shrew	*Cryptotis parva*
Long-tailed weasel	*Mustela frenata*
Marsh rabbit	*Sylvilagus palustris*
Mexican free-tailed bat	*Tadarida brasiliensis*
Mink	*Neovison vison*
Nine-banded armadillo	*Dasypus novemcinctus*
Opossum	*Didelphis virginiana*
Pine vole	*Microtus pinetorum*
Raccoon	*Procyon lotor*
Red bat	*Lasiurus borealis*
Red fox	*Vulpes vulpes*
Rice rat	*Oryzomys palustris*
River otter	*Lutra canadensis*
Round-tailed muskrat	*Neofiber alleni*
Southeastern bat	*Myotis austroriparius*
Southern short-tailed shrew	*Blarina carolinensis*
Southeastern pocket gopher	*Geomys pinetis*
Southern flying squirrel	*Glaucomys volans*
Spotted skunk	*Spilogale putorius*
Striped skunk	*Mephitis mephitis*
White-tailed deer	*Odocoileus virginianus*

Table 5. Observed reptile and amphibian species of LKEWEA.

Common name	Scientific name
American alligator	*Alligator mississippiensis*
Black racer	*Coluber constrictor*
Black swamp snake	*Seminatrix pygaea*
Broadheaded skink	*Eumeces laticeps*
Bronze frog	*Rana clamitans*
Bullfrog	*Rana catesbeiana*

Table 5. Observed reptile and amphibian species of LKEWEA (continued).

Common name	Scientific name
Common garter snake	*Thamnophis sirtalis*
Common musk turtle	*Sternotherus odoratus*
Cope's gray treefrog	*Hyla versicolor*
Corn snake	*Elaphe guttata*
Cottonmouth	*Agkistrodon piscivorus*
Eastern box turtle	*Terrapene carolina carolina*
Eastern coachwhip	*Masticophis flagellum flagellum*
Eastern diamondback rattlesnake	*Crotalus adamanteus*
Eastern glass lizard	*Ophisaurus ventralis*
Eastern mud snake	*Farancia abacura*
Eastern mud turtle	*Kinosternon subrubrum*
Eastern narrowmouth toad	*Gastrophryne carolinensis*
Eastern newt	*Notophthalmus viridescens*
Eastern ribbon snake	*Thamnophis sauritus sauritus*
Eastern slender glass lizard	*Ophisaurus attenuatus longicaudus*
Eastern spadefoot toad	*Scaphiopus holbrookii*
Five-lined skink	*Eumeces fasciatus*
Glossy crayfish snake	*Regina rigida rigida*
Gopher tortoise	*Gopherus polyphemus*
Gray rat snake	*Elaphe obsoleta spiloides*
Greater siren	*Siren lacertina*
Green anole	*Anolis carolinensis*
Green treefrog	*Hyla cinerea*
Greenhouse frog	*Eleutherodactylus planirostris*
Ground skink	*Scincella lateralis*
Little grass frog	*Pseudacris ocularis*
Mole salamander	*Ambystoma talpoideum*
Mole skink	*Plestiodon egregius*
Oak toad	*Bufo quercicus*
Ornate chorus frog	*Pseudacris ornata*
Pig frog	*Rana grylio*
Pinewoods treefrog	*Hyla femoralis*
Ringneck snake	*Diadophis punctatus*
River cooter	*Pseudemys concinna*
River frog	*Rana heckscheri*
Rough earth snake	*Virginia striatula*
Scarlet kingsnake	*Lampropeltis triangulum elapsoides*
Scarlet snake	*Cemophora coccinea*

Table 5. Observed reptile and amphibian species of LKEWEA (continued).

Common name	Scientific name
Six-lined racerunner	*Cnemidophorus sexlineatus*
Southeastern five-lined skink	*Eumeces inexpectatus*
Southern water snake	*Nerodia fasciata*
Southern cricket frog	*Acris gryllus*
Southern fence lizard	*Sceloporus undulatus undulatus*
Southern leopard frog	*Rana sphenocephala*
Southern toad	*Bufo terrestris*
Spring peeper	*Pseudacris crucifer*
Squirrel treefrog	*Hyla squirella*
Striped crayfish snake	*Regina alleni*
Two-toed amphiuma	*Amphiuma means*

Table 6. Potential freshwater fish species of LKEWEA.

Common name	Scientific name
American eel	*Anguilla rostrata*
Black crappie	*Pomoxis nigromaculatus*
Bluefin killifish	*Lucania goodei*
Bluegill	*Lepomis macrochirus*
Bluespotted sunfish	*Enneacanthus gloriosus*
Bowfin	*Amia calva*
Brook silverside	*Labidesthes sicculus*
Brown bullhead	*Ameiurus nebulosus*
Chain pickerel	*Esox niger*
Channel catfish	*Ictalurus punctatus*
Common carp	*Cyprinus carpio*
Dollar sunfish	*Lepomis marginatus*
Everglades pygmy sunfish	*Elassoma evergladei*
Flier	*Centrarchus macropterus*
Florida gar	*Lepisosteus platyrhinchus*
Golden shiner	*Notemigonus crysoleucas*
Golden topminnow	*Fundulus chrysotus*

Table 6. Potential freshwater fish species of LKEWEA (continued).

Grass carp	*Ctenopharyngodon idella*
Lake chubsucker	*Erimyzon sucetta*
Largemouth bass	*Micropterus salmoides*
Least killifish	*Heterandria formosa*
Mosquitofish	*Gambusia holbrooki*
Pirate perch	*Aphredoderus sayanus*
Redear sunfish	*Lepomis microlophus*
Redfin pickerel	*Esox americanus*
Spotted sunfish	*Lepomis punctatus*
Swamp darter	*Etheostoma fusiforme*
Tadpole madtom	*Noturus gyrinus*
Taillight shiner	*Notropis maculatus*
Threadfin shad	*Dorosoma petenense*
Warmouth	*Chaenobryttus gulosus*
White catfish	*Ameiurus catus*
Yellow bullhead	*Ameiurus natalis*

Table 7. Florida's Breeding Bird Atlas data (confirmed and probable breeding) for the LAFAYETTE and LLOYD quadrangles. These quadrangle areas include the LKEWEA, Lake Lafayette, the St. Marks River, and surrounding areas.

Common name	Scientific name
Acadian flycatcher	*Empidonax virescens*
American crow	*Corvus brachyrhynchos*
Anhinga	*Anhinga anhinga*
Barred owl	*Strix varia*
Blue grosbeak	*Guiraca caerulea*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Brown thrasher	*Toxostoma rufum*
Brown-headed cowbird	*Molothrus ater*
Canada goose	*Branta canadensis*
Carolina chickadee	*Poecile carolinensis*
Carolina wren	*Thryothorus ludovicianus*
Chimney swift	*Chaetura pelagica*

Table 7 Florida's Breeding Bird Atlas data (confirmed and probable breeding) for the LAFAYETTE and LLOYD quadrangles. These quadrangle areas include the LKEWEA, Lake Lafayette, the St. Marks River, and surrounding areas (continued).

Common name	Scientific name
Chuck-will's-widow	*Caprimulgus carolinensis*
Common grackle	*Quiscalus quiscula*
Common ground dove	*Columbina passerina*
Common moorhen	*Gallinula chloropus*
Common yellowthroat	*Geothlypis trichas*
Downy woodpecker	*Picoides pubescens*
Eastern bluebird	*Sialia sialis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern screech-Owl	*Otus asio*
Eastern towhee	*Pipilo erythrophthalmus*
Eastern wood-pewee	*Contopus virens*
European starling	*Sternus vulgaris*
Fish crow	*Corvus ossifragus*
Great blue heron	*Ardea herodius*
Great crested flycatcher	*Myiarchus crinitis*
Great egret	*Casmerodius albus*
Great horned owl	*Bubo virginianus*
Green heron	*Butorides striatus*
Hooded warbler	*Wilsonia citrina*
House sparrow	*Passer domesticus*
Indigo bunting	*Passerina cyanea*
Killdeer	*Charadrius vociferus*
Least tern	*Sterna antillarum*
Pine warbler	*Dendroica pinus*
Prothonotary warbler	*Protonotaria citrea*
Purple gallinule	*Porphyrula martinica*
Purple martin	*Progne subis*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-eyed vireo	*Vireo olivaceus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Red-shouldered hawk	*Buteo lineatus*
Red-winged blackbird	*Agelaius phoeniceus*
Rock dove	*Columba livia*
Ruby-throated hummingbird	*Archilochus colubris*

Table 7 Florida's Breeding Bird Atlas data (confirmed and probable breeding) for the LAFAYETTE and LLOYD quadrangles. These quadrangle areas include the LKEWEA, Lake Lafayette, the St. Marks River, and surrounding areas (continued).

Common name	Scientific name
Summer tanager	*Piranga rubra*
Tufted titmouse	*Baeolophus bicolor*
White-breasted nuthatch	*Polioptila caerulea*
White-eyed vireo	*Vireo griseus*
Wild turkey	*Meleagris gallopavo*
Wood duck	*Aix sponsa*
Wood stork	*Mycteria americana*
Wood thrush	*Hylocichla mustelina*
Yellow-billed cuckoo	*Coccyzus americanus*
Yellow-breasted chat	*Icteria virens*
Yellow-throated vireo	*Vireo flavifrons*

Table 8. FWC focal species of greatest conservation need for which there is potential habitat within LKEWEA

Amphibians

Common Name	Scientific Name
Eastern tiger salamander	*Ambystoma tigrinum*
Flatwoods salamander	*Ambystoma cingulatum*
Striped newt	*Notophthalmus perstriatus*

Reptiles

Common Name	Scientific Name
American alligator	*Alligator mississippiensis*
Eastern indigo snake	*Drymarchon corais couperi*

Table 8. FWC focal species of greatest conservation need for which there is potential habitat within LKEWEA (continued).

Birds

Common Name	Scientific Name
Black rail	*Laterallus jamaicensis*
Coopers hawk	*Accipiter cooperii*
Least bittern	*Ixobrychus exilis*
Wild turkey	*Meleagris gallopavo*
Wood stork	*Mycteria americana*

Mammals

Common Name	Scientific Name
Bobcat	*Lynx rufus*
Sherman's fox squirrel	*Sciurus niger shermani*
Florida black bear	*Ursus americana floridana*
Northern yellow bat	*Lasiurus intermedius floridanus*

2.3.1 Imperiled Species

For the purposes of this Management Plan, the term "Imperiled Species" refers to plant and animal species that are designated as Endangered, Threatened, or a Species of Special Concern by FWC, or that are designated as Endangered or Threatened by the U.S. Fish and Wildlife Service. This designation is also commonly known as "listed species."

On November 8, 2010, new threatened species rules approved by the FWC went into effect. All federally listed species that occur in Florida will now be included on Florida's list as federally-designated Endangered or federally-designated Threatened species. In addition, the state has implemented a listing process to identify species that are not federally listed, but that may be at risk of extinction. These species will be called state-designated Threatened. All previous state-designated imperiled species were grandfathered on the list and are currently undergoing status reviews. The FWC will continue to maintain a separate Species of Special Concern category until all the former imperiled species have been reviewed and those species are either determined to be state-designated Threatened or removed from the list.

An important imperiled wildlife species resource of LKEWEA is the Chaires wood stork colony. It has been a nesting colony for the federally endangered wood stork at least since the mid-1970s, with the storks nesting in trees of the LKEWEA cypress swamp (dome swamp). This colony also hosts other nesting bird species including anhinga, great blue

heron, and great egret. On average, there are ~300 wood stork nests per year recorded for the Chaires colony. This colony in LKEWEA is the largest in north Florida, and one of the five largest in the state. Wood storks begin nesting at the Chaires colony in mid-March. The average hatch date of chicks is the 21st of May, with the last storks fledging in mid-August. This is one of the highest fledging rates among stork colonies in the United States. Lake Lafayette and other nearby wetlands are important foraging habitats for storks in the Chaires colony. Primary prey items include small fish, amphibians and reptiles.

In addition to the wood stork, there are four known imperiled species, and three otherwise rare species within a one-mile buffer of LKEWEA (Table 9).

2.3.2 FWC Wildlife Observations and FNAI Element Occurrences

The FWC maintains statewide GIS data of wildlife observations. Similarly, the FNAI maintains element occurrence GIS data. The FWC utilizes these data in the development of the management intent and activity planning, and the management goals and objectives described in this management plan (Figure 8).

2.4 Native Landscapes

Native landscapes of LKEWEA include the swamps and marshes of lower Lake Lafayette, as well as the uplands and forested wetlands of the wood sink parcel. Descriptions of the predominant natural communities found in these landscapes can be found in Section 2.2.1 of this management plan.

Table 9. Known imperiled or rare plant and animal species occurring within a one-mile buffer of the LKEWEA.

Common Name	Scientific Name	Status
Alabama rhodendron	*Rhododendron alabamense*	R
American alligator	*Alligator mississippiensis*	FLT (S/A)
Eastern diamondback rattlesnake	*Crotalus adamanteus*	R
Eastern indigo snake	*Drymarchon corais couperi*	FLT
Florida black bear	*Ursus americanus floridanus*	SLT
Gopher tortoise	*Gopherus polyphemus*	SLT
Great egret	*Ardea alba*	R
Southeastern fox squirrel	*Sciurus niger niger*	R
Wood stork	*Mycteria Americana*	FLE, SLT

Acronym key:
FLE: Federally Listed Endangered
FLT: Federally Listed Threatened
FLT (S/A): Federally Listed Threatened due to similarity of appearance
R: Rare
SLT: State Listed Threatened:

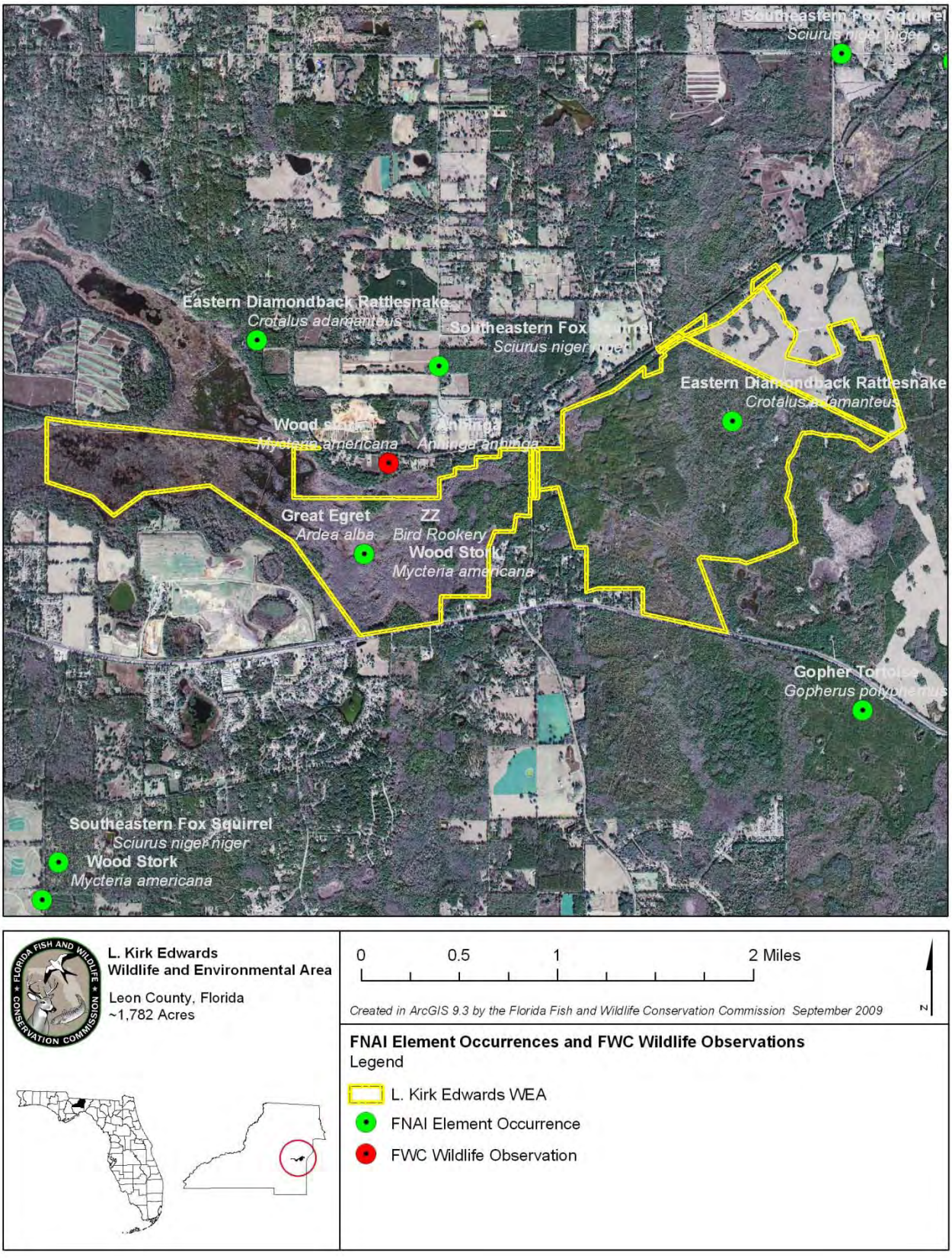


Figure 8: FNAI Element Occurrences and FWC Wildlife Observations

2.5 Water Resources

The LKEWEA occupies a large area of Lower Lake Lafayette. The condition of water resources reported for Lower Lake Lafayette may apply to waters within the overall boundary of LKEWEA as well.

Ground Water Hydrology: The principal aquifer for water supply is the Floridan Aquifer, which occupies the limestone lithologic units named in the above section on geology. This is overlain by other lithologic unit(s) of sand and clay, within which are surficial aquifers. It is estimated that 23% of the surface water loss from Lower Lake Lafayette is into these underlying aquifers[2].

Surface Water Hydrology: The mean water depth of Lower Lake Lafayette was calculated as 3.42 ft corresponding to a lakeshore located at an elevation of 44.71 ft. The discharge from Lower Lake Lafayette is through an outfall canal into wetlands associated with the St. Marks River. This outfall canal, extending under Chaires Cross Road, has the capacity to draw down Lower Lake Lafayette at the rate of 1.25 cm/day at peak flow rates. Since the St. Marks River is under tidal influence, during extreme high tides there may be brief movement of fresh water from the Upper St. Marks River towards Lower Lake Lafayette.

Lower Lake Lafayette was originally hydraulically connected to Alford Arm and Lake Piney Z, but is not believed to receive significant surface water input from the latter at this time. This is because the pipe and culvert system extending through the berm connecting those two lakes are thought to be clogged. The hydrological connection to Alford Arm is via four cement pipes (culverts) and several smaller steel pipes. In addition to Alford Arm there are several localized surface water inputs within the Lower Lake Lafayette watershed[3]. These include stormwater ponds serving residential subdivisions, the Swift Creek School and the CSX Railroad; tributaries draining commercial developments along U.S. Highway 27; and the area surrounding the Leon County Solid Waste Facility, partially via stormwater ponds[2].

In terms of its water budget, there are three major sources of hydrologic input into Lower Lake Lafayette. Estimated percentages of the total hydrologic input from these sources during the period July 2003 - June 2004 were: 1) inflow from Alford Arm (22%); 2) direct runoff from the adjacent watershed (29%); and 3) direct (incident) rainfall (49%)[2]. Estimated hydrologic losses for Lower Lake Lafayette during the same period are: 1) evapotranspiration, 38%; 2) discharge through the outfall canal, 39%; and 3) infiltration into the groundwater, 23%[2].

Water Quality Standards, Classifications, Uses and Outstanding Florida Waters: Surface Water Quality Standards are established by the Department of Environmental Protection (DEP) and include three main components: a) classifications and attendant designated present and future most beneficial uses of the waters; b) numeric and narrative criteria to support and protect those uses; and c) an antidegradation policy for protection of

water quality above the minimum required for a classification. Outstanding Florida Waters (OFWs) are a special designation that may be applied to waters in addition to the classification of the waterbody[4]. Chapters 62-302 and 62-4, FAC, describe water quality standards. Violation of water quality standards are reported for Lower Lake Lafayette for cadmium, copper, elevated biochemical oxygen demand (BOD) and fecal coliform[2]. Nutrient loadings are also a concern.

Waters within the LKEWEA are Class III with the designated use of Recreation, Propagation, and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife[4]. The OFWs near the LKEWEA include the St. Marks River "Special Water" OFW (designated March 1, 1979). The wetlands contiguous with the St. Marks River are included in the OFW designation, and appear to be approximately 1/4 to 1/3 of a mile east (downstream) of the LKEWEA.

The intent of an OFW designation is to maintain ambient, or existing, water quality of waters with this designation[4]. This is accomplished through stricter permit requirements in or adjacent to waters with this designation compared to waters without an OFW designation. In general, DEP cannot issue permits for direct pollutant discharges to OFWs which would lower ambient water quality or for indirect discharges which would significantly degrade the OFW. Environmental Resource Permits (ERP) for new dredging and filling must be clearly in the public interest. Some activities which result in direct discharge of stormwater to OFWs are required to retain or treat a larger amount of stormwater than facilities which discharge to non-OFW waters.

There are other effects of an OFW designation to off-site uses, such as greater setbacks for residuals application[4]. Additionally, the Department of Agriculture and Consumer Services has developed best management practices for silvicultural and agricultural activities in or adjacent to waters that are more protective for OFWs.

2.6 Beaches and Dunes

There are no beaches or dunes within the boundary or immediate vicinity of LKEWEA.

2.7 Mineral Resources

Other than sand, clay and limestone substrates, there are no known mineral resources within the boundary of LKEWEA.

2.8 Cultural Resources

Known cultural and historical resources of LKEWEA include two prehistoric camp sites (low density artifact scatter), the Captram historic bridge, Thompson Tram and Cap Tram Grade. However, LKEWEA has not been completely surveyed for cultural resources, and thus may contain additional unrecorded archaeologically and historically important sites.

2.9 Scenic Resources

Scenic resources of LKEWEA include the swamps and marshes of lower Lake Lafayette, as well as the uplands and forested wetlands of the Wood Sink parcel, and the Wood Sink karst geologic feature. Descriptions of the predominant natural communities of LKEWEA can be found in Section 2.2.1 of this management plan.

3 Usage of the Property

3.1 Previous Use and Development

In early descriptions, Lake Lafayette was referred to as a prairie lake, perhaps indicating that it was mostly herbaceous wetlands with widely fluctuating water levels. Lake Lafayette reportedly was subject to great variation in water level resulting from rainfall, surface water flow and seepage into the aquifer, partly via a sinkhole. In the 1940's construction of earthen dikes across Lake Lafayette altered its natural hydrology, and divided the lake into the three, somewhat separate lakes that exist today: Upper Lake Lafayette, Piney Z Lake, and Lower Lake Lafayette. The CSX Railroad extends along the northern shore of Lake Lafayette. This railroad crosses the lake at Alford Arm, which is a branch of Lower Lake Lafayette that extends northward. Flow from Alford Arm into Lake Lafayette is apparently altered by the railroad crossing, and other hydrological alterations in Alford Arm itself. The portion of LKEWEA west of Chaires Road encompasses approximately the western half of Lower Lake Lafayette, extending for an east-west distance of approximately 2.5 miles.

Portions of the Wood Sink parcel were formerly used for agriculture and silviculture as evident by remaining old fields, abandoned pastures, and off-site slash pine plantation.

3.2 Purpose for Acquisition of the Property

The Lake Lafayette portion of LKEWEA was donated to the GFC, now known as the FWC, for the purpose of natural resource conservation. The LKEWEA includes habitat for fish and wildlife, including imperiled species, and has been used as a research area for waterfowl management. The FWC has characterized Lake Lafayette as a regionally significant resource for fish and wildlife.

The original donation deed to the FWC includes an easement to Leon County for a purpose not specified, and a 35-year grant to Leon County to sample water. Consequently, monitoring and improvement of the water quality of Lake Lafayette and its associated fish and wildlife habitat is another important purpose for the acquisition of the property.

Two additions, 4.82 acres in 1984 and 33.83 acres in 1987, were acquired by the former GFC using Federal Aid in Wildlife Restoration Act (Pittman–Robertson) funding. These acquisitions contribute to the stated purpose of the Act to restore, enhance, and manage wildlife resources.

The 2008 acquisition of the Wood Sink parcel (~1,057 acres), acquired through funding from the Florida Forever Act, was determined to be helpful in achieving the following Florida Forever Act goals (Ch. 259.105 (4) F.S.):

- Increase the protection of Florida's biodiversity at the species, natural community, and landscape levels.
- Protect, restore, and maintain the quality and natural functions of land, water, and wetland systems of the state.
- Ensure that sufficient quantities of water are available to meet the current and future needs of natural systems and the citizens of the state.
- Increase natural resource-based public recreational and educational opportunities.
- Increase the amount of forestland available for sustainable management of natural resources.
- Increase the amount of open space available in urban areas.

Acquisition of the Wood Sink parcel specifically conserves the river corridor natural resources of the St. Marks River ecosystem, and provides landscape connectivity to other conservation lands; both are primary purposes of the Upper St. Marks River Corridor Florida Forever project.

3.3 Single- or Multiple-use Management

The LKEWEA will be managed under the multiple-use concept as a Wildlife and Environmental Area. The LKEWEA will provide public outdoor fish- and wildlife-based recreation and educational opportunities, while protecting the natural and cultural resources found on the area. Any natural and cultural resources of LKEWEA will be managed under the guidance of ARC, BOT, and the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

3.3.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on LKEWEA. Uses classified as “Approved” are considered to be in accordance with the purposes for acquisition, as well as with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals and objectives as expressed in the Agency Strategic Plan (Appendix 12.5). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as “Rejected” are considered to be incompatible, and not in accordance with one or more of the various forms of guidance available for planning and management of LKEWEA:

	Approved	Conditional	Rejected
Agriculture		✓	
Apiaries		✓	
Astronomy	✓		
Bicycling		✓	
Cattle Grazing		✓	
Citrus			✓
Ecosystem Maintenance	✓		
Ecotourism		✓	
Environmental Education	✓		
Fishing		✓	
Geocaching		✓	
Hiking	✓		
Horseback Riding		✓	
Hunting		✓	
Linear Facilities			✓
Off-road Vehicle Use		✓	
Preservation of Cultural Sites	✓		
Preservation of Historical Sites	✓		
Primitive Camping		✓	
Protection of Imperiled Species	✓		
Soil and Water Conservation	✓		
Timber Harvest	✓		
Wildlife Viewing	✓		

3.3.2 Assessment of Impact of Planned Uses of the Property

The FWC has carefully assessed the planned uses for LKEWEA and determined those that are consistent with the purposes of acquisition, including providing public outdoor fish- and wildlife-based recreation opportunities, and the conservation and protection of sensitive natural and cultural resources. This assessment of the planned uses analyzed the benefits and potential impacts of planned uses and management activities on natural and cultural resources of LKEWEA. To further communicate FWC's planned uses and management activities, specific management intentions, long- and short-term goals with associated objectives, identified challenges, and solution strategies have been developed for LKEWEA and are found below in this Management Plan (Sections 4 -7).

3.4 Acreage That Should Be Declared Surplus

The FWC has identified three parcels totaling approximately 9.9 acres that it is recommending for surplus (Figures 9 - 10). The parcels are located along a narrow strip of land between Capitola Road and the CSX railroad right-of-way on the northern boundary of LKEWEA. Due to their disjunctive location these parcels were not incorporated within

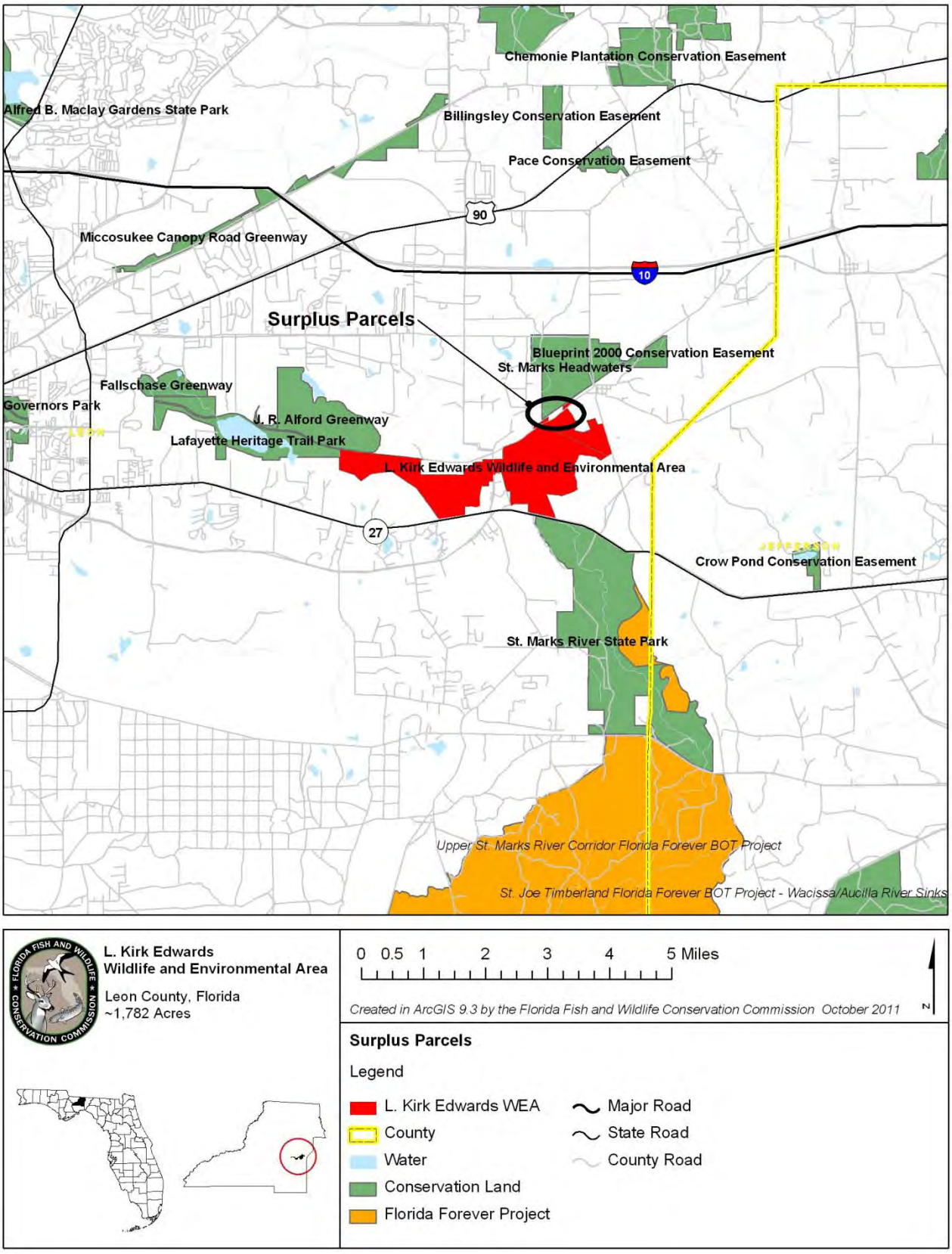


Figure 9: Surplus Parcels Location

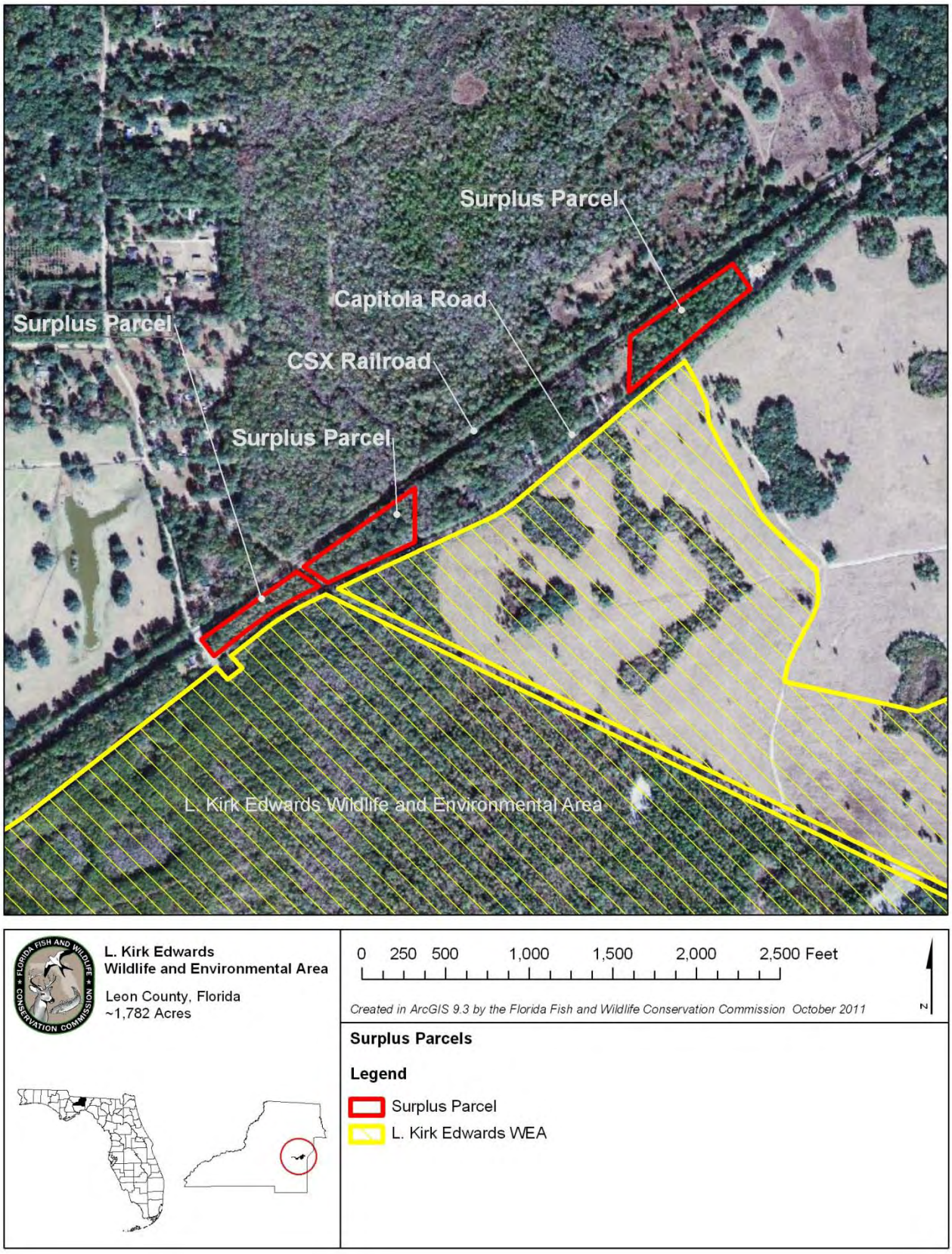


Figure 10: Surplus Parcels Aerial Imagery

FWC's established recreation boundary for the area. Therefore, no recreational opportunities are authorized on them.

The parcels were acquired with Florida Forever funds as part of the Wood Sink tract acquisition of the Upper St. Marks River Corridor Florida Forever project. Natural communities include upland pine forest (4.4 acres), bottomland forest (4.0 acres), cultural hardwood forest (0.9 acres) and floodplain swamp (0.6 acres). There are no known historical or archaeological resources located on these parcels. Also, no known rare or imperiled species have been observed on the parcels; due to their small size and isolation from the main body of LKEWEA, the parcels appear to have minimal, if any importance to the conservation of imperiled species or fish and wildlife conservation in general.

Disposition of these parcels would minimally affect the connectivity of LKEWEA to the Leon County-managed St. Marks Headwaters conservation area located to the north, as this connection is already separated by Capitola Road and the CSX railroad corridor. However, any potential impacts to the connectivity between these two areas resulting from the disposition of these parcels are expected to be negligible.

Finally, disposition of these lots as surplus would have no impact to the operational and resource management or current level of public access and recreational use at LKEWEA. For these reasons, FWC has determined that these parcels are no longer needed for the purpose for which they were acquired, and recommends that they be designated as surplus.

The FWC has evaluated the remainder of LKEWEA and has determined that all other lands within LKEWEA are needed and are being managed for the original purposes of acquisition. They remain integral to the continued conservation of important fish and wildlife resources, and continue to provide quality fish- and wildlife-based recreational opportunities to the public.

4 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve or otherwise use fragile natural resources and nonrenewable cultural resources of LKEWEA. In general, the FWC management intent for LKEWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC's intent to provide quality public outdoor fish- and wildlife-based recreational opportunities on LKEWEA. The FWC will utilize the best available data, guidelines, natural resource management practices, and recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

4.1 Land Management Review

Because title to the original donation of the lower Lake Lafayette portion of the LKEWEA is held by FWC, and the Wood Sink parcel (title held by the BOT) was only recently acquired, no Land Management Review of LKEWEA has been conducted at the time of the drafting of this management plan. The FWC will adapt management activities to address appropriate concerns identified by future Land Management Reviews upon completion and issuance of the associated Land Management Review Report, and will include detailed descriptions of actions needed to address these concerns in any update to this management plan.

4.2 Interim Management Activities

Interim management activities on the recently acquired Wood Sink parcel have followed the guidelines as described in DSL's Interim Management Activities document. These have included the posting of the property boundary, law enforcement protection, road repairs, establishment of parking areas, establishment of fencing and gates, exotic species control, establishment of new firelines and the reintroduction of prescribed fire.

4.3 Habitat Restoration and Improvement

The FNAI has conducted surveys and mapped the current vegetative communities and historic vegetation communities on LKEWEA. This information will be used to guide and prioritize management and restoration efforts on the area. Currently, LKEWEA has high-quality native communities including basin marsh, basin swamp, bottomland forest, dome swamp, floodplain swamp, mesic hammock, mixed upland forest, wet flatwoods, and upland pine forest that FWC will continue to actively manage and protect.

On LKEWEA, FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities. On disturbed upland sites, FWC intends to initiate ground cover restoration, as well as subsequent natural community restoration and improvement. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Management for a future old growth forest component, while also providing for natural regeneration, remains an important consideration.

4.3.1 Objective-Based Vegetative Management

The FWC has adopted an objective-based vegetative management (OBVM) approach to habitat management on lands where the FWC is designated lead manager. OBVM quantifies the present and desired habitat conditions on managed areas using structural vegetative components of natural communities actively managed. These desired conditions are incorporated into the management objectives for the managed area.

The first step in implementing OBVM is to map the current and historic natural communities on the managed area using the FNAI Natural Community Classification.

FWC contracts with FNAI to provide these mapping services. A natural community, as defined by FNAI, is a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment.

After natural communities have been mapped, management units are delineated. Delineating management units takes into account the distribution and extent of the current and/or historic mapped natural communities, existing and proposed infrastructure, and other management considerations. FWC land managers then identify the predominant current or historic natural community within each management unit that guides the type and frequency of management activities that should be applied.

At the same time, measurable habitat management objectives referred to as 'desired future conditions' are established for predominate natural communities identified for management units. Desired future conditions are defined by desirable ranges for vegetation structural attributes such as canopy cover, shrub height and cover, and ground cover.

Vegetation monitoring samples the selected parameters with the results being compared to the established desired future conditions. All monitoring performed under OBVM is completed using the program's Vegetation Monitoring Standard Operating Procedures (May 2007).

Initial mapping and vegetation sampling provides FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the subsequent monitoring results to desired future conditions, provides key operational information on a management unit's vegetation structural status at a given point in time and trend over time. Using this information, managers can evaluate, adjust and modify their management practices to meet the stated objectives.

4.3.2 Prescribed Fire and Fire Management

Periodic spring and summer fires occurred in fire-adapted communities under natural conditions. Plant species composition reflects the frequency and intensity of these fires. In the absence of fire, fallow fields on former longleaf sites such as those found on LKEWEA, follow a successional pattern through mixed pine-hardwood forests to an exclusively hardwood community rather than to the original plant community. The plant species composition may differ slightly on poorer soils of the slash pine flatwoods, but the dominant role of fire in controlling hardwoods is equally important in either ecosystem.

Timber removal, site preparation, drainage, and lack of fire have all combined to alter the plant species composition of the area resulting in a loss of fuel and inhibiting the return to a more "natural" fire management regime. Site-specific combinations of prescribed fire, mechanical and chemical vegetation control, reforestation, and restoration of natural water regimes are likely necessary actions needed to restore the area to historic natural communities.

The FWC employs a fire management regime to increase both species and habitat diversity and will implement a prescribed burning program on the LKEWEA in accordance with vegetative management objectives. Employing a burning program with different burning frequencies , intensities, and seasonality of prescribed burns (dormant vs. growing season) creates habitat diversity and a mosaic of vegetation patterns. This mosaic is designed to have both frequently burned and fire shadow aspects to replicate natural forest composition.

On some areas within LKEWEA, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. This trend is distinctly negative for most wildlife species. Mechanical control of brush on upland sites by roller chopping, or incidentally by logging equipment during commercial thinning operations, can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire

Single drum (with standard, not offset blades), one-pass roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass, Therefore, its application will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to define burning compartments. Disk harrows, mowing, and foam lines will be used as necessary to minimize disturbance and damage created by fire plows.

Mechanical soil disturbance in ecotones will be avoided (with the possible exception of wildfire suppression) in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of marshes, swamps and other wetlands in order to maintain these habitats. Once fuel loads have been reduced and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval that averages 2 - 4 years, preferably during the spring and early summer months.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan will be developed and implemented for LKEWEA. This plan will include, but not be limited to, delineation of burn management units, detailed descriptions of prescribed fire methodology, safety, and smoke management guidelines.

4.3.3 Habitat Restoration

Habitat restoration, also referred to in this management plan as natural community restoration, will be conducted on heavily modified areas such as off-site pine plantation, improved pastures, ruderal zones, and areas that have succeeded to cultural hardwood forest. Restoration activities will include removal of off-site species, planting of native

groundcover species, and planting of appropriate native mid-story and canopy tree species. Upon successful restoration of these altered areas, they will be monitored following the procedures established by the OBVM program to ensure the described desired future condition for each restored natural community type is achieved and maintained.

4.3.4 Apiaries

Currently, there are no apiaries operating on LKEWEA. However, the use of apiaries is conditionally approved for LKEWEA, and is deemed to be consistent with purposes for acquisition, is in compliance with the Conceptual State Lands Management Plan, and is consistent with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities document (Appendix 12.5). The FWC Apiary Policy (Appendix 12.6) will be followed with regards to site location, management, and administration of apiaries.

4.4 Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

4.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare and imperiled species, common game and non-game species can be found on LKEWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection, and management of natural communities. Natural communities important to wildlife include basin marsh, basin swamp, bottomland forest, dome swamp, floodplain swamp, mesic hammock, mixed upland forest, wet flatwoods, and upland pine forest.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. Following species inventory work, management practices are designed to restore, enhance or maintain imperiled species and their habitats. The size and diversity of the LKEWEA creates a habitat mosaic for a variety of wildlife species. Resident wildlife will be managed for optimum diversity and abundance. In addition to resident wildlife, LKEWEA provides resources critical to many migratory birds including waterfowl, passerines, raptors, shorebirds and others. Habitats important to migratory species will be protected, maintained or enhanced. FWC will continue to update inventories for certain species, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

Rare and imperiled species and their habitats will be protected and restored by following approved Federal and FWC recovery plans, guidelines, and other scientific recommendations. Land management activities including prescribed burning, and timber stand improvements will take into account imperiled species requirements and habitat needs. Potential for negative impacts from recreational activities will also be considered and monitored.

The FWC intends to manage game populations on a sustained-yield basis to assure healthy game populations and a high-quality recreational experience. In general, game wildlife populations will be managed to provide continued recreational sport hunting and wildlife viewing opportunities. However, due to the limited size of the area, some of the hunting opportunities may be regulated through a limited entry hunt program to ensure the persistence of viable game species populations, as well as hunter safety and satisfaction.

4.4.2 Imperiled Species - Wildlife Conservation Prioritization and Recovery

The FWC uses a comprehensive resource management philosophy for operating FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses OBVM to monitor how specific vegetative parameters are responding to FWC management, and uses the Wildlife Conservation Prioritization and Recovery (WCPR) program to ensure management is having the desire effect on wildlife. The WCPR Species Management Strategy for LKEWEA is found in Appendix 12.7 of this management plan.

The goal of WCPR is to provide assessment, recovery, and planning support for the FWC-managed areas to enhance management of focal species and recovery of imperiled species. WCPR program objectives include; prioritize what FWC does for imperiled and focal species on FWC-managed areas; ensure the actions taken on these areas are part of statewide conservation programs/priorities; and, inform others about the work accomplished on lands FWC manages.

The WCPR program is a science-based approach to managing imperiled and focal species on FWC-managed areas. This approach integrates geospatial analytical techniques to model potential habitat, Population Viability Analysis (PVA) results, and conservation planning. FWC integrates the outcomes of the landscape level assessments with area specific and expert knowledge to determine where focal species conservation can be proactively affected on each area. FWC uses this information to produce Species Management Strategies that are particular to each managed area and outline the role of the area in wildlife conservation. Each strategy contains area-specific objectives for managing priority species and their habitat, a list of actions to achieve these objectives, and monitoring to verify progress towards meeting the objectives.

The WCPR program continues to assess the changing needs of wildlife at the statewide level. Area-specific management strategies, species profiles, standardized monitoring protocol, monitoring databases, reports and publications are all developed in the process, which enhances information sharing. In implementing the strategies long-term and continuing to assess species' needs, FWC staff play an integral role in aiding the recovery of listed species and preventing future imperilment of declining species.

In summary, the WCPR program helps assess imperiled and focal wildlife species needs and opportunities, prioritizes what FWC does for imperiled and focal species on system lands, prescribes management to aid in species recovery, prescribes monitoring to allow

evaluation of the species response to management, and ensures the information is shared with others. Through the actions of this program, FWC will facilitate fulfilling the needs of imperiled species on LKEWEA and help FWC meet the identified need to 1) delineate optimal wildlife habitat conservation on FWC managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining species.

4.5 Exotic and Invasive Species Maintenance and Control

The LKEWEA has a relatively low density of exotic and invasive species occurrences. Plant species include Chinese privet (*Ligustrum sinense*), Chinese tallow (*Sapium sebiferum*), Chinese wisteria (*Wisteria sinensis*), Japanese climbing fern (*Lygodium japonicum*), and mimosa (*Albizia julibrissin*). Also, former pasture areas contain Bahia grass (*Paspalum notatum*).

The FWC will continue efforts to control the establishment and spread of Florida Exotic Pest Plant Council (FLEPPC) Category I or II plants on LKEWEA. Control technologies may include mechanical, chemical, biological, and other appropriate treatments. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ the Best Management Practices for their application.

Feral hog (*Sus scrofa*) is the only known exotic wildlife species. The FWC will continue to control feral hogs by providing hunting opportunities. If necessary, the feasibility of trapping feral hogs will be explored.

4.6 Public Access and Recreational Opportunities

4.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except where:

1. Compliance will cause harm to cultural or historic sites, or significant natural features and their characteristics.

2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.

3. Compliance would not be feasible due to terrain or prevailing construction practices.

4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

4.6.2 Recreation Carrying Capacity

Baseline carrying capacities for recreational users on FWC-managed lands are established by conducting a site specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being "immersed in nature" that visitors to FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated though this process (Appendix 12.8) are used as a tool to help plan and develop recreation opportunities. Based on an analysis of the overall approved uses and supported recreational opportunities, and the anticipated proportional visitation levels of the various user groups, the FWC has determined that the LKEWEA can support 100 visitors per day. This recreation carrying capacity will be periodically reevaluated, and additional capacity may be contemplated as part of the Recreational Master Plan development and implementation process.

4.6.3 Recreational Master Plan

It is the intention of FWC to take a comprehensive approach to the planning and administration of fish- and wildlife-based recreational opportunities for LKEWEA. To accomplish this, FWC will work with recreational stakeholders and the general public to develop a Recreation Master Plan that will be used to develop appropriate infrastructure that will thereby support the recreational use of the area by the general public. This Recreation Master Plan will include planning for parking, boating access, trail design, and interpretation. An objective to complete the Recreation Master Plan is found in Section 5.3 and a timeline for this objective is found in Section 6 of this management plan.

4.6.4 Wildlife Observation

The LKEWEA affords a wide variety of native wildlife species, both resident and seasonally migratory, that are available for visitors' enjoyment for observation and photography. The diversity of habitats found on LKEWEA attract an equally diverse suite of wildlife species, including many waterfowl and wading bird species in the wetlands, passerine bird species in the uplands, and various mammalian, reptile and amphibian wildlife throughout LKEWEA. Lists of probable wildlife species that may be observed by visitors to LKEWEA can be found in Section 2.3 of this management plan.

4.6.5 Hunting

The LKEWEA currently offers a gray squirrel hunting season, a small game season (including feral hogs), waterfowl and migratory bird season, and a limited entry (quota hunt) spring turkey season. An evaluation of the hunting opportunities offered on LKEWEA is performed by FWC biennially. The FWC will investigate the feasibility of

offering an increased suite of hunting seasons, possibly to include white-tailed deer, on this biennial schedule.

4.6.6 Fishing

The LKEWEA offers year round fishing opportunities. Gamefish species feature largemouth bass, black crappie, pickerel, catfish and various sunfish species.

4.6.7 Boating

Boat, canoe and kayak access to the Lower Lake Lafayette portion of LKEWEA is from an unimproved launch located on The Road to the Lake Rd. The FWC will investigate the feasibility of improving this facility to provide better parking and watercraft-launching infrastructure. A paddling trail has been established through the marshes and open water of the Lower Lake Lafayette portion of LKEWEA, and connecting to the upper portions of Lake Lafayette.

4.6.8 Trails

Currently, trails on LKEWEA are limited to existing area service roads and the Lower Lake Lafayette paddling trail. A system of multi-use trails will be contemplated and designed as part of the Recreation Master Plan development and implementation process. Also, FWC will determine the feasibility of including LKEWEA as part of the Great Florida Birding Trail.

4.6.8.1 Hiking

Hiking is allowed throughout LKEWEA. Additional trail-hiking opportunities may be developed as part of the Recreation Master Plan development and implementation process.

4.6.8.2 Bicycling

Off-road bicycling is permitted on LKEWEA, but currently is primarily restricted to existing area service roads. Additional unimproved trail-bicycling opportunities may be developed as part of the Recreation Master Plan development and implementation process.

4.6.8.3 Equestrian

Currently, there are no facilities to support the equestrian use of LKEWEA. However, the feasibility for providing adequate equestrian use support, including horse trailer parking and horse drinking water, will be investigated as part of the Recreation Master Plan development process.

4.6.9 Camping

Camping is currently prohibited on LKEWEA. The feasibility of establishing primitive camping opportunities will be investigated as part of the Recreation Master Plan development process. However, due to the limited size of the area, and the lack of appropriate sites that would not interfere with other uses, it is not anticipated that camping opportunities will be provided in the future.

4.6.10 Geocaching

Geocaching, also known as GPS Stash Hunt or GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS unit. It involves hiding items, usually containers holding various "treasures," and then posting specific geographic coordinates for each "cache" on a designated public website. Visitors to these websites choose which cache they would like to locate. Cache hunters typically bring along their own "treasures" and make an exchange once the cache has been located. A logbook is sometimes included in the cache. The cache hunter will then typically relate their experiences in searching for the cache on the website. Geocaching is typically done by individuals or in small groups and is motivated by the challenge of exploring. Geocache websites routinely promote good stewardship. However, the potential exists for resource damage, user conflicts or safety issues caused by inappropriately placed caches and/or links that do not provide adequate information about the area.

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts or threats to the safety of the activity participants. The placement of geocaches on FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following FWC website: http://myfwc.com/docs/RecreationSites/FWC_Geocache_Guidelines.pdf.

4.6.11 Astronomy

Though in proximity to the City of Tallahassee, LKEWEA does afford a relatively low level of nighttime light pollution, and thus is conducive to the viewing of stars and planets. Some of the open upland areas of the Wood Sink portion of LKEWEA provide for a broad view of the nighttime sky.

4.6.12 Interpretation

Interpretive signage and area regulation information are provided within kiosks located at designated public access points for LKEWEA. Additional interpretive materials will be contemplated as part of the Recreation Master Plan development and implementation process.

4.7 Hydrological Preservation and Restoration

4.7.1 Hydrological Assessment

The FWC will cooperate with the Northwest Florida Water Management District (NWFWMD), or a private contractor to conduct both a hydrological assessment of LKEWEA, as well as a hydrological risk assessment. The initial hydrological assessment will be conducted to determine the historic and current hydrological function of the area. The risk assessment will be conducted to determine the possible impacts of hydrologic restoration to the area and surrounding communities. These assessments will be used to determine the feasibility and efficacy of restoring the hydrologic functions of LKEWEA to a more natural state.

4.7.2 Water Resource Monitoring

The FWC will cooperate with the NWFWMD and the DEP to develop and implement appropriate surface and groundwater quality and quantity monitoring protocols for LKEWEA. In this capacity, the FWC will primarily rely on the expertise and staff support of the NWFWMD and the DEP to conduct these monitoring activities.

4.8 Forest Resource Management

An assessment of the timber resources of LKEWEA has been conducted by the DOF. The management of timber resources will be considered in the context of this Timber Assessment and the overall land management goals and activities.

Known timber resources include some pine plantations in need of thinning for habitat improvement. Thinning of the forest over-story, hydrological restoration and reintroduction of prescribed burning are the most important factors in re-establishment of natural communities and the enhancement of wildlife habitats in these areas. Upland pine forest planted with off-site pines will be reforested with longleaf pine or other on-site species as appropriate. Degraded or disturbed bottomland hardwood sites will be encouraged to reforest naturally with native wetland oaks, hardwoods, and other appropriate native plant species.

Pursuant to OBVM desired future conditions, FWC will continue to manage timber resources for wildlife benefits and natural community restoration. Management activities including the use of timber thinning and harvesting may be utilized. The primary management technique for encouraging reforestation is protection of young trees and seedlings on these sites from damage. However, where natural regeneration is lacking, artificial reforestation may be implemented. Planting trees on these selected sites is used to increase the rate of reforestation and to ensure diversity. Forested wetlands are managed for stands with old growth characteristics. Snags will be protected to benefit cavity-nesting species.

4.8.1 Forest Resource Management Plan

The FWC will prepare and implement a Forest Resource Management Plan, to include descriptions of reforestation, harvesting, restoration, and timber stand improvement goals and associated management activities. This document will be used to guide FWC in managing the revenue generating potential of the area's timber resources, as well as providing for wildlife habitat improvement.

4.9 Cultural and Historical Resources

Known cultural and historical resources of LKEWEA include two prehistoric camp sites (low density artifact scatter), the Captram historic bridge, Thompson Tram and Cap Tram Grade. The FWC will consult and cooperate with the Florida Department of State's Division of Historical resources (DHR) to determine if a survey and mapping of cultural and archaeological resources should be conducted. Also, as determined necessary by DHR, the FWC will monitor select known sites, and submit updates of additionally located sites to

DHR for inclusion in their Master Site file. In addition, FWC will ensure management staff has DHR Archaeological Resources Monitoring training. Furthermore, the FWC will refer to and follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (Appendix 12.9) for management of these resources, and prior to any facility development, ground disturbing activities.

4.10 Capital Facilities and Infrastructure

When public facilities are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions; e.g., where handicap access is structurally impractical, or where providing such access would change the fundamental character of the facility being provided.

4.11 Conservation Acquisition and Stewardship Partnerships

4.11.1 Conservation Acquisition

The FWC utilizes a three-tiered approach to identifying, acquiring or otherwise protecting important conservation lands adjacent to or in proximity to existing FWC-managed areas. Conservation acquisition, either fee-simple or less-than-fee conservation easements, plays an integral role in this effort, as do ongoing cooperative land steward partnership efforts with private landowners. In combination, these strategies help FWC to ensure the regional conservation of important fish and wildlife habitats.

4.11.2 Optimal Conservation Planning Boundary

A number of properties have been identified for inclusion in the optimal boundary and for potential acquisition under the auspices of FWC's Additions and Inholdings Conservation Acquisition Program (Figure 11). These properties have been identified to further protect the wildlife and other resources of the property, to lessen conflicts caused by housing development within an area where prescribed burning is required for resource management, to achieve an optimum property boundary, and to provide critical habitat connectivity for LKEWEA and other public wildlife habitat lands. This optimal boundary is important to provide recognizable and rational boundary lines for LKEWEA, to protect the watershed and adjacent areas from further development, and to aide FWC, other state and federal governmental entities, non-governmental organizations, and local governments with their acquisition and planning efforts in order to better manage the area on a landscape level for the benefit of wildlife and other natural resources.

Properties identified for inclusion in the optimal boundary are identified based on a three tiered approach. First, FWC looks to the Optimum Resource Boundary (ORB), which is a regional resource-based concept. The ORB focuses on critical and important wildlife species or habitat considerations. This is designed to function as the foundation of a broad-based planning system for FWC and others to assure the long-term conservation of fish and wildlife species through a number of approaches including fee acquisition, less-than-fee

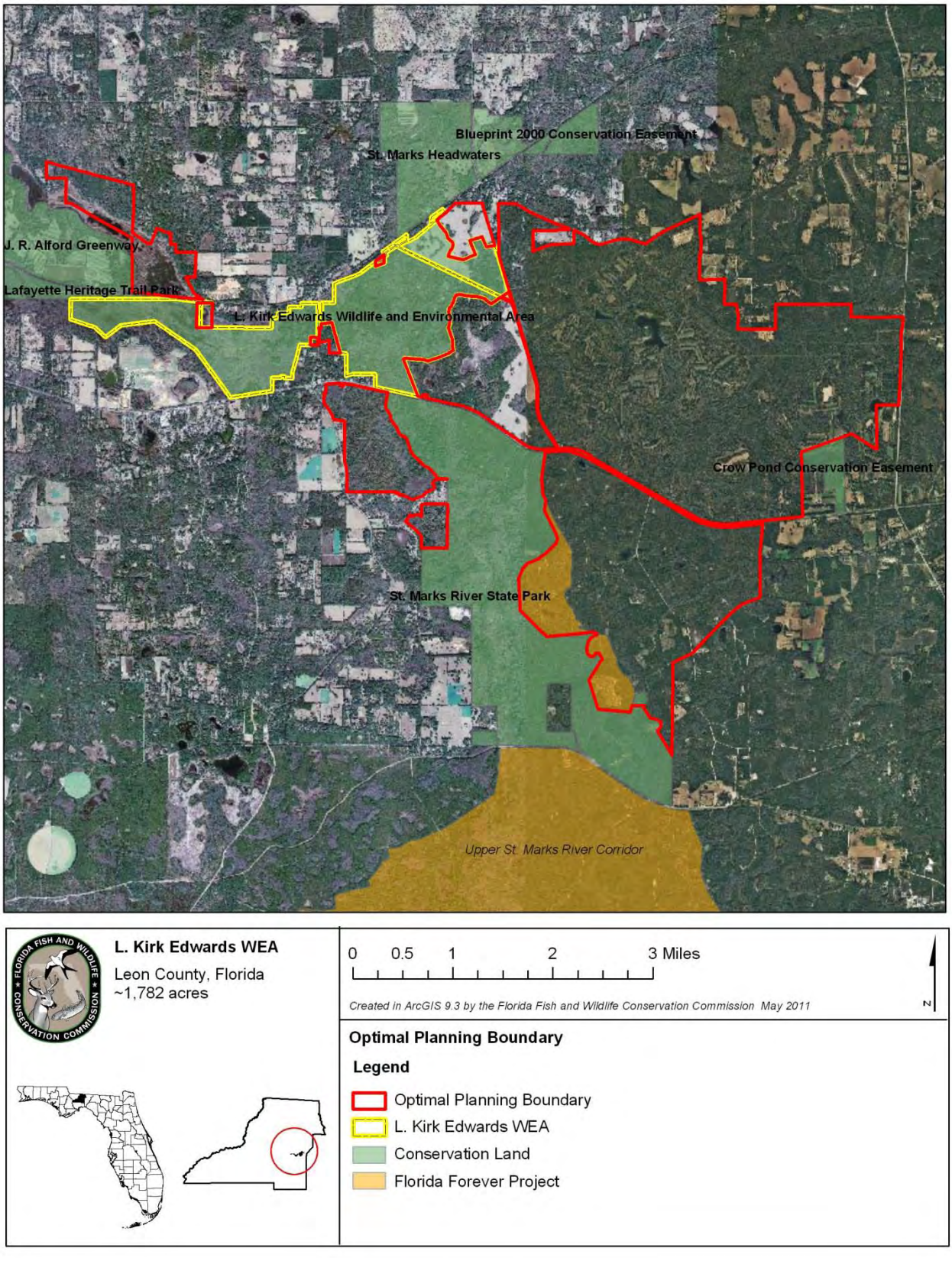


Figure 11: Optimal Planning Boundary

acquisition (e.g., conservation easements, Transfer of Development Rights), non-governmental organization efforts, leadership programs (e.g., Florida Forest Stewardship Program), the FWC Landowner Incentive Program, as well as local, state, and national planning or zoning efforts. Thus, it is not designed to indicate a need or desire to purchase all lands within the ORB.

The ORB integrates important FWC conservation research and analysis into practical planning, acquisition, and management efforts through Geographic Information System (GIS) analysis. To date, these ongoing conservation efforts include the following: 1) Closing the Florida Gaps in Wildlife Conservation (Strategic Habitat Conservation Areas); 2) Biodiversity Concentrations; and 3) the Integrated Wildlife Network.

Staff can then focus on important natural resources such as listed species habitat within a particular region or ecosystem within which a FWC-managed area is contained. The lands shown in the ORB are "filtered" to select optimum habitat with high fish and wildlife conservation value. The analysis also eliminates areas that the conservation/acquisition process should not consider because of current land use (e.g., urban areas or land that has already been conserved or protected).

The second tier is described as the Optimum Conservation Planning Boundary (OPB). The OPB combines the regional natural resource concerns defined by the ORB, as well as regional and local planning considerations. Regional and local planning considerations include habitat conservation and restoration, habitat linkages, management challenges, private land and zoning issues, infrastructure including roads and developments, improving access, eliminating inholdings, providing prescribed burn buffers, squaring and cleaning up boundaries, and conserving other important natural and cultural resources. The OPB broadens the scope of conservation planning actions to include landscape-scale resource issues along with operational management concerns.

The Conservation Action Strategy is the third tier, and implements the results of the ORB and OPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy consisting of critical or important natural resource goals and objectives as well as other management boundary issues. This approach replaces the current process for establishing the FWC Florida Forever Inholdings and Additions acquisition list. Primary components of the Conservation Action Strategy include the following: fee simple and/or less-than-fee acquisitions; FWC conservation planning contributions; FWC Additions and Inholdings Program Workplan; Florida Forever acquisition project proposals and boundary modifications; regional or local acquisition proposals; federal or state grant proposals; non-governmental organization acquisition proposals; the FWC Landowner Incentive Program proposals, Forest Stewardship Program proposals; and local, state, and federal planning proposals. The optimal boundary, which results from this three-tiered process, should aid other state and federal governmental entities, non-governmental organization efforts, and local government acquisition and planning efforts.

4.12 Soil and Water Conservation

Soil disturbing activities will be confined to areas that have the least likelihood of experiencing erosion challenges. On areas that have been disturbed prior to acquisition, an assessment will be made to determine if soil erosion is occurring, and if so, appropriate measures will be implemented to stop or control the effects of this erosion.

4.13 Cooperating Agencies

The FWC is responsible for the management and operation of LKEWEA as a provision in the lease agreement with the BOT. All requirements of the Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties document (Appendix 12.9) from the DHR are followed with regard to any ground-disturbing activities. The FWC cooperates and consults with the NWFWMD for the monitoring and management of both ground and surface water resources.

5 Resource Management Goals and Objectives

5.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Short-term

5.1.1 Develop a prescribed burn plan. *October 2011 – March 2012*

5.1.2 Continue to implement an OBVM program. *October 2011 – October 2013*

5.1.3 Prescribe burn 320 acres (160 per year). *October 2011 – October 2013*

5.1.4 Develop a habitat/natural community restoration plan for 75 acres of improved pasture located on the Wood Sink parcel. *October 2011 – October 2013*

5.1.5 Conduct habitat/natural community improvements (i.e., mechanical/chemical treatments, hardwood removal, and timber stand improvement) on 160 acres on upland habitats. *October 2011 – October 2013*

5.1.6 Plant longleaf pine on 10 acres of ruderal areas. *October 2011 – October 2013*

5.1.7 Continue to conduct habitat/natural community improvement (maintain open water habitat by clearing aquatic vegetation) on 24 acres on Lake Lafayette portion of LKEWEA. *October 2011 – October 2013*

5.1.8 Prescribed burn 19 acres of ephemeral wetlands (dome swamp, depression marsh) to benefit pond breeding amphibians. *October 2011 – October 2013*

Long-term

5.1.9 Conduct habitat/natural community improvement activities (i.e., mechanical/chemical treatments, hardwood removal, and timber stand improvement) on 500 acres on upland habitats. *October 2013 – October 2021*

5.1.10 Continue to prescribe burn 160 acres per year. *October 2013 – October 2021*

5.1.11 Maintain 500 acres per year within target fire return interval of 2 – 4 years. *October 2013 – October 2021*

5.1.12 Initiate habitat/natural community and ground cover restoration activities on 75 acres of improved pasture located on the Wood Sink parcel. *October 2013 – October 2021*

5.1.13 Continue to prescribed burn 19 acres of ephemeral wetlands (dome swamp, depression marsh) to benefit pond breeding amphibians. *October 2013 – October 2021*

5.1.14 Continue to conduct habitat/natural community improvement (maintain open water habitat by clearing aquatic vegetation) on 24 acres on Lake Lafayette portion of LKEWEA. *October 2013 – October 2021*

5.1.15 Plant longleaf pine on 75 acres of improved pasture. *October 2019 – October 2020*

5.2 Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

Goal: Maintain, improve, or restore imperiled species populations and habitats.

Short-term

5.2.1 Develop a baseline data inventory list of imperiled species occurrences. *October 2011 – October 2013*

5.2.2 Implement a WCPR strategy, including monitoring protocols, for 14 selected focal and imperiled species. *October 2011 – October 2013*

5.2.3 Investigate the feasibility of LKEWEA serving as a potential gopher tortoise relocation recipient site. *October 2011 – October 2013*

5.2.4 During the nesting season, monitor the Lake Lafayette wood stork colony for disturbance by human activity; if necessary establish a temporary nesting season (February – August) 100 meter no-entry buffer around the wood stork colony. *October 2011 – October 2013*

Long-term

5.2.5 Continue to implement a WCPR strategy and monitoring protocols for 14 imperiled and focal species. *October 2013 – October 2021*

5.2.6 Continue to collect opportunistic wildlife species occurrence data. *October 2013 – October 2021*

5.2.7 During the nesting season, continue to monitor the wood stork colony for disturbance by human activity; if necessary establish a temporary nesting season (February – August) 100 meter no-entry buffer around the wood stork colony. *October 2013 – October 2021*

5.3 Waterfowl Management

Goal: Conserve and manage waterfowl species.

Short-term

5.3.1 Maintain between 60 and 80 wood duck nesting boxes. *October 2011 – October 2013*

Long-term

5.3.2 Continue to maintain between 60 and 80 wood duck nesting boxes. *October 2013 – October 2021*

5.4 Exotic and Invasive Species Maintenance and Control

Goal: Remove exotic and invasive plants and animals and conduct needed maintenance and control activities.

Short-term

5.4.1 Through hunting, implement control measures on feral hogs. *October 2011 – October 2013*

5.4.2 Survey and map occurrences of exotic plants. *October 2011 – October 2013*

5.4.3 Spot treat Florida Exotic Pest Plant Council (EPPC) Category I and Category II invasive exotic plant species as needed. *October 2011 – October 2013*

Long-term

5.4.4 Through hunting, continue control measures on feral hogs. *October 2013 – October 2021*

5.4.5 Continue spot treatment of Florida Exotic Pest Plant Council (EPPC) Category I and Category II invasive exotic plant species as needed. *October 2013 – October 2021*

5.5 Public Access and Recreational Opportunities

Goal: Provide public access and fish- and wildlife-based recreational opportunities.

Short-term

5.5.1 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 100 visitors per day. *October 2011 – October 2013*

5.5.2 Develop a Recreational and Interpretive Master Plan to include multi-use trail systems, designated access points, interpretive facilities, and wildlife viewing opportunities. *October 2011 – October 2013*

5.5.3 Monitor trails annually for visitor impacts. *October 2011 – October 2013*

5.5.4 Maintain 4.5 miles of multi-use trails biannually. *October 2011 – October 2013*

5.5.5 Improve and maintain public access points and parking areas. *October 2011 – October 2013*

5.5.6 Cooperate with the City of Tallahassee to maintain the Lake Lafayette paddling trails. *October 2011 – October 2013*

5.5.7 If feasible, improve the existing Lake Lafayette small boat/canoe/kayak landing located on Road to the Lake Rd. *October 2012 – October 2013*

5.5.8 Identify and develop partnerships that could be utilized to provide for environmental educational programs and outreach. *October 2012 – October 2013*

5.5.9 Determine the feasibility of including LKEWEA as part of the Great Florida Birding Trail. *October 2012 – October 2013*

Long-term

5.5.10 Design and develop public access and interpretive information for the Wood Sink. *October 2013 – October 2015*

5.5.11 Continue to monitor trails annually for visitor impacts. *October 2013 – October 2021*

5.5.12 Continue to maintain multi-use trails biannually. *October 2013 – October 2021*

5.5.13 Reassess recreational opportunities every three years. *October 2013 – October 2021*

5.5.14 As appropriate, continue to offer a diverse suite of hunting opportunities. *October 2013 – October 2021*

5.5.15 Continue to maintain paddling trail on Lake Lafayette. *October 2013 – October 2021*

5.5.16 Continue to provide fishing opportunities on Lake Lafayette. *October 2013 – October 2021*

5.5.17 Cooperate with other agencies, Leon County, City of Tallahassee, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, paddling, and multi-use trail systems between adjacent public areas. *October 2013 – October 2021*

5.5.18 Continue to identify and develop partnerships that could be utilized to provide for environmental educational programs and outreach. *October 2013 – October 2021*

5.6 Hydrological Preservation and Restoration

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

Short-term

5.6.1 Cooperate with the NWFWMD and the Florida Department of Environmental Protection (DEP) to monitor water quantity and quality in Lake Lafayette and the Upper St. Marks River portions of LKEWEA. *October 2011 – October 2013*

Long-term

5.6.2 Contract to remove trash and debris from area sinks. *October 2013 – October 2015*

5.6.3 Work with the NWFWMD and DEP to determine the feasibility of applying for public wetland mitigation funds. *October 2013 – October 2015*

5.6.4 Continue to cooperate with the NWFWMD and DEP to monitor water quantity and quality in Lake Lafayette and the Upper St. Marks River. *October 2013 – October 2021*

5.6.5 Conduct and evaluate a site assessment identifying potential hydrology restoration needs. *October 2015 – October 2017*

5.6.6 Conduct and evaluate a hydrological restoration risk assessment. *October 2017 – October 2019*

5.7 Forest Resource Management

Goal: Manage timber resources to improve or restore natural communities for the benefit of wildlife.

Short-term

5.7.1 Consult with the Division of Forestry regarding forest management activities as appropriate. *October 2011 – October 2013*

Long-term

5.7.2 Continue to consult with the Division of Forestry regarding forest management activities as appropriate. *October 2013 – October 2021*

5.7.3 Prepare and implement a Forest Resource Management Plan, including reforestation, harvesting, restoration, and timber stand improvement activities and goals. *October 2015 – October 2017*

5.7.4 Develop and implement a process for conducting stand descriptions and forest inventory, including a GIS database containing forest stands, roads and other attributes. *October 2015 – October 2017*

5.7.5 Pursuant to guidance of the Forest Resource Management Plan, conduct thinning/harvest of 98 acres of overstocked planted pine plantations. *October 2015 – October 2021*

5.8 Cultural and Historical Resources

Goal: Protect, preserve and maintain cultural resources .

Short-term

5.8.1 Ensure management staff has DHR Archaeological Resources Monitoring training. *October 2011 – October 2012*

5.8.2 If determined to be necessary by the DHR, contract for a survey and mapping of cultural and archaeological resources. *October 2011 – October 2013*

5.8.3 Monitor the five known recorded sites and submit updates of additional sites to DHR for inclusion in their Master Site file. *October 2011 – October 2013*

Long-term

5.8.4 Continue to monitor the five known recorded site and submit updates of additional sites to DHR for inclusion in their Master Site file. *October 2013 – October 2021*

5.9 Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

Short-term

5.9.1 Install entrance signs at four public access points. *October 2011 – October 2013*

5.9.2 Maintain five facilities (three parking areas, one boat launch and parking area, and one field-office building). *October 2011 – October 2013*

5.9.3 Pursuant to the development of the Recreational and Interpretive Master Plan improve or repair existing facilities, roads, and trails as feasible and appropriate. *October 2011 – October 2013*

5.9.4 Monitor multi-use trails annually for visitor impacts. *October 2011 – October 2013*

5.9.5 Maintain 4.5 miles of multi-use trails biannually. *October 2011 – October 2013*

5.9.6 Pursuant to the development of the Recreational and Interpretive Master Plan construct one public access facility, including an informational kiosk. *October 2011 – October 2013*

5.9.7 If feasible, improve the existing Lake Lafayette small boat/canoe/kayak landing located on Road to the Lake Rd. *October 2012 – October 2013*

Long-term

5.9.8 Continue to maintain five facilities (three parking areas, one boat launch and parking area, and one field-office building). *October 2013 – October 2021*

5.9.9 Continue to monitor multi-use trails annually for visitor impacts. *October 2013 – October 2021*

5.9.10 Continue to maintain multi-use trails biannually. *October 2013 – October 2021*

5.10 Conservation Acquisition and Stewardship Partnerships

Goal: Enhance fish and wildlife conservation, resource and operational management through development of an optimal boundary that identifies potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational/resource management and access needs. Continue to identify and pursue acquisitions and conservation stewardship partnerships.

Short-term

5.10.1 Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary, for FWC's Landowner Assistance and Land Acquisition Programs. *October 2011 – October 2013*

5.10.2 Develop a Conservation Action Strategy. *October 2011 – October 2013*

5.10.3 Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship partnerships. *October 2011 – October 2013*

5.10.4 Determine which parcels should be nominated for addition to the FWC acquisition list. *October 2011 – October 2013*

5.10.5 Identify potential non-governmental organization partnerships and grant program opportunities. *October 2011 – October 2013*

5.10.6 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop. *October 2011 – October 2013*

Long-term

5.10.7 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal boundary as necessary. *October 2013 – October 2021*

5.10.8 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for the FWC Landowner Assistance Program and for the Land Acquisition Program. *October 2013 – October 2021*

5.10.9 Continue to determine which nominated parcels should be added to the FWC acquisition list. *October 2013 – October 2021*

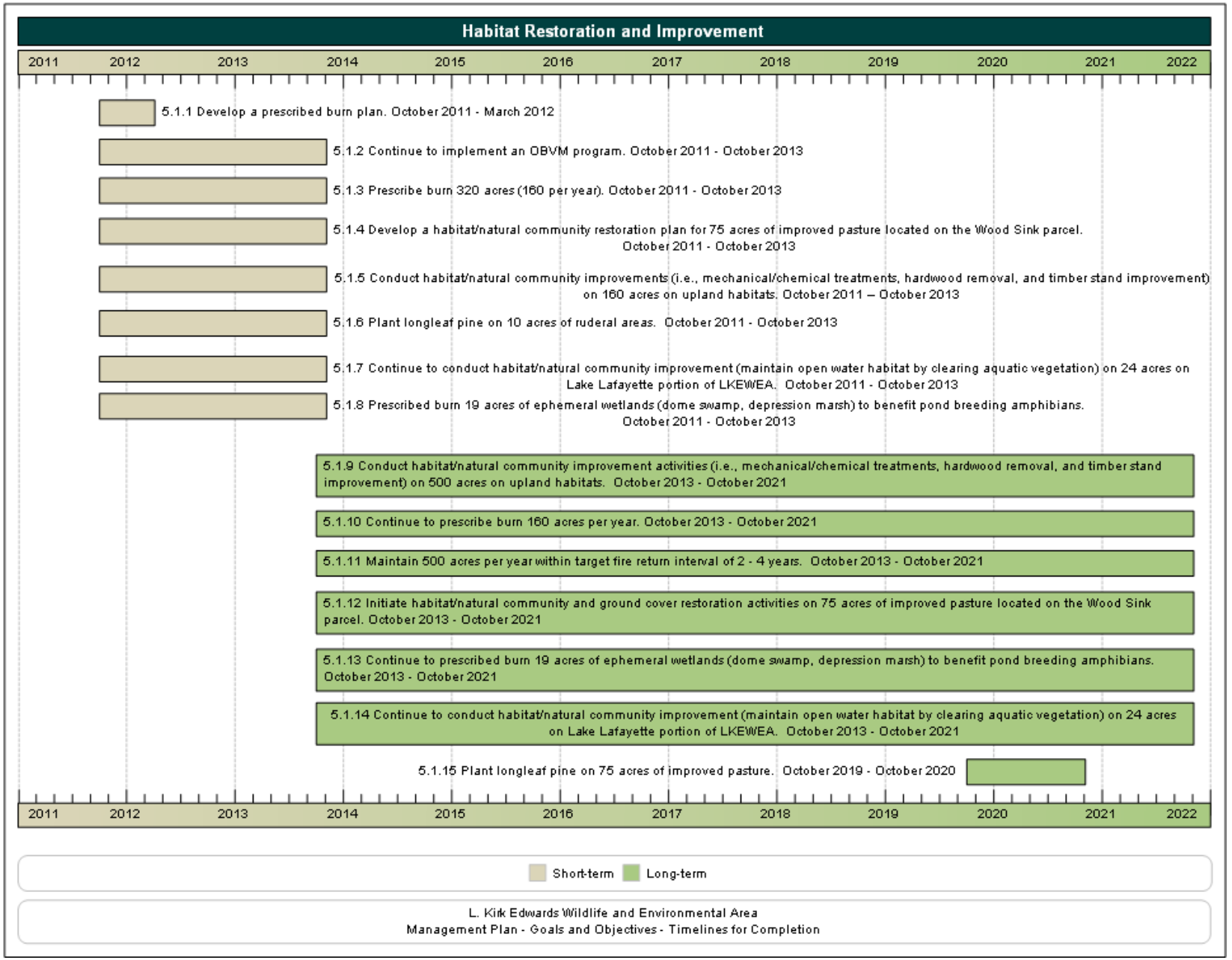
5.10.10 Continue to propose nominations of selected properties as additions to the FWC acquisition list. *October 2013 – October 2021*

5.10.11 Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. *October 2013 – October 2021*

5.10.12 Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy. *October 2013 – October 2021*

6 Timelines for Completion of Resource Management Goals and Objectives

The following section presents the short- and long-term goals and objectives for the management of LKEWEA graphically in a timeline format. These timelines directly reflect the short- and long-term goals and objectives presented above in Section 5.


Habitat Restoration and Improvement
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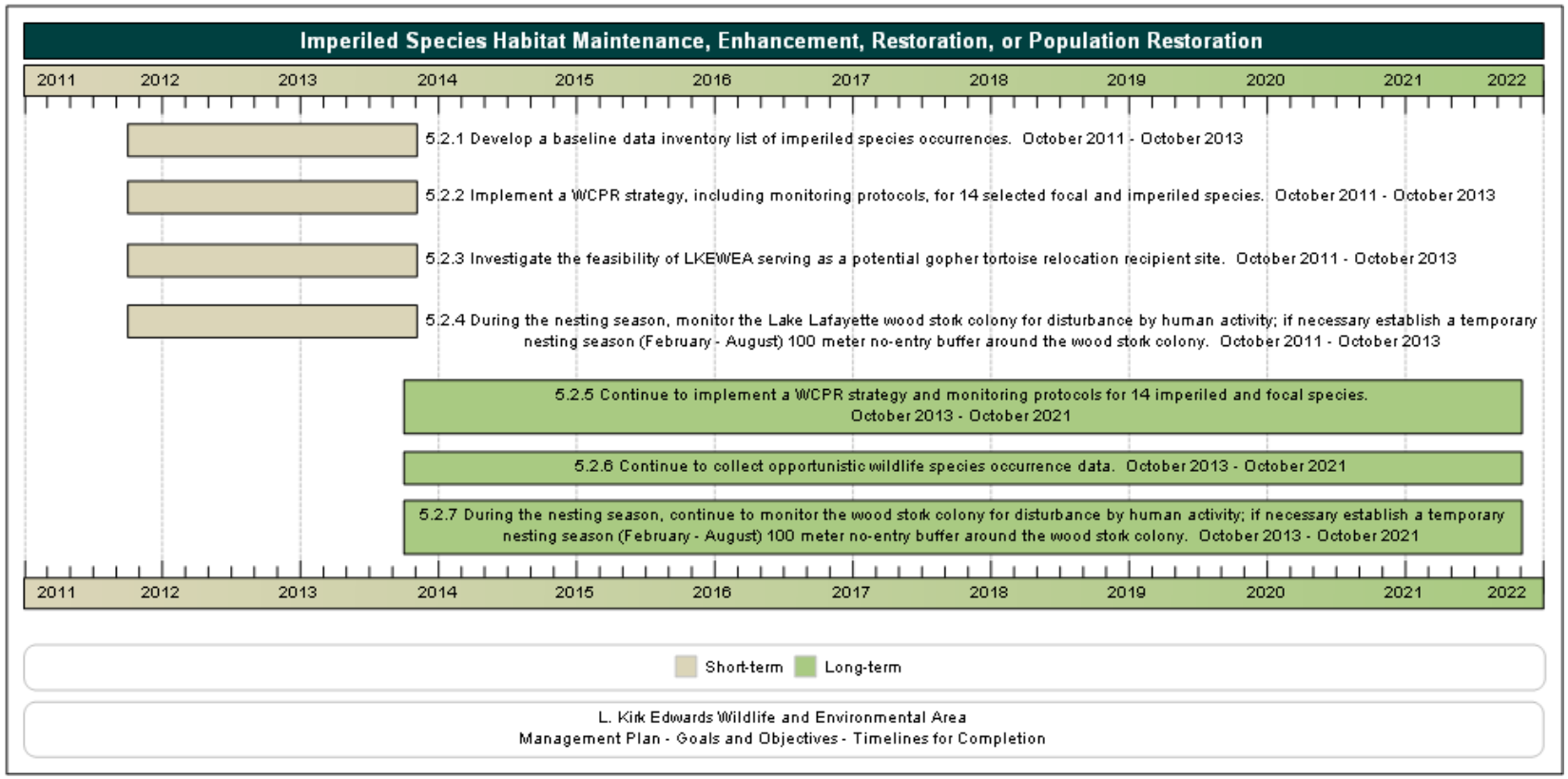
5.1.1 Develop a prescribed burn plan. October 2011 - March 2012
5.1.2 Continue to implement an OBVM program. October 2011 - October 2013
5.1.3 Prescribe burn 320 acres (160 per year). October 2011 - October 2013
5.1.4 Develop a habitat/natural community restoration plan for 75 acres of improved pasture located on the Wood Sink parcel. October 2011 - October 2013
5.1.5 Conduct habitat/natural community improvements (i.e., mechanical/chemical treatments, hardwood removal, and timber stand improvement) on 160 acres on upland habitats. October 2011 – October 2013
5.1.6 Plant longleaf pine on 10 acres of ruderal areas. October 2011 - October 2013
5.1.7 Continue to conduct habitat/natural community improvement (maintain open water habitat by clearing aquatic vegetation) on 24 acres on Lake Lafayette portion of LKEWEA. October 2011 - October 2013
5.1.8 Prescribed burn 19 acres of ephemeral wetlands (dome swamp, depression marsh) to benefit pond breeding amphibians. October 2011 - October 2013
5.1.9 Conduct habitat/natural community improvement activities (i.e., mechanical/chemical treatments, hardwood removal, and timber stand improvement) on 500 acres on upland habitats. October 2013 - October 2021
5.1.10 Continue to prescribe burn 160 acres per year. October 2013 - October 2021
5.1.11 Maintain 500 acres per year within target fire return interval of 2 - 4 years. October 2013 - October 2021
5.1.12 Initiate habitat/natural community and ground cover restoration activities on 75 acres of improved pasture located on the Wood Sink parcel. October 2013 - October 2021
5.1.13 Continue to prescribed burn 19 acres of ephemeral wetlands (dome swamp, depression marsh) to benefit pond breeding amphibians. October 2013 - October 2021
5.1.14 Continue to conduct habitat/natural community improvement (maintain open water habitat by clearing aquatic vegetation) on 24 acres on Lake Lafayette portion of LKEWEA. October 2013 - October 2021
5.1.15 Plant longleaf pine on 75 acres of improved pasture. October 2019 - October 2020
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration
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5.2.1 Develop a baseline data inventory list of imperiled species occurrences. October 2011 - October 2013
5.2.2 Implement a WCPR strategy, including monitoring protocols, for 14 selected focal and imperiled species. October 2011 - October 2013
5.2.3 Investigate the feasibility of LKEWEA serving as a potential gopher tortoise relocation recipient site. October 2011 - October 2013
5.2.4 During the nesting season, monitor the Lake Lafayette wood stork colony for disturbance by human activity; if necessary establish a temporary nesting season (February - August) 100 meter no-entry buffer around the wood stork colony. October 2011 - October 2013
5.2.5 Continue to implement a WCPR strategy and monitoring protocols for 14 imperiled and focal species. October 2013 - October 2021
5.2.6 Continue to collect opportunistic wildlife species occurrence data. October 2013 - October 2021
5.2.7 During the nesting season, continue to monitor the wood stork colony for disturbance by human activity; if necessary establish a temporary nesting season (February - August) 100 meter no-entry buffer around the wood stork colony. October 2013 - October 2021
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion

Waterfowl Management
2011
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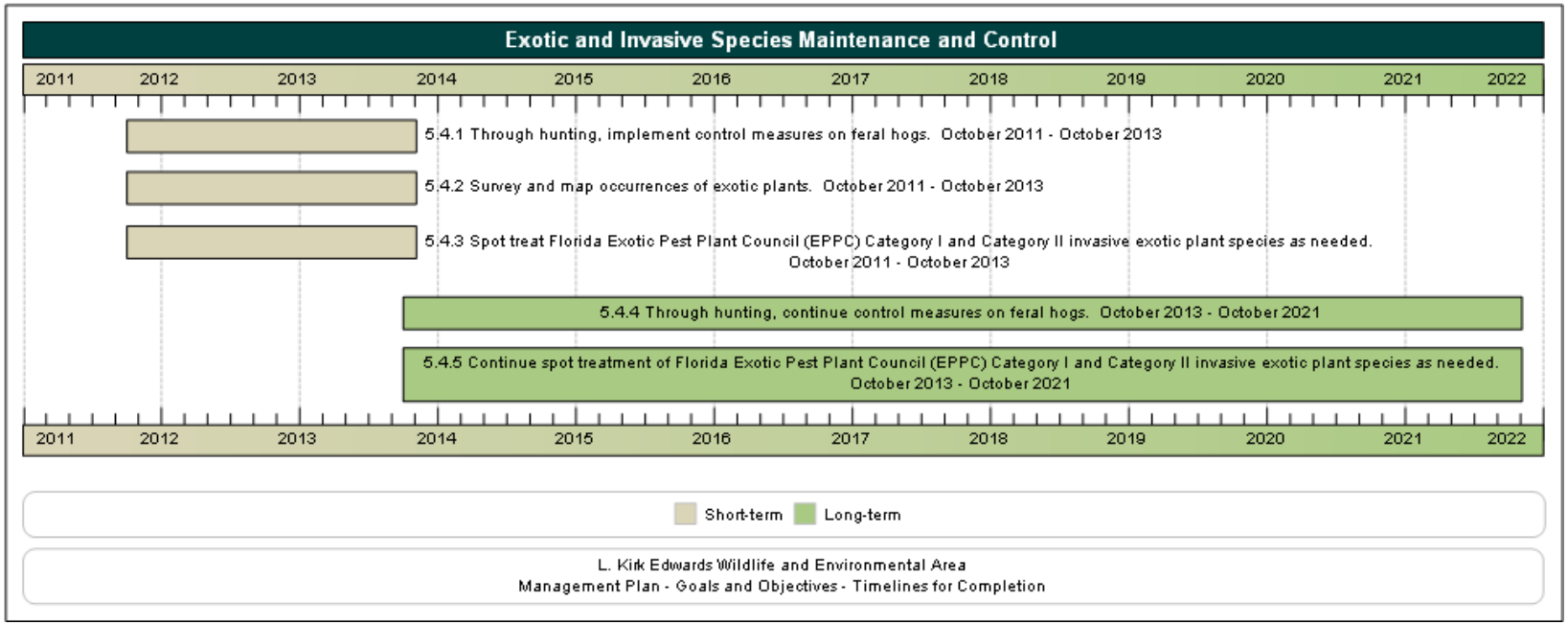
5.3.1 Maintain between 60 and 80 wood duck nesting boxes. October 2011 - October 2013
5.3.2 Continue to maintain between 60 and 80 wood duck nesting boxes. October 2013 - October 2021
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Exotic and Invasive Species Maintenance and Control
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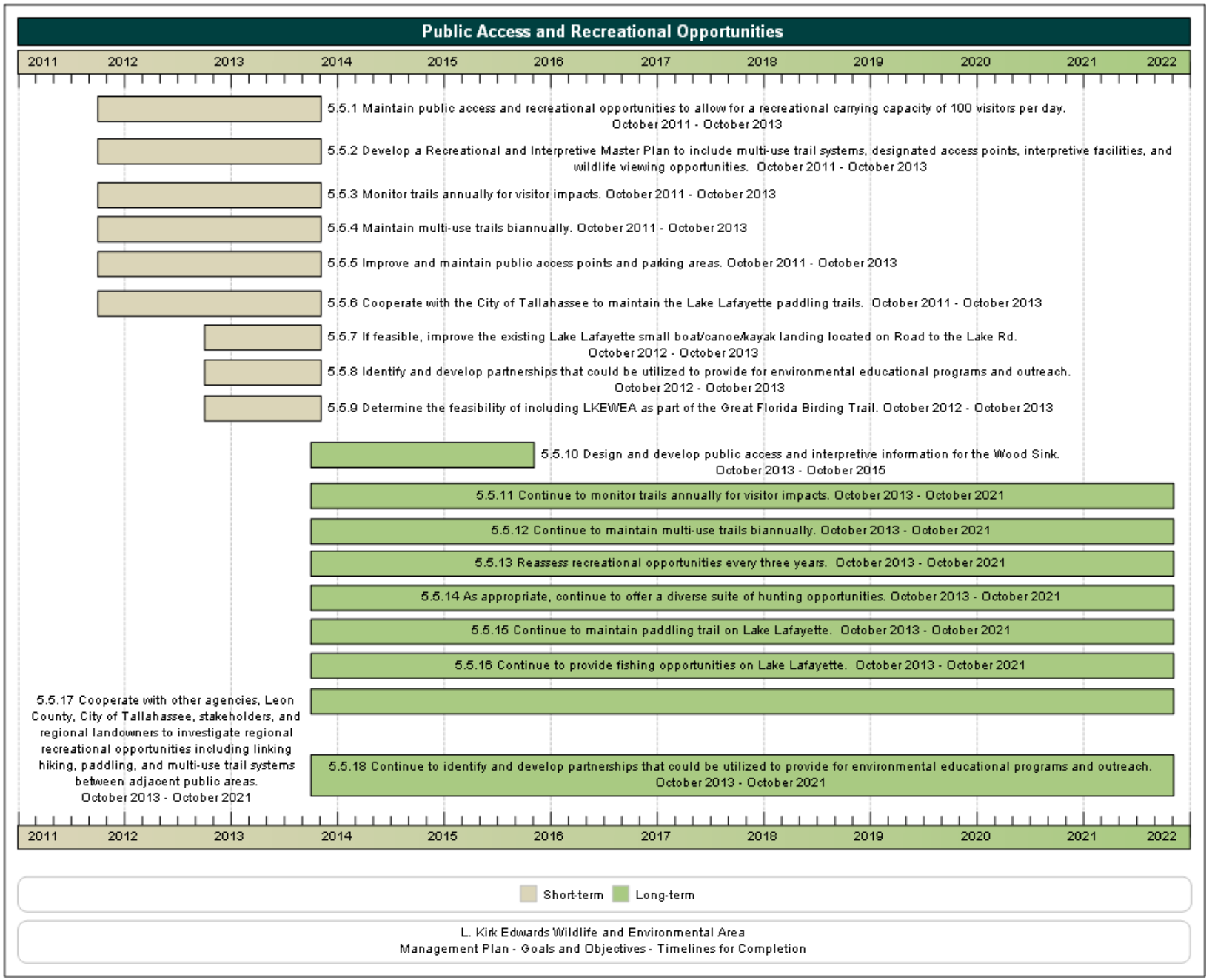
5.4.1 Through hunting, implement control measures on feral hogs. October 2011 - October 2013
5.4.2 Survey and map occurrences of exotic plants. October 2011 - October 2013
5.4.3 Spot treat Florida Exotic Pest Plant Council (EPPC) Category I and Category II invasive exotic plant species as needed. October 2011 - October 2013
5.4.4 Through hunting, continue control measures on feral hogs. October 2013 - October 2021
5.4.5 Continue spot treatment of Florida Exotic Pest Plant Council (EPPC) Category I and Category II invasive exotic plant species as needed. October 2013 - October 2021
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Public Access and Recreational Opportunities
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5.5.1 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 100 visitors per day. October 2011 - October 2013
5.5.2 Develop a Recreational and Interpretive Master Plan to include multi-use trail systems, designated access points, interpretive facilities, and wildlife viewing opportunities. October 2011 - October 2013
5.5.3 Monitor trails annually for visitor impacts. October 2011 - October 2013
5.5.4 Maintain multi-use trails biannually. October 2011 - October 2013
5.5.5 Improve and maintain public access points and parking areas. October 2011 - October 2013
5.5.6 Cooperate with the City of Tallahassee to maintain the Lake Lafayette paddling trails. October 2011 - October 2013
5.5.7 If feasible, improve the existing Lake Lafayette small boat/canoe/kayak landing located on Road to the Lake Rd. October 2012 - October 2013
5.5.8 Identify and develop partnerships that could be utilized to provide for environmental educational programs and outreach. October 2012 - October 2013
5.5.9 Determine the feasibility of including LKEWEA as part of the Great Florida Birding Trail. October 2012 - October 2013
5.5.10 Design and develop public access and interpretive information for the Wood Sink. October 2013 - October 2015
5.5.11 Continue to monitor trails annually for visitor impacts. October 2013 - October 2021
5.5.12 Continue to maintain multi-use trails biannually. October 2013 - October 2021
5.5.13 Reassess recreational opportunities every three years. October 2013 - October 2021
5.5.14 As appropriate, continue to offer a diverse suite of hunting opportunities. October 2013 - October 2021
5.5.15 Continue to maintain paddling trail on Lake Lafayette. October 2013 - October 2021
5.5.16 Continue to provide fishing opportunities on Lake Lafayette. October 2013 - October 2021
5.5.17 Cooperate with other agencies, Leon County, City of Tallahassee, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, paddling, and multi-use trail systems between adjacent public areas. October 2013 - October 2021
5.5.18 Continue to identify and develop partnerships that could be utilized to provide for environmental educational programs and outreach. October 2013 - October 2021
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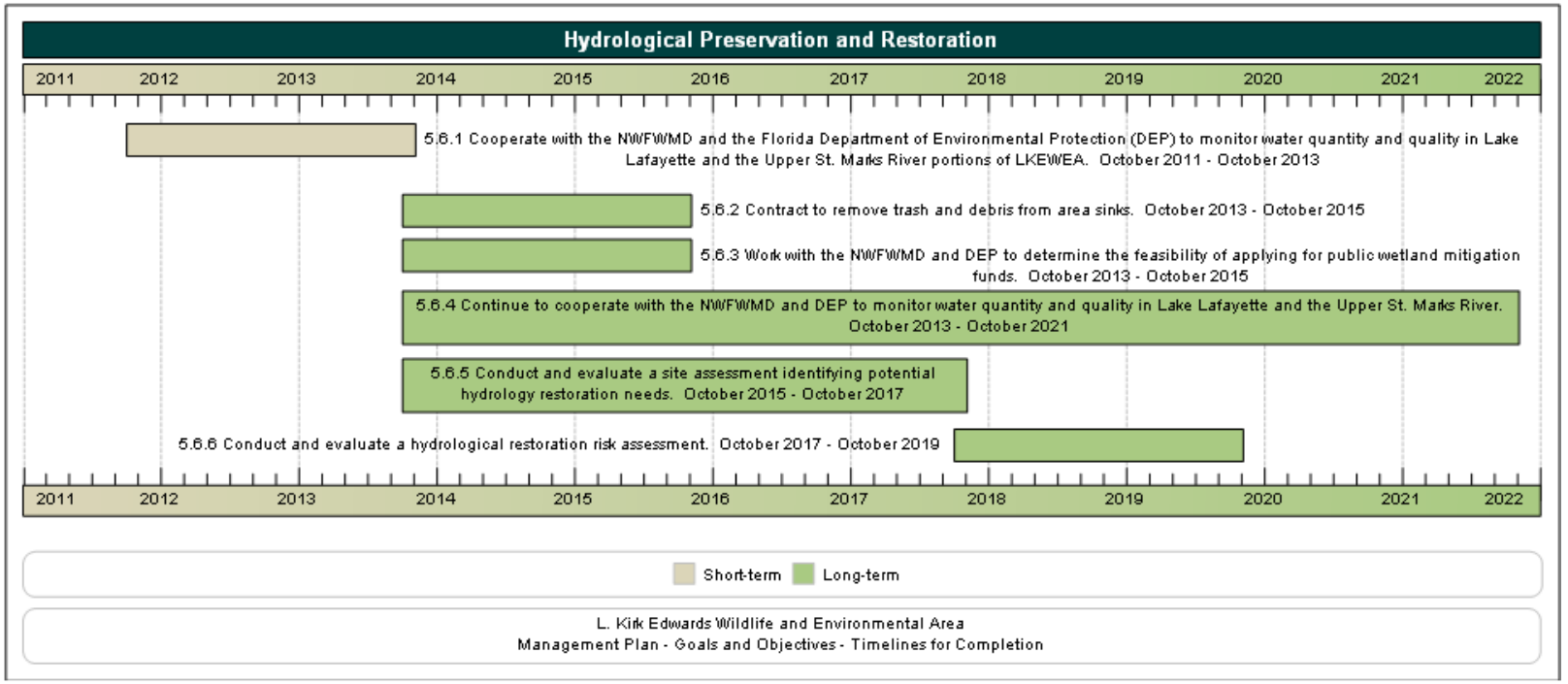
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Hydrological Preservation and Restoration
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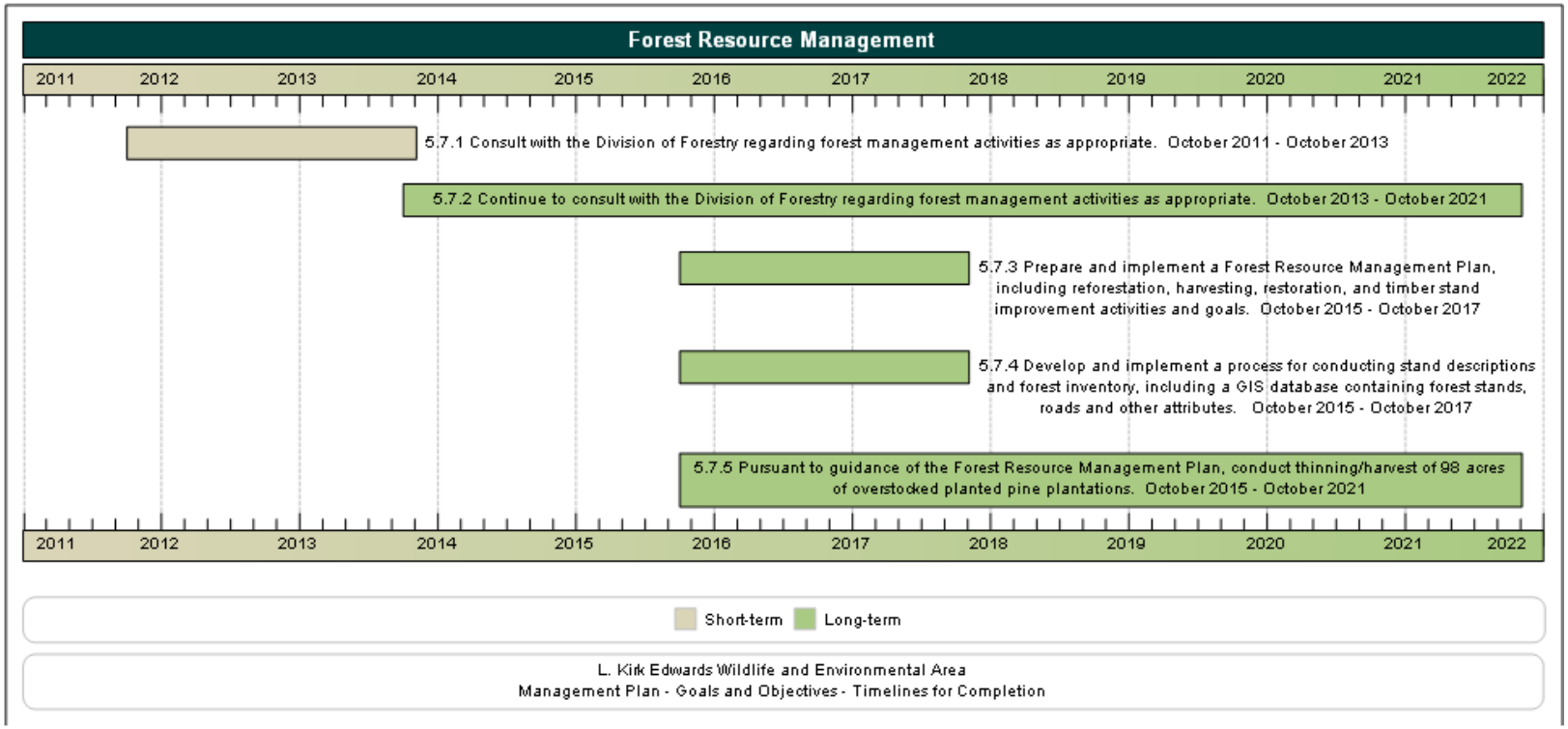
5.6.1 Cooperate with the NWFWMD and the Florida Department of Environmental Protection (DEP) to monitor water quantity and quality in Lake Lafayette and the Upper St. Marks River portions of LKEWEA. October 2011 - October 2013
5.6.2 Contract to remove trash and debris from area sinks. October 2013 - October 2015
5.6.3 Work with the NWFWMD and DEP to determine the feasibility of applying for public wetland mitigation funds. October 2013 - October 2015
5.6.4 Continue to cooperate with the NWFWMD and DEP to monitor water quantity and quality in Lake Lafayette and the Upper St. Marks River. October 2013 - October 2021
5.6.5 Conduct and evaluate a site assessment identifying potential hydrology restoration needs. October 2015 - October 2017
5.6.6 Conduct and evaluate a hydrological restoration risk assessment. October 2017 - October 2019
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Forest Resource Management
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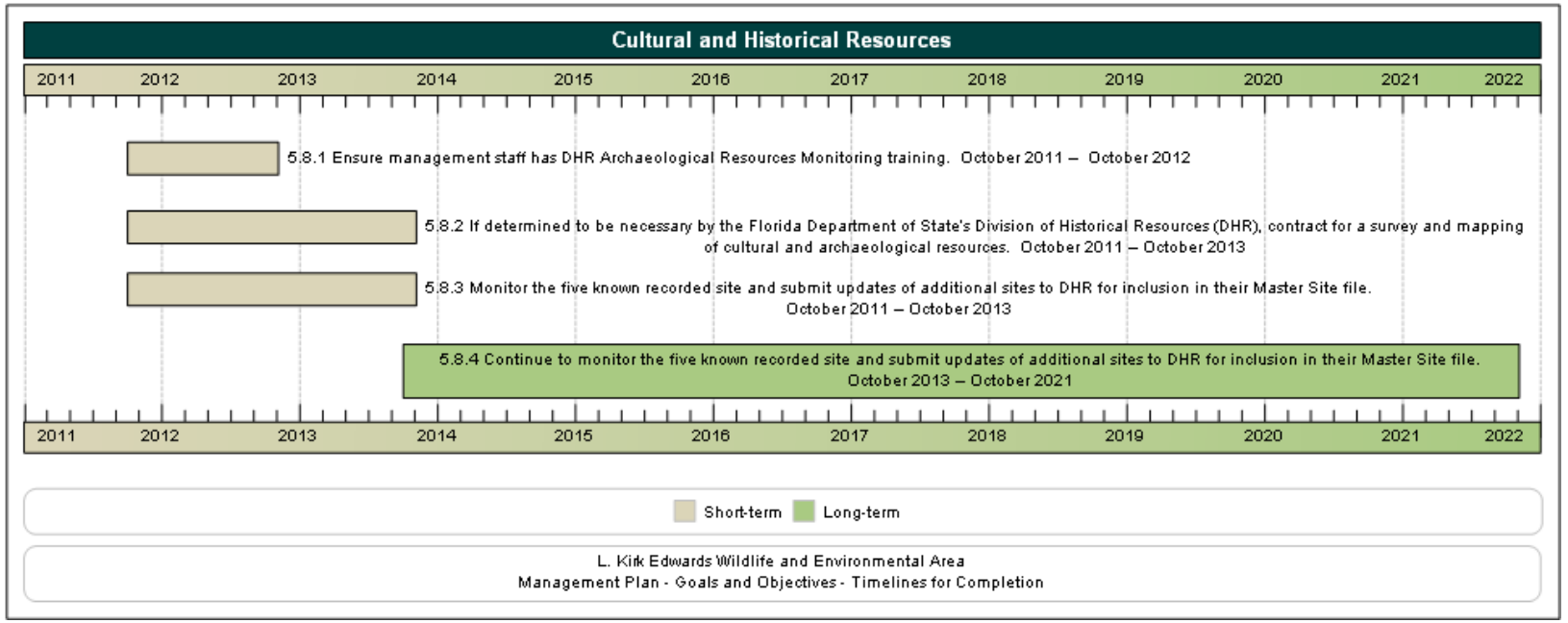
5.7.1 Consult with the Division of Forestry regarding forest management activities as appropriate. October 2011 - October 2013
5.7.2 Continue to consult with the Division of Forestry regarding forest management activities as appropriate. October 2013 - October 2021
5.7.3 Prepare and implement a Forest Resource Management Plan, including reforestation, harvesting, restoration, and timber stand improvement activities and goals. October 2015 - October 2017
5.7.4 Develop and implement a process for conducting stand descriptions and forest inventory, including a GIS database containing forest stands, roads and other attributes. October 2015 - October 2017
5.7.5 Pursuant to guidance of the Forest Resource Management Plan, conduct thinning/harvest of 98 acres of overstocked planted pine plantations. October 2015 - October 2021
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Cultural and Historical Resources
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5.8.1 Ensure management staff has DHR Archaeological Resources Monitoring training. October 2011 – October 2012
5.8.2 If determined to be necessary by the Florida Department of State's Division of Historical Resources (DHR), contract for a survey and mapping of cultural and archaeological resources. October 2011 – October 2013
5.8.3 Monitor the five known recorded site and submit updates of additional sites to DHR for inclusion in their Master Site file. October 2011 – October 2013
5.8.4 Continue to monitor the five known recorded site and submit updates of additional sites to DHR for inclusion in their Master Site file. October 2013 – October 2021
Short-term
Long-term
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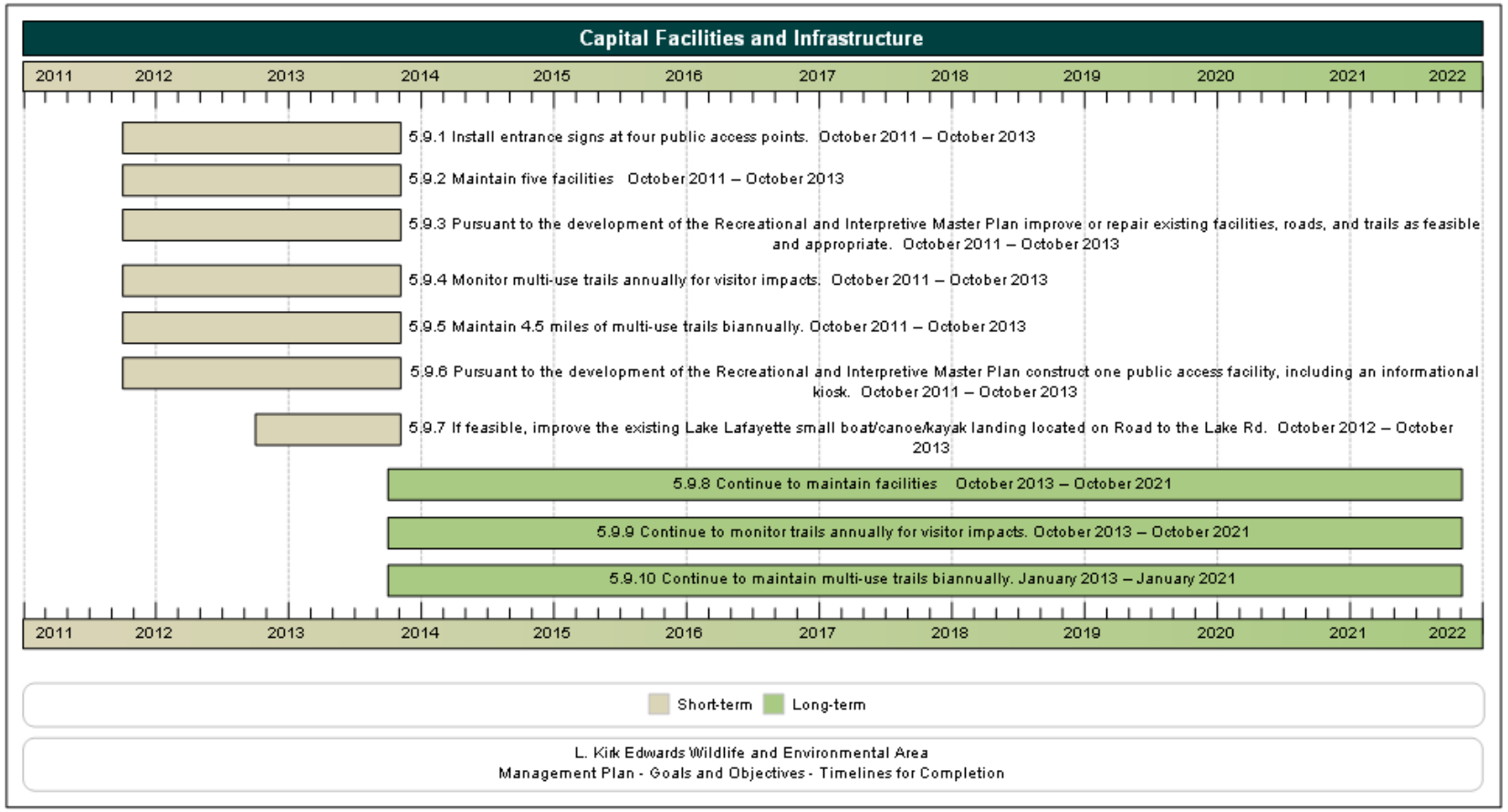
Management Plan - Goals and Objectives - Timelines for Completion


Capital Facilities and Infrastructure
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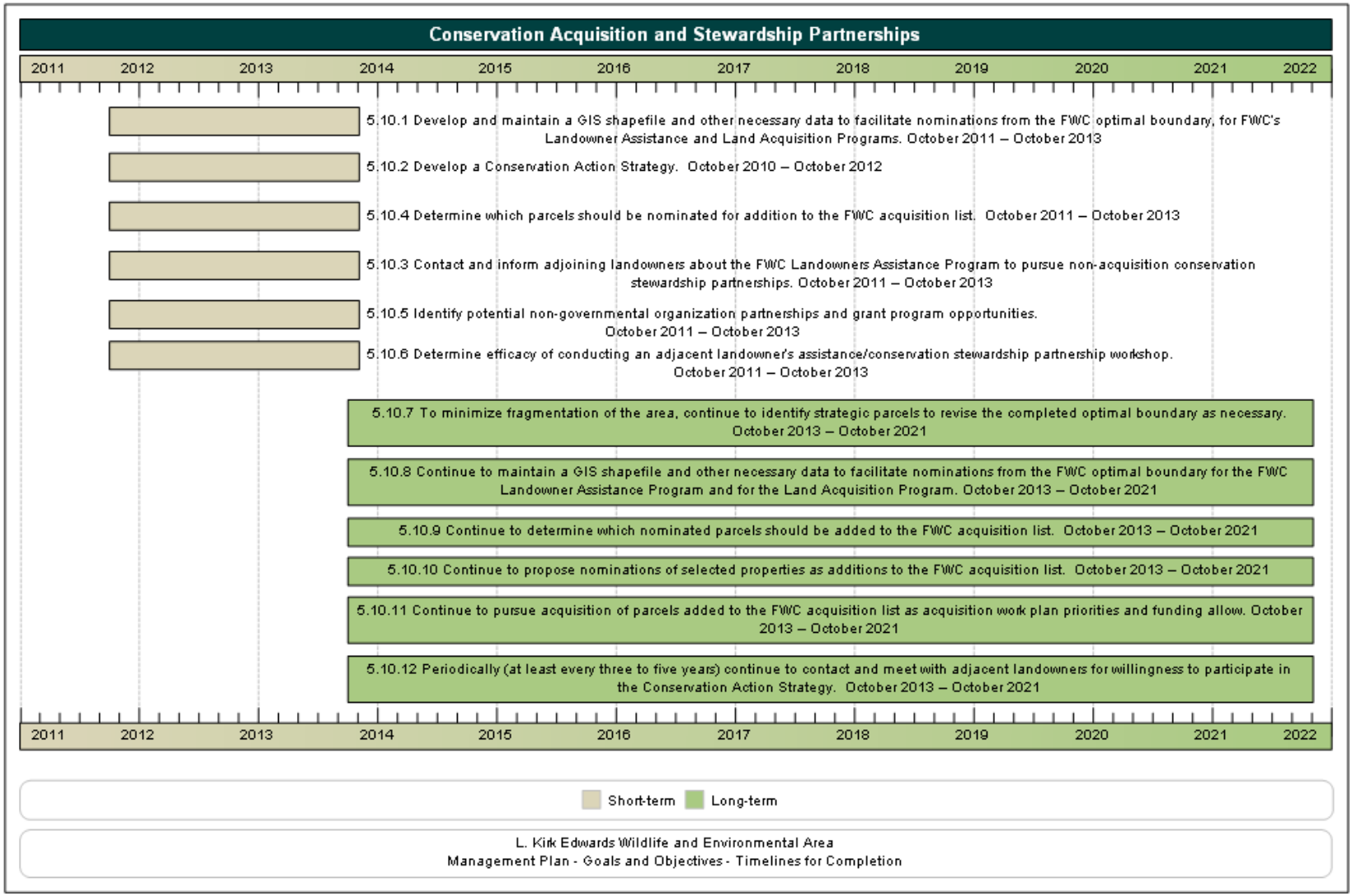
2022
5.9.1 Install entrance signs at four public access points. October 2011 – October 2013
5.9.2 Maintain five facilities October 2011 – October 2013
5.9.3 Pursuant to the development of the Recreational and Interpretive Master Plan improve or repair existing facilities, roads, and trails as feasible and appropriate. October 2011 – October 2013
5.9.4 Monitor multi-use trails annually for visitor impacts. October 2011 – October 2013
5.9.5 Maintain 4.5 miles of multi-use trails biannually. October 2011 – October 2013
5.9.6 Pursuant to the development of the Recreational and Interpretive Master Plan construct one public access facility, including an informational kiosk. October 2011 – October 2013
5.9.7 If feasible, improve the existing Lake Lafayette small boat/canoe/kayak landing located on Road to the Lake Rd. October 2012 – October 2013
5.9.8 Continue to maintain facilities October 2013 – October 2021
5.9.9 Continue to monitor trails annually for visitor impacts. October 2013 – October 2021
5.9.10 Continue to maintain multi-use trails biannually. January 2013 – January 2021
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion


Conservation Acquisition and Stewardship Partnerships
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
5.10.1 Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary, for FWC's Landowner Assistance and Land Acquisition Programs. October 2011 – October 2013
5.10.2 Develop a Conservation Action Strategy. October 2010 – October 2012
5.10.4 Determine which parcels should be nominated for addition to the FWC acquisition list. October 2011 – October 2013
5.10.3 Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship partnerships. October 2011 – October 2013
5.10.5 Identify potential non-governmental organization partnerships and grant program opportunities. October 2011 – October 2013
5.10.6 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop. October 2011 – October 2013
5.10.7 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal boundary as necessary. October 2013 – October 2021
5.10.8 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for the FWC Landowner Assistance Program and for the Land Acquisition Program. October 2013 – October 2021
5.10.9 Continue to determine which nominated parcels should be added to the FWC acquisition list. October 2013 – October 2021
5.10.10 Continue to propose nominations of selected properties as additions to the FWC acquisition list. October 2013 – October 2021
5.10.11 Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. October 2013 – October 2021
5.10.12 Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy. October 2013 – October 2021
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Short-term
Long-term
L. Kirk Edwards Wildlife and Environmental Area
Management Plan - Goals and Objectives - Timelines for Completion

7 Resource Management Challenges and Strategies

7.1 Challenge: There is a potential for conflict among user groups.

7.1.1 Strategy: Work to inform user groups of the scheduling of certain activities, such as hunting seasons, to allow users to selectively visit the area.

7.2 Challenge: Water level manipulations can affect use of wood stork colony.

7.2.1 Strategy: Consult and coordinate with the NWFWMD to manage water resources of Lake Lafayette to ensure optimal water levels.

7.3 Challenges: Neighboring landfill may contribute to degradation of water quality of Lake Lafayette.

7.3.1 Strategy: Cooperate with NWFWMD and DEP to monitor water quality.

7.4 Challenge: Feral hogs are degrading native habitat primarily of the Wood Sink parcel.

7.4.1 Strategy: If necessary, expand hunting opportunities for feral hogs.

7.4.2 Strategy: Determine the feasibility and efficiency of contracting for trapping and removal of feral hogs.

7.5 Challenge: Implementing environmental education programs is problematic primarily due to funding constraints.

7.5.1 Strategy: Identify partnerships that could provide for environmental educational programs and outreach.

7.6 Challenge: Confusion among users regarding activities, hunting seasons, and regulations.

7.6.1 Strategy: Continue to ensure that area regulations are posted at appropriate informational signage and kiosks at designated entry points LKEWEA.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of LKEWEA. This cost estimate was developed using data developed by FWC and other cooperating entities, and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through mitigation, may be sought to supplement existing funding.

The cost estimate below, although exceeding what FWC typically receives through the appropriations process, is consistent with the direction taken by current operational planning for LKEWEA. Cost estimate categories are those currently recognized by FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2009 - 2010 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.10.

L. Kirk Edwards WEA Management Plan Cost Estimate

Maximum expected single year expenditure

Resource Management	
Exotic Species Control	$10,000
Prescribed Burning	$10,000
Cultural Resource Management	$5,000
Timber Management	$2,000
Hydrological Management	$10,000
Other	$48,120
Subtotal	**$85,120**
Administration	
General administration	**$710**
Support	
Land Management Planning	$3,500
Land Management Reviews	$630
Training/Staff Development	$5,000
Vehicle Purchase	$50,000
Vehicle Operation and Maintenance	$10,000
Other	$3,600
Subtotal	**$72,730**
Capital Improvements	
New Facility Construction	$28,051
Facility Maintenance	$26,000
Subtotal	**$54,051**
Visitor Services/Recreation	
Info./Education/Operations	**$10,000**
Law Enforcement	
Resource protection	**$1,208**
Total	**$223,819**

Priority schedule:
Immediate (annual)
Intermediate (3-4 years)
Other (5+ years)

L. Kirk Edwards WEA Management Plan Cost Estimate

Ten-year projection

Resource Management	
Exotic Species Control	$114,639
Prescribed Burning	$114,639
Cultural Resource Management	$16,961
Timber Management	$22,928
Hydrological Management	$114,639
Other	$551,642
Subtotal	**$935,447**
Administration	
General administration	**$8,139**
Support	
Land Management Planning	$40,124
Land Management Reviews	$2,182
Training/Staff Development	$17,320
Vehicle Purchase	$104,636
Vehicle Operation and Maintenance	$114,639
Other	$41,270
Subtotal	**$320,171**
Capital Improvements	
New Facility Construction	$96,223
Facility Maintenance	$298,061
Subtotal	**$394,284**
Visitor Services/Recreation	
Info./Education/Operations	**$114,639**
Law Enforcement	
Resource protection	**$13,851**
Total	**$1,786,531**

Priority schedule:
Immediate (annual)
Intermediate (3-4 years)
Other (5+ years)

9 Analysis of Potential for Contracting Private Vendors for Restoration and Management Activities

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as "Approved" below are those that FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as "Conditional" items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as "Rejected" represent those for which FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

	Approved	Conditional	Rejected
• Road development and maintenance		✓	
• Dike and levee maintenance		✓	
• Prescribed burning		✓	
• Vegetation inventories	✓		
• Timber harvest activities	✓		
• Public contact and educational facilities development		✓	
• Exotic species control		✓	
• Mechanical vegetation treatment		✓	

10 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of FWC personnel are governed by the agency's Internal Management Policies and Procedures (IMPP) Manual. The IMPP Manual provides internal guidance regarding many subjects affecting the responsibilities of agency personnel including personnel management, safety issues, uniforms and personal appearance, training, as well as accounting, purchasing, and budgetary procedures.

When public facilities are developed on areas managed by FWC, every effort is made to comply with Public Law 101 - 336, the Americans with Disabilities Act. As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions (e.g., where handicap access is structurally impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for LKEWEA are in compliance with the Conceptual State Lands Management Plan and its requirement for "balanced public utilization," and are in

compliance with the mission of FWC as described in its Agency Strategic Plan (Appendix 12.5). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 372, 253, 259, 327, 370, 403, 870, 373, 375, 378, 487, and 597 FS.

This plan is also in conformance with the Local Government Comprehensive Plan for LKEWEA County, Florida, as approved and adopted. The letter confirming compliance is contained in Appendix 12.11. Also, The FWC has developed and utilizes an Arthropod Control Plan for LKEWEA in compliance with Chapter 388.4111 F.S. (Appendix 12.12). This plan was developed in cooperation with the local Leon County arthropod control agency.

11 Endnotes

[1] Florida Department of Environmental Protection. 2006. Memo dated February 2, 2006 from T. Wilkinson to L. Minasian. Subject: Title, Historical and Land Records Information L. Kirk Edwards Wildlife and Environmental Area. Bureau of Survey and Mapping, Tallahassee, FL.

[2] Harper, H. H. and D. M. Baker. 2005. Existing status and management plan for Lake Lafayette and the Lake Lafayette Watershed. Environmental Research & Design, Orlando, FL.

[3] Wieckowicz, R. 2006. Comments on Lower Lake Lafayette. Department of Environmental Protection, Tallahassee, FL.

[4] Klemm, J. 2006. Water Quality Standards, Classifications, Uses, and Outstanding Florida Waters. Florida Department of Environmental Protection, Tallahassee, FL.

12 Appendices

12.1 Lease Agreement 4619

DIVISION LOG # 1884 AGREEMENT NUMBER 08326

AGREEMENT ROUTING REVIEW FORM

CONTRACTOR BOT OF IITF AND FWC

VENDOR ID NO. _____ PROCUREMENT METHOD*/BID/RFP NO. N/A

PROJECT TITLE NEW LEASE #4619 FOR 1,063.66 ACRE WOOD SINK ADDITION TO FWC-OWNED L. KIRK EDWARDS WEA

ORIGINATOR/CONTACT RICH MOSPENS PHONE 488-3831, x17289 DIV./OFFICE/MAIL HSC/THCR

X NEW** AMENDMENT RENEWS OR EXTENDS PURCHASING USE ONLY: POSTING - 7 DAY: 72 HR

EXPENDITURE** REVENUE AGREEMENT EASEMENT/DEED X LEASE (INCLUDES WMA OR FMA LEASES)

AGREEMENT BEGINNING DATE/EXECUTION EXECUTION END DATE 50 YRS AFTER EXECUTION OPTION FOR _____ YEARS

TOTAL CONTRACT AMOUNT $ _____ PAYMENT AMOUNT $ _____

BILLING PERIODS: MONTHLY QUARTERLY ANNUALLY OTHER _____

BUILDING INSURANCE TO BE INCURRED BY THE COMMISSION(LEASES) NO YES (Notify Property Administrator)

**NEW EXPENDITURE CONTRACTS: (1) Attach a copy of the State Project checklist or, for Existing State Projects, show the CSFA No. _____
(2) Vendor/Recipient Checklist: Attached? Yes No - not a State Project per (1) Checklist

ORG. CODE	E.O.	OBJECT CODE	CATEGORY	AMOUNT	PROJECT ID			FY

Certified Minority: Yes No Not Available Not Appl. Minority Category _____ (See reverse side for options)

Commodity Code _____ Federal Funds: Agcy _____ CFDA _____

Routing Order for Approval		Date	Comments
1. Project Leader	Signatures on file	4/22/09	
		4-23-09	Budget Sheet is available upon request by external sources. Yes No
2. Budget Director (Expenditure Only)			Budget Authority: Existing New
3. Div./Reg./Inst./Off. Dir./Section Leader			
4. Contracts Administrator		4/23/09	
5. Legal		4/23/09	
6. Accounting			Funds Availability: Yes No
7. Exec./Div./Reg./Inst./Off. Dir. review (check below).		4-30-09	
Expenditure Contracts: Return to Originator for Contractor signature. Other documents: Send to (circle) Exec./Div./Reg./Inst./Off. Dir. for signature.			Expenditure Contracts: After Contractor signs, send to Exec./Div./Reg./Inst./Off. Director for signature and dating.
8. Exec./Div./Reg./Inst. Dir. execute		4-30-09	
Originator Copy to Accounting*			Send a complete copy of the Contract & Routing Form
Originator to Contracts Administrator*			Send executed Original Contract & Original Routing Form
Originator to OIG FSAA Originals		5/19/09	Send to OIG: Mail Code 1E

FWC 167/rev. 01/08 \SHARE\FORMS\CONROUTE.167 *See reverse for Codes/Definitions/Distribution

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
DIVISION OF HABITAT AND SPECIES CONSERVATION

MEMORANDUM

Date: May 11, 2009

To: Jeri Bailey, Contracts Administrator

CC: Billy Sermons, w/ copy of new lease
Morgan Wilbur, w/ copy of new lease
David Alden, w/ cover memo only
Rosa Torres, w/ cover memo only
Accounting, w/ cover memo only
Property, w/ cover memo only

From: Rich Mospens
HSC/THCB

RE: New IITF Lease No. 4619 (FWC Contract #08326), Wood Sink Tract of the L. Kirk Edwards Wildlife and Environmental Area (WEA), addition of 1,063.66 Acres

Included herewith please find a fully executed original of the referenced IITF Lease which has FWC as the sole managing agency and provides a lease term from May 4, 2009 through May 3, 2059. Also included are the routing form and an aerial of the tract.

The concerned leased parcel is an addition to the WEA. The Commission owns fee simple title to the two parcels that made up the WEA prior to the concerned Wood Sink acquisition: 1.) a 687.57 acre parcel that was donated to the Commission by Ms. Louise Kirk Edwards on December 27, 1977 and 2.) a 4.82 acre parcel the Commission acquired using federal grant-in-aid monies in 1984.

Let me know if there are any questions pertaining to this matter.

WHEREAS, THE BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA is authorized in Section 253.03, Florida Statutes, to enter into leases for the use, benefit and possession of public lands by state agencies that may properly use and possess them for the benefit of the people of the State of Florida.

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements hereinafter contained, LESSOR leases the below described premises to LESSEE subject to the following terms and conditions:

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, State of Florida Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease is situated in the County of Leon, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as "leased premises". Unless stated otherwise, all sovereignty lands located within the boundaries of Exhibit "A" shall be considered a part of leased premises.

3. TERM: The term of this lease shall be for a period of fifty years, commencing on MAY 4TH 2009, and ending on MAY 3RD 2059.

4. PURPOSE: LESSEE shall manage the leased premises only for the conservation and protection of natural and historical resources and resource based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 259.032(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management Plan required by paragraph 7 of this lease.

5. QUIET ENJOYMENT AND RIGHT OF USE: LESSEE shall have the right of ingress and egress to, from and upon the leased premises for all purposes necessary to the full quiet enjoyment by said LESSEE of the rights conveyed herein.

6. UNAUTHORIZED USE: LESSEE shall, through its agents and employees, prevent the unauthorized use of the leased premises or any use thereof not in conformance with this lease.

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises in accordance with Section 253.034, Florida Statutes, within twelve months of the effective date of this lease. The Management Plan shall be submitted for approval to the State of Florida Department of Environmental Protection, Division of State Lands, Office of Environmental Services, Mail Station 140, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition, which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

8. RIGHT OF INSPECTION: LESSOR or its duly authorized agents shall have the right at any and all times to inspect the leased premises and the works and operations thereon of LESSEE, in any matter pertaining to this lease.

9. INSURANCE REQUIREMENTS: LESSEE shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, F.S., for any buildings and improvements located on the leased premises by preparing and delivering to the Division of Risk Management, State of Florida Department of Insurance, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this lease immediately upon erection of any structures as allowed by paragraph 4 of this lease. A copy of said form and immediate notification in writing of any erection or removal of structures or other improvements on the leased premises and any changes affecting the value of the improvements shall be submitted to the following: Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

10. LIABILITY: LESSEE shall assist in the investigation of injury or damage claims either for or against LESSOR or the State of Florida pertaining to LESSEE'S respective areas of responsibility under this lease or arising out of LESSEE'S respective management programs or activities and shall contact LESSOR regarding the legal action deemed appropriate to remedy such damage or claims.

11. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this lease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the State of Florida Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the leased premises.

12. EASEMENTS: All easements including, but not limited to, utility

easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

13. SUBLEASES: This lease is for the purposes specified herein and subleases of any nature are prohibited, without the prior written approval of LESSOR. Any sublease not approved in writing by LESSOR shall be void and without legal effect.

14. POST CLOSING RESPONSIBILITIES: In an effort to define responsibilities of the LESSOR and LESSEE with regard to resolving post closing management issues, the parties agree to the following:

a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and environmental products procured by the LESSOR, prior to closing.

b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisitions within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.

c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

d. With regard to all title defects, survey matters, or environmental contamination associated with the leased premises which were not known or could not have been reasonably known by LESSOR at the time LESSOR acquired the leased premises, LESSOR and LESSEE agree to cooperate in developing an appropriate strategy for jointly resolving these matters. LESSOR acknowledges and understands that LESSEE is unable to commit any substantial amount of their routine operating funds for the resolution of any title defect, survey matter, or environmental contamination associated with the lease premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

15. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the

leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

16. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.018(2)(h), Florida Administrative Code, which have been selected, developed, or approved by LESSOR, LESSEE or other land managing agencies for the protection and enhancement of the leased premises.

17. PUBLIC LANDS ARTHROPOD CONTROL PLAN: LESSEE shall identify and subsequently designate to the respective arthropod control district or districts within one year of the effective date of this lease all of the environmentally sensitive and biologically highly productive lands contained within the leased premises, in accordance with Section 388.4111, Florida Statutes and Chapter 5E-13, Florida Administrative Code, for the purpose of obtaining a public lands arthropod control plan for such lands.

18. UTILITY FEES: LESSEE shall be responsible for the payment of all charges for the furnishing of gas, electricity, water and other public utilities to the leased premises and for having all utilities turned off when the leased premises are surrendered.

19. ASSIGNMENT: This lease shall not be assigned in whole or in part without the prior written consent of LESSOR. Any assignment made either in whole or in part without the prior written consent of LESSOR shall be void and without legal effect.

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees, other than non-native species, shall be removed or major land alterations done without the prior written approval of LESSOR. Removable equipment placed on the leased premises by LESSEE which do not

become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain the real property contained within the leased premises and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, removing all trash or litter, maintaining all planned improvements as set forth in the approved Management Plan, meeting all building and safety codes. LESSEE shall maintain any and all existing roads, canal, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease.

22. ENTIRE UNDERSTANDING: This lease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of LESSOR.

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within sixty days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

24. NO WAIVER OF BREACH: The failure of LESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms and conditions of this lease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any one of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing, signed by LESSOR.

25. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the leased premises is held by LESSOR. LESSEE shall not do or permit anything which purports to create a lien or encumbrance of any nature against the real property contained in the leased premises including, but not limited

to, mortgages or construction liens against the leased premises or against any interest of LESSOR therein.

26. CONDITIONS AND COVENANTS: All of the provisions of this lease shall be deemed covenants running with the land included in the leased premises, and construed to be "conditions" as well as "covenants" as though the words specifically expressing or imparting covenants and conditions were used in each separate provision.

27. NOTICES: All notices given under this lease shall be in writing and shall be served by certified mail including, but not limited to, notice of any violation served pursuant to Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

LESSOR: Board of Trustees of the Internal Improvement Trust Fund of the State of Florida
Department of Environmental Protection
Bureau of Public Land Administration
Division of State Lands
3800 Commonwealth Boulevard, MS 130
Tallahassee, Florida 32399-3000

LESSEE: Florida Fish and Wildlife Conservation Commission
620 South Meridian Street, Room 321
Tallahassee, Florida 32399-1600

28. DAMAGE TO THE PREMISES: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing

liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by LESSEE'S such failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. Nothing herein shall relieve LESSEE of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by LESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state or federal law, ordinance, code, rule, regulation, order or decree relating to the generation, storage, production, placement, treatment, release or discharge of any contaminant, LESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to LESSOR, all within the reporting periods of the applicable governmental agencies.

29. PAYMENT OF TAXES AND ASSESSMENTS: LESSEE shall assume full responsibility for and shall pay all liabilities that accrue to the leased premises or to the improvements thereon, including any and all drainage and special assessments or taxes of every kind and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises.

30. RIGHT OF AUDIT: LESSEE shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should LESSEE fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

31. NON-DISCRIMINATION: LESSEE shall not discriminate against any individual because of that individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring within the leased premises or upon lands adjacent to and used as an adjunct of the leased premises.

32. COMPLIANCE WITH LAWS: LESSEE agrees that this lease is contingent upon and subject to LESSEE obtaining all applicable permits and complying with all applicable permits, regulations, ordinances, rules, and laws of the State of Florida or the United States or of any political subdivision or agency of either.

33. TIME: Time is expressly declared to be of the essence of this lease.

34. GOVERNING LAW: This lease shall be governed by and interpreted according to the laws of the State of Florida.

35. SECTION CAPTIONS: Articles, subsections and other captions contained in this lease are for reference purposes only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this lease or any provisions thereof.

36. ADMINISTRATIVE FEE: LESSEE shall pay LESSOR an annual administrative fee of $300 pursuant to subsection 18-2.020(8), Florida Administrative Code. The initial annual administrative fee shall be payable within thirty days from the date of execution of this lease agreement and shall be prorated based on the number of months or fraction thereof remaining in the fiscal year of execution. For purposes of this lease agreement, the fiscal year shall be the period extending from July 1 to June 30. Each annual payment thereafter shall be due and payable on July 1 of each subsequent year.

37. SPECIAL CONDITIONS: The following special conditions shall apply to this lease: None.

IN WITNESS WHEREOF, the parties have caused this lease to be executed on the day and year first above written.

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

Signatures on file

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 4th day of MAY 2009, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, acting as agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

Signatures on file

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Signatures on file

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 30 day of April 2009, by Nick Wiley, as Asst. Exec. Dir., on behalf of the Florida Fish and Wildlife Conservation Commission, who is/are personally known to me or who has produced _____ as identification.

Signatures on file

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
Commission Attorney

Commission Number:

Commission Expires:

NOTARY PUBLIC-STATE OF FLORIDA
Kathleen Louise Hampton
Commission # DD568288
Expires: JUNE 26, 2010
BONDED THRU ATLANTIC BONDING CO., INC.

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R11/07

EXHIBIT "A"

2008085879
THIS DOCUMENT HAS BEEN RECORDED IN THE PUBLIC RECORDS OF
LEON COUNTY FL
BK: 3931 PG:1020, Page1 of 13
12/17/2008 at 08:54 AM,

BOB INZER, CLERK OF COURTS

This Instrument Prepared By and

Please Return To:

Joseph R. Boyd, Esquire
Tallahassee Title Group, LLC
1407 Piedmont Drive East
Tallahassee, Florida 32308

WARRANTY DEED

THIS INDENTURE, made this 8th day of December, A.D. 2008, between **The Nature Conservancy, a non-profit District of Columbia corporation authorized to transact business in the State of Florida as The Nature Conservancy, Inc.**, whose post office address is 222 S. Westmonte Drive, Suite 300, Altamonte Springs, Florida 32714-4269, Grantor, and the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**., whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, Grantee, (Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and their legal representatives, successors and assigns. "Grantor" and "Grantee" are used for singular and plural, as the context requires and the use of any gender shall include all genders.)

WITNESSETH: That the said Grantor, for and in consideration of the sum of Ten Dollars and other good and valuable considerations, to said Grantor in hand paid by said Grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said Grantee, and Grantee's successors and assigns forever, the following described land situate, lying and being in Leon County, Florida, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND BY REFERENCE MADE A PART HEREOF

Property Appraiser's Identification Numbers: 1235200030000, 1235202180000, 1235202210000, 1235202220000, and 3202201110000

The Grantor is a non-profit corporation whose purpose is the preservation of natural resources and which is exempt from federal income tax under s. 501(c)(3) of the Internal Revenue Code, and the Grantee is the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. Accordingly, no State documentary stamp tax is due upon this conveyance per s. 201.02(b), Florida Statute.

This conveyance is subject to easements, restrictions, limitations, and conditions of record if any now exist, but any such interests that may have been terminated are not hereby re-imposed.

AND the said Grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

EXHIBIT "A"

IN WITNESS WHEREOF the Grantor has hereunto set Grantor's hand and seal, the day and year first above written.

Signed, sealed and delivered in the presence of:

The Nature Conservancy, a non-profit District of Columbia corporation authorized to transact business in the State of Florida as The Nature Conservancy, Inc.

Signatures on file

STATE OF ~~FLORIDA~~ NORTH CAROLINA
COUNTY OF Durham

The foregoing instrument was acknowledged before me this 8th day of December, 2008, by Katherine D. Skinner, as Vice President of The Nature Conservancy, a non-profit District of Columbia corporation authorized to transact business in the State of Florida as The Nature Conservancy, Inc., on behalf of said corporation. Such person (notary Public must check applicable box):

☒ is personally known to me
( ) produced a current driver's license
( ) produced _____ as identification

JODIE A. LAPOINT Notary Public Durham County My Commission expires 12-28-2011 NORTH CAROLINA

(NOTARY PUBLIC SEAL)

Signatures on file

Lease Number 4619

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EXHIBIT "A"

Exhibit "A"

TRACT 1:

A tract of land situate in Sections 1, 2, and 3, Township 1 South, Range 2 East, and in Sections 34, 35 and 36, Township 1 North, Range 2 East, Leon County, Florida, and more particularly described as follows:

Begin at the Northwest corner of the Northeast Quarter of said Section 3(presently marked by a (terra cotta pipe filled with concrete) and run North 89 degrees 42 minutes 16 seconds East along the North boundary of the Northeast Quarter of said Section 3 a distance of 660.71 feet to the Southeast corner property described in Official Records Book 786, Page 733 of the Public Records of Leon County, Florida, (presently marked by a 6 inch by 6 inch St. Joe Paper Company concrete monument) thence run North 00 degrees 12 minutes 32 seconds West along the East boundary of said property described in Official Records Book 786, Page 733 and the East boundary of property described in Official Records Book 1039, Page 192 of said Public Records a distance of 1010.23 feet to the Southerly right of way boundary of Capitola Road a.k.a. Jackson Street (60.00 foot right of way) (presently marked by a concrete monument LB#732) said point also lying on a curve concave to the Southeast, thence run Northeasterly along said right of way boundary as follows: thence Northeast along said right of way curve with a radius of 1970.00 feet, through a central angle of 07 degrees 35 minutes 50 seconds, for an arc distance of 261.22 feet (the chord of said arc being North 85 degrees 05 minutes 31 seconds East 261.03 feet) to a concrete monument LB#732, thence North 88 degrees 53 minutes 26 seconds East 1052.08 feet to a nail and cap LB#732 marking a point of curve to the left, thence along said curve with a radius of 1130.00 feet, through a central angle of 17 degrees 04 minutes 40 seconds, for an arc distance of 336.81 feet (the chord of said arc being North 80 degrees 21 minutes 06 seconds East 335.57 feet) to a concrete monument LB#732, thence North 51 degrees 48 minutes 46 seconds East 872.03 feet to the Northwest corner of property described in Deed Book 109, Page 239 of said Public Records (presently marked by a 1/2 iron pin LB#732), thence leaving said right of way boundary and run South along the West boundary of said property described in Deed Book 109, Page 239 a distance of 257.40 feet to a 1/2 inch iron pin LB#732, thence North 89 degrees 00 minutes 00 seconds East along the South boundary of said property a distance of 488.40 feet to a 1/2 inch iron pin LB#732, thence North along the East boundary of said property a distance of 440.51 feet to the aforesaid Southerly right of way boundary of Capitola Road a.k.a. Jackson Street and the Northwest corner of property described in Deed Book 201, Page 105 of said Public Records (presently marked by a concrete monument LB#732), thence South 21 degrees 29 minutes 46 seconds East along the West boundary of said property a distance of 101.60 feet to a concrete monument LB#732, thence North 54 degrees 14 minutes 04 seconds East along the South boundary of said property a distance of 104.96 feet to a concrete monument LB#732, thence North 21 degrees 51 minutes 51 seconds West along the East boundary of said property a

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BSM
By RS Date 12.2.08

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distance of 106.03 feet to the aforesaid Southerly right of way boundary of Capitola Road a.k.a. Jackson Street, thence continue Northeasterly along said right of way boundary as follows: North 51 degrees 48 minutes 46 seconds East 170.14 feet to a concrete monument LB#732 marking a point of curve to the right, thence along said curve with a radius of 1970.00 feet, through a central angle of 13 degrees 06 minutes 57 seconds, for an arc distance of 450.96 feet (the chord of said arc being North 58 degrees 22 minutes 15 seconds East 449.98 feet to a concrete monument LB#732, thence North 64 degrees 55 minutes 43 seconds East 65.66 feet to a concrete monument LB#732, marking the Southerly boundary of a 50 foot Florida Gas Transmission right of way described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida, thence leaving the right of way boundary of said Capitola Road a.k.a. Jackson Street run along said Southerly boundary of a 50 foot Florida Gas Transmission right of way as follows: South 57 degrees 00 minutes 11 seconds East 16.39 feet to a concrete monument LB#732, thence South 61 degrees 59 minutes 45 seconds East 335.80 feet to a concrete monument LB#732, thence South 64 degrees 25 minutes 17 seconds East 5772.79 feet to a concrete monument LB#732, thence leaving said Transmission right of way and run thence South 58 degrees 13 minutes 27 seconds West 618.90 feet to a concrete monument LB#732, thence North 56 degrees 11 minutes 23 seconds West 9.34 feet to a 1/2 inch iron pin LB#732, thence North 52 degrees 04 minutes 53 seconds West 119.13 feet to a 1/2 inch iron pin LB#732, thence North 61 degrees 49 minutes 42 seconds West 129.32 feet to a 1/2 inch iron pin LB#732, thence North 45 degrees 41 minutes 47 seconds West 195.86 feet to a 1/2 inch iron pin LB#732, thence North 72 degrees 50 minutes 53 seconds West 202.05 feet to a 1/2 inch iron pin LB#732, thence North 86 degrees 19 minutes 07 seconds West 93.46 feet to a 1/2 inch iron pin LB#732, thence North 73 degrees 59 minutes 51 seconds West 141.85 feet to a 1/2 inch iron pin LB#732, thence North 86 degrees 02 minutes 32 seconds West 481.24 feet to a 1/2 inch iron pin LB#732, thence North 77 degrees 53 minutes 06 seconds West 172.39 feet to a 1/2 inch iron pin LB#732, thence North 76 degrees 39 minutes 26 seconds West 157.82 feet to a 1/2 inch iron pin LB#732, thence South 84 degrees 57 minutes 32 seconds West 265.49 feet to a 1/2 inch iron pin LB#732, thence South 25 degrees 21 minutes 27 seconds West 202.64 feet to a 1/2 inch iron pin LB#732, thence South 17 degrees 58 minutes 23 seconds West 200.51 feet to a 1/2 inch iron pin LB#732, thence South 26 degrees 59 minutes 58 seconds West 210.13 feet to a 1/2 inch iron pin LB#732, thence South 35 degrees 42 minutes 21 seconds West 204.29 feet to a 1/2 inch iron pin LB#732, thence South 09 degrees 35 minutes 50 seconds West 224.33 feet to a 1/2 inch iron pin LB#732, thence South 19 degrees 06 minutes 46 seconds East 302.26 feet to a 1/2 inch iron pin LB#732, thence South 14 degrees 41 minutes 30 seconds West 153.35 feet to a 1/2 inch iron pin LB#732, thence South 05 degrees 43 minutes 49 seconds West 173.45 feet to a 1/2 inch iron pin LB#732, thence South 18 degrees 37 minutes 31 seconds West 212.97 feet to a 1/2 inch iron pin LB#732, thence South 27 degrees 13 minutes 16 seconds East 188.65 feet to a 1/2 inch iron pin LB#732, thence South 12 degrees 51 minutes 53 seconds East 191.63 feet to a 1/2 inch iron pin LB#732, thence South 21 degrees 43 minutes 30 seconds East 272.33 feet to a 1/2 inch iron pin LB#732, thence South 01 degree 20

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minutes 46 seconds East 397.61 feet to a 1/2 inch iron pin LB#732, thence South 14 degrees 28 minutes 19 seconds East 173.82 feet to a 1/2 inch iron pin LB#732, thence South 60 degrees 31 minutes 00 seconds West 179.91 feet to a 1/2 inch iron pin LB#732, thence South 51 degrees 55 minutes 30 seconds West 126.41 feet to a 1/2 inch iron pin LB#732, thence South 67 degrees 59 minutes 24 seconds West 519.77 feet to a 1/2 inch iron pin LB#732, thence South 71 degrees 13 minutes 05 seconds West 647.62 feet to a 1/2 inch iron pin LB#732, thence North 70 degrees 27 minutes 14 seconds West 200.54 feet to a 1/2 inch iron pin LB#732, thence North 85 degrees 25 minutes 38 seconds West 1030.19 feet to a 1/2 inch iron pin LB#732, thence South 49 degrees 34 minutes 17 seconds West 80.22 feet, thence South 21 degrees 14 minutes 07 seconds East 2091.32 feet to the Northerly right of way boundary of U.S. Highway No. 27 (150 foot right of way)(presently marked by a concrete monument LB#732), thence run North 77 degrees 59 minutes 16 seconds West along said Northerly right of way boundary a distance of 2310.04 feet to the Southeast corner of property described in Official Records Book 710, Page 520 of said Public Records (presently marked by a concrete monument LB#732), thence leaving said right of way boundary run North 00 degrees 17 minutes 12 seconds West along the East boundary of said property 676.96 feet to the Northeast corner of said property (presently marked by a 6 inch by 6 inch St. Joe Paper Company concrete monument), thence South 89 degrees 17 minutes 31 seconds West along the North boundary of said property and along the North boundary of property described in Official Records Book 1704, Page 2118, Official Records Book 1704, Page 2013, Official Records Book 2048, Page 701, Official Records Book 1851, Page 554, Deed Book 153, Page 111 of said Public Records a distance of 1221.42 feet to the Northeast corner of property described in Official Records Book 1173, Page 993 of the Public Records of Leon County, Florida (presently marked by a 1/2 inch iron pipe), thence South 73 degrees 46 minutes 03 seconds West along the North boundary of said property a distance of 314.46 feet to the West boundary of the Northeast Quarter of the Southeast Quarter of said Section 3 (presently marked by a 1 inch iron pipe), thence North 00 degrees 08 minutes 42 seconds West along said West boundary and along the East boundary of property described in Deed Book 54, Page 498 of said Public Records a distance of 1189.25 feet to the Northwest corner of the Northeast Quarter of the Southeast Quarter of said Section 3 (presently marked by a concrete monument LB#732), thence North 88 degrees 43 minutes 32 seconds West along the North boundary of said property a distance of 311.18 feet to the Southeast corner of property described in Deed Book 233, Page 269 of said Public Records (presently marked by a 6 inch by 6 inch St. Joe Paper Company concrete monument), thence North 15 degrees 24 minutes 56 seconds West along the East boundary of said property and along the East boundary of property described in Official Records Book 1788, Page 1811 and Official Records Book 792, Page 565 and Official Records Book 885, Page 1088 of said Public Records a distance of 1879.91 feet to a 6 inch by 6 inch St. Joe Paper Company concrete monument, thence South 81 degrees 23 minutes 08 seconds West along the North boundary of property described in Official Records Book 885, Page 1088 of said Public Records a distance of 587.99 feet to the West boundary of the Northeast Quarter of said Section 3 (presently marked by a 6 inch by 6

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Inch St. Joe Paper Company concrete monument), thence North 00 degrees 03 minutes 36 seconds West along the East boundary of Property Described in Official Records Book 885, Page 1088 of said Public Records a distance of 1108.85 feet to the POINT OF BEGINNING.

Less and except:

A tract of land lying adjacent to lands described in Deed Book 201, Page 105, of the Public Records of Leon County, Florida , lying and being in Section 35, Township-1-North, Range-2-East, Leon County, Florida and described as follows:

Commence at a found 4"X 4" concrete monument marking the Southwest Corner of Section 35, Township-1-North, Range-2-East, Leon County, Florida and run thence North 00 degrees 00 minutes 11 seconds West along the West Boundary of said Section 35 a distance of 2,027.44 feet to a point on the Southerly Right-of-Way Boundary of Capitola Road; Thence North 51 degrees 48 minutes 46 seconds East along said Southerly Right-of-way Boundary a distance of 849.41 feet to the Northwest corner of lands described in Deed Book 201, Page 105, of the Public Records of said Leon County for the POINT OF BEGINNING. From said POINT OF BEGINNING and leaving said Right-of-Way and run South 21 degrees 29 minutes 46 seconds East along the Westerly Boundary of said lands a distance of 101.60 feet to the Southwest corner of said lands; Thence South 54 degrees 14 minutes 04 seconds West a distance of 45.88 feet to the East Boundary of lands described as an exception in Deed Book 109, page 239 of said Public Records: Thence North along said East Boundary a distance of 121.75 feet to the POINT OF BEGINNING.

TRACT 2:

A tract of land situate in Sections 35 and 36, Township 1 North, Range 2 East, Leon County, Florida, and more particularly described as follows:

Commence at the Northeast corner of said Section 35 (also the Northwest corner of said Section 36) (presently marked by a 1.5 inch iron pipe), thence run North 89 degrees 59 minutes 31 seconds East along the North boundary of said Section 36 a distance of 472.46 feet to the Westerly boundary of Cap Tram Road (presently marked by a concrete monument LB#732), said concrete monument lying on a curve concave to the East, thence Southerly along said curve and along a line 30 feet West of and parallel with the center of said Cap Tram

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Road with a radius of 1030.00 feet, through a central angle of 16 degrees 34 minutes 40 seconds, for an arc distance of 298.02 feet (the chord of said arc being South 09 degrees 23 minutes 50 seconds East 295.98 feet) to a concrete monument LB#732, thence South 17 degrees 37 minutes 48 seconds East along said parallel line 854.50 feet to a concrete monument LB#732, thence South 17 degrees 22 minutes 12 seconds East along said parallel line a distance of 1086.21 feet to a concrete monument LB#732, thence South 16 degrees 56 minutes 28 seconds East along said parallel line 99.34 feet to a concrete monument LB#732 for the POINT OF BEGINNING. From said POINT OF BEGINNING continue South 16 degrees 56 minutes 28 seconds East along said parallel line 2557.87 feet to a concrete monument LB#732, thence South 56 degrees 13 minutes 27 seconds West 432.72 feet to the Northerly boundary of a 50 foot Florida Gas Transmission right of way as described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida (presently marked by a concrete monument LB#732), thence run North 64 degrees 25 minutes 17 seconds West along said Northerly right of way boundary 5801.35 feet to a concrete monument LB#732, thence North 61 degrees 59 minutes 45 seconds West along said Northerly right of way boundary 314.56 feet to the Southerly right of way boundary of Capitola Road a.k.a. Jackson Street (60.0 foot right of way) (presently marked by a concrete monument LB#732), thence run Northeasterly along said right of way boundary as follows: North 64 degrees 55 minutes 43 seconds East 942.03 feet to a concrete monument LB#732 marking a point of curve to the left, thence along said curve with a radius of 930.00 feet, through a central angle of 15 degrees 16 minutes 19 seconds, for an arc distance of 247.89 feet (the chord of said arc being North 57 degrees 17 minutes 34 seconds East 247.15 feet to a concrete monument LB#732, thence North 49 degrees 39 minutes 25 seconds East 1308.41 feet to a concrete monument LB#732, thence leaving said right of way boundary and run South 29 degrees 03 minutes 27 seconds East 230.96 feet to a 1/2" iron pin LB#732, thence South 35 degrees 23 minutes 03 seconds East 70.66 feet to a 1/2" iron pin LB#732, thence South 40 degrees 05 minutes 10 seconds East 451.44 feet to a 1/2" iron pin LB#732, thence South 37 degrees 19 minutes 58 seconds East 81.03 feet to a 1/2" iron pin LB#732, thence South 19 degrees 52 minutes 28 seconds East 112.36 feet to a 1/2" iron pin LB#732, thence South 12 degrees 47 minutes 01 second East 115.64 feet to a 1/2" iron pin LB#732, thence South 22 degrees 09 minutes 16 seconds East 56.57 feet to a 1/2" iron pin LB#732, thence South 36 degrees 16 minutes 19 seconds East 51.24 feet to a 1/2" iron pin LB#732, thence South 43 degrees 58 minutes 58 seconds East 120.21 feet to a 1/2" iron pin LB#732, thence South 58 degrees 12 minutes 33 seconds East 66.70 feet to a 1/2" iron pin LB#732, thence South 46 degrees 05 minutes 08 seconds East 119.71 feet to a 1/2" iron pin LB#732, thence South 16 degrees 25 minutes 28 seconds East 78.23 feet to a 1/2" iron pin LB#732, thence South 03 degrees 55 minutes 56 seconds West 74.58 feet to a 1/2" iron pin LB#732, thence South 09 degrees 41 minutes 43 seconds West 92.12 feet to a 1/2" iron pin LB#732, thence South 27 degrees 13 minutes 32 seconds West 75.19 feet to a 1/2" iron pin LB#732, thence South 31 degrees 12 minutes 01 second West 161.83 feet to a 1/2" iron pin LB#732, thence South 27 degrees 20 minutes 17 seconds West 119.08 feet to a 1/2" iron pin LB#732, thence South 23 degrees 09 minutes 28 seconds West

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71.31 feet to a 1/2" iron pin LB#732, thence South 12 degrees 31 minutes 10 seconds West 105.24 feet to a 1/2" iron pin LB#732, thence South 06 degrees 11 minutes 15 seconds West 15.14 feet to a concrete monument LB#732, thence South 77 degrees 49 minutes 49 seconds East 816.33 feet to a concrete monument LB#732, thence North 68 degrees 55 minutes 37 seconds East 899.81 feet to a concrete monument LB#732, thence North 22 degrees 24 minutes 08 seconds West 803.74 feet to a concrete monument LB#732, thence North 73 degrees 28 minutes 44 seconds East 883.67 feet to a concrete monument LB#732, thence South 24 degrees 00 minutes 56 seconds East 559.13 feet to a concrete monument LB#732, thence North 89 degrees 45 minutes 08 seconds East 93.19 feet to a concrete monument LB#732, thence North 81 degrees 45 minutes 03 seconds East 366.86 feet to the POINT OF BEGINNING.

TRACT 3:

A tract of land situate in Section 35, Township 1 North, Range 2 East, Leon County, Florida, and more particularly described as follows:

Commence at a Northwest corner of the Northwest Quarter of the Southwest Quarter of said Section 35 and run thence North 82 degrees 40 minutes 49 seconds East 570.08 feet to the Southerly right of way boundary of CSX Railroad and the Easterly right of way boundary of Benjamin Chaires Crossroads (presently marked by a concrete monument LB#732) for the POINT OF BEGINNING. From said POINT OF BEGINNING run thence North 54 degrees 33 minutes 34 seconds East along said Southerly right of way boundary a distance of 897.69 feet to the Southerly boundary of a 50 foot Florida Gas Transmission right of way described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida (presently marked by a concrete monument LB#732), thence leaving said Southerly boundary of said CSX Railroad run thence South 57 degrees 00 minutes 11 seconds East along the Southerly boundary of said 50 foot Florida Gas Transmission right of way a distance of 159.50 feet to the North right of way boundary of Capitola Road a.k.a. Jackson Street (80.00 foot right of way) (presently marked by a concrete monument LB#732), thence run South 64 degrees 55 minutes 43 seconds West along said right of way boundary a distance of 28.26 feet to a concrete monument LB#732 marking a point of curve to the left, thence along said right of way curve with a radius of 2030.00 feet, through a central angle of 13 degrees 06 minutes 58 seconds, for an arc distance of 464.70 feet (the chord of said arc being South 58 degrees 22 minutes 15 seconds West 463.69 feet) to a 1/2 inch iron pin LB#732, thence South 51 degrees 48 minutes 46 seconds West along said right of way boundary a distance of 282.36 feet to a 6 inch by 6 inch St. Joe Paper Company concrete monument lying on the aforesaid Easterly right of way boundary of Benjamin Chaires Crossroads, thence North 37 degrees 10 minutes 26 seconds West along said Easterly right of way boundary a distance of 125.05 feet to the POINT OF BEGINNING.

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TRACT 4:

A tract of land situate in Section 35, Township 1 North, Range 2 East, Leon County, Florida, and more particularly described as follows:

Commence at a Northwest corner of the Southeast Quarter of the Northwest Quarter of said Section 35 and run thence South 12 degrees 07 minutes 14 seconds West 834.79 feet to the Southerly right of way boundary of CSX Railroad and the Northerly boundary of a 50 foot Florida Gas Transmission right of way described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida (presently marked by a concrete monument) for the POINT OF BEGINNING. From said POINT OF BEGINNING run thence North 54 degrees 33 minutes 34 seconds East along said Southerly right of way boundary a distance of 812.65 feet to the Northwest corner of property described in Official Records Book 1105, Page 2146 of said Public Records (presently marked by a concrete monument LB#732), thence run South along the West boundary of said property a distance of 321.61 feet to the North right of way boundary of Capitola Road a.k.a. Jackson Street (60.00 foot right of way) (presently marked by a concrete monument LB#732), thence run South 84 degrees 55 minutes 43 seconds West along said right of way boundary a distance of 572.70 feet to a concrete monument lying on the aforesaid Northerly boundary of a 50 foot Florida Gas Transmission right of way, thence North 57 degrees 00 minutes 11 seconds West along said Northerly boundary a distance of 170.90 feet to the POINT OF BEGINNING.

TRACT 5:

A tract of land situate in Section 35, Township 1 North, Range 2 East, Leon County, Florida, and more particularly described as follows:

Commence at a Northwest corner of the Southwest Quarter of the Northeast Quarter of said Section 35 and run thence North 61 degrees 19 minutes 54 seconds East 499.48 feet to the Southeast corner of property described in Official Records Book 828, Page 1044 of the Public Records of Leon County, Florida (presently marked by a 1/2 iron pin LB#732) for the POINT OF BEGINNING. From said POINT OF BEGINNING run thence run North 01 degree 09 minutes 37 seconds East along the East boundary of said property a distance of 330.57 feet to the Southerly right of way boundary of CSX Railroad (presently marked by a 1/2 iron pin LB#732), thence North 54 degrees 33 minutes 34 seconds East along said Southerly boundary a distance of 751.59 feet to the Northwest corner of property described in Deed Book 169, Page 38 of said Public Records (presently marked by a concrete monument), thence South 35 degrees 47 minutes 45 seconds East along the West boundary of said property a distance of 193.92 feet to the North right of way boundary of Capitola Road a.k.a. Jackson Street (60.00 foot right of way) (presently marked by a 1/2 iron pin LB#732), thence run South 49 degrees 39

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minutes 25 seconds West along said right of way boundary a distance of 953.31 feet to the POINT OF BEGINNING.

Together with the full right of ingress, egress and regress to, through, over and upon lands as described in Deed Book 241, page 147 of the Public Records of Leon County, Florida.

AND TOGETHER WITH:

A 25-foot permanent, non-exclusive ingress, egress and utility easement over, across and through a portion of Sections 35 and 36, Township 1 North, Range 2 East and Sections 1 and 2, Township 1 South, Range 2 East, Leon County, Florida, lying 25 feet Southerly and Easterly of the following described centerline:

Commence at the Northwest corner of the Northeast Quarter of said Section 3(presently marked by a terra cotta pipe filled with concrete) and run North 89 degrees 42 minutes 16 seconds East along the North boundary of the Northeast Quarter of said Section 3 a distance of 660.71 feet to the Southeast corner property described in Official Records Book 786, Page 733 of the Public Records of Leon County, Florida, (presently marked by a 6 inch by 6 inch St. Joe Paper Company concrete monument) thence run North 00 degrees 12 minutes 32 seconds West along the East boundary of said property described in Official Records Book 786, Page 733 and the East boundary of property described in Official Records Book 1039, Page 192 of said Public Records a distance of 1010.23 feet to the Southerly right of way boundary of Capitola Road a.k.a. Jackson Street (60.00 foot right of way) (presently marked by a concrete monument LB#732) said point also lying on a curve concave to the Southeast, thence run Northeasterly along said right of way boundary as follows: thence Northeast along said right of way curve with a radius of 1970.00 feet, through a central angle of 07 degrees 35 minutes 50 seconds, for an arc distance of 261.22 feet (the chord of said arc being North 65 degrees 05 minutes 31 seconds East 261.03 feet) to a concrete monument LB#732, thence North 68 degrees 53 minutes 26 seconds East 1052.08 feet to a nail and cap LB#732 marking a point of curve to the left, thence along said curve with a radius of 1130.00 feet, through a central angle of 17 degrees 04 minutes 40 seconds, for an arc distance of 336.81 feet (the chord of said arc being North 60 degrees 21 minutes 06 seconds East 335.57 feet) to a concrete monument LB#732, thence North 51 degrees 48 minutes 46 seconds East 672.03 feet to the Northwest corner of property described in Deed Book 109, Page 239 of said Public Records (presently marked by a 1/2 Iron pin LB#732), thence leaving said right of way boundary and run South along the West boundary of said property described in Deed Book 109, Page 239 a distance of 257.40 feet to a 1/2 inch iron pin LB#732, thence North 69 degrees 00 minutes 00 seconds East along the South boundary of said property a distance of 488.40 feet to a 1/2 inch iron pin LB#732, thence North along the East boundary of said property a distance of 440.61 feet to the aforesaid Southerly right of way boundary of Capitola

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12.2.09

Exhibit "A"

Road a.k.a. Jackson Street and the Northwest corner of property described in Deed Book 201, Page 105 of said Public Records (presently marked by a concrete monument LB#732), thence South 21 degrees 29 minutes 46 seconds East along the West boundary of said property a distance of 101.60 feet to a concrete monument LB#732, thence North 54 degrees 14 minutes 04 seconds East along the South boundary of said property a distance of 104.96 feet to a concrete monument LB#732, thence North 21 degrees 51 minutes 51 seconds West along the East boundary of said property a distance of 108.03 feet to the aforesaid Southerly right of way boundary of Capitola Road a.k.a. Jackson Street, thence continue Northeasterly along said right of way boundary as follows: North 51 degrees 46 minutes 46 seconds East 170.14 feet to a concrete monument LB#732 marking a point of curve to the right, thence along said curve with a radius of 1970.00 feet, through a central angle of 13 degrees 06 minutes 57 seconds, for an arc distance of 450.96 feet (the chord of said arc being North 58 degrees 22 minutes 15 seconds East 449.98 feet) to a concrete monument LB#732, thence North 64 degrees 55 minutes 43 seconds East 66.66 feet to a concrete monument LB#732, marking the Southerly boundary of a 50 foot Florida Gas Transmission right of way described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida, thence leaving the right of way boundary of said Capitola Road a.k.a. Jackson Street run along said Southerly boundary of a 50 foot Florida Gas Transmission right of way as follows: South 57 degrees 00 minutes 11 seconds East 16.39 feet to a concrete monument LB#732, thence South 61 degrees 59 minutes 45 seconds East 335.80 feet to a concrete monument LB#732, thence South 64 degrees 25 minutes 17 seconds East 5772.79 feet to a concrete monument LB#732, thence leaving said Transmission right of way and run thence South 56 degrees 13 minutes 27 seconds West 818.90 feet to a concrete monument LB#732 for the POINT OF BEGINNING. From said POINT OF BEGINNING run thence North 58 degrees 11 minutes 23 seconds West 8.34 feet to a 1/2 inch iron pin LB#732, thence North 52 degrees 04 minutes 53 seconds West 119.13 feet to a 1/2 inch iron pin LB#732, thence North 61 degrees 49 minutes 42 seconds West 129.32 feet to a 1/2 inch iron pin LB#732, thence North 45 degrees 41 minutes 47 seconds West 195.86 feet to a 1/2 inch iron pin LB#732, thence North 72 degrees 59 minutes 53 seconds West 202.05 feet to a 1/2 inch iron pin LB#732, thence North 86 degrees 19 minutes 07 seconds West 93.46 feet to a 1/2 inch iron pin LB#732, thence North 73 degrees 59 minutes 51 seconds West 141.85 feet to a 1/2 inch iron pin LB#732, thence North 86 degrees 02 minutes 32 seconds West 481.24 feet to a 1/2 inch iron pin LB#732, thence North 77 degrees 53 minutes 08 seconds West 172.39 feet to a 1/2 inch iron pin LB#732, thence North 76 degrees 39 minutes 26 seconds West 157.82 feet to a 1/2 inch iron pin LB#732, thence South 84 degrees 57 minutes 32 seconds West 266.49 feet to a 1/2 inch iron pin LB#732, thence South 25 degrees 21 minutes 27 seconds West 202.64 feet to a 1/2 inch iron pin LB#732, thence South 17 degrees 59 minutes 23 seconds West 200.51 feet to a 1/2 inch iron pin LB#732, thence South 26 degrees 59 minutes 58 seconds West 210.13 feet to a 1/2 inch iron pin LB#732, thence South 35 degrees 42 minutes 21 seconds West 204.29 feet to a 1/2 inch iron pin LB#732, thence South 09 degrees 35 minutes 50 seconds West 224.33 feet to a 1/2 inch iron pin LB#732, thence South 19 degrees 06 minutes 48 seconds East 302.26

Upper St Marks
TNC (F KA St Joe Timberlands)
12.2.08

Exhibit "A"

feet to a 1/2 inch iron pin LB#732, thence South 14 degrees 41 minutes 30 seconds West 153.35 feet to a 1/2 inch iron pin LB#732, thence South 05 degrees 43 minutes 49 seconds West 173.45 feet to a 1/2 inch iron pin LB#732, thence South 18 degrees 37 minutes 31 seconds West 212.97 feet to a 1/2 inch iron pin LB#732, thence South 27 degrees 13 minutes 18 seconds East 188.85 feet to a 1/2 inch iron pin LB#732, thence South 12 degrees 51 minutes 53 seconds East 191.63 feet to a 1/2 inch iron pin LB#732, thence South 21 degrees 43 minutes 30 seconds East 272.33 feet to a 1/2 inch iron pin LB#732, thence South 01 degree 20 minutes 46 seconds East 397.81 feet to a 1/2 inch iron pin LB#732, thence South 14 degrees 28 minutes 19 seconds East 173.82 feet to a 1/2 inch iron pin LB#732, thence South 60 degrees 31 minutes 00 seconds West 179.91 feet to a 1/2 inch iron pin LB#732, thence South 51 degrees 55 minutes 30 seconds West 128.41 feet to a 1/2 inch iron pin LB#732, thence South 67 degrees 59 minutes 24 seconds West 519.77 feet to a 1/2 inch iron pin LB#732, thence South 71 degrees 13 minutes 05 seconds West 847.82 feet to a 1/2 inch iron pin LB#732, thence North 70 degrees 27 minutes 14 seconds West 200.54 feet to a 1/2 inch iron pin LB#732, thence North 85 degrees 25 minutes 43 seconds West 1030.19 feet to a 1/2 inch iron pin LB#732 for the terminal point.

AND ALSO TOGETHER WITH:

A 25-foot permanent, non-exclusive ingress, egress and utility easement over, across and through a portion of Section 35, Township 1 North, Range 2 East, Leon County, Florida, lying 25 feet Easterly of the following described centerline:

Commence at the Northeast corner of said Section 35 (also the Northwest corner of said Section 36) (presently marked by a 1.5 inch iron pipe), thence run North 89 degrees 59 minutes 31 seconds East along the North boundary of said Section 36 a distance of 472.45 feet to the Westerly boundary of Cap Tram Road (presently marked by a concrete monument LB#732), said concrete monument lying on a curve concave to the East, thence Southerly along said curve and along a line 30 feet West of and parallel with the center of said Cap Tram Road with a radius of 1030.00 feet, through a central angle of 16 degrees 34 minutes 40 seconds, for an arc distance of 298.02 feet (the chord of said arc being South 09 degrees 23 minutes 50 seconds East 296.98 feet) to a concrete monument LB#732, thence South 17 degrees 37 minutes 48 seconds East along said parallel line 854.50 feet to a concrete monument LB#732, thence South 17 degrees 22 minutes 12 seconds East along said parallel line a distance of 1098.21 feet to a concrete monument LB#732, thence South 18 degrees 56 minutes 28 seconds East along said parallel line 2657.21 feet to a concrete monument LB#732, thence South 56 degrees 13 minutes 27 seconds West 432.72 feet to the Northerly boundary of a 50 foot Florida Gas Transmission right of way as described in Deed Book 241, Page 147 of the Public Records of Leon County, Florida (presently marked by a concrete monument LB#732), thence run North 64 degrees 25 minutes 17 seconds West along said Northerly right of way boundary 5801.35 feet to a concrete monument LB#732, thence North

Upper St. Marks
TNC (FKA St. Joe Timberlands)
12.2.02

Exhibit "A"

61 degrees 59 minutes 45 seconds West along said Northerly right of way boundary 314.56 feet to the Southerly right of way boundary of Capitola Road a.k.a. Jackson Street (80.0 foot right of way) (presently marked by a concrete monument LB#732), thence run Northeasterly along said right of way boundary as follows: North 64 degrees 55 minutes 43 seconds East 942.03 feet to a concrete monument LB#732 marking a point of curve to the left, thence along said curve with a radius of 930.00 feet, through a central angle of 15 degrees 16 minutes 19 seconds, for an arc distance of 247.89 feet (the chord of said arc being North 57 degrees 17 minutes 34 seconds East 247.15 feet to a concrete monument LB#732, thence North 49 degrees 39 minutes 25 seconds East 1306.41 feet to a concrete monument LB#732 for the POINT OF BEGINNING. From said POINT OF BEGINNING and leaving said right of way boundary run South 29 degrees 03 minutes 27 seconds East 230.85 feet to a 1/2" iron pin LB#732, thence South 35 degrees 23 minutes 03 seconds East 70.88 feet to a 1/2" iron pin LB#732, thence South 40 degrees 05 minutes 10 seconds East 451.44 feet to a 1/2" iron pin LB#732, thence South 37 degrees 19 minutes 56 seconds East 81.03 feet to a 1/2" iron pin LB#732, thence South 19 degrees 52 minutes 28 seconds East 117.36 feet to a 1/2" iron pin LB#732, thence South 12 degrees 47 minutes 01 second East 115.84 feet to a 1/2" iron pin LB#732, thence South 22 degrees 09 minutes 16 seconds East 58.57 feet to a 1/2" iron pin LB#732, thence South 36 degrees 15 minutes 19 seconds East 51.24 feet to a 1/2" iron pin LB#732, thence South 43 degrees 58 minutes 56 seconds East 120.21 feet to a 1/2" iron pin LB#732, thence South 56 degrees 12 minutes 33 seconds East 66.70 feet to a 1/2" iron pin LB#732, thence South 48 degrees 06 minutes 08 seconds East 119.71 feet to a 1/2" iron pin LB#732, thence South 16 degrees 25 minutes 26 seconds East 78.23 feet to a 1/2" iron pin LB#732, thence South 03 degrees 55 minutes 56 seconds West 74.58 feet to a 1/2" iron pin LB#732, thence South 09 degrees 41 minutes 43 seconds West 93.12 feet to a 1/2" iron pin LB#732, thence South 27 degrees 13 minutes 32 seconds West 75.19 feet to a 1/2" iron pin LB#732, thence South 31 degrees 12 minutes 01 second West 161.83 feet to a 1/2" iron pin LB#732, thence South 27 degrees 20 minutes 17 seconds West 119.08 feet to a 1/2" iron pin LB#732, thence South 23 degrees 09 minutes 28 seconds West 71.31 feet to a 1/2" iron pin LB#732, thence South 12 degrees 31 minutes 10 seconds West 105.24 feet to a 1/2" iron pin LB#732, thence South 06 degrees 11 minutes 15 seconds West 15.14 feet to a concrete monument LB#732 for the terminal point.

Upper St. Marks
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Upper St. Marks River Corridor - The Nature Conservancy

Sections 01 - 03, Township 01 South, Range 02 East
Sections 34 - 36, Township 01 North, Range 02 East

Leon County, Florida

12.2 Public Involvement

12.2.1 Management Advisory Group

L. Kirk Edwards Wildlife and Environmental Area (LKEWEA)

Management Advisory Group (MAG)

Consensus Meeting Results

October 14, 2009 in Tallahassee, Florida

The intent of convening a consensus meeting is to involve a diverse group of stakeholders in assisting the Florida Fish and Wildlife Conservation Commission (FWC) in development of a rational management concept for lands within the agency's managed area system. FWC does this by asking spokespersons for these stakeholders to participate in a half-day meeting to provide ideas about how FWC-managed lands should be protected and managed.

The LKEWEA consensus meeting was held on the morning of October 14, 2009 at the IFAS Leon County Extension's Auditorium in Tallahassee, Florida. The ideas found below were provided by stakeholders for consideration in the 2009 - 2019 Management Plan (MP) for LKEWEA with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the Trustees of the Internal Improvement Trust Fund (Governor and Cabinet), the LKEWEA MP will guide the activities of FWC personnel over the ten-year duration of the management plan and will help meet agency, state, and federal planning requirements.

Numbers to the left of **bold-faced ideas** listed below represent the total number of votes and the score of each idea. Rank is first determined by the number of votes (vote cards received for each idea) and then by score. Score is used to break ties when two or more ideas have the same number of votes. A lower score indicates higher importance because each voter's most important idea (recorded on card #1) received a score of 1, and their fifth most important idea (recorded on card #5) received a score of 5. Ideas not receiving any votes are listed, and were considered during the development of the MP, but carry no judgment with regard to priority.

Statements following the bold-faced ideas represent a synopsis of the clarifying discussion of ideas as transcribed and interpreted by the FWC recorder at the meeting. As indicated above, the ideas below are presented in priority order:

Rank	# of Votes	Score	Idea
1.	[16]	[24]	1. **Restore and maintain natural communities to conditions that sustain ecological processes and conserve biological diversity; control and improve wetland habitat; invasive species control; maintain integrity of native ground cover and minimize soil disturbance, restore disturbed areas (e.g., pastures); ensure use of prescribed fire.** Use a variety of techniques (i.e., prescribed fire, ground cover restoration, exotic species control). Maintain the wetlands (i.e., cookie cutter) that are onsite. Control invasive exotic species, which could take over the area quickly. When developing trails, create minimal impact.
2.	[8]	[23]	30. **In conjunction with the hydrology study, restore hydrology; monitor; optimize water flow to the St. Marks River and sinks.** The St. Marks River and watershed is regionally important, and we need to monitor and maintain the water quality and not allow degradation, which can quickly occur. Put a hydrological system in place that is most beneficial to the area's hydrology (i.e., repair clogged culverts if necessary) and that will be periodically monitored.
3.	[8]	[25]	46. **Provide high quality (e.g., deer, turkey) hunting and fishing opportunities; limited bow hunting.** LKEWEA is a small area; use a limited entry/users system (quota hunt); make very restricted opportunities in order to maintain ecological quality.
4.	[8]	[27]	21. **Develop a recreational master plan; reference the Greenway Trail Master Plan.** Create trails in strategic locations, looking at adjacent areas.
5.	[6]	[20]	24. **Partner with other managing entities (private and public) to coordinate**

			management activities; coordinate seamlessly with recreational and law enforcement opportunities. Coordinate management activities (i.e., thinning opportunities) with adjacent managing entities in order to be more efficient. For example, if FWC is trying to control an invasive, exotic species on LKEWEA and there is an infestation on the "other side of the fence." Eliminate duplication and enhance opportunities.
6.	[4]	[10]	2. **Develop and maintain specific use trails**. Multiple use trails is a good concept; however, conflicts can arise with multiple users (e.g., equestrian, bicycling, hiking) on a trail. Create separate trails for the different users.
7.	[4]	[14]	12. **Establish youth environmental education opportunities.** When youth become involved in environmental education opportunities, it creates a sense of "buy-in" from them.
8.	[3]	[8]	3. **Survey for cultural and historic resources and use results to avoid negative impacts.** Make sure prehistoric land uses are known. Cultural and historic resources survey could establish a baseline.

Two Items of Equal Rank:

9.	[3]	[10]	17. **Assess management needs to ensure long-term viability of imperiled species.** Analyze available habitat for imperiled species.
	[3]	[10]	31. **Provide recreational opportunities that are compatible with resource management.** There are potential conflicts with users. Make sure uses don't interfere with restoration activities (i.e., prescribed burning).
10.	[3]	[13]	43. **Clear posting of areas regulations including hunting.** Self explanatory.

11.	[2]	[2]	11. **Establish equestrian access including loop trails for riders and carriages.** Have trails (preferably single purpose) that loop around and come back.

Two Items of Equal Rank:

12.	[2]	[4]	52. **Establish a youth hunt (weekends); provide suite of hunting opportunities**. Family hunting programs and youth hunts get children outdoors. There could potentially be a weekend youth hunt established the weekend before general hunting season.
	[2]	[4]	16. **Implement habitat management strategies to benefit popular game species.** Look at populations of popular game species. Allow hunting if the population is sustainable, but if not, potentially use as research opportunities.

Two Items of Equal Rank:

13.	[2]	[6]	13. **Control public access especially during hunting season.** Since it is a small area, coordinate people who will be using the area.
	[2]	[6]	23. **Allow for multiple use, but temporally space activities such as hunting.** In order to avoid potential user conflicts, make it well known, and well in advance, when hunting is in effect. This will involve posting information on site and on FWC's website as well as branching out to other websites (i.e., hiking websites).
14.	[2]	[10]	42. **Conduct a rare species survey.** This is important to know what resources are on site.
15.	[1]	[3]	22. **Improve the landing/boat ramp.** Improve ramp and signage on Chaires Road.

Four items of equal rank:

16.	[1]	[4]	36. **In developing the trail system, minimize habitat fragmentation.** A single tract trail system, or at most a double tract, is preferable

			especially through sensitive habitat (i.e., salamander habitat).
	[1]	[4]	37. **Prohibit Off Highway Vehicles (OHVs)**. LKEWEA is not a good place to have OHVs.
	[1]	[4]	18. **Provide interpretive facilities to describe conservation efforts.** It is important that the public is involved in an interpretive way, impressing the value of an area on youth and the public helps receive their "buy-in" that the area needs to be protected and that it is valuable.
	[1]	[4]	50. **Establish and enforce leash regulations**. Dogs that are not on a leash can disturb wildlife. Establish and enforce leash regulations.

Seven items of equal rank:

17.	[1]	[5]	9. **Manage timber resources for quality wildlife habitat.** Manage area with stewardship idea including focus on wildlife and habitat. Possibilities exist to convert loblolly and slash pine to longleaf.
	[1]	[5]	29. **Develop educational/interpretive materials and facilities for the active sink.** Self explanatory.
	[1]	[5]	35. **Remove prohibition of fishing and frogging.** Uncertain of the reason for this prohibition but fishing and frogging should be established.
	[1]	[5]	39. **Develop an optimal boundary and pursue conservation acquisitions.** With the current boundary, it is difficult to manage. Surrounding area land acquisitions could help square up boundary.
	[1]	[5]	44. **Protect wood stork colony from human-caused disturbances.** Self explanatory.
	[1]	[5]	49. **Consider public wetland mitigation opportunities.** There are funding opportunities available; consider this technique.

[1]	[5]	28. **Address feral hog problem.** Limited feral hog hunting will not control the problem.

The following item received no votes. All ideas represent valuable input, and are considered in development of the LKEWEA MP, but carry no rank with regard to the priority perceptions of the MAG.

Establish a public wildlife viewing area. Environmental education for youth is critical (i.e., Nature Deficit Disorder).

When establishing trails, minimize impacts and improvements. Create minimal impacts (i.e., pavement).

Minimize disturbance and cultural resource impacts while developing facilities. While developing and placing any interpretive facilities or creating trails, make certain culturally sensitive areas are avoided.

Restore native natural communities to their historic condition. Restore onsite community structure, age class, subcanopy, and canopy density. Get the natural communities back to historic (desired future) conditions.

Rotate uses within the area. During spring and fall there is heavy usage. It is important to leave a "quiet area." Possibly rotate areas back and forth depending on how much time is needed (i.e., nesting turkey areas).

Train staff for archaeological resource management. Utilize the Archaeological Resources Planning Program by the Division of Historical Resources that can equip staff with the knowledge to be able to monitor and manage these resources.

Partner with Chaires School. This will help children get into the natural world.

Provide public cooperative opportunities for public clean-up. It is beneficial for the public to be more involved in these efforts (i.e., helping keep water quality clean), so they will take better ownership.

Inform the public of cultural resources, regulations, and monitor impacts. This could involve displaying current regulations at public access points; provide something interpretive including background.

Generally maintain aesthetic quality of the area. Maintain resources; do not cross with numerous trails or develop too much.

Utilize area for research opportunities. Until a population becomes sustainable enough to be hunted (i.e., turkey), there is potential to use the area as a research site.

Consider impacts on neighbors in designing trails and facilities. Design trails to avoid perimeter of area (i.e., safety and avoidance of neighbors).

Consider as gopher tortoise relocation site. Utilize the area as a potential gopher tortoise relocation site, if it qualifies.

L. Kirk Edwards Wildlife and Environmental Area
MAG Meeting Participants

Name	Affiliation
Active Participants	
Stephen Williamson	United Waterfowlers of Florida
Tyler Macmillan	Northwest Florida Water Management District
Lisa Cole	City of Tallahassee
Wendy Matthews	The Nature Conservancy
Barry Burch	Florida Park Service
Ryan Hachenberger	National Wild Turkey Federation
Mike Humphrey	Florida Division of Forestry
Shane Fuller	St. Joe Company
Bruce Huffmaster	Leon County Parks
William Strickland	Angling Stakeholder
Rachel Basan Porter	DOS, Bureau of Archaeological Resources
Linda Vause	Southern Trailriders Association
Jud Curtis	Southern Trailriders Association
Morgan Wilbur	Fish and Wildlife Conservation Commission
Lt. Kent Harvey	Fish and Wildlife Conservation Commission
Preston Robertson	Florida Wildlife Federation
Terry Tenold	Florida Trail Association
Paul Rousso	Florida Natural Areas Inventory
Gwen Beatty	Apalachee Canoe/Kayak Club
Supportive Participants	
Paul Scharine	Fish and Wildlife Conservation Commission
Clinton Peters	Fish and Wildlife Conservation Commission
David Eggeman	Fish and Wildlife Conservation Commission
Phil Manor	Fish and Wildlife Conservation Commission
Michael Hill	Fish and Wildlife Conservation Commission
Gary Cochran	Fish and Wildlife Conservation Commission
Invited but Unable to Attend	
Scott Matteo	Ochlockonee River Soil and Water Cons. District
Ken Foster	Southern Off-road Bicycle Association
Harry Hooper	Apalachee Audubon
FWC Planning Personnel	
David Alden	Meeting facilitator
Larame Ferry	Recorder

12.2.2 Public Hearing Press Release

For immediate release: August 26, 2010
Contacts**:** David Alden, 850-487-9588; or
Larame Ferry, 850-487-9102

L. Kirk Edwards Wildlife and Environmental Area Management Plan Hearing Set for September 8th

The Florida Fish and Wildlife Conservation Commission (FWC) will conduct a public hearing next month on the proposed management plan for L. Kirk Edwards Wildlife and Environmental Area (WEA). The hearing is scheduled for 7:00 – 9:30 p.m. Wednesday, September 8th, at the Florida Institute of Food and Agricultural Sciences (IFAS) Extension Office at 615 Paul Russell Road in Tallahassee, Florida.

The purpose of this hearing is to receive public comment regarding the development of the FWC 10-year management plan for the L. Kirk Edwards WEA in Leon County. The meeting will start with a presentation on components of the draft management plan, followed by a question-and-answer session and public testimony.

A management prospectus for the L. Kirk Edwards WEA is available upon request from the FWC Conservation Acquisition and Planning group. Call David Alden, 850-487-9588 or Larame Ferry, 850-487-9102; or e-mail Larame.Ferry@MyFWC.com.

For more information, please go to MyFWC.com/Wildlife, and click on "Habitat Information."

-30-

LF/HSC

WBD

12.2.3 Public Hearing Notice

NOTICE

The Florida Fish and Wildlife Conservation Commission

PUBLIC HEARING

for

L. Kirk Edwards

Wildlife and Environmental Area

Leon County, Florida

7:00 - 9:00 P.M. Wednesday, September 8, 2010

University of Florida Institute of Food and Agricultural Sciences (IFAS) Extension Office

615 Paul Russell Road

Tallahassee, Florida 32301-7060

PURPOSE: To receive public comment regarding considerations for the FWC ten-year **Management Plan for the L. Kirk Edwards Wildlife and Environmental Area (WEA)**.

This hearing is being held exclusively for discussion of the draft Kirk Edwards WEA Management Plan. A Management Prospectus for the L. Kirk Edwards WEA is available upon request from the Florida Fish and Wildlife Conservation Commission, Conservation Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9588.

12.2.4 Public Hearing Report

PUBLIC HEARING REPORT

FOR

L. KIRK EDWARDS WILDLIFE AND ENVIRONMENTAL AREA

MANAGEMENT PLAN

HELD BY THE

L. KIRK EDWARDS MANAGEMENT ADVISORY GROUP

(September 8, 2010 - TALLAHASSEE, FLORIDA)

Mr. Ryan Hachenberger, representing the L. Kirk Edwards Wildlife and Environmental Area (LKEWEA) Management Advisory Group (MAG), opened the public hearing at 7:00 p.m., and briefly described the stakeholder meeting of the L. Kirk Edwards MAG. He informed the public that the L. Kirk Edwards MAG, met with the Florida Fish and Wildlife Conservation Commission (FWC) planners and biologists in Tallahassee on October 14, 2009. He provided a brief overview of the meeting and explained his role as a MAG member. Then he explained that following the MAG Meeting, FWC personnel met and developed the elements of their draft plan. Copies of this draft plan were available at the door. Mr. Hachenberger said that the hearing that evening was an opportunity for the public at large to hear, understand, and comment on the elements of the management plan, and thus provide further guidance to FWC in its planning efforts. Following approval by the Governor and Cabinet, the management plan will be the official management guidance document for the next 10 years.

Mr. Hachenberger stated that the meeting was hosted by the LKEWEA MAG, but they were to rely on David Alden, Morgan Wilbur, and others from the FWC to present the plan elements and the process. Mr. Hachenberger thanked the audience for participating, for their interest, attendance, and taking their personal time to be involved in the planning process. He then turned the proceedings over to David Alden, Senior Conservation Planner, for the FWC.

Mr. Alden thanked the MAG and participants and reviewed the public hearing agenda. The agenda, draft management plan (management intent, goals, objectives, challenges, and strategies), and management prospectus were made available at the start of the meeting. Mr. Alden had all participants introduce themselves. These participants included FWC Division of Habitat and Species Conservation staff for the Northwest Region including those who manage LKEWEA, Conservation Acquisition and Planning staff, and an officer from the Division of Law Enforcement. In addition to FWC staff, three active interest groups were present and included the United Waterfowlers of Florida, Southern Trailriders Association, and the Tallahassee Astronomical Society. Four members of the MAG and eight employees of the FWC were among the 16 people present. Mr. Alden then provided a brief presentation of the process by which the FWC develops area management plans and how the plans are reviewed and approved by other entities in accordance with statutory and administrative procedures for state-owned lands.

Mr. Alden then introduced Mr. Wilbur, FWC Area Biologist for the LKEWEA, who presented the management intent of the FWC for the WEA. Mr. Wilbur outlined the intent, goals, associated long-term and short-term objectives, challenge statements, and solution strategies. It was noted that this information will be available on the FWC website (http://myfwc.com/WILDLIFEHABITATS/WMA_Planning_index.htm) for review and there would be additional opportunities to comment.

Mr. Alden explained how 692 acres of LKEWEA was obtained through donation in 1977. The Wood Sink parcel (1,057-acres) of LKEWEA was purchased by the Board of Trustees of the Internal Improvement Trust Fund in 2008. He stated the purposes for acquisition include the fact that FWC has characterized Lake Lafayette as a regionally significant resource for fish and wildlife; the area includes habitat for listed species, common fish and wildlife habitats, and has been used as a research area for waterfowl management. Mr. Wilbur then explained the resource management activities that the FWC intends to implement to achieve the goals and objectives proposed for LKEWEA. He explained the ecological importance of the breeding wood stork colony and their habitat and the management actions necessary to maintain waterfowl habitat. Some management activities and intent included management of habitat for waterfowl and associated wildlife species, fire management (fuel reduction, hardwood and shrub control, plant community maintenance), protection of water resources, providing recreational access and opportunities (e.g., picnicking, photography, wildlife viewing), and providing education and research opportunities. Disturbance to archaeological and historical sites will be minimized. Such sites will be preserved in accordance with procedures outlined by the Division of Historical Resources (DHR).

Mr. Wilbur gave a detailed presentation of goals and associated short-term (2011-2013) and long-term (2013-2021) objectives and resource management challenges and solution strategies proposed for the LKEWEA.

During Mr. Wilbur's presentation participants freely asked questions about various aspects of the plan. Questions asked were answered by FWC staff as follows:

Question: The area under discussion in the October MAG meeting still extends to Capitola and Cap Tram Road?

Answer: Yes, the eastern boundary does extend to CapitolaCap Tram Road and is posted as such. The wall map was used to display all current boundaries.

Question: What artifacts were found to designate the area as a prehistoric campsite?

Answer: It is not anything that we have found. This site was already listed by DHR. Mr. Wilbur deferred the question to Joe Davis, FWC staff, for further clarification. Joe states that lithic scatter and chert flakes were found.

Question*:* Won't posting signs in an area draw more attention to looters?

Answer: Only areas where significant looting activities are seen will be posted. Untouched areas will remain unidentified by signage.

Question**:** Can you explain what linear acres of trails are?

Answer: FWC's Office of Recreation Services designates this as linear paddling/open water trails.

Question: What ideas are you looking at to "improve" the boat landing?

Answer: It is a complicated issue. The most recent issue is the area boundary survey which shows the boat ramp actually encroaches on private property. So exact actions are up in the air, but Mr. Wilbur hopes to add geo-webbing and gravel to stabilize the area. Mr. Wilbur hopes to work closely with adjacent landowners to accomplish goals. FWC might be able to clear some area to make more room for trailers.

Question: Can we look at options to open up the area or look at other areas to increase access before 2012-2013 target time-frame?

Answer: Mr. Wilbur stated that the management plan does not start until 2011; however, we are not going to wait to look into the problem but are looking into it now.

Question: What about creating access to the lake from other areas?

Answer: We do not own any other property that provides access to the lake. The City of Tallahassee and Leon County are looking at ways to increase access.

Question: How many sinkholes are on the property?

Answer: FWC is unsure at this time, but we know of at least six.

Question: Are there any intentions to increase access to the eastern portion of the parcel?

Answer: FWC will investigate options to increase the connectivity of the parcels either on the ground or on the water. FWC's Office of Recreation Services will look at the feasibility of adding a pedestrian crossing near the old concrete bridge on the eastern portion of LKWEA.

Question: Why was it so hard to find out about this meeting and why were drafts not sent to participants of the MAG meeting ahead of time?

Answer: FWC understands the concerns and reminds participants that the public hearing had been advertised in compliance with Chapter 259.032 (10), F.S. and through several alternative sources including the Tallahassee Democrat, posting on the property, sending out FWC press release, and posting on FWC's calendar.. FWC also acknowledges a gap in communication and will work harder to directly interact with all participants of the MAG via email and will also explore other options of communications. FWC will also email tonight's presented materials to MAG members and will post on our website if anyone would like to provide additional comments.

Question: Are there other ways to input comments besides the public meetings?

Answer: Yes, anyone can e-mail comments to FWC staff for review.

Question: Can we get further clarification of waterfowl hunting opportunities for the eastern portion of LKWEA?

Answer: The first spring turkey season was just held. We (FWC) are awaiting results of the data and through regulation involvement/development, which is a two year process; we are looking at expanding the entire suite of opportunities.

Question: Hog control is mentioned in the management plan; however under current rules it is illegal to hunt hogs. Will this change? Should this small game season be included in the management plan?

Answer: Hogs will be added as small game in a new regulation package that will be presented to the Commission shortly. If passed, we will look into feasibility of small games hunts on the LKWEA. If small game hunting opportunities are not feasible, we will look into this issue further at that time. The regulations of adding hogs will be discussed by policy and planning whereas small game opportunities will not be included in the recreation master plan.

Question: Are there any plans to increase signage or Law Enforcement presence on LKWEA?

Answer: This will depend on available funding. Law Enforcement does maintain a strong presence on the property and will continue to do so. When signs are erected they are typically damaged. Regardless, FWC will look at increasing signage on the LKWEA and include it in the Recreation Master Plan.

Question: Currently are equestrian riders allowed on the property?

Answer: Yes, equestrian rides are allowed on LKWEA.

Mr. Wilbur concluded his presentation, and Mr. Alden then opened the question and answer period and asked if anyone had questions about the presentation.

One participant, Mr. Bruce French, provided testimony which was given during the question and answer portion of the public meeting. He also gave comments, via email, and all comments are summarized below.Mr. French stated that he serves as the Education and Outreach Chair on the Board of Directors of the Tallahassee Astronomical Society (TAS). TAS would like to request the FWC's consideration to incorporate an astronomy viewing area into the final management plan. As you know, state lands are the last bastion of dark sky resources, which are rapidly disappearing across the Florida landscape. Light pollution is pervasive and has been documented to have negative impacts to wildlife. Additionally, our Native Americans have a rich cultural heritage in which celestial star lore evolved to assume a major role in their daily routines and beliefs. An Astronomy viewing area within the management area would complement several of the goals and objectives outlined in the draft ten-year plan including the following:

1. Preservation of the cultural heritage related to the dark sky
2. Educational outreach on astronomy to schools and the general public, and
3. Wildlife compatible, low impact land use
4.

Regarding astronomy's compatibility with wildlife, the specifications for the viewing area include the following:

a. low ground cover to provide a clear view in all directions comparable to a wildlife food plot
b. well-drained, high ground
c. sky view down to 15 degrees above the horizon (height at perimeter tree line)

d. absence of exterior night lights
e. quiet

More specifically, a viewing area for astronomy, ideally, would be a circular food plot approximately 260 feet in radius that would provide a sky view starting at 15 degrees above the ground horizon. This radius assumes a mature tree height of 70 feet around the perimeter of the astronomy viewing area. Actual night viewing events would be conducted at the center of this circular area. Due to the fact that telescopes often weigh 50 to 150 pounds, road access is required to the center of the area so the equipment can be off-loaded and set-up adjacent to the vehicle. The central viewing spot (500sq.ft?) should be able to accommodate multiple telescopes and public seating space for 50 people (e.g., logs or benches) and be mowed several times each year.

The International Dark Sky Association (IDSA) is the lead organization endorsed by NASA and other governments to reduce light pollution, which is similar to the FWC's effort to protect turtle nesting along Florida's coastline. The IDSA provides a list of preferred exterior light fixtures that can be adopted by FWC to upgrade all exterior lighting on state lands.

http://www.nextrionet.com/mc/page.do?sitePageId=56423&orgId=idsa

Presently, the Tallahassee light dome extends 60 miles in diameter and eliminates 90% of the stars visible to the naked eye. In order to achieve a reduction in light pollution in the Leon County areas surrounding the LKEWEA property, TAS would like to encourage the FWC to communicate this concern to the County and City Commissioners with its recommendations for mitigating negative effects on wildlife.

Mr. French stated that TAS appreciates the FWC being receptive to their interest in astronomy on state lands and looks forward to working with FWC and staff to make it a reality.

Following Mr. French's testimony, Ms. Jerrie Lindsey of FWC's Office of Recreation Services stated that FWC will look into the feasibility of adding additional education and recreational activities associated with astronomical viewing opportunities into the Recreation Master Plan.

Mr. Alden then and asked if anyone else would like to present testimony. No one replied. Hearing was adjourned.

The public hearing was advertised in compliance with Chapter 259.032 (10), F.S.

12.3 Soil Series Descriptions

Map Unit Description

Leon County, Florida

[Minor map unit components are excluded from this report]

Map unit: 1 - Albany loamy sand

Component: Albany (80%)

The Albany component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 5 - Blanton fine sand, 0 to 5 percent slopes

Component: Blanton (80%)

The Blanton component makes up 80 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 66 inches during January, February, March, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 8 - Chipley fine sand, 0 to 2 percent slopes

Component: Chipley (80%)

The Chipley component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 24 - Lucy fine sand, 0 to 5 percent slopes

Component: Lucy (85%)

The Lucy component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 32 - Ocilla fine sand

Component: Ocilla (80%)

The Ocilla component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is

Map Unit Description

Leon County, Florida

Map unit: 32 - Ocilla fine sand

Component: Ocilla (80%)

about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 34 - Orangeburg fine sandy loam, 5 to 8 percent slopes

Component: Orangeburg (80%)

The Orangeburg component makes up 80 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of loamy and clayey marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 37 - Ortega sand, 0 to 5 percent slopes

Component: Ortega (75%)

The Ortega component makes up 75 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during January, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 39 - Pelham fine sand

Component: Pelham, hydric (60%)

The Pelham, hydric component makes up 60 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Pelham, non-hydric (30%)

The Pelham, non-hydric component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 41 - Plummer fine sand

Component: Plummer, hydric (50%)

The Plummer, hydric component makes up 50 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available

Map Unit Description

Leon County, Florida

Map unit: 41 - Plummer fine sand

Component: Plummer, hydric (50%)

water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, June, July, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Plummer, non-hydric (40%)

The Plummer, non-hydric component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, June, July, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 44 - Pickney soils, occasionally flooded

Component: Pickney, occasionally flooded (85%)

The Pickney, occasionally flooded component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of sandy marine deposits and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 52 - Yonges fine sandy loam

Component: Yonges (75%)

The Yonges component makes up 75 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on marine terraces on coastal plains. The parent material consists of loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

12.4 Timber Assessment

L. Kirk Edwards WEA
Timber Assessment

Prepared By:
Jason Love
Senior Forester, Other State Lands – Region 1
Florida Division of Forestry
January 2011

Purpose
This document is intended to fulfill the timber assessment requirement for the L. Kirk Edwards Wildlife and Environmental Area as required by Section 1. Section 253.036, Florida Statutes. The goal of this *Timber Assessment* is to evaluate the potential and feasibility of managing timber resources for conservation and revenue generation purposes.

Goals and Objectives:

The following are goals and objectives for L. Kirk Edwards WEA that are related to timber management:

1. In cooperation with the Florida Division of Forestry, and in accord with this timber assessment and objective-based management, thin the pine plantations that have not yet been thinned.
2. Implement growing season burns on pine community types where indicated by the objective-based management assessment.
3. Restoration of longleaf pine to suitable habitats.
4. Grow out the existing pine plantations to sawtimber size and restore the stands to longleaf pine where applicable.
5. Establish timber stand description of current and potential forested areas that would group stands with similar needs by species composition, age, stocking levels, and growth.

All timber management practices done on L. Kirk Edwards WEA will be done in accordance with the most current version of the Silviculture Best Management Practices Manual (BMP's) for public lands.

General Management Guidelines:

Basal Area per acre (BA) will be the primary measurement tool in providing management recommendations for thinning of pine stands on L. Kirk Edwards WEA. BA is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (Diameter of trees measured at this height is referred to as its diameter at breast height or DBH). BA can be used to define stocking rates in determining the timing and rate of a thinning treatment. Fully-stocked pine stands have enough trees per acre of a size or sizes large enough to

utilize growing space without causing over-crowding. Over-crowding can lead to an increased risk of insect and disease mortality and can shade out desirable ground cover. Longleaf, slash and sand pine stands with 70 to 100 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than larger diameter trees to equal one square foot of BA. For example: It takes 357 evenly spaced six-inch DBH trees to equal 70 sq. ft. of BA, whereas only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. of BA.

Basal area can be roughly correlated to crown density, and therefore to needle-cast. Generally 40 to 60 sq. ft. of BA should provide enough needle-cast to carry prescribed fire and adequate sunlight for maintenance of natural grass communities.

Natural forest communities are dynamic, going though many stages of succession before reaching a climax or old-growth condition. The amount of time needed for stands to reach a climax condition is influenced by the life expectancy of a stands' dominant tree species. For example: Loblolly and slash pine have an average life span of 80-100 years, whereas longleaf pine has been found to live up to 300 years. Natural disturbances such as bark beetle infestations, diseases, wildfires, and windstorms are instrumental in creating multi-age stands. This is accomplished by various sized gaps continually being created in the canopy layer, which allows unfiltered sunlight to reach the forest floor. If these gaps are large enough, shade intolerant species like southern pines will seed into these gaps, providing a new generation of pines to reach the forest canopy.

Where naturally occurring fire has kept the understory open, pine seedlings become established at very high densities. It is not uncommon to have five to ten thousand seedlings per acre in scattered openings. Frequent wildfires and competition for sunlight, water, and nutrients favor the healthiest, fastest growing pine saplings. Attrition continues over the life of the stand until the residual trees mature and more canopy openings are created to perpetuate the natural regeneration of the stand. This cycle results in uneven-aged stand structure where each group of trees created by a canopy opening are a similar age, but the entire stand will have mosaic of clusters of various sizes and shapes with different age classes and tree densities. The long-term BA will fluctuate around a constant figure depending on the soil productivity (as low as 20 sq. ft. on extremely poor sites, and up to 80 sq. ft. on highly productive sites).

Thinning type harvests in pines help maintain the health and vigor of the stands by removing diseased, severely suppressed, and deformed trees. Creating open spaces in the canopy layer allows residual trees crowns to expand, and eventually provide sufficient seed trees for natural generation. Properly applied thinning is also useful in enhancing the development of understory and groundcover communities which can provide a diversity of habitat for a wide variety of wildlife species. Stand BA's should be reduced to approximately 40-50 sq. ft. per acre (dependent on BA before treatment) during initial treatment. As residual trees continue to grow, BA will gradually increase; consequentially, stands should be thinned again whenever BA reaches >100 sq. ft per acre.

Stand Descriptions and Recommendations

Management recommendations will only be given for the upland portion of L. Kirk Edwards WEA. All other timbered areas of the property are in wetlands surrounding Lake Lafayette and the Upper St. Marks River and should be managed for their protection and not for timber production.

Thinned Pine Plantation (Slash and Loblolly Pine)

Prior to the state purchasing the property several of the merchantable pine plantations were thinned. The timber in these stands is mostly pulpwood and chip-n-saw sized timber. The basal area in these stands ranges from approximately 20 to 40 square feet per acre. Since the purchase of the property the local managers have been able to start reintroducing prescribed fire to the stands. These stands need to be monitored for a second thinning when they reach a BA of $\geq$100 square feet/acre. The thinning should reduce the BA to 50-70 square feet/acre. This thinning should target the removal of poorly formed trees leaving the best trees for a final harvest. During the thinning, small open areas could be established. These areas could then be planted with longleaf pine. There are many ways to regenerate these stands when they reach maturity. Clear cutting the entire stand and artificially regenerating it is one option. Another option is to use a combination of natural and artificial regeneration. After these stands have reached maturity and reforestation is desired, a seed tree cut could be applied to the stand. This would leave 15-20 evenly spaced trees per acre to reseed the area. Longleaf pine could be planted in areas where it is suitable.

Non Thinned Pine Plantation (Slash and Loblolly Pine)

The trees in these stands have reached a merchantable size and need thinning. Thinning on these stands should reduce the BA to 40-60 square feet/acre. The thinning should favor the removal of damaged, diseased, and suppressed trees. This will allow the remaining trees room to grow as well as allowing sunlight to reach the forest floor. A carefully executed prescribed burning program should be implemented one year after the thinning is completed. These stands should be monitored for a second thinning when they reach a BA of $\geq$100 square feet/acre. This second thinning should target the removal of poorly formed trees leaving the best trees for a final harvest. At this time small openings could be established in the stand and longleaf pine planted on suitable areas. These areas can be regenerated using the options mentioned above.

Old Fields

There are several large old fields on this property that are candidates for groundcover restoration and longleaf pine establishment. This would require removal of the current pasture grasses by chemical or mechanical means. Longleaf pine should be planted at a rate of 660 trees per acre. If restoring the groundcover is not an option at this time and the local managers want to only plant longleaf pine, then the area needs to be scalped to remove competition from the grasses for the trees. Planting longleaf pine at these stocking rates will provide needle cast for prescribed burning at an earlier date. When the trees reach sufficient size, the stand can be thinned to maintain a more open structure.

Exotic Invasive Species

Special care needs to be taken to reduce the introduction and spread on exotic invasive plants on L. Kirk Edwards WEA. All equipment brought onto the tract should be cleaned of all dirt and plant materials before it is allowed on the property. Any known locations of exotic plants should be treated as soon as possible and until it is completely gone.

Prescribed Burning

Prescribed fire is an important management tool in pine ecosystems. It reduces fuel loads, thereby reducing the frequency and severity of wildfires, reduces competition and helps maintain desirable ground cover conditions. Local managers have been able to reintroduce fire to portions of L. Kirk Edwards WEA.

Prior to any burning taking place, permanent, harrowed fire lines need to be established along property lines. These lines will serve multiple purposes. The primary purpose will be to serve as fire breaks for the prescribed burning taking place on the property. They will also help protect the property from wildfire from adjacent properties as they also have heavy fuel levels. The third purpose is to help mark the boundaries of the property. These fire lines should only be placed along the boundaries in the pine uplands. No fire lines should be place in the hardwood floodplains or between the pines and hardwoods. Prescribed fire should be allowed to burn into the hardwoods. This will help maintain the eco-tone (transition area) between the pines and hardwoods.

Due to the lack of fire on L. Kirk Edwards WEA from previous owners, groundcover conditions have deteriorated, and hardwood/shrub competition is moderate to heavy. Dormant season burns need to conducted in these areas until the understory component has become manageable. The burning rotation should be every 2-3 years. Once the understory has become manageable, growing season burns can then safely be conducted.

12.5 FWC Strategic Plan

Florida Fish and Wildlife Conservation Commission
Strategic Plan

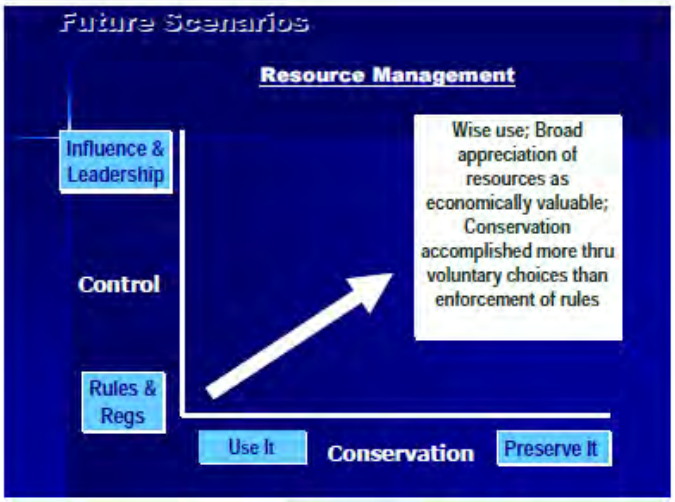
January 2007

This Plan contains the key strategies that will guide the FWC over the long term and sets forth the behaviors that are essential to successfully achieving our mission. We have taken this long-term view to better ensure the conservation of Florida's fish and wildlife resources.

We are expanding the role of management to place greater emphasis on management through leadership, education and influence. Under this approach, people do what is best for fish and wildlife of their own volition, rather than by the threat of regulatory or enforcement actions.

Regarding the work itself, we want to move from reacting to situations to being more proactive. This entails identifying and working on emerging issues before they overtake us. We are intent on moving from single focus planning where one division or office works on an issue to planning that brings all relevant disciplines of the agency to bear in a coordinated way. We want to keep our eye on the bigger landscape.

For More Information:



A shift in the direction we are going on two fronts is fundamental to this Plan – how we manage the resource, and how we do our work.

Over the next 15-20 years we want to move away from management driven primarily by rules and regulations to where others help us conserve the resource because of our leadership and influence. This kind of influence is one where others do right by fish and wildlife of their own volition rather than by the threat of regulatory or enforcement actions by us.

Regarding work itself, we want to move from reacting to situations to being more proactive. This entails identifying and working on "emerging" issues before they overtake us. We also want to move from a single focus planning approach where single divisions or offices work on an issue to bringing all relevant disciplines of the agency to bear in a coordinated way, and doing so with an eye on a bigger landscape-level view.

Our Vision

Powered by science-based leadership, we will create a sustainable and healthy future for Florida's fish, wildlife, water and habitat resources.

FWC envisions a future where the people who live in or visit Florida care for and contribute to the stability of our fish and wildlife resources and the quality of our environment. FWC will be the recognized leader in the science and management of Florida's fish and wildlife. Residents and visitors will fully support and fund efforts to maintain the resources that provide recreational opportunities for fishing, hunting, wildlife viewing and boating.

Our Mission

To manage fish and wildlife resources for their long-term well-being and the benefit of people.

Our mission is a concise statement of what we do to achieve this vision. This statement captures the concept that humans are an integral part of the equation and that balancing competing public interests, concerns, and uses of natural resources is at the heart of our mission.

Our Goal

To provide healthy resources for safe, satisfied customers.

This is the end result we hope to accomplish through our mission.

Agency Strategies

In this section we describe the strategies we will employ to accomplish our mission. Divisions and offices have plans that specifically address implementation of these strategies. These strategies are not in priority order.

1. Develop proactive, integrated research that anticipates emerging issues and ensures positive resource outcomes.

2. Develop leading-edge resource management programs.

3. Develop proactive, preventative enforcement programs that enable FWC to avoid potential and emerging problems.

4. Develop fish and wildlife recreation opportunities and programs that foster resource stewardship.

5. Improve our resource leadership position by clearly communicating where we are headed, why it is important, and how we plan to get there.

6. Increase stakeholder involvement and interaction on emerging issues to proactively reduce resource conflicts.

7. Initiate partnerships as a means of addressing the big resource issues facing Florida.

8. Integrate human dimensions insights into management planning and decision making.

For More Information:

Human dimensions is about recognizing humans as part of the fish and wildlife management equation and considering human issues in management planning and decision making. Insights come from understanding how people value fish and wildlife, how they want fish and wildlife to be managed and how they affect or are affected by fish and wildlife and fish and wildlife management decisions. Activities involving human dimensions include social science research, public participation, stakeholder involvement and policy analysis. This strategy is about learning more about the human part of the management equation and integrating those insights into our management planning and decision making, including setting objectives and designing management interventions.

9. Integrate our activities to better achieve sustainable populations of species, protect critical habitat and high quality environmental resources.

10. Foster and develop the multi-disciplinary expertise of the FWC needed to ensure strategic, integrated solutions that address and solve resource problems.

11. Build a collaborative workforce built on professionalism, with the skills and resources needed to maximize effectiveness.

Agency Code of Conduct

As we implement this Plan, we will do so in a manner consistent with the following. These are not in priority order.

Lead and Make Informed Decisions

The following codes of conduct are about leading and making decisions. FWC leadership is about: creating a vision, aligning agency resources to accomplish the vision, and empowering people to do the work. We will work with our employees, customers and stakeholders to set the vision for Florida's fish and wildlife future, align the resources and empower people to make this vision a reality.

1. Balance the needs of citizens with the needs of the resource, putting the resource first in our decisions and actions.

For More Information:

The paramount objective of resource management decision-making is to maintain the long-term well-being of the fish and wildlife resources of our state for the benefit of our citizens. We seek to base decisions on the best information available, including biological, sociological, economic, cultural, historical and other information deemed relevant by the Commission. The biological basis for decision-making includes stock assessments, biological surveys, management plans and other science-based studies or information.

With respect to harvested populations, we seek to permit reasonable means and quantities of harvest, consistent with optimum sustainable populations. Optimum sustainable populations shall mean the highest degree of population productivity within available habitat to sustain fish and wildlife for the long term use or enjoyment of citizens.

2. Make resource decisions based on the best available science with a balance of enforcement and management practicality.

For More Information:

Our goal is effective decision-making at all levels of the FWC. We believe that decisions should be guided by objective scientific information and that subject-matter experts are integral in framing decisions.

Decision-making can be broadly categorized as: (1) operational or programmatic, (2) public policy development, and (3) regulatory. It should be recognized that all FWC employees are expected to have a role in making operational or programmatic decisions. This perspective is reflected in our desire to push decision-making to the level closest to the issue. To do this, agency leadership must facilitate informed decision-making rather than making all of the decisions. The process is to: (1) delegate more decisions, (2) identify the appropriate level for making the decision, and (3) convey any constraints, terms and conditions that should be considered when making a decision. If successful, this will break the decision bottlenecks and improve the timeliness of decisions.

Decision-making related to public policy development and regulations is the prerogative of the Commissioners. In formulating these decisions, the Commission must assess and evaluate a broad array of data and information based on biological science, social science, and public preference. The role of FWC employees is to use the best available science to recommend baselines, thresholds, or a range of values that will serve as the constraints for decision-making. In doing so, it needs to be recognized that many decisions are made with incomplete or less than perfect science and that some decisions are time-sensitive. The desired outcome is to use science to provide the framework within which decisions are made

3. Make consistent, thoughtful and timely decisions that keep pace with the needs of the resource.

4. Seek first to influence others rather than regulate them.
Develop collaborative approaches to address conservation needs.

5. Be proactive in our actions, anticipating emerging issues and getting out in front of them.

For More Information:

To be proactive means recognizing our responsibility to make things happen. It's taking the initiative and getting out in front of issues before they run us over. It means identifying potential issues and acting upon those most likely to need our attention soonest. By being proactive, we are better able to commit time and energy to our priorities and do less "fire-fighting".

6. Adopt a landscape or big picture approach that uses interdisciplinary teams to address complex resource-management issues.

For More Information:

The Landscape or Big Picture perspective recognizes that we cannot examine or manage complex systems one component at a time. We must focus on how species, habitats, and human influences are inter-connected, in addition to understanding specific attributes of each. Our perspective cannot be restricted to a specific temporal or spatial scale and must take into account the actions of other agencies with missions that potentially overlap FWC's. There are institutional and ecological components to this perspective. We cannot accomplish our mission without understanding how our decisions fit into and integrate with those of other natural resource agencies. Also, we must understand how our management actions impact the structure and function of natural systems as a whole with humans considered as part of those systems.

7. Effectively involve citizens and staff who are closest to an issue in the decision-making process.

8. Use teamwork and collaboration to integrate our work effort.

For More Information:

Integration is the act of forming into a functioning or unified whole (Merriam-Webster Online dictionary). Prior to Restructuring in 2003, we had merged but not integrated. In the Restructure we achieved some integration by combining like functions together in divisions and offices. Examples: we had licensing & permitting in 3 divisions and an office. But this only gets us part way to full integration – teaming, i.e., working in cross-functional groups, gets us the rest of the way.

When you look at our Agency-level and DOI plans, a lot of our work is cross-functional, i.e., cuts across more than one DOI (remember each DOI has a different function, e.g., enforcement, research, habitat & species management, etc.). So we want staff available to work on whatever work is most needed and that they could contribute to, in effect, making them available to the entire organization. Teams are an important way to do this.

That said, teamwork is more than just being on a formal team. Teamwork is also about all of us working together to plan and to implement because we can do a better job if we bring all FWC's

expertise to bear. We want to use our multi-disciplinary strengths to create better decisions and better results.

As you make decisions, think "who else other than me is affected by these decisions and who among those affected needs to be aware of or involved in them?" Here's the checklist:

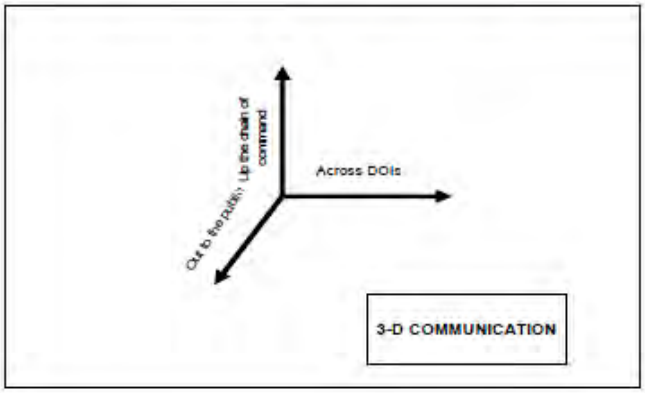
- *Do you need the assistance of others? Do others need your assistance?*
- *Does your work significantly affect the work of others?*
- *Do others depend on your output?*
- *Has everyone affected by your work been informed and involved in the planning process?*

Figure out who you need to integrate with and do it. Use DOI operational priorities as a guide.

9. Communicate well up and down the organization, across the organization, and externally with others.

For More Information:

Communication is about exchanging information – clearly, concisely and with no loss of content or meaning. We use the term "3-Dimensional communication" to refer to communication up and down your division, office, or institute chain of command, across divisions and offices, and from FWC to those outside FWC. FWC staff tells us we need to do a better job of listening to their issues and letting them know they have been heard. Communication is a two-way street: don't forget to listen. You have to take some initiative. Speak up when you have issues and come with ideas on possible solutions.



Provide Excellent Service

Providing the best possible service to the public and one another is essential to gathering the support we need to achieve our mission. These are not in priority order.

10. Provide consistent, high-quality service to citizens.

For More Information:

To achieve our mission we must have the support of our citizenry. An essential element of building this support is to provide excellent customer service.

To provide high quality customer service means that we will always listen, treat each other and the public with patience and respect and explain the reasons for agency actions, rules and regulations. It also means striving to make complying with agency requirements such as obtaining permits as convenient as possible. A commitment to customer service builds support and improved compliance even when customers disagree with agency actions.

Remember: customer contacts are moments when a person's opinion of us is formed. These contacts should be as positive an experience as possible, regardless of who initiates them or how the contacts occur.

11. Be collaborative and respectful in interactions with fellow employees.

For More Information:

A spirit of collaboration is an essential ingredient of successful integration. This collaborative spirit is built by treating one another with courtesy, patience and respect and by exhibiting fairness, compassion, and honesty in all we do. We can each work to build this collaborative workplace by promoting cooperation and teamwork to meet goals, by mentoring employees and by acknowledging and taking pride in each other's successes. When problems occur, we must work to maintain open lines of communication and strive to solve them in a proactive, positive manner.

12. Seek input from and listen to citizens; understand and try to meet their needs.

For More Information:

Understanding the knowledge, opinions, motivations, needs and expectations of stakeholders and customers is vital to successful conservation strategies. Asking, listening and involving citizens early and regularly is critical to developing and implementing successful projects and effectively addressing issues before they become intractable problems.

13. Proactively engage stakeholders and management partners in planning and decision-making; strive to continuously inform affected parties of plans and actions.

14. Work with all parties on issues in a fair and balanced way; create forums for dialogue and seek the middle ground. Focus on conflict resolution and collaboration.

For More Information:

An important component of our future stakeholder relations is to stop taking stakeholder issues on as our own. A stakeholder issue may or may not rise to the level of being an agency issue. We will create an environment where stakeholders represent their interests to each other rather than FWC staff trying to represent them. Our role needs to be one where we bring the parties together and create an environment where the parties can work toward issue resolution. Each stakeholder is responsible for presenting and arguing for their own point of view.

15. Partner with others.

For More Information:

We value the power of partnerships. We seek to build partnerships with other agencies and organizations to leverage limited resources,

to achieve better resource outcomes and to provide better services to the public.

Stakeholders are a big part of how we can move to being more influential. Through stakeholders we can positively impact fish and wildlife conservation in ways that go well beyond our limited legal authority.

Partnerships result in more resources going towards our projects than we alone can provide. We're sharing other people's resources to get the job done. And, it's the same for the partner, i.e., they are getting more resources to get their job done, too. It's that we've agreed on the same job.

Given the realities of future state budgets, partnerships are where we should look for more human and dollar resources for projects. While it's nice to be able to do it all ourselves and to control it ourselves, that greatly limits what can get done and our Mission suffers.

Healthy partnerships lead to partners making decisions and doing agreed upon work with their staff and dollars.

16. Communicate the reasons for our actions and state a consistent FWC point of view (speak with one voice).

For More Information:

We have to do a better job of communicating among ourselves and with the public so we all understand where we are going, why, and what we're doing to get there. And when we communicate we need to all "speak with one voice", i.e., all have the same message on a given issue so the recipients of the messages are not confused by different variations of the message. Communication is a 2-way street: don't forget to listen.

17. Continually improve agency processes, operations and cost-effectiveness.

For More Information:

Given the limited resources we have to accomplish our Mission, we need to use them wisely and well. This involves: (1) being innovative in our problem solving, (2) evaluating priorities and adjusting them as needed, and (3) continually improving in what we do and how we do it. Improvements in processes can free-up resources to devote to other efforts.

Measurement

We will measure progress on implementing this Plan using an agency-level scorecard. This scorecard is under development and includes specific and measurable objectives for judging how well we're doing on the end results of our actions.

For More Information:

The FWC is developing a Scorecard that will translate the Agency Strategic Plan (ASP) into performance measures and track, on an on-going basis, progress toward accomplishing these measures.

Think of the Scorecard as the "gauges" in an airplane cockpit. For the complex task of navigating and flying an airplane, pilots need detailed information about many aspects of the flight: fuel, air speed, altitude, bearing, destination, and other indicators that summarize the current and predicted environment. Reliance on one gauge can be fatal. Similarly, the complexity of managing an organization requires that managers be able to view performance on several gauges that represent the key operational areas, simultaneously. The Scorecard improves management oversight by providing FWC the ability to know if we are on course, with the added ability to catch problems before they become critical.

There will be an agency-level Scorecard and one for each division and office. The gauges on the agency-level Scorecard are shown below. Example measures are shown in parenthesis.

- *Marine Fisheries: the status of marine fisheries (annual status & trends of key species, fishery closures, license sales, economic impacts, law enforcement effort)*
- *Freshwater Fisheries: the status of freshwater fisheries (status of species in selected lakes, law enforcement effort)*
- *Wildlife: the overall status of wildlife (annual status & trends of wildlife populations, law enforcement effort)*
- *Habitat & Water: the overall status of fish and wildlife habitats, both aquatic and terrestrial (GIS inventories and law enforcement effort).*

- *Public Health and Safety: human health, safety and welfare (boating injuries, deaths, and property damage; nuisance animal encounters such as alligator attacks; crimes against persons on lands we manage)*

- *Use Opportunities: number of users of all types and access to the resource (acres of lands open to the public, license sales)*

- *Leadership and Communication: overall performance on improving leadership and communication (employee assessment of internal communications)*

- *Teaming: overall performance in improving teaming and integration (number of teams successfully completing their tasks)*

- *Employment Quality: overall improvement in employee's workplace quality and satisfaction (employee satisfaction)*

- *Model & Plan Implementation: overall performance in implementing models and plans*

- *Senior Leadership Team Performance: overall performance of the SLT; includes its leadership and management responsibilities and its functioning as a team*

- *Regional Leadership Team Performance: overall performance of the 5 Regional Leadership Teams; includes their leadership and management responsibilities and their functioning as a team*

- *Division Performance: overall performance of the divisions; a roll up of all the divisions' performance as fed by their dashboards*

- *Office Performance: overall performance of the offices; a roll up of all the offices' performance as fed by their dashboards*

- *Financial Performance: overall performance in financial aspects of FWC (status of trust funds, performance as indicated by audits, ratio of state vs. grant funding)*

- *Internal Efficiency:* efficiency of FWC's internal operations. Examples: productivity increases, improved efficiencies due to process improvements, energy use?
- *Commissioner's Areas of Emphasis:* overall performance on the annual Commissioner's Areas of Emphasis selected at the beginning of each calendar year.
- *Process Improvement:* overall performance in improving processes
- *Customer Service:* overall performance in improving internal and external customer service
- *Stakeholders and Partnering:* overall performance in meeting stakeholder needs

12.6 FWC Apiary Policy

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Apiary Policy

Division of Habitat and Species Conservation

Issued by:
Terrestrial Habitat Conservation and Restoration Section
9/1/2010

Enclosed is the HSC/THCR Apiary Policy for all Florida Fish and Wildlife Conservation Commission's Wildlife Management Areas and Wildlife and Environmental Areas.

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DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY
Issued September 2010

SUBJECT: APIARY SITES ON FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION WILDLIFE MANAGEMENT AREAS AND WILDLIFE AND ENVIRONMENTAL AREAS

STATEMENT OF PURPOSE: It is the intent of this policy to determine which Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Areas or Wildlife and Environmental Areas (WMA/WEA) may have apiary sites, and provides direction on site location, management and administration of said apiaries.

Definitions

Apiary – A place where bees and beehives are kept, especially a place where bees are raised for their honey.

Apiary Site – An area set aside on a WMA/WEA for the purpose of allowing a beekeeper to locate beehives in exchange for a fee as established by contract between the beekeeper and FWC.

Apiary Wait List – An apiary wait list will be maintained by the Terrestrial Habitat Conservation and Restoration (THCR) Section Leader's Office based on applications received from interested beekeepers. Only qualified apiarists will be added to the list. To become qualified the new apiarist must submit an application form and meet the criteria below under the section titled "Apiary Wait List and Apiary Application."

Beekeeper/Apiarist – A person who keeps honey bees for the purposes of securing commodities such as honey, beeswax, pollen; pollinating fruits and vegetables; raising queens and bees for sale to other farmers and/or for purposes satisfying natural scientific curiosity.

Best Management Practices – The Florida Department of Agriculture & Consumer Services (FDACS; Division of Plant Industry (DPI), Apiary Inspection Section, P.O. Box 147100, Gainesville, FL 332614-1416) provides Best Management Practices (BMP) for maintaining European Honey Bee colonies and FWC expects apiarists to follow the BMP.

Hive/Colony – Means any Langstroth-type structure with movable frames intended for the housing of a bee colony. A hive typically consists of a high body hive box with cover, honey frames, brood chambers and a bottom board and may have smaller super hive boxes stacked on top for the excess honey storage. A hive/colony includes one queen, bees, combs, honey, pollen and brood and may have additional supers stacked on top of a high body hive box.

Establishment of Apiary Sites on WMA/WEA

During the development of an individual WMA/WEA Management Plan, apiaries will be considered under the multiple-use concept as a possible use to be allowed on the area. "Approved" uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities documents. Items to consider when making this determination can also include:

- Were apiaries present on the area prior to acquisition?
- Are there suitable available sites on the WMA/WEA?
- Will the apiary assist in pollination of an onsite FWC or offsite (adjacent landowner) citrus grove or other agricultural operation?

For those WMA/WEAs that have not considered apiaries in their Management Plan, upon approval of this policy Regional Staff will work with the Conservation Acquisition and Planning (CAP) staff and THCR Section leadership to determine if apiaries are an approved use on the area. If apiaries are considered an approved use then a request will be made to the Division of State Lands to allow this use as part of an amended Management Plan. This request will be made through the THCR's Section Leader's office and coordinated by the CAP.

Determination of apiary site locations on WMA/WEAs should be done using the following guidelines:

- Apiary sites should be situated so as to be at least one-half mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site. Exceptions to this requirement must be reviewed by the Area Biologist and presented to the THCR Section Leader for approval.
- Site should be relatively level, fairly dry, and not be prone to flooding when bees would normally be present.
- Site should be accessible by roads which allow reasonable transfer of hives to the site by vehicle.
- If a site is to be located near human activity, such as, an agricultural field, food plot, wildlife opening, campsites, etc., or if the site may be manipulated by machinery at a time when bees would be present, then the apiary site should be located at a minimum of 150 to 200 yards from the edge of that activity. This will ensure minimal disturbance to the bees and minimize incidents with anyone working in the area.

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- It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.

- FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

WMA/WEA Staff Responsibilities

Area Biologist on WMAs/WEAs with approved apiary sites will forward a GIS shapefile depicting all the apiary site polygon(s), including a name or number with coordinates for each apiary site, to the THCR Contract Manager.

Area Biologist will monitor each apiary site no less than once a year to determine if the beekeeper is abiding by the contract requirements. If violations are noted, staff should bring them to the attention of the beekeeper for correction. If violations continue staff should notify the THCR Contract Manager who will determine if or what additional action is warranted.

Area Biologist will establish and maintain firelines around the apiary site to ensure the apiary site is ready when a planned burn is scheduled.

Area Biologist will advise the beekeeper of burn plans, road work, gate closures, or other site conditions and management activities that may affect the beekeeper's ability to manage or access the apiary site.

Area Biologist is not responsible to ensure access roads are in condition suitable for beekeepers to access their hives with anything other than a four wheeled drive vehicle. (The site of the apiary may be high and dry, but the roads accessing them may be difficult to impossible to get a two wheeled drive vehicle into during extreme weather, e.g., heavy rainfall events.)

Apiary Wait List and Apiary Application

An electronic waiting list for apiary sites will be maintained by the THCR's Contract Manager for each WMA/WEA. To be placed on the waiting list an interested beekeeper must submit an apiary application form to the contract manager (See Enclosed Application Form). Each applicant will be considered based on the following criteria:

- Proof of a valid registration with the FDACS/DPI.
- Proof of payment of outstanding special inspection fees for existing sites.
- A validated history of being an apiary manager.
- Three references that can attest to the applicant's beekeeping experience.

If an apiary site is becomes available on a WMA/WEA and there are beekeepers on the waiting list interested in that particular area, those individuals meeting the criteria above will be given preference. If there is more than one beekeeper meeting the criteria with their name on the list then a random drawing will be held by the THCR Contract Manager to determine who will receive the site. Beekeepers on the waiting list will be notified in writing of the random drawing's date/location and will be invited to attend. The individual's name selected during this drawing will be awarded the contract.

Apiary agreements are non-transferable. Each agreement serves as a contract between a specific individual or company and FWC, and the rights and responsibilities covered by an individual agreement cannot be transferred.

Contracts

Apiary contracts are for five (5) years and renewals are contingent upon a satisfactory performance evaluation by Area Biologist and concurrence of the THCR Section Leader. Approval is based on apiarist performance, adherence to rules and regulations and general cooperation. If an Area Biologist decides an apiarist whose contract is expiring is unacceptable he may recommend not approving the new contract. If this transpires then the wait list process using random selection will be used. If there is no apiarist on a current wait list then the apiarists who are in good standing with existing contracts will be notified to see if any want to be put on the wait list for the drawing. If none are interested then the site will be put on hold pending a valid request.

Pricing of Apiary Site(s)

Cost of each apiary site will be $40 annually which will include up to 50 beehives. Additional beehives will be charged at the rate of $40 per 50 beehives.

Pricing examples:

- A beekeeper is leasing 2 apiary sites with up to 100 beehives - the fee per year is $80.
- A beekeeper is leasing 3 apiary sites with up to 200 beehives - the fee per year is $160.

Note: The maximum number of hives/colonies allowed on an apiary site will be at the discretion of the apiarist. However, the apiarist is strongly recommended to follow the BMP as recommended by the FDACS/DPI. In addition to providing the BMP, FDACS/DPI's management has recommended 50 hives per site in pineland communities and no more than 100 hives per site in areas with bountiful resources. However, FWC will not dictate the number of hives on a site unless they create land management issues.

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the

Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

Apiary Inspection Law - Chapter 586, Florida Statutes (see http://www.leg.state.fl.us/Statutes/), Rule Chapter 5B-54, Florida Administrative Code (see www.flrules.org).

The Board of Trustees of the Internal Improvement Trust Fund – Recommended Apiary Agreement Guidelines For Apiaries & Revisions to an Agreement for Apiary Activities on State Lands on September 23, 1986
S:\HSC\THCR\APIARY.BACKUP.POLICY\dlissupport@dos.state.fl.us_20100903_111446.pdf

Senate Resolution 580, September 21, 2006: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_bills&docid=f:sr580ats.txt.pdf

Attachments

Sample Apiary Agreement W/Attachments (Map Placeholder & Electric Fence Bulletin)

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

_____
Division Director or Designee

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

THIS AGREEMENT is made by and between the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600, hereinafter known as "the COMMISSION," and (Insert Name and Address of Apiarist Here), telephone number (Insert Phone Number of Apiarist Here), hereinafter known as "the USER."

WITNESSETH

In consideration of the mutual promises to be kept by each and the payments to be made by the USER, the parties agree as follows:

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.

2. The COMMISSION Agrees:

    a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.

    b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.

    c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).

3. The USER Agrees:

    a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission, Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.

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b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.

c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.

d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.

e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER'S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30 day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.

f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.

g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.

h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.

i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.

j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than $300,000 for bodily injury and $100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.

k. To be liable for all damage to persons or property resulting from operations under this Agreement, and to release, acquit, indemnify, save and hold harmless the COMMISSION, its officers, agents, employees and representatives from any and all claims, losses, damages, injuries and liabilities whatsoever, whether for personal injury or otherwise, resulting from, arising out of or in any way connected with activities under this Agreement or activities occurring from any other source not under this Agreement and the USER further agrees to assume all risks of loss and liabilities incidental to any natural or artificial condition occurring on state lands cover by this Agreement.

l. To construct and maintain electric fences, if required by the Area Biologist at the Area Biologist's discretion, to provide protection of apiaries from black bear depredation consistent with the technical information bulletin attached to this agreement, and, if so required, to maintain an open buffer around the fencing of five (5) feet or more. (See Attachment 1)

m. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER'S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.

4. The parties mutually agree:

a. This Agreement is not transferable.

b. The USER's failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.

c. The USER's failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.

d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.

e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation between sites. Exceptions to this rule must be reviewed by Area Biologist

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presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.

f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.

g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.

h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.

i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities are found to be incompatible with the COMMISSION'S management plans or for any other reason at the sole discretion of the COMMISSION.

This Area Intentionally Left Blank

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year last below written.

Signatures on file

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AGREEMENT
ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a

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bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.
The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or "hot" wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately $200 for a 40' x 40' area (160 linear feet of fence).

Materials:
1 - 1, 312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
1 - 50 foot roll 12 gauge insulated wire
20 - 5 foot 5/8 inch dia fiberglass fence posts
5 - plastic gate handles
1 - 110 volt fence charger
1 - 10 foot ground pipe
4 - plastic electric fence signs

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each

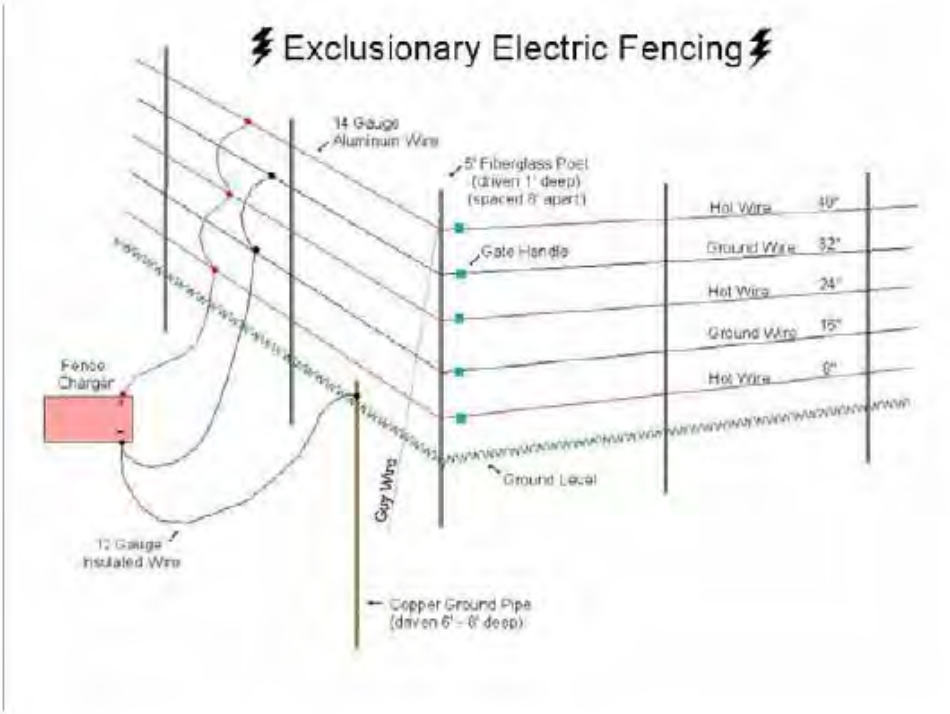
corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

FitzGerald, James (1984), *The Best Fences*. Storey Publishing Bulletin A-92, Pownal, Vermont. p. 14-16.



AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

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APIARY SITE APPLICATION FORM

Florida Fish and Wildlife Conservation Commission

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Name _____ Telephone Number _____

Mailing Address _____

City or Town_____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address) _____

Company Name: _____

Email Address _____

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA _____ County_____ # of Sites_____

WMA/WEA _____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

Planned Number of Hives Per Site: _____ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes____ No____

Number of Years a Member_____

Name of Beekeepers Association:_____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI):_____Yes _____No _____N/A If yes, please provide proof.

Are you current with any and all special inspection fees:_____Yes _____No _____N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?:_____Yes _____No

If no, then please explain on a separate piece of paper.

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Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:

References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference's name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

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MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission's

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC's management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal's characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC's WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR

MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.

2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.

3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.

4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.

5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.

6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.

7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.

8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.

9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.

10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.

11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.

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RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an "Apiary Wait List Folder" on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an "Apiary Wait List".
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.
8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.
9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

    a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.

    b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.

    c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.

    d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.

    e. The apiarist whose name is selected will be awarded the available site.

    f. A new Agreement will be developed by the THCR Contract Manager.

*A new apiary application must be submitted once requestor's name is removed from a waiting list.

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12.7 WCPR Species Management Strategy

L. Kirk Edwards WEA
Species Management Strategy
October 2010

Florida Fish & Wildlife Conservation Commission
Division of Habitat & Species Conservation
Terrestrial Habitat Conservation & Restoration Section
A product of the Wildlife Conservation,
Prioritization & Recovery Program

EXECUTIVE SUMMARY

The Florida Fish & Wildlife Conservation Commission's (FWC) Terrestrial Habitat Conservation and Restoration section (THCR) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area (WMA/WEA) system. This approach uses information from statewide models in conjunction with input from species experts and people with knowledge of the area to create site-specific wildlife assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. FWC intends for this strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence of and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based approach to evaluating focal species needs within an ecosystem management approach for the L. Kirk Edwards Wildlife and Environmental Area (LKEWEA). Natural community management provides benefits to a host of species reliant upon the natural communities. Monitoring select species provides information that verifies whether natural community management is having the desired effect on wildlife. Throughout the process, the role of the area in regional and statewide conservation initiatives was considered to maximize the potential benefit.

Section 1 informs the reader about the process used to generate this document. Section 2 describes the historic and ongoing management actions on the property. Section 3 provides a list of the focal and listed species on the area, and an assessment of each species' level of opportunity/need. This includes species-specific goals and objectives when appropriate. Objectives are identified for 1 species on this area; the gopher tortoise. Section 4 describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. A SMA is an area in which FWC will apply a specific land or species management action(s) to facilitate conservation of a species or group of species. This section also discusses management necessary to ensure continued persistence of focal species. Section 5 describes species-specific management (e.g., restocking, nest structures), the species monitoring prescribed for the area, and research that would be necessary to guide future management efforts. Species-specific management actions are recommended for the gopher tortoise. Monitoring efforts are described for Bachman's sparrow, brown-headed nuthatch, gopher tortoise, northern bobwhite, southern bald eagle, wading birds, and southeastern bat. Opportunistic monitoring is suggested for a number of other focal and imperiled species. The conservation of LKEWEA's wildlife requires interaction with other entities beyond local staff. Intra-agency coordination with 7 other units in FWC and inter-agency coordination with 4 other entities are identified in Section 6. Section 7 describes efforts prescribed "beyond the area's boundaries" to help affect conservation of the species on the area.

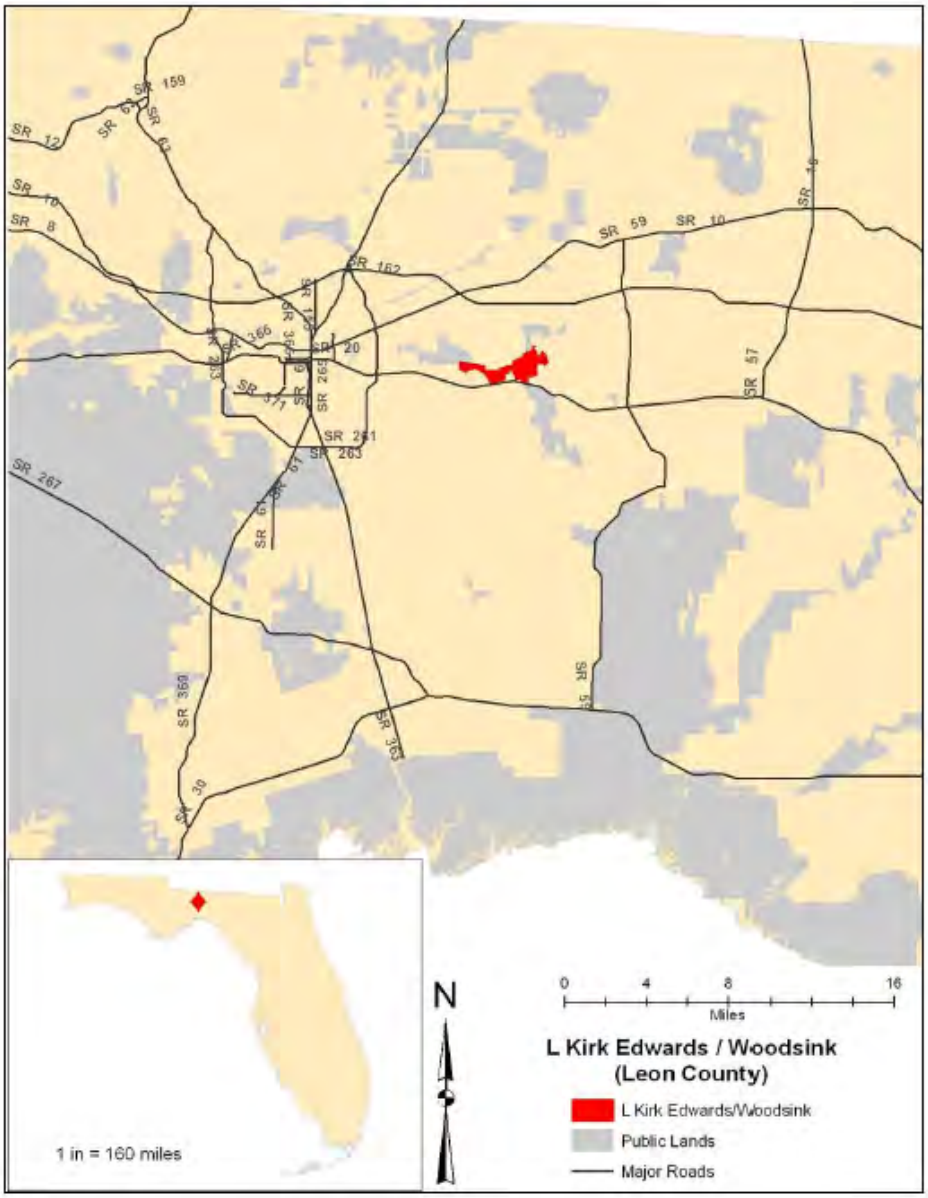
Continuation of current resource levels would be required to continue to meet annual prescribed burning objectives and provide for most of the land management recommended in this document. The FWC will use a combination of private sector contract work and efforts of area staff to accomplish these activities. Additional monitoring recommendations will require additional resources. Additional resources will be required to implement any species-specific management on LKEWEA.

Table of Contents

Acronym List

AHRE	Aquatic Habitat Restoration and Enhancement (subsection)
BBS	Breeding Bird Survey
DFC	Desired Future Condition
DOF	Division of Forestry
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Florida Wildlife Research Institute
HCSS	Habitat Conservation Scientific Services (section)
LIDAR	Light Detection and Ranging
LKEWEA	L. Kirk Edwards Wildlife Environmental Area
OBVM	Objective Based Vegetation Management
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Assessment
SCP	Species Conservation Planning (section)
SHCA	Strategic Habitat Conservation Area
SMA	Strategic Management Area
SMRSP	St. Marks River State Park
THCR	Terrestrial Habitat Conservation and Restoration (section)
USMRC	Upper St. Marks River Corridor (project)
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

Locator Map



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Section 1: Introduction

The FWC takes a proactive, science-informed approach to species management on lands in the WMA/WEA system. Staff integrates conservation planning, Population Viability Analysis (PVA) results, and geospatial analytical techniques to model potential habitat to help FWC determine where to affect focal species conservation. Staff combines the landscape level assessments with input from species experts and people with knowledge of the area to create site-specific wildlife assessments for a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area.

FWC intends for the Strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence and facilitate the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area. On FWC lead areas, we reference goals and objectives included in the Management Plan (formerly known as Conceptual Management Plan) when discussing the species and drafting the Strategy; therefore this Strategy will help guide and support the goals of the Management Plan. The species-specific objectives identified in this Strategy will be incorporated into the Management Plan and this Strategy will be appended to the Management Plan.

In this document, we define goals, objectives and strategies as follows: Goals are broad statements of a condition or accomplishment to be achieved; goals may be unattainable, but provide direction and inspiration. Objectives are a measurable, time-specific statement of results responding to pre-established goals. Strategies are the actions that will be taken to accomplish a goal or objective.

Staff uses species-specific habitat models to create statewide potential habitat maps. A GIS analysis was conducted to determine which of the focal species were modeled to have potential habitat on each area. We use local staff's knowledge, species-expert knowledge, and area-specific maps of natural communities to refine habitat information for each species and evaluate the area's potential role in conservation of the species. A workshop is conducted at which all individuals involved in the decision making process discuss the focal species status, evaluate opportunities for land and species management on the area, and decide on appropriate monitoring and/or research actions. Some species cannot be expected to persist on an area based solely on area-specific measures; therefore, this strategy identifies intra- and interagency coordination and any "beyond the boundary" considerations (e.g., working with neighboring landowners) necessary for the management of focal species. Area-specific species objectives, a list of necessary actions to achieve these objectives, and the monitoring necessary to verify progress towards objectives are agreed upon and used to create the area's Strategy.

The primary focus of this approach is non-game species; however, 2 of the focal species are game birds. Specific game management actions are not included in this Strategy, though game management actions are considered when drafting the Strategy and are compatible with the actions prescribed by this Strategy. While this Strategy focuses on LKEWEA, it considers the role of the area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. The FWC's land management focuses on natural community management that benefits the host of species that naturally occur in each natural community.

However, some species may need directed actions if they are to recover from past declines or be restored to habitat from which they were extirpated. By implementing the Strategy, FWC believes our management will benefit the largest suite of native wildlife by keeping common species common and aiding in the recovery of listed species.

Section 2: Current and Historic Management on LKEWEA

Florida acquired LKEWEA through 3 acquisitions occurring between 1977 and 2009. Ms. Louise Kirk Edwards donated the Lower Lake Lafayette tract to the State of Florida in 1977 in large part to protect the wood stork colony found on the lake. The State purchased the parcel on Road to the Lake in 1984. In 2009, the State purchased the Wood Sink tract via the Florida Forever program as part of the Upper St. Marks River Corridor (USMRC) project. Management goals for the USMRC state priority will be given to conservation and protection of environmentally unique native habitats and threatened and endangered species.

The total acreage of LKEWEA is approximately 1,749 acres (708 hectares), of which approximately 961 acres (389 hectares) are wetlands. LKEWEA occurs within the greater Tallahassee area with scattered development in the vicinity; however, the area is part of a network of conservation lands that occur predominately to the east and south of Tallahassee. There are numerous privately owned plantations in the area, many of which are enrolled in conservation programs. Closest to LKEWEA is El Destino Plantation to the east, which is approximately 4,500 acres (1,821 hectares) of predominately upland habitat and contains known populations of brown-headed nuthatches and Bachman's sparrows. To the south is St. Marks River State Park (SMRSP), which is approximately 2,600 acres (1,052 hectares). LKEWEA primarily consists of wetland habitats; however, a sizeable area of well-managed upland pine is located in close proximity. This network of conservation lands will become essential to the conservation of many species as development from Tallahassee expands eastward.

Historically, the Lower Lake Lafayette tract was an ephemeral lake used for cattle grazing. Many old cattle fences are still present in the lake basin. The Lower Lake Lafayette basin is part of a larger wetland / lake complex that includes Piney Z, Alford Arm, and Upper Lake Lafayette. This complex has been fragmented and the hydrology altered by a series of levees and the CSX railroad. Additionally, previous landowners constructed a large ditch that connects Lower Lake Lafayette to the St. Marks River. These hydrologic changes have resulted in the area being significantly wetter than it was historically. This large-scale change in natural hydrology poses significant challenges for future restoration of Lake Lafayette. Currently, water level manipulation within the system is not an option as there are no water-level management structures. Staff from FWC's Waterfowl Management Section maintains and checks wood duck boxes throughout Lake Lafayette, and has applied mechanical aquatic vegetation management.

The State purchased the Wood Sink Tract from The Nature Conservancy in 2009. The Nature Conservancy acquired the tract from the St. Joe Timberland Company, which primarily managed the land for industrial pulpwood production. Prior to acquisition, past management practices included land clearing; bedding; row planting of offsite pine species; ditching and fire suppression. These actions significantly altered the structure and function of the landscape. The ditch connecting Lower Lake Lafayette to the St. Marks River interrupted the natural hydroperiods and flow patterns. The uplands were transformed from an open canopied longleaf pine (*Pinus palustris*)-wiregrass (*Aristrada spp.*) association to

closed-canopy slash pine (*P. elliottii*) or loblolly pine (*P. taeda*) plantations with a midstory consisting of dense oaks (*Quercus spp.*) and sweet gum (*Liquidambar styraciflua*). These alterations resulted in plant and animal species being greatly reduced or locally extirpated.

The St. Joe Timberland Company thinned the merchantable pine plantations between 2004 and 2008 and conducted prescribed burns on those plantations located on the south end and on the east side of the St. Marks River. Staff have implemented several management actions in an effort to continue the restoration of the historic natural community structure and function. The FWC is using a combination of private sector contract work and efforts of area staff to accomplish these actions. Staff is collecting baseline information to assess natural communities, wildlife resources, timber resources, hydrology, exotics and rare species. The general approach of restoration on the area will be to control the encroaching hardwoods, reintroduce fire, convert existing slash and loblolly plantations to longleaf pine, and restore historic natural communities. Prior to the Wildlife Conservation Prioritization and Recovery (WCPR) workshop, LKEWEA had not undergone an OBVM workshop. As part of the WCPR process, staff established OBVM management units and defined Desired Future Conditions (DFCs) for historic natural communities. While upland pine is the only natural community identified as actively managed in OBVM, staff allow fire to burn into and through wetlands and other natural communities associated with upland pines.

The Florida Natural Areas Inventory (FNAI) and area staff have identified several exotic plant species during natural community surveys and routine fieldwork. Staff will create a database of these occurrences and will monitor and treat these infestations.

Prescribed fire is critical to restoration of the upland communities. LKEWEA contains approximately 662 burnable acres (268 hectares) that include upland pine, pine plantation, improved pasture, and wet flatwoods (Table 1). Staff has burned all upland pine plantations of the Wood Sink tract since acquisition. This includes approximately 220 acres (89 hectares) of pine plantation burned during the growing season and 260 acres (105 hectares) burned during the dormant season. Additionally, staff burned the pasture areas, totaling about 100 acres (40 hectares), during the dormant season. In order to meet the OBVM DFCs, staff plans to continue burning on a 1-3 year fire return interval focusing on growing season burns.

To reduce the number of hardwood stems, staff used a Gyro-Trac and Brown tree cutter to remove invasive hardwoods on approximately 50 acres (20 hectares) of upland pine forest. Additionally, staff contracted with a private vendor to remove invading oak species and sweet gum that are too large to readily control with prescribed fire on an additional 230 acres (93 hectares). This will enhance wildlife habitat by facilitating burning and promoting herbaceous groundcover.

Because the majority of the uplands were recently acquired, no biological surveys were completed in the uplands on the area prior to the WCPR workshop. Since the Workshop in January of 2010, staff conducted spring point counts for breeding birds and are in the process of completing a drift fence survey for reptiles and amphibians (herpetofauna).

Table 1. Mapped acreage of current and historic plant communities on LKEWEA, including management status and number of focal species that use the community.

Community Type	Estimated Current Acreage	Estimated Historic Acreage	Actively Managed[1]	# of focal species that use the NC
Basin Marsh	163	246		4
Basin Swamp	512	400		6
Bottomland Forest	231	152		4
Cultural Hardwood Forest	14	0		3
Depression Marsh	1	5		3
Dome Swamp	18	19		4
Floodplain Swamp	36	36		5
Mesic Hammock	48	61		2
Pasture-Improved	98	0		2
Pine Plantation	95	0		3
Ruderal	14	0		3
Upland Mixed Forest	36	24		4
Upland Pine Forest[1]	448	729	Yes	9
Wet Flatwoods	35	77		4
TOTAL ACRES	1,749			

1 Communities that are actively managed and monitored via the OBVM process. Other communities are managed, but not monitored via OBVM.

Section 3: Area Focal Species

FWC's land management focuses on restoring the natural form and function of natural communities. However, in some instances, it is important to consider the needs of specific species, and it is necessary to monitor the impacts of natural community management on select wildlife. In an effort to ensure a focused, science-informed approach to species management, FWC uses the focal species concept embraced by the Wildlife Habitat Conservation Needs in Florida project (http://research.myfwc.com/features/view_article.asp?id=29815). The focal species approach incorporates a variety of concepts and considerations that, if applied correctly, allow one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The species selected as focal species includes umbrella species, keystone species, habitat specialist species, and indicator species. The Public Lands Conservation Planning (PLCP) project selected 60 focal species for the statewide assessment. The PLCP project used potential habitat models to create statewide potential habitat maps for each species. Models were created using relevant available data. The base layer for all models was the FWC 2003 landcover data. Staff selected additional data layers such as the species range, soils, land use, etc. based on the natural history of the species. As such, each model is species specific. Once statewide potential habitat maps were available, a PVA was conducted for each focal species.

Using the statewide landcover based habitat maps, 14 of the 60 focal species were modeled to have potential habitat on LKEWEA (Section 3.1). To create more accurate area-

specific potential habitat maps, we used the same statewide model for each focal species on the area but replaced the landcover data with area-specific natural community data. The resulting potential habitat map was then refined using input from local managers and species experts. All potential habitat acres provided in Section 3.2 are the results of this area-specific model and resulting map. Acreages provided are estimates.

The LKEWEA WCPR Workshop was held on January 14-15, 2009 and brought decision makers together to discuss an assessment of the opportunity and needs; identify measurable objectives; determine necessary actions including monitoring; and identify necessary coordination efforts. WCPR staff compiled information on the focal species in a workbook to facilitate informed discussion of the species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included analyzing the long-term security of the species (i.e., examine PVA results), considering if the species occurs in actively managed communities (Table 1), if the species is management responsive, and any other local overriding considerations (e.g., status of species in the region, local declines/extirpations). A brief summary of this assessment of each species is available in Section 3.2.

3.1: L. Kirk Edwards WEA Focal Species

Species that have a measurable objective are indicated with a [1] and species for which monitoring is recommended are indicated with a [2]. Occasionally, models indicate species have potential habitat on the area when using statewide data; however, the local assessment indicates there is little opportunity to manage for these species on the area and they are not a focus of management on the area. These species are identified with an *.

Gopher Frog (*Rana capito*)

Florida pine snake (*Pituophis melanoleucus mugitus*)
Gopher tortoise (*Gopherus polyphemus*)[1,2]

American swallow-tailed kite (*Elanoides forficatus*)
Bachman's sparrow (*Aimophila aestivalis*)[2]
Brown-headed nuthatch (*Sitta pusilla*)[2]
Cooper's hawk (*Accipiter cooperii*)
Louisiana waterthrush (*Seiurus motacilla*)*
Limpkin (*Aramus guarauna*)*
Northern bobwhite (*Colinus virginianus*)[2]
Southern bald eagle (*Haliaeetus leucocephalus*)[2]
Wading birds (multiple species)[2]

Florida black bear (*Ursus americanus floridanus*)
Southeastern bat (*Myotis austroriparius*)[2]

3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunity and needs of each of the focal species. Unless otherwise noted, all acres of potential habitat are the result of using the area-

specific natural community data in the species potential habitat model. We presume that by doing the actions called for in this strategy, we will ensure the area fulfills its role in the conservation of wildlife.

3.2.1: Gopher Frog

The status of the gopher frog on LKEWEA is unknown. However, an ongoing herpetofauna survey is capable of detecting the presence of this species. Gopher frogs breed in seasonally flooded grassy ponds that lack predatory fish. After breeding, frogs move into uplands and often occupy gopher tortoise burrows. They also use rodent and crayfish burrows, stump holes, and hollow logs. Gopher frogs usually occur in xeric habitats within 1 mile (1.6 km) of breeding habitat.

This state-listed species of special concern is responsive to management making it probable that management on LKEWEA will have a significant benefit, if the species is present. The gopher frog triggers 2 of 6 statewide prioritization parameters (a decreasing population trend and a low proportion of populations on state lands modeled to persist). This species is a moderate priority based on the combination of prioritization scores and level of opportunity.

There are currently 607 acres (246 hectares) of potential habitat with 908 acres (367 hectares) modeled to occur if natural communities could be restored. Additionally, there are areas of suitable habitat on El Destino Plantation and SMRSP. This is probably enough habitat to support a viable gopher frog population. While there is a population of gopher tortoises, and potentially suitable breeding ponds located within suitable upland habitat on LKEWEA, gopher frog occupancy is unexpected due to the lack of documented populations nearby and past disturbance to uplands. There are only 2 documented locality records for the gopher frog in the area and the most recent was in 1973. Further, the extent of habitat alteration by previous landowners has decreased the suitability of the property for this species. Even if surveys fail to document their presence, continued use of prescribed fire in upland pine and ephemeral wetlands will maintain and/or enhance suitable habitat for this species.

Opportunistic monitoring (Section 5.2.5) is recommended and Section 5.3.1 describes possible research needs. There are no species management recommendations at this time; however, if surveys fail to detect the species, future strategies may need to assess the potential for restocking this species after habitat restoration has occurred.

Because ongoing natural community management and the Upland Pine Restoration SMA (Section 4.1.1) should benefit this species, no SMA is recommended. The area goal is to create and maintain habitat suitable for occupancy by this species. No measurable objective is recommended. Managers will revisit this assessment if gopher frogs are detected on the area or nearby.

3.2.2: Florida Pine Snake

The status of the Florida pine snake on LKEWEA is unknown. However, an ongoing herpetofauna survey may be capable of detecting this species. This species is state-listed as a species of special concern and triggers 3 of the 6 prioritization

parameters (proportion of populations modeled to persist on public lands, high Millsap supplemental score, and declining Legacy population trend), making the pine snake a moderate statewide priority.

There are healthy pine snake populations on private plantations to the north and east, and there are 2 documented species occurrences within 6 miles to the south. Though we do not have natural community data for habitats occurring on private lands, the model using landcover data did identify potential habitat on the nearby plantations. Any potential habitat on LKEWEA would occur in the driest areas of upland pine. There are currently 448 acres (181 hectares) of upland pine with 728 acres (295 hectares) available if management can restore the natural communities.

Little is known specifically about the habitat requirements of this species, except it is most closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations with sandy soils occupied by pines and a well-developed grassy groundcover, though they have been documented in a number of plant communities. Literature suggests that areas with 2,400 acres (971 hectares) of suitable habitat have the best potential to support viable populations of Florida pine snakes. Even after restoration and considering adjacent habitats, the area would not have enough potential habitat to support a viable population. However, if the State could acquire the land owned by the St. Joe Timber Company adjacent to LKEWEA, or if this land were managed in a manner compatible with the needs of this species, the opportunity for this species on LKEWEA would be improved. Further, because LKEWEA is part of a corridor of conservation lands, the area may serve in supporting the regional population of pine snakes.

Ongoing efforts to maintain LKEWEA's natural community structure and function will benefit pine snakes should they be present on the area; therefore, no SMA is required. Management actions that maintain or enhance habitat for this species include mechanical actions that aid in restoring natural community structure and function and frequent prescribed fire. Because there is no monitoring protocol capable of detecting changes in the local population, no measurable objectives have been identified. However, opportunistic monitoring is recommended (Section 5.2.5). While drift-fence arrays will not provide population level information on pine snakes, future drift-fence surveys conducted on the area should include the use of upland snake traps to ensure adequate detection of large snakes.

The area goal is to maintain habitat in a condition capable of supporting the regional population. However, even though FWC manages LKEWEA to accommodate the needs of this species, the presence of pine snakes on LKEWEA may be dependent on conditions that influence the regional population.

3.2.3: Gopher Tortoise

The gopher tortoise is state-listed as threatened in Florida. While not listed at the federal level in Florida, it is federally threatened in Louisiana, Mississippi, and western Alabama, and is currently under review for federal listing in Florida. This species triggers 4 of the 6 prioritization parameters (proportion of populations modeled to persist on public lands, Millsap biological score, Millsap supplemental score, and declining Legacy population trend). Additionally, the FWC recently approved a management plan that calls for increasing the number of gopher tortoises

on State conservation lands (http://www.myfwc.com/docs/WildlifeHabitats/GT_Mgmt_Plan.pdf).

While no species-specific survey has occurred, managers have observed gopher tortoise burrows within upland pine and pasture on LKEWEA. Additionally, gopher tortoises occur at a moderate density within portions of SMRSP. The best current habitat on LKEWEA (and the largest potential habitat patch) occurs in an upland pine patch adjacent to the pasture.

The gopher tortoise is a management-responsive species that, when present, can be an indicator of properly managed upland pine or grassland communities. Ecologists consider this species a keystone species because many other species use their burrows. There is discussion in the literature about the minimum requirements to sustain a population of gopher tortoises with estimates ranging from 50 to 200 or more acres (20 to $\geq$ 81 hectares).

Potential habitat models based on natural communities show 448 acres (181 hectares) of current potential habitat with 728 acres (295 hectares) available if managers can restore natural communities. As such, LKEWEA has enough potential habitat to support a population of gopher tortoises provided conditions can be enhanced and tortoise density and distribution increased.

Preliminary examination indicates LKEWEA is likely to fit the criteria to become a gopher tortoise recipient site in the near future (minimum of 40 acres [16 hectares] with 30% herbaceous ground cover, no greater than 60% canopy cover, depth to water table 18 in (45 cm) or greater, with a density of no more than 0.5 tortoises/acre). Current tortoise density is unknown, but assumed to be low and herbaceous ground cover in the large patch of suitable habitat is close to 30%. A burrow survey will be necessary to determine if LKEWEA meets the restocking guidelines (Section 5.2.1).

Natural community management including the use of frequent prescribed fire will increase the suitability of habitats by stimulating herbaceous growth. Due to the conservation status of this species throughout its range and the high level of opportunity for the species on the area, the gopher tortoise is a high priority on LKEWEA. Though a species-specific SMA focusing on gopher tortoises is not recommended, a multiple species SMA focusing on restoring upland pine will directly benefit the gopher tortoise. Following natural community restoration, LKEWEA staff should consider restocking tortoises, if necessary. See Section 4.3.1 for additional land management considerations and Section 5.1.1 for species management recommendations.

The area goal is to establish and maintain a viable population that functions as part of the larger regional population. The measurable objective is to:

1) By 2017, conduct a burrow survey within suitable habitats to determine if LKEWEA is a good candidate for restocking.

3.2.4: American Swallow-Tailed Kite

Once estimated to breed in 21 states, the breeding range of the swallow-tailed kite has been reduced to primarily the southeast United States. This species utilizes a variety of natural communities, requiring a mosaic of tall trees for nesting habitat and open areas for foraging habitat. Dominant trees, which are significantly taller than

surrounding trees, are preferred for nesting sites. Shrub height and density tends to be higher around nest sites. Given the generalist nature of this species and its high mobility, it is not considered management dependent, though it does benefit from active management to restore natural communities provided nest sites are not disturbed.

This species is not listed at either the state or federal level, but is considered a moderate statewide priority as it triggers 4 of the 6 statewide prioritization parameters (low Legacy population status, unknown Legacy population trend, probability of a 50% decline, and a low proportion of populations on state lands modeled to persist).

The status of American swallow-tailed kites on LKEWEA is unknown; however, it does use the area. Models indicate 1,456 acres (589 hectares) of potential habitat based on natural communities with 1,340 acres (542 hectares) available if management can restore all natural communities. The models indicate a loss of habitat with restoration of historic natural communities. While the models indicate a minor loss of potential habitat with restoration, this is an artifact of the modeling process. In reality, much of the area is and will continue to be potential habitat for the swallow-tailed kite. Even if acreage of potential habitat is lost due to natural community restoration, habitat quality will be enhanced.

The opportunity for management to have a significant impact on this species at the WMA/WEA level is low and therefore designation of a SMA would be inappropriate. However, ongoing management to restore the structure and function of natural communities should continue to benefit this species by enhancing nesting and foraging habitat. Planned forestry practices that include restoring mature native forests, in combination with continued use of prescribed fire, will benefit this species.

It would be impractical to designate measurable objectives for this species at the WMA/WEA level. If kite activity is observed during nesting season (particularly if kites are observed carrying nesting material, mobbing, or in groups of 3 or more) this information should be documented (Section 5.2.5). When staff is aware of nest locations, management considerations around these sites will be used (Section 4.3.2).

The area goal is to maintain habitat in a suitable condition to ensure the individuals using LKEWEA function as part of a regional population. It is unlikely that any WMA/WEA will independently support a population of this wide-ranging, migratory species. Even though FWC manages LKEWEA in a manner that accommodates the needs of this species, the continued presence of this species on the area is dependent on conditions that influence the regional American swallow-tailed kite population.

3.2.5: Bachman's Sparrow

The status of Bachman's sparrows on LKEWEA is unknown. Recent spring point count surveys failed to detect this species. This species prefers mature pine forests with a low basal area and abundant herbaceous vegetation or early-successional old-field habitat. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for greater than 3 years. In many areas, the optimal fire return interval necessary to achieve desired vegetative parameters for Bachman's sparrow habitat is 2-3 years. Bachman's sparrows are not

listed at either the state or federal level, and the species triggers 2 of the 6 statewide prioritization parameters (declining Legacy population trend and a low proportion of populations on state lands modeled to persist). However, this species can be used as an indicator of properly managed pine stands.

There are currently 448 acres (181 hectares) of potential habitat based on natural communities with 729 acres (295 hectares) available if management could restore all natural communities. Suitable habitat exists on neighboring lands including El Destino Plantation to the east, which has an established population of Bachman's sparrows. There is potential to increase the quality and quantity of suitable habitat on LKEWEA. Much of the area is not currently suitable for this species due to past fire exclusion and timber management. With hardwood control, timber management that promotes open, mature pine stands, and the introduction of a fire regime focusing on a 1-3 fire return interval, habitats should become suitable in a relatively short time. Because the species is known to occur on nearby plantations, it is believed the species can naturally re-colonize LKEWEA once the habitat improves.

Literature indicates Bachman's sparrows require at least 520 acres (210 hectares) of suitable habitat to sustain a viable population, so it is feasible that LKEWEA could support a viable population on its own. Regardless, there is significant potential habitat when considering the adjacent conservation lands. There are approximately 85 acres (34 hectares) of improved pasture that were upland pine. This pasture is adjacent to some of the best current potential habitat on the area. Restoring the pasture to upland pine through ground cover restoration and longleaf pine plantings would increase the amount of suitable habitat on the area as well as bolster the existing regional population. Due to the restoration potential and the opportunity to enhance the larger regional population, Bachman's sparrows are a high priority on LKEWEA. Though there is no SMA focusing on Bachman's sparrows recommended, a multiple species SMA focusing on restoring upland pine will directly benefit this species (Section 4.1.1).

Section 4.3.3 describes land management considerations. Other than land management, there is no species management recommended at this time. Monitoring using a standardized spring call count approach is recommended (Section 5.2.2).

The area goal is to maintain a population on LKEWEA that functions as part of the larger regional population.

3.2.6: Brown-Headed Nuthatch

This species is not listed at either the state or federal level, and the species triggers 2 of the 6 statewide prioritization parameters (declining Legacy population trend and a low proportion of populations on state lands modeled to persist). Recent North American Breeding Bird Survey (BBS) data has shown brown-headed nuthatch populations have declined 2% per year range-wide and 4.3% per year in Florida. The brown-headed nuthatch is considered occasional on LKEWEA, as FWC staff has observed the species during spring point counts.

This species, like the northern bobwhite and Bachman's sparrow, prefers open stands of mature pine timber managed with a frequent fire return interval. However, this species is a primary cavity nester that selects decaying snags to excavate, especially old short (<3 m tall) stumps. These potential nesting sites are easily

knocked over during land management activities, and special care must be taken to prevent a net loss of suitable snags.

There are currently 448 acres (181 hectares) of potential habitat based on natural communities with 729 acres (295 hectares) available if management can restore all natural communities. There is much potential to increase the quality and amount of suitable habitat on LKEWEA. Recently initiated management including mechanical hardwood reduction and the reintroduction of fire focusing on growing season burns will increase the suitability of habitat on the area, as will management focused on mature pine forests. A rather large tract of suitable habitat exists to the east of LKEWEA on El Destino Plantation and brown-headed nuthatches are thought to occur throughout the surrounding area. The literature indicates brown-headed nuthatches require at least 1,000 acres (405 hectares) to sustain a viable population. Though it is unlikely that LKEWEA could support a viable population on its own, the network of conservation lands in the area provides a large amount of suitable habitat that has potential to support a viable population.

There is approximately 85 acres (34 hectares) of improved pasture that was historically upland pine. This pasture is adjacent to some of the best current potential habitat on the area. Restoring the pasture to upland pine through ground cover restoration and longleaf pine plantings would increase the amount of suitable habitat on the area as well as bolster the existing regional population. Due to the restoration potential and the opportunity to enhance the larger regional population, brown-headed nuthatches are a medium-high priority on LKEWEA. Though there is no SMA focusing on brown-headed nuthatches recommended, a multiple species SMA focusing on restoring upland pine will directly benefit this species.

Annual monitoring using spring call counts are recommended (Section 5.2.2). Section 4.3.4 describes additional land management recommendations in. The goal for this species is to maintain a population that functions as part of the larger regional population.

3.2.7: Cooper's Hawk

The status of the Cooper's hawk on LKEWEA is unknown, though it is common on the many quail plantations in the general area and staff believes it occurs on LKEWEA. This species forages in many natural communities and can nest in a variety of habitats including swamps, floodplain and bottomland forests, and baygalls. Therefore, it is not considered management dependent, though it does benefit from active management to restore natural communities provided nest sites are not disrupted.

This species is not listed at either the state or federal level, and the species triggers 1 of the 6 statewide prioritization parameters (probability of a 50% decline on public lands). There are currently 748 acres (303 hectares) of potential habitat modeled to occur based on natural communities with 951 acres (385 hectares) available if management can restore all natural communities. However, due to the strict habitat constraints included in the model, it is likely the model underestimated the amount of potential habitat for this species.

Because the management opportunity for this species is low, no SMA is necessary and it would be impractical to set a measurable objective for this species.

While this species is likely to persist on the area without directed management, ongoing land management actions in actively managed natural communities on LKEWEA will maintain and enhance suitable foraging habitat.

If managers detect nests, land management consideration around nests sites should be employed (Section 4.3.2). There is no species management necessary for this species on the area and documentation of nesting is recommended (Section 5.2.5).

The area goal is to continue to provide habitat capable of meeting the needs of this species to allow the Cooper's hawks that use LKEWEA to function as part of the regional population. It is unlikely any single management area could independently sustain a population of Cooper's hawks, and the regional population will influence the long-term persistence of this species on LKEWEA.

3.2.8: Northern Bobwhite

The Northern bobwhite is considered common with documented breeding on LKEWEA even though no specific survey has been conducted. The northern bobwhite is associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Quail use weedy areas for raising broods and for bugging habitat, while areas with shrubs or other thickets are useful as roosting habitat or escape cover.

The northern bobwhite is a game species and is not listed at either the state or federal level. This species triggers 2 of the 6 statewide prioritization parameters (Legacy population trend and status) and is a medium statewide priority. However, BBS data indicate a 3% decline per year range-wide with a 3.6% decline per year in Florida. As a result, this species has become the focus of a number of ongoing conservation initiatives. The ongoing range-wide population declines, its popularity as a game bird, the potential to increase habitat quality, and the many conservation initiatives for this species make it a medium priority species on the area.

There are currently 618 acres (250 hectares) of potential habitat based on natural communities on LKEWEA with 829 acres (335 hectares) available if management can restore all natural communities. Additionally, there are a number of private lands in the general area managed specifically for bobwhite; this enhances the long-term perspective for this species on this area. Upland pine habitats on LKEWEA are currently in a condition to support moderate northern bobwhite numbers. However, natural community management focusing on frequent growing season burns in conjunction with timber management that strives for mature stands of open pine will further improve habitat suitability. Some mechanical treatments may be necessary to control mid-story growth in portions of the upland pine where fire has been excluded.

Though there is good potential to increase the suitability of habitat on the area, the scale is too small to focus intense northern bobwhite management. The multiple species SMA focusing on restoration of upland pine will increase the amount of potential habitat on the area; therefore, no species-specific SMA is recommended.

Other than ongoing land management, no species management is recommended. Section 5.2.2 contains the monitoring recommendations. The area

goal for this species is to maintain and increase the local population thereby increasing the regional security of the species.

3.2.9: Southern Bald Eagle

The Southern bald eagle is uncommon on LKEWEA. A survey during December 2009 found no active nests on LKEWEA. The nearest active nest is just west of Piney-Z Lake on private land, and there are 3 known active nests within 10 miles (16 kilometers) of LKEWEA. The species uses a number of natural communities with the best nesting habitat occurring in forested areas close to open water. While it is not considered management dependent, it does benefit from active management to restore natural communities provided nest protection guidelines are followed.

Statewide, this species triggers 0 of the 6 prioritization parameters. However, federal and state protections remain, and there is a state management plan to ensure the continued recovery of the species.

There are currently 1,246 acres (504 hectares) of potential habitat based on natural communities with 1,336 acres (541 hectares) available if management could restore all natural communities. However, additional habitat exists as these models only considered certain plant communities within 1.8 miles (3 km) of known nesting sites and open water. Fortunately, there are large areas of potential habitat south of LKWEA on SMRSP lands. Because the management opportunity for this species is low, no SMA is necessary and it would be impractical to set a measurable objective for this species. However, FWC's plans to manage for mature timber is compatible with the needs of this species and will enhance potential nesting opportunities in the future.

Section 5.2.5 describes the monitoring recommendations for this species. If staff observe eagle behavior indicative of nesting (e.g., courtship flights, carrying sticks) an effort should be made to determine the location of any potential nest on the area. If staff document bald eagle nesting, they will report the nest location and status to the taxon coordinator for this species (Section 6.1.1). Staff will employ management considerations around any future nest sites (Section 4.3.6).

The area goal is to maintain habitat in a suitable condition to provide an opportunity to support the regional population. It is unlikely that any WMA/WEA will independently support a population of this wide-ranging, migratory species. Even though FWC manages LKEWEA in a manner that accommodates the needs of this species, the continued presence of this species on the area is dependent on conditions that influence the regional Southern bald eagle population.

3.2.10: Wading Birds

Statewide, this group of species is a moderate priority. Several species are state-listed species of special concern and the wood stork (*Mycteria Americana*) is state and federally listed as endangered. The Millsap biological scores for the little blue heron (*Egretta caerulea*) and wood stork are high. The snowy egret (*E. thula*) and little blue heron are believed to have declining population trends while the tricolored heron (*E. tricolor*) and white ibis (*Eudocimus albus*) have unknown trends.

With the exception of wood storks, the status of wading birds on LKEWEA is not well known. Numerous species of wading birds have been observed on the area though no attempt to record a species list has been made. There is a large wood stork colony occurring on Lake Lafayette that has been used for many years and is one of the major reasons the area was proposed for acquisition. The number of wood stork nests in the colony varies by year, with the average amount of nests being in the 300-350 range. In 2009, biologists documented 150-200 nests. In addition to wood storks, monitoring has documented great blue heron and great egret nesting. Almost the entire area of Lake Lafayette is potential wading bird habitat with 765 acres (310 hectares) of current potential habitat and 784 acres (317 hectares) modeled to occur if management can restore natural communities.

The biggest threats facing the wood stork colony is fluctuating water levels and possible future human disturbance. Wood storks need a relatively stable water level during nesting season (April-August), and may abandon nests if the site becomes dry during the nesting season. Currently, FWC has little control over water levels in Lake Lafayette. Close coordination and consultation with the Aquatic Habitat Restoration and Enhancement Subsection (current contact is Michael Hill) of FWC and other entities is necessary to assess potential impacts of any hydrologic changes that may affect Lake Lafayette. A hydrologic study is needed to determine the effects any hydrologic restoration could cause to private property or natural resources.

Natural community management that includes prescribed fire and exotic plant removal in wetland habitats will enhance and maintain these natural communities in good condition for wading birds by maintaining open areas used for foraging. However, wading bird population levels are highly influenced by regional conditions, especially water level conditions. Although these species are a high priority on the area, there is low opportunity to affect the species at the management area level. Therefore, no measurable objectives or SMA have been identified for wading birds. If water control structures that give FWC or other managing agencies the ability to influence the water level of Lake Lafayette are installed in the future, this assessment should be revisited and an SMA might be warranted.

Timing of management activities should be carefully considered to avoid negatively impacting nesting wading bird colonies and human disturbance should be minimized (Section 4.3.7). To avoid negative impacts to colony sites, area staff should continue to monitor colony use and identify additional nesting locations through annual aerial surveys (Section 5.2.3). See Section 7 for beyond the boundaries considerations.

The area goal is to have wood storks and other wading birds continue to form nesting colonies on LKEWEA. However, the long-term persistence of these species on this area will be influenced by actions that may be beyond the control of the area manager; such as water level fluctuations and climate change. If these large-scale issues can be managed, these species should persist on the area.

3.2.11: Florida Black Bear

The Florida black bear is state-listed as threatened. It triggers 2 of the 6 prioritization parameters (probability of a 50% decline on public lands and a high

Millsap biological score). The status of the Florida black bear on LKEWEA is unknown; however, staff have recovered road-kill bears on Hwy 27 (Apalachee Parkway) adjacent to the area, and bears do use the property. Portions of LKEWEA fall within the secondary range of the Apalachicola bear population. The adjacent SMRSP contains suitable habitat and serves as a north/south corridor to habitats occurring within the primary range of the Apalachicola bear population. The resource manager at SMRSP indicates that bear sightings are a common occurrence at the park.

This species requires a mosaic of natural communities throughout the year to meet nutritional and reproductive needs. Optimal bear habitat in Florida has been described as a mixture of flatwoods, swamps, scrub oak ridge's, bayheads, and hammock habitats, thoroughly interspersed. Models identify 218 acres (88 hectares) of potential habitat based on natural communities with 116 acres (47 hectares) available if management could restore all natural communities. Even though the model underestimated the amount of potential bear habitat on LKEWEA, there is not enough habitat on LKEWEA to support a bear population. However, the area does have a role in the regional conservation of the species.

The continued use of prescribed fire and the reduction of shrubby areas through existing natural community management will reduce potential escape and denning habitat for this species in the uplands. This same management should maintain or possibly enhance foraging habitat for the Florida black bear, and potential escape and denning habitat will remain in fire shadows and natural communities that are not fire maintained. Therefore, the planned management will help facilitate the long-term persistence of the black bear. Section 4.3.8 contains land management recommendations, and Section 5.2.5 contains the monitoring recommendations. No species management actions are recommended at this time.

Due to the low opportunity for management and the relative abundance of the species, no SMA is recommended. The area goal is to maintain habitat in a condition suitable for use by individual bears to ensure the area fulfills its role in the regional conservation of this species. However, the long-term persistence of this species on LKEWEA is dependent on actions that influence the regional bear population.

3.2.12: Southeastern Bat

This species is not listed at the state or federal level and it triggers 2 of the 6 prioritization parameters (probability of a 50% decline on public lands and high Millsap supplemental score). However, this species has experienced significant declines in the past 50 years. Roosting habitat varies seasonally. Individuals may roost in caves, culverts, bridges, hollow trees and occasionally houses. In Florida, most of the known maternity sites are located in caves. Hollow trees and manmade structures also serve as maternity sites, but the prevalence and importance of these to the population is not fully understood.

Most habitats used by this species are not actively managed. Southeastern bats forage principally over creeks, rivers, and lakes, but they will forage in flatwoods and along the edges of hammocks. The status of the Southeastern bat on LKEWEA is unknown, though staff believes the species forages on the area. There are a number of known small maternity roosts within a 25 mile (40 km) radius of LKEWEA, many

of which are not documented in the Florida element occurrence database or in FWC's non-game wildlife occurrence database. There are 2 maternity roosts within a close enough distance to LKEWEA that individuals could use the WEA daily. These include 1 maternity roost at Governor's Square Mall and 1 maternity roost at the Tallahassee Mall, located approximately 4.5 miles (7.2 km) and 7 miles (11.3 km) from LKEWEA, respectively. These roosts occur in drainage pipes that run underneath each mall. In the case of Governor's Square Mall, the roost site is located under JC Penney's. There are currently 1,223 acres (495 hectares) of potential habitat based on natural communities with 1,300 acres (526 hectares) available if management could restore natural communities.

Because the bottomland forests, dome swamps, and basin swamps of LKEWEA are the largest and most intact areas of potential habitat in close proximity to these maternity roosts, Southeastern bats are considered a high priority on LKEWEA. Though upland pine was modeled as potential habitat on the area, the value of upland pine to Southeastern bats is not well understood and not considered optimal habitat. Because bats on the area are likely using the non-actively managed communities, the level of opportunity to impact this species through land management is low; therefore, no SMA is recommended. If a roost is identified on LKEWEA, this assessment should be revisited. See Section 4.3.9 for further land management considerations and Section 5.2.4 for monitoring recommendations.

The area goal is to continue to provide conditions that are suitable to Southeastern bats. However, the long-term persistence of this species on LKEWEA will be influenced by actions that may be beyond the control of the area manager; such as disturbance to the off-site maternity roosts.

3.2.13: Limited Opportunity Species

Two focal species (limpkin, and Louisiana waterthrush) modeled (using statewide data) to have potential habitat on LKEWEA lack reasonable opportunity for management on the area. Opportunistic observations of these species should be documented (Section 5.2.4). If either of these species are documented with increasing regularity, LKEWEA's role in their conservation and recovery should be re-visited.

Limpkin - The status of the limpkin on LKEWEA is unknown; however, staff plans to conduct an informal survey using recorded limpkin calls to illicit vocalizations in order to determine presence/absence. Limpkins typically inhabit freshwater marshes, swamps, springs and spring runs. Limpkins are highly mobile and influenced by regional water levels and the availability of prey items, primarily apple snails.

The mapped acreage of potential habitat on LKEWEA includes floodplain swamp and basin swamp habitats within 328 feet (100 meters) of the St. Marks River. Limpkins in this part of Florida prefer spring-fed rivers with lush, submerged aquatic vegetation and populations of apple snails. The portion of the St. Marks River that runs through LKEWEA appears tannic, does not contain ample submerged aquatic vegetation, and does not contain apple snails. However, a limpkin sighting was reported in Piney-Z Lake, which is adjacent to Lake Lafayette. Piney-Z and other lakes in the vicinity have established populations of exotic apple snails (*Pomacea*

insularum). The habitats in these lakes (including lower Lake Lafayette) are not typical North Florida limpkin habitat, but more closely resemble South Florida limpkin habitat. As such, there is potential these lakes could experience increased use by limpkins. The exotic snails have not yet been found in lower Lake Lafayette, and it is not yet known if the limpkin sighting on Piney-Z was an anomaly or a sign of things to come. Under current conditions, we do not believe LKEWEA has a role in the conservation of the limpkin due to a lack of suitable habitat. However, this assessment may need to be revisited if the species is detected on the area.

Louisiana Waterthrush -The status of the Louisiana waterthrush on LKEWEA is unknown. This species appears to be most common along wooded areas around streams and wetlands, and typically builds nests under stream overhangs. There are currently 35 acres of potential habitat modeled to occur with no additional acreage to be gained via restoration. The mapped acreage of potential habitat includes floodplain swamps within 98 feet (30 meters) of the St. Marks River. Louisiana waterthrushes prefer large tracts (>247 acres [100 hectares]) of mature deciduous and mixed-deciduous forests along deep ravines with running water. The portion of the St. Marks River that runs through LKEWEA lacks the steep undercut banks preferred by Louisiana waterthrushes for nesting. This indicates this species is not likely to use this area. Therefore, there is limited opportunity for this species on LKEWEA and they should not be the focus of management.

3.2.14: Other Imperiled Species

Excepting the listed species discussed above, the American alligator (*Alligator mississippiensis*) is the only listed species documented on LKEWEA. No specific management actions are necessary to ensure alligators will continue to persist on LKEWEA.

While not documented on LKEWEA, the state and federally threatened indigo snake (*Drymarchon couperi*) has been documented within 6 miles of the area. As this species has large home ranges, they may occur on or occasionally pass through the area. Planned habitat management that includes restoration of natural communities and the use of prescribed fire will enhance conditions for this species should it occur on the area.

It is possible other imperiled species occur on LKEWEA, and if encountered staff will document these encounters. If additional resources become available, it would be beneficial to conduct a rare plant inventory.

Imperiled species on LKEWEA will continue to benefit from FWC's ongoing management actions that aim to restore natural communities' structure and function. Florida's imperiled species are adapted to these natural communities and have a higher probability of persistence under FWC management actions than in the absence of management.

Section 4: Land Management Actions and Considerations

Fourteen focal species were modeled to have potential habitat on the area (Section 3.1); however, not all of these species have the same level of management opportunity or need (Section 3.2). The FWC's natural community-based management, which emphasizes

frequent growing season prescribed fire and restoration of open, mature pine stands, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions.

We may designate Strategic Management Areas (SMA) when actions over and above ongoing natural community management are required (Section 4.1). The designation of SMAs allows for identification of an area in which a specific land or species management action(s) can be taken to facilitate conservation of a species or group of species. A SMA is an area in which specific actions will occur that typically will not occur area-wide and can be used to do the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence/conservation of a species/suite of species. These specific actions may aid in restoring, enhancing or maintaining the habitat or population.
- Identify an area in which to focus specific management actions (land management or species management) for the best chance of success on large areas with more restoration/enhancement than can be accomplished in short order. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and/or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the area that it warrants identification to ensure protection against negative alteration.
- Focus efforts on restoration/enhancement of a natural community that will benefit a priority species or a group of focal species. The SMA should identify the area in which these actions have the greatest positive impact for the species of interest.
- Identify areas that are critical for research or monitoring.
- Recommend specific OBVM DFCs in a specific area to benefit a specific species when we would not want to change the DFCs in the natural community area-wide.

At the time of the WCPR Workshop, LKEWEA had yet to undergo the OBVM Workshop process whereby management units are delineated and DFC's are set. To prevent duplication of effort and ensure DFC's met the needs of LKEWEA's focal species, staff designated management unit boundaries prior to the WCPR workshop and DFC's were discussed and established for LKEWEA's actively managed natural communities during the WCPR Workshop (Section 4.2).

Some species have specific protective measures or land management considerations that are necessary to ensure their continued use of the property. Section 4.3 describes these considerations.

4.1: Strategic Management Areas

While the intent on LKEWEA is to restore most restorable natural communities to a more natural condition that will better suit these species, SMAs allow focus on areas with the highest possibility of success and/or areas most critical for the conservation of a species on the area. The WCPR process identified one area for which a SMA was established on LKEWEA (Figure 1). For the SMA, staff developed an area-specific goal and strategy to guide management. We define goals, objectives and strategies in Section 1.

4.1.1: Upland Pine Restoration Area

The LKEWEA contains approximately 98 acres (40 hectares) of improved pasture in the northeast corner of the property (Figure 1). Of the 98 acres, approximately 80 acres (32 hectares) are believed to have been upland pine and approximately 6 acres (2.4 hectares) were wet flatwoods. The remaining 12 acres consisted of small patches of mesic hammock and bottomland forest. There are 4 small patches of pasture that are disjunct from the main patch. Because these patches would create logistical problems during restoration, they were excluded from the SMA. This brings the total size of the SMA to 75 acres (30 hectares) with 69 acres (28 hectares) of upland pine and 6 acres (2.4 hectares) of wet flatwoods.

On LKEWEA, upland pine is the dominant upland habitat type, and is potential habitat for many of the focal species modeled to occur on the area. The forest to the west of the pasture, while being significantly altered, is the habitat patch on the WEA that functions most similarly to upland pine forest. Staff has observed gopher tortoise burrows, northern bobwhite, and brown-headed nuthatches in this upland pine patch. Because of the importance of this upland pine patch to many focal species, restoration of the improved pasture to its historic condition is of high priority. Restoring this pasture to upland pine would increase the size of the largest habitat patch of upland pine on the area, and provide suitable habitat to Bachman's sparrows, brown-headed nuthatches, northern bobwhite, gopher tortoises, and potentially gopher frogs. Additionally, restoring this area to its natural condition would bring the number of acres of suitable habitat on LKEWEA for species such as the brown-headed nuthatch and Bachman's sparrow closer to the amount needed to support a viable population.

SMA Goal: Have Bachman's sparrows, brown-headed nuthatches, northern bobwhite, and gopher tortoises utilize the SMA.

Objective 1: Have $\geq$ 10% ground coverage of native herbaceous species by 2020.

Objective 2: Maintain max shrub cover at 5-30%.

Objective 3: Complete a restoration plan that guides restoration activities within the SMA by 2012.

Description of the SMA: This SMA contains 75 acres of pasture that historically were 69 acres of upland pine and 6 acres of wet flatwoods, located on the Wood Sink Tract in management unit 3 (Figure 1). The pasture is dominated by bahia grass (*Paspalum notatum*) mixed with broomsedge (*Andropogon* spp.).

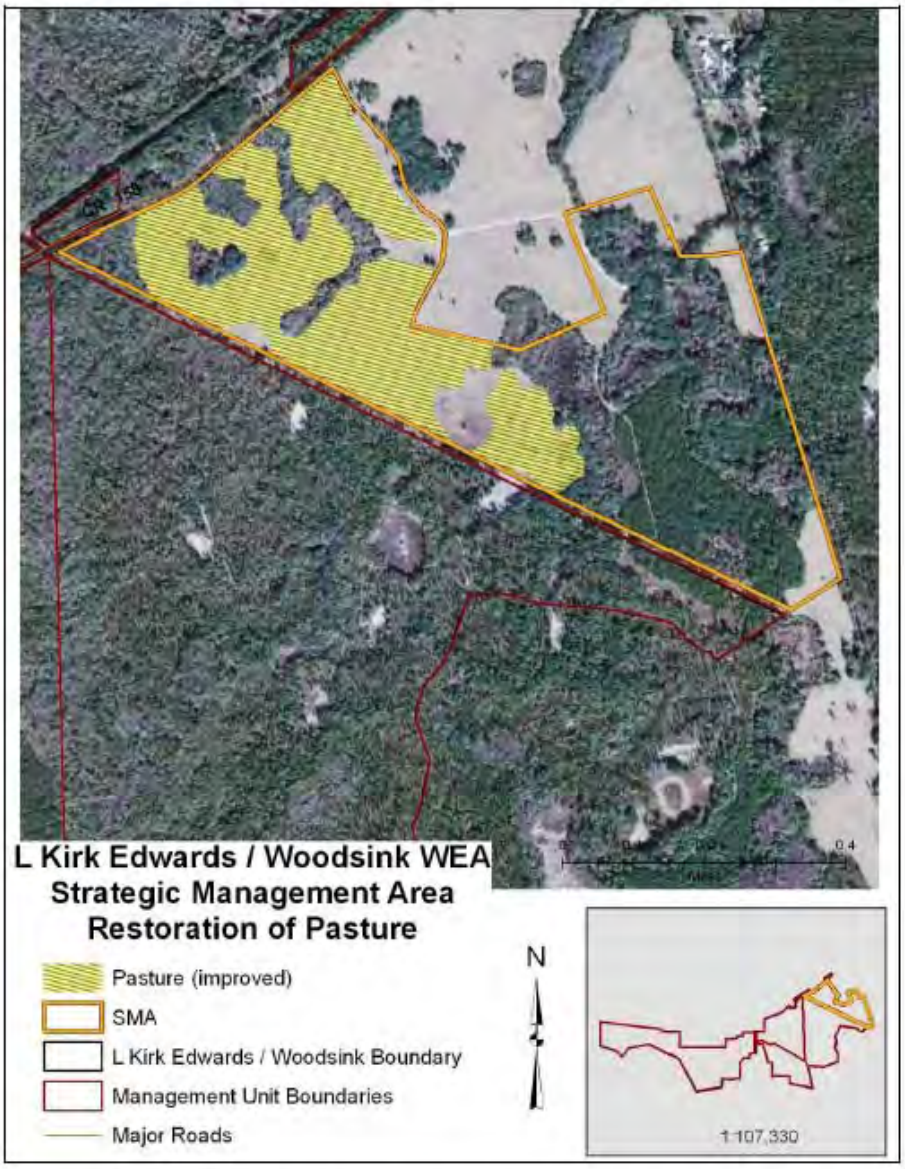

Figure 1. Management units and location of pastures that were identified as historic upland pine or wet flatwoods on LKEWEA.

Strategy: Restoring improved pasture to upland pine and wet flatwoods will be a long-term project that ultimately will increase the amount of suitable habitat for gopher tortoises, Bachman's sparrows, brown-headed nuthatches, northern bobwhite, and many other species. The basic strategy will be to remove the bahia grass and broomsedge dominated plant community, establish native groundcover dominated by wiregrass, and then plant longleaf pine. However, circumstances at the restoration area dictate the use of caution and an adaptive management approach to restoration.

Approximately 0.25 miles (0.4 km) to the east of the main portion of the pasture is Wood Sink (the namesake of the acquisition). Wood Sink is technically a swallet, which receives water from the surrounding area through surface flow and/or seepage and discharges it directly into the underlying aquifer. Light Detection and Ranging (LIDAR) data indicate the majority of the improved pasture falls within the drainage basin of Wood Sink. This suggests potential for land management activities within the pasture to have a direct affect on water quality of the underlying aquifer. For this reason, staff should take every precaution to prevent detrimental impacts to the aquifer. Though this presents an obstacle to area staff, it does not preclude restoration.

The largest challenge will be to prepare the site for groundcover restoration in a manner that does not negatively affect water quality. Site preparation is crucial to successful restoration because it creates a bed of bare mineral soil on which to plant native seeds, minimizes plant competition with those native seeds, and eliminates undesirable plants. Managers typically create an appropriate seedbed through burning and the use of mechanical and chemical treatments; both of which are usually necessary to achieve a proper seedbed. Because of the concerns with Wood Sink, herbicide use should be approached carefully on the area, and managers should consider other methods to remove sod that do not require the use of herbicide. However, the use of sod farming to remove the bahia is not an option because the bahia pasture on LKEWEA includes broomsedge and other species, and sod harvesters want pure stands of weed-free sod. Additionally, repeated deep tilling is typically not successful in removing bahia grass without the use of herbicides. Because of this, burning and responsible use of herbicides will likely be necessary to prepare the site for planting. Glyphosate, which is recommended for bahia grass site prep is reported to have a relatively short residence time of 1-3 weeks in the soil with no apparent soil activity. However, some believe the residence time may be longer than what has been reported. Therefore, staff should seek assistance in choosing a herbicide, or researching precautionary measures to decrease the chances of Glyphosate leaching and/or running off into the swallet (timing of applications, concentration, number of applications, etc.).

Following successful site preparation, staff should commence with seed collection and planting. Longleaf pine planting should not occur until after the groundcover is successfully established. The restoration plan that will be developed to guide activities in the SMA will include more site-specific recommendations, including recommendations for gopher tortoises currently utilizing the area. To determine focal species use of the area, staff should initiate annual monitoring of Bachman`s sparrows, brown-headed nuthatches, and northern bobwhite within the SMA (Section 5.2.2) as part of annual avian monitoring. Additionally, the SMA will be included in the baseline burrow survey for gopher tortoises (Section 5.2.1).

4.2: Objective-Based Vegetation Management Considerations

Staff will use Objective-Based Vegetation Management (OBVM) to monitor progress towards Desired Future Conditions (DFCs) of various natural community parameters. As such, OBVM will be effective in monitoring progress towards land management strategies.

The OBVM DFCs target a range in values for various habitat parameters within actively managed communities. As LKEWEA had not yet undergone the OBVM workshop process prior to the WCPR workshop, OBVM DFCs were discussed and a set of DFCs for various habitat parameters within upland pine (the only actively managed natural community on the area) were established that meet the needs of the focal species modeled to have potential habitat on the area (Table 2).

Table 2. Desired Future Conditions for specific vegetative parameters in actively managed natural communities at L. Kirk Edwards WEA as identified during the WCPR workshop.

Upland Pine	
Total Basal Area	30-80 ft^2/ac
Non-LL Pine Basal Area	$\leq$ 20
Shrub Cover	5-30%
Ave Max Shrub Height	$\leq$3 ft
Herbaceous Cover	$\geq$20%
Wiry Cover	$\geq$5%
Exotics	0

4.3: Further Land Management Considerations

Most generalist or wide ranging species will benefit from management that restores the natural structure and function of natural communities they use. However, for some species, specific management recommendations and precautions are necessary to ensure the continued suitability of the area for the species. The following recommendations should help ensure LKEWEA continues to fulfill its role in the conservation of these species.

4.3.1: Gopher Tortoise

The timing of land disturbance activities (e.g. roller-chopping, timber removal) should, whenever appropriate, occur during the dormant season to minimize negative impacts to gopher tortoise. This species generally is less active and spends more time in burrows during the winter months. Therefore, disturbances at this time will be less likely to crush or otherwise harm foraging tortoises. Regardless of timing, minimize impacts on known burrows.

4.3.2: American Swallow-Tailed Kite

Because swallow-tailed kites exhibit high nest site fidelity, protect known nest sites from disturbance and alteration, and retain the tallest pines in the area of nest sites. Maintaining a 330-foot (100-meter) protective buffer around active nests

during nest season should minimize the chance of disturbance. If documented on the area, allow nesting areas to have a higher shrub height and density than surrounding areas when feasible. If kite activity is observed during nesting season, particularly if kites are observed carrying nesting material, mobbing, or in groups of 3 or more, this information will be documented and an effort to locate the nest should be made. For information on how to locate nests, see:

Meyer, K. D., and M. W. Collopy. 1995. Status, distribution, and habitat requirements of the American swallow-tailed kite (*Elanoides forficatus*) in Florida. Project Report, Florida Game and Fresh Water Fish Commission, Tallahassee. http://research.myfwc.com/engine/download_redirection_process.asp?file=95meyer%5F0231%2Epdf&objid=47206&dltype=publication

While kites have not been documented nesting on LKEWEA, it is important to preserve future potential nest trees. This can be done by retaining the largest, oldest trees on the landscape during land management activities.

4.3.3: Bachman's Sparrow

Prescribed fire improves habitat quality for this species, and is the primary land management tool recommended to promote habitat for Bachman's sparrow on LKEWEA. Suitable habitat can be created/maintained through the frequent (≤ 3 year rotation) use of prescribed fire. The occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire, and Bachman's sparrows may abandon habitat if fire is excluded for more than 3 years. When using mechanical treatments to reduce understory, make an effort to retain some small patches of shrubs, and follow the mechanical treatment with a prescribed burn. This type of land management also will benefit the northern bobwhite and a number of other species.

4.3.4: Brown-Headed Nuthatch

This species is a cavity nester and is dependent on the presence of snags for suitable nesting habitat. As such, make an effort to retain snags during timber thinning operations. The impact of management activities on snags should be evaluated to ensure new snags are replacing consumed snags. If there is a net loss of snags during prescribed fire, consider taking efforts to protect snags or taking actions to create new snags. Old short snags with flaking bark or soft wood and old decaying oaks with diameter at breast height of < 10 inches (25.4 cm) are important nesting sites for this species. Take care to retain this particular type of snag.

If this species is documented in any management unit on LKEWEA during the breeding season, an effort should be made to avoid prescribed fire during February and March in the management unit. The loss of nests early in the season frequently results in re-nesting attempts. Most re-nesting occurs during periods of increased snake activity which results in greater predation on nesting females and their eggs and

young. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

4.3.5: Cooper's Hawk

During the nesting season (April-July), Cooper's hawks are secretive and intolerant of human disturbance near the nest site. Males show a strong fidelity to traditional territories. For this reason, whenever possible, protect known nesting sites from human disturbance (e.g., prescribed fire, timber thinning, mechanical treatments) by maintaining a 50-foot (15.2 m) buffer around the nest during the nesting season, and avoid heavy alteration of the nesting location. Whenever signs of Cooper's hawk nesting (e.g., carrying nesting material, aggressive dive bombing) are encountered, the location should be documented and an effort made to locate the nest.

4.3.6: Southern Bald Eagle

Protection of bald eagle nests, including avoiding disturbance of nesting eagles, is necessary to continue the recovery of this species. Managers will consider the management guidelines available at: http://myfwc.com/imperiledspecies/plans/Eagle_Plan_April_2008.pdf (or any subsequent version) when planning activities within 660 feet (201 m) of known eagle nests. Any nests that are located will be documented. As it is undesirable to have unnaturally dense stands around eagle nests, when eagle nests occur in actively managed stands, continue to manage the nest buffer area with proper planning to avoid negative impacts to the eagles, per the guidance of the management plan. Retain large, mature pines as potential future nesting sites during management activities.

4.3.7: Wading Birds

The recommendation to protect wood stork colonies from human disturbance is to establish a 330-foot (100 m) no-entry buffer around the colony during breeding season. The wood stork colony on Lake Lafayette is currently very difficult for the public to access, and there is little concern for human disturbance. At this time, posting a no-entry area around the colony could have detrimental impacts by drawing attention to the colony. Should changes in water level or habitat make it easier for the public to gain access to this area, posting of a no-entry area is recommend. Additionally, plan any mechanical and/or chemical control of aquatic vegetation at a time that avoids disturbance to the colony, and using methods that do not damage the plants in which nests are built.

4.3.8: Florida Black Bear

Bears require some areas of dense vegetation for escape and denning cover. Efforts to restore natural communities will result in a more open-structured landscape with reduced tree density and lower shrub height. However, the number and interspersion of wetland communities will ensure this area always provides suitable

bear habitat. To ensure some dense patches remain, avoid efforts to "burn out" patches within stands that remain after the initial burn. Do not take extra measures to put fire in fire shadows. When possible, plan to avoid mechanical treatments of likely den sites during denning season (December – April).

4.3.9: Southeastern Bat

Large hollow trees, particularly hardwoods or cypress in the basin swamp are potential roost sites for southeastern bats. Protect these important resources when possible during land management activities. Prior to removing old culverts or abandoned buildings, check for occupancy by bats.

While not pertinent to the southeastern bat, some species of tree bats roost in leaf litter on the ground on when the temperature goes below freezing. When temperatures are this low, the bats are in a state of torpor that may prevent them from arousing to escape. To avoid negative impacts to tree bats, following nights when the temperature drops below freezing, when possible, delay initiation of prescribed fire until the air temperature has warmed to 50°F. This will allow bats to have warmed sufficiently to become active enough to escape fire. However, if this is the only time in which suitable conditions occur for a burn, it is better to burn than to avoid burning.

Section 5: Species Management Opportunities

The focal species approach taken here represents a science-based approach to ecosystem management. Though this method relies on a suite of individual species, land management actions focused on these species directly benefit associated species. For some species, land management actions alone are insufficient in aiding recovery. These include species that are not present on a site and have limited dispersal capabilities are unlikely to occupy a site without reintroduction once habitat restoration is complete. Additionally, species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery, may require species-specific management. This section provides species management recommendations (Section 5.1) as well as monitoring recommendations (Section 5.2) to assess species response to land management and to determine the need for additional species management. Section 5.3 identifies research necessary to guide future management.

5.1: Species Management

Species management as used here refers to non-monitoring actions taken for a specific species. It can include actions such as translocation, restocking, installing artificial cavities, etc. Section 5.2 covers monitoring related actions, including banding or tagging. Section 2 and Section 4 provide information on land management actions, such as prescribed fire or mechanical treatments.

5.1.1: Gopher Tortoise

Preliminary examination indicates LKEWEA currently fits, or in a short time will fit the criteria to become a gopher tortoise recipient site (minimum of 40 acres with 30% herbaceous ground cover, no greater than 60% canopy cover, depth to water table 45 cm or greater, with a density of no more than 0.5 tortoises/acre). Current tortoise density is unknown, but assumed to be below 0.5 tortoises/acre and herbaceous ground cover in the large patch of suitable habitat is close to 30%. Natural community management including the use of prescribed fire will increase the current suitability of habitats by stimulating herbaceous growth. Following natural community restoration, LKEWEA staff should evaluate the need to restock tortoises. Prior to initiating restocking, managers will develop an area-specific restocking plan. When staff believes habitats meet the criteria needed for restocking, habitat measurements should be taken within suitable habitat following the protocol recommended in the Gopher Tortoise Management Plan (http://www.myfwc.com/docs/WildlifeHabitats/GT_Mgmt_Plan.pdf). This is recommended because the habitat data collection method outlined in the Gopher Tortoise Management Plan is not comparable to data collected via OBVM.

5.2: Species Monitoring

Monitoring is critical to evaluating the impact of the management actions described in this Strategy. While we are unable to monitor all of the focal species on LKEWEA, the recommended monitoring will assess species in all actively managed communities, select wetland dependant species, and includes opportunistic monitoring for uncommon or hard to monitor species. Data collected will be reported to the regional conservation biologist for inclusion in the appropriate database developed for the WCPR program. We will make monitoring data available to cooperating agencies and organizations such as FNAI (Section 6).

This section provides the list of monitoring actions recommended for the area, and provides the purpose for the monitoring. The FWC is in the process of standardizing monitoring protocols for a number of these species. Approved protocols are available at http://portal.fwc.state.fl.us/DOI/Divisions/HSC/THCR/wcpr/Standard%20Monitoring%20Protocols/Forms/AllItems.aspx. When protocols are finalized, they will be implemented in accordance with the timeframe described in this Strategy.

5.2.1: Gopher Tortoise Burrow Survey

Staff should conduct a burrow survey throughout suitable habitat to determine the density of burrows per acre, which staff will use as an index for population monitoring. Staff will use this same information to determine if LKEWEA fits the criteria for a gopher tortoise recipient site, and monitoring will follow the THCR approved standard monitoring protocol. To convert the burrow density into an actual tortoise density would require determining the occupancy rate of burrows on the area during the survey. While this is worthwhile information, it requires additional resources and is not necessary for basic trend evaluation. Repeating this survey once every 5-10 years would allow for trend analysis.

5.2.2: Avian Spring Call Count Survey

The purpose of monitoring the Bachman's sparrow, brown-headed nuthatch and northern bobwhite is to establish a baseline and track relative abundance over time. Surveys will be spring point counts using a protocol currently being developed. If necessary, staff may incorporate the use of callback tapes into the call station protocol. On LKEWEA, these avian surveys should occur annually, though if resources are limited they can be conducted every other year.

5.2.3: Annual Aerial Surveys

Staff currently conducts annual aerial surveys for wading birds on Aucilla WMA and LKEWEA. The purpose of this survey is to monitor activity of the wood stork colony, estimate the number of nests and to identify other wading bird colonies. Staff should coordinate with Jim Rodgers to share data and prevent duplication of effort (Section 6.1.6).

5.2.4: Southeastern Bat Monitoring

Due to the relatively close proximity of a few small maternity roosts and the quality of habitat on the area, there is reason to believe there could be an active roost in large trees or within sinks on LKEWEA. The purpose of monitoring Southeastern bats is to determine presence/absence on the area, and if possible, to determine if there are any active roosts on the area. A baseline survey utilizing acoustic surveys and/or mist netting in appropriate habitat is recommended to determine species presence/absence if resources are available. The regional conservation biologist should develop a monitoring protocol outlining methods to use prior to initiating the survey.

5.2.5: Opportunistic Monitoring

The purpose of opportunistic monitoring is to document the presence of specific species. Opportunistic monitoring is the process of recording important information as it is encountered. Staff will document opportunistic sightings by recording information including the species, approximate lat/long or appropriate management unit, number of individuals, behavior, and habitat type. Record encounters with or sign of the following focal species:

- Swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring and any nesting activity)
- Cooper's hawk (nesting activity only)
- Florida pine snake (individuals and burrow observations)
- Gopher frog
- Sherman's fox squirrel
- Limpkin
- Southeastern bat (roosts)
- Southern bald eagle (nesting)

- Black bear (denning sites only)
- Any listed species that does not have a monitoring protocol in this section

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information regarding management strategies for a given species. However, cases arise when little or no information is available to guide management. This section outlines research needs identified through the WCPR process.

5.3.1: Gopher Frog Restocking Methods

LKEWEA contains enough potential habitat, including uplands and potential breeding ponds, that it could sustain a viable population of gopher frogs. However, the presence of the species on the area is unlikely due to a lack of location records in the area. It is likely that the species will only occur on the area if it is restocked. In order to begin planning for any restocking program, a gopher frog restocking protocol needs to be developed. In addition to providing the methods on how to restock the species, this restocking program would need to identify how to select and prioritize sites for restocking.

Section 6: Intra/Inter Agency Coordination

Throughout the WCPR process, there were many recommendations regarding possible management strategies for focal species. THCR staff can handle most proposed management actions; however, cases may arise when coordination with other sections in FWC or other agencies is necessary or increases efficiency. This section identifies cases in which coordination is necessary outside of THCR, identifies the entity to coordinate with, and provides position contacts for these entities.

We attempt to provide the name, position and contact information for the people holding the position when this Strategy is drafted. As positions experience turnover, when in doubt, contact the current Section Leader /supervisor to determine the appropriate individual.

6.1: Florida Fish & Wildlife Conservation Commission (FWC)

6.1.1: Species Conservation Planning Section (SCP)

Monitoring animal populations on a WMA/WEA gives managers a way to gauge animal response to management. If this information is not shared with others, valuable data that can be used to assess state-wide conservation efforts often is lost. Therefore, share monitoring data with the appropriate taxa coordinator and program coordinator for species in which conservation initiatives or other management programs have been developed. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, FWC staff is authorized to handle federally listed species if it is done consistent with the requirements of the agency's Endangered Species Act Section 6 Cooperative

Agreement. To meet these requirements, reporting as outlined in the Agreement will be provided to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under Section 6.1.6; FWRI, and Section 6.1.4; Florida's Wildlife Legacy Initiative.

Contacts:
Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831
Deborah Burr, Gopher Tortoise Plan Coordinator: (850) 410-0656 ext 17332
vacant, Bald Eagle Management Plan Coordinator: (352) 840-7570
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225
Melissa Tucker, Mammalian Taxa Coordinator: (386) 758-0525 ext 114
Bill Turner, Herp Taxa Coordinator: (850) 410-0656 ext 17331
John Himes, Regional Biologist: (850) 265-3676 ext 222
Brad Gruver, Endangered Species Coordinator: (850) 488-3831

6.1.2: Hunting & Game Management (HGM)

As the FWC has a statewide quail strategy, staff should share information collected on northern bobwhite with the small game coordinator. Staff should keep informed with advancements in monitoring protocol for northern bobwhite. The FWC small game coordinator is the current contact for this information. Additionally, staff should coordinate with the Waterfowl Management Program Coordinator to ensure installation and maintenance of wood duck boxes on Lake Lafayette does not affect the wood stork colony.

Contacts:
Paul Schulz, Game Species Management Section Leader: (850) 488-3831
Joe Benedict, Waterfowl Management Program Coordinator: (850) 488-5878
Chuck McKelvy, Small Game Program Coordinator: (850) 342-0256
Roger Shields, Regional Public Hunting Areas Coordinator: (850) 265-8560

6.1.3: Habitat Conservation Scientific Services Section (HCSS)

Private lands biologists within FWCs HCSS section work to provide technical and financial assistance to landowners interested in managing their properties. These biologists are able to write management plans for landowners and can get them enrolled in cost-share programs that will offset some of the financial costs associated with land management. As actions that occur on surrounding properties influence many of LKEWEA species, maintaining communication regarding current and future projects on these lands will be critical.

Contacts:
Scott Sanders, HCSS Section Leader: (850) 488-3831
Arlo Kane, HCSS Regional Coordinator: (850) 265-3677

6.1.4: Florida's Wildlife Legacy Initiative (FWLI)

Monitoring animal populations on a WMA/WEA gives managers a way to gauge animal response to management. If staff do not share this information with others, valuable data that can be used to assess statewide conservation efforts often is lost. FWLI can be helpful in identifying and assisting with partnering efforts, and might be a source of funding via the State Wildlife Grants program. Therefore, regular communication with this section will be a priority.

Contact:
Kate Haley, Program Coordinator: (850) 488-3831
Shea Armstrong, Regional Legacy Biologist: (850) 265-3676

6.1.5: Invasive Plant Management Section (IPM)

The FWC Invasive Plant Management Section provides technical and financial assistance in the control of invasive exotic plants to area staff. The Invasive Plant Management Section may serve as a resource in determining appropriate solutions to and identifying funding for solutions for exotic plant issues, particularly in regards to herbicide solutions in the SMA.

Contacts:
Jeff Schardt, Aquatics sub-section administrator: (850) 245-2815
Greg Jubinsky, Uplands sub-section administrator: (850) 245-2821
Matt Phillips, Biological administrator: (850) 245-2831

6.1.6: Fish and Wildlife Research Institute (FWRI)

Area staff should share results of wading bird surveys and any active eagle nests located with the appropriate contact listed below. If southeastern bats are detected on the area or if a roost site is found, staff should contact Jeff Gore for guidance on management/protection. Jim Rodgers administers the FWC's migratory bird scientific collection permit. Report handling of migratory birds covered by the permit to Mr. Rodgers in January of each year.

Contacts:
Tim O'Meara, Section Leader: (850) 488-3831
Janell Brush, Avian Research Biologist (bald eagle): (352) 955-2081
Kevin Enge; Associate Research Scientist (gopher frog): (352) 955-2081
Jim Rodgers, Research Administrator (wading birds): (352) 955-2081
Jeff Gore, Biological Administrator (southeastern bat): (850) 265-3677

6.1.7: Aquatic Habitat Restoration and Enhancement Subsection (AHRE)

A number of focal and imperiled species on LKEWEA depend on quality aquatic ecosystems to meet their life requirements. Area staff should keep a close working relationship with Michael Hill as he provides expertise on Lake Lafayette's

water management issues, and this section can be a source for lake management information and resources.

Contact:
Mike Allen, Section Leader: (850) 410-0656 x17282
Michael Hill, Biologist: (850) 251-8919

6.2: Florida Division of Forestry (DOF)

On LKEWEA, DOF authorizes prescribed burns and assists on escaped fires and wildfires. Staff should continue to coordinate with DOF's State Lands Forester on timber management issues, if needed.

Contacts:
Jason Love, State Lands Forester (Timber contracts): (850) 228-7814
DOF Dispatch Office (Burn authorizations and escapes): (850) 922-5155

6.3: Department of Environmental Protection, St. Marks River State Park (DEP)

St. Marks River State Park is located directly south of LKEWEA across Hwy 27. Coordination with the resource manager would be beneficial for many purposes, including any feral hog removal efforts, and possible collaboration on monitoring and management.

Contact:
Mark Stevenson, Resource Manager: (850) 509-7073

6.4: Florida Natural Areas Inventory (FNAI)

The FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is frequently used for planning purposes. Therefore, staff should share rare species occurrence information with FNAI. FNAI also can be used as a contractor for rare species inventories.

Contacts:
Dan Hipes, Chief Scientist: (850) 224-8207

6.5: Tall Timbers Research Station (TTRS)

Jim Cox at Tall Timbers can provide technical assistance with species such as the brown-headed nuthatch, Bachman's sparrow, and other grassland birds. Jim conducts research with these species on surrounding plantation lands and is familiar with occurrence and distribution in the area.

Contacts:
Jim Cox, Research Biologist: (850) 893-4153 ext 223

Section 7: Beyond the Boundaries Considerations

While LKEWEA and the current condition and management of neighboring lands provide an opportunity to further the conservation of many focal and imperiled species, significant changes in management or land use beyond the boundaries may have a significant impact on some species. For instance, the continued nesting of wood storks on lower Lake Lafayette is almost completely dependent on factors outside of FWC's control. As lower Lake Lafayette and surrounding water recharge areas are located on the outskirts of the city of Tallahassee, future development in the vicinity is a certainty. Future residential development could result in the diversion of additional storm water into the lake, drastically changing the water levels. Without the ability to control water levels on the lake, there is little staff can do besides deterring human disturbance to perpetuate continued use by wood storks. There are currently no structures in place to allow for large-scale water-level manipulations, and installing such structures would require permitting from a number of agencies and municipalities. The large numbers of stakeholders that may be affected by any changes to hydrology make water level management a complex issue on the lake. All avenues that may result in FWC having control or input into the control of water levels on Lake Lafayette should be explored.

Another example of a species that may be influenced significantly by conditions beyond the boundaries of LKEWEA is the southeastern bat. Though LKEWEA contains the largest significant area of foraging habitat within close proximity to 2 known maternity sites, the persistence of this species on the area is dependent upon protection of the maternity roosts. Due to the location of these maternity roosts (in culverts beneath shopping malls), there is a large possibility of disturbance to the colonies if any renovations or significant construction projects are undertaken. Therefore, coordination with FWC staff from FWRI, SCP, and/or HCSS may be necessary to avert or mitigate for any activities that may affect the roosts.

The FWC originally identified Strategic Habitat Conservation Areas (SHCAs) in the Commission report Closing the Gaps in Florida's Wildlife Habitat Conservation System (Cox et al. 1994; available at http://research.myfwc.com/publications/publication_info.asp?id=48583). The goal of SHCAs is to identify the minimum amount of land needed in Florida to ensure long-term survival of key components to Florida's biological diversity. The SHCAs identify important remaining habitat conservation needs on private lands. New SHCAs have been identified in recent FWC efforts to update the Closing the Gaps entitled "Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas" (available at http://research.myfwc.com/features/view_article.asp?id=29815). Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and encouraging land use and management that is compatible with the needs of LKEWEA's focal species should be a priority in the area.

There is enough potential habitat (with management) to support some of LKEWEA's focal species, such as the gopher tortoise. There is also enough potential habitat to support a viable population of gopher frogs; however, it is unlikely that the species will ever be present without restocking. Though LKEWEA can support viable populations of some focal species,

the presence of others is dependent on adjacent habitats. For instance, it is possible that LKEWEA could independently support a population of Bachman's sparrows or brown-headed nuthatches, though it is more likely that they will depend on adjacent lands.

The LKEWEA cannot support a number of focal species that are wide-ranging habitat generalists (i.e., Florida black bear, Florida pine snake, American swallow-tailed kite, and southern bald eagle) without support from surrounding properties. Therefore, many of the species that occur on LKEWEA are dependent on the availability of suitable habitat on adjacent lands. However, LKEWEA is part of a network of managed lands including privately owned plantations and State-owned lands; this enhances the likelihood of persistence of these species. Many of the area's species are dependent upon fire-maintained upland habitat and therefore their persistence will be influenced by the ability of land managers to continue to used prescribed fire. Changes in land management or development on adjacent lands have the greatest potential to affect species that require large home ranges or are dependent on dispersal for maintaining a population, such as the Florida black bear. Staff should coordinate with HCSS to ensure private landowners are informed about incentive programs to encourage conservation-based management and receive the proper technical assistance. Fostering a positive relationship with neighboring landowners may increase the willingness of the landowner to become a partner in conservation-based land management.

Document Map

Species	Species assessment	Land management actions	Species management actions	Species monitoring	Research needs	Intra/inter agency coordination
American Swallow-tailed Kite	3.2.3	4.3.2		5.2.5		
Bachman`s Sparrow	3.2.4	4.3.3 & 4.1.1		5.2.2		6.5
Brown-headed Nuthatch	3.2.5	4.3.4 & 4.4.1		5.2.2		6.5
Cooper`s Hawk	3.2.6	4.3.5		5.2.5		
Florida Black Bear	3.2.10	4.3.8		5.2.5		
Florida Pinesnake	3.2.12			5.2.5		
Gopher Frog	3.2.1			5.2.5	5.3.1	6.1.6
Gopher Tortoise	3.2.2	4.3.1 & 4.1.1	5.1.1	5.2.1		
Limpkin	3.2.12			5.2.5		7
Louisiana Waterthrush	3.2.12			5.2.5		
Northern Bobwhite	3.2.7	4.1.1		5.2.2		6.5 & 6.1.2
Southeastern Bat	3.2.11	4.3.9		5.2.4		6.1.6 & 7
Southern Bald Eagle	3.2.8	4.3.6		5.2.3		6.1.6
Wading Birds	3.2.9	4.3.7		5.2.3		6.1.6

12.8 Recreation Carry Capacity

Florida Fish and Wildlife Conservation Commission
Office of Recreation Services
Recreation Carrying Capacity

Baseline carrying capacities for recreational users on FWC lands are established by conducting a site specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being "immersed in nature" that visitors to FWC managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated though this process are included in the area Management Plan and used as a tool to help plan and develop recreation opportunities.

Sensitivity Analysis

An initial analysis of site sensitivity to recreation impacts will be conducted using:

- Integrated Wildlife Habitat Ranking System model results for the site.
- Natural community values based on threat rankings developed for the Florida Wildlife Legacy Initiative using the rankings for Roads, Incompatible Recreation Activities, and Conversion to Recreation Areas
- Natural community values based on the sensitivity guidelines published by the Florida Park Service
- Wetlands
- Slope
- Known point locations of species-of-interest
- Known locations of sensitive resources
- Division of Historic Resources Master Site File sites
- Density of existing roads, trails, and facilities
- Other datasets as available and appropriate

These data layers are converted to grids as necessary and normalized to a scale of (1-10? 1-100?). Then a weighted sum is calculated for all data resulting in a "Sensitivity Index" for the area with higher values being more sensitive to disturbance from recreation activities.

Recreation Zoning

Once the results of the Site Sensitivity model are obtained a Recreation Zone Map is developed incorporating these results and any statutory or rule constraints for recreation activities. These Recreation Zone Maps show the different types of recreation experiences appropriate for each zone of the area. This guides the development and location of trails, facilities, and other recreation infrastructure.

Carrying Capacity Development

For linear recreation facilities (i.e. trails), a physical carrying capacity is developed based on trail length using a 100-meter on either side of the trails. This buffer distance is consistent with the estimated area of wildlife disturbance along the trail. In addition, an additional 100-meter buffer will be used between potential trail users to provide an undisturbed 100-meter area between users. This results in an estimate of 1 user or group every 300 meters along the trail. This estimate will be generated using GIS and will be adjusted to minimize disturbance "hot spots" such as overlapping disturbance buffers. Point facilities (i.e. observation structures) will have a single 100-meter radius buffer. The temporal component of carrying capacity will be developed based on the Florida Park Service turnover estimate of 2 per day on primitive hiking trails or 4 per day on shorter, improved nature trails. In addition, existing and planned parking and other trailhead limitations will be factored into the estimate. If the site already has a Recreation Master Plan (RMP) developed, these estimates will be based on existing and planned facilities as detailed in the RMP. If the area does not have an RMP these estimates will be based on potential trail corridors and potential point facility sites derived from the Recreation Zoning and site visits by ORS and area staff. Another product of this estimate will be to calculate a "Wildlife Habitat Disturbance Index" based on the ratio of potentially impacted habitat to impact-free habitat expressed as a percentage of the area potentially impacted by recreation.

For those areas with seasonal hunting use, carrying capacities range from one hunter per 75 acres to one hunter per 150 acres. The exact density chosen depends on a variety of factors with game management most paramount, but is also influenced by the layout of the area and the chosen hunting framework. This capacity is a subset of the overall calculated carrying capacity for year-round recreational uses.

Recreation Impact Monitoring

To provide a quantitative measure of recreation impacts, limits will be established as "No impact ranks greater than 1" observed during each biannual monitoring conducted by ORS field staff. If any ranking values are greater than 1 the site will be assessed to determine the source of the impact and if it is determined to be caused by recreation activities (as opposed to facility design or other sources) the carrying capacity will be revisited and corrective measures will be developed by ORS and area staff.

Recreation Facility Monitoring Protocol

Florida Fish and Wildlife Conservation Commission
Office of Recreation Services

Introduction

In order to better plan and manage recreation opportunities on lands managed by the Florida Fish and Wildlife Conservation Commission (FWC), FWC's Office of Recreation Services has developed a monitoring program for recreation-related facilities and infrastructure. Using both qualitative and semi-quantitative methods this program will encompass trails, signs, wildlife viewing structures and other facilities. Data obtained through this program will help FWC better plan, construct, and maintain facilities to provide the recreation experiences that are meaningful, enjoyable, and safe.

Materials

Digital camera
Tripod
Kaidan panoramic photo mount
VRWorx, or other software for creating panoramic photos
Monitoring forms
Tape measure
Compass
GPS (loaded with waypoints for monitoring points)
Hand tools for checking structure hardware

Monitoring Procedures

Photopoints

Photopoints should be recorded with GPS, which can also be used to navigate back to the photpoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

Trails
Trails are monitored with a panoramic photopoint at the trailhead and every mile for trails over 2 miles and every ½ mile for trails 2 miles and less. Additional photopoints may be needed for problem areas encountered on the trail. Photopoints are centered in the trail tread.

Assemble the panoramic photo gear and set the tripod over the photopoint, making sure the panoramic head is level. Standard photopoint height is 60" to the center of the camera lens while mounted on the panoramic mount. This may be modified for some photopoints depending on surrounding vegetation or other considerations, but the new height should be recorded and used each time that photopoint is taken. The easiest way to set the height is to assemble the tripod, panoramic mount, and camera on level ground, adjust the legs to their full length and adjust the center column to achieve the proper lens height. The center column can be marked with a permanent marker, tape, or scored with a small file or engraver and each mark should be labeled with the height and camera model. This will have to be done for each different camera that will be used for photopoints, although it is preferable that the same camera be used for all photopoints.

Cameras should be set to full wide zoom, landscape mode if available, with flash off. All photopoints begin with the detent closest to due north and continue in a clockwise direction. A log should be kept to record the photo numbers and their corresponding photopoint.

After downloading the images they should be processed into a flat panorama (a digital image composed of all of the photos for a particular photopoint). These panoramas along with the component images should be kept in a central location organized by WMA, Photopoint Number, and photopoint date.

Use areas
Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area which follows the procedure for trail photopoints. The other is a single photo taken from the perimeter of the area. The compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint.

Structures
Structures have a single photopoint. This is a single photo and the compass bearing of the photo should be recorded and used for all subsequent photos taken at that photopoint. If desired, a panoramic photo can be taken to represent the view from the structure (such as the top of a tower).

Physical inspections

- Check for presence or absence (smaller amenities such as fire rings and benches)
- Check for proper location (smaller amenities such as fire rings and benches)
- Inspect for damage (signs and structures)
- Check hardware and tighten or replace if necessary (signs and structures)

Trails should be traversed in their entirety, either on foot for shorter trails or by vehicle for longer trails. Trouble spots (erosion, trail braiding, shortcuts, litter, excess vegetation encroachment, etc.) should be recorded by GPS and noted on the monitoring form.

Monitoring Forms and Record Keeping

Monitoring forms are completed in the field. This can be done electronically using the Recon field computer or manually. If done manually they should be transferred to an electronic version by filling out the form on computer. Completed electronic forms are then placed in the appropriate location on the Project Management Site for that WMA along with any relevant GPS data (converted to Shapefile), photographs, photpoints, and other notes.

Any issues that need attention should be sent to the appropriate Recreation Planner via email. The Recreation Planner is responsible for ensuring the issue is brought to the attention of the appropriate personnel both internally and external to FWC and tracking the issue through resolution.

Trail Monitoring Form

Observer:_____ **Date:**_____

Site:_____

LITTER IMPACTS:

1 = None

2 = Very Little (small, isolated pieces of litter)

3 = Some (frequent small pieces or isolated large pieces of litter)

4 = Extensive (small areas used for trash dumping or multiple areas of high litter concentration)

5 = Very Extensive (large areas used for trash dumping)

Problem area locations/comments:

STRUCTURE DAMAGE (signs, boardwalks, bridges, benches, blinds, towers, platforms, etc.):

1 = None 2 = Very Little (dirty, crooked, loose bolts, etc.)

3 = Some (minor wood repair, graffiti) 4 = Extensive (hazardous damage)

5 = Very Extensive (structure is ruined or missing)

*FILL OUT A *STRUCTURE DAMAGE FORM* FOR ANY STRUCTURE THAT RANKS "2" OR HIGHER.*

List of trail-related structures with rankings:

EROSION PROBLEMS

1 = Very Little

2 = Some: Tree roots or standing water evident

3 = Moderate: Exposed roots/rocks but little evidence of widening, some patches of exposed soil.

4 = Extensive: Many tree roots exposed, many spots of exposed soil, ruts and/or trail widening.

Problem area locations/comments:

CORRIDOR CONDITION

1 = Within standards (minimal vegetation encroachment)

2 = Exceeds standards (trail needs some mowing/lopping/chainsawing, blowdown obstructions)

3 = Unacceptable (trail is generally overgrown and difficult to find)

If there were problem areas, please describe condition and exact location:

PHOTOPOINT INFORMATION

All photopoints should be taken with a lens height of 60", the flash set to "off", and no zoom. All panoramic photopoints start with a photo taken towards north, then continue in a clockwise direction.

New photopoints taken (photopoint type, coordinates, location description, lens azimuth, image numbers)

Existing photopoints taken (Photopoint Number, image numbers)

Use Area Monitoring Form

Observer: _____ **Date:**_____

Site: _____

LITTER IMPACTS:

1 = None

2 = Very Little (small, isolated pieces of litter)

3 = Some (frequent small pieces or isolated large pieces of litter)

4 = Extensive (small areas used for trash dumping or multiple areas of high litter concentration)

5 = Very Extensive (large areas used for trash dumping)

Comments:

STRUCTURE DAMAGE (shelters, picnic tables, kiosks, trash cans, signs, grills, benches, etc.):

1 = None

2 = Very Little (dirty, crooked, loose bolts, etc.)

3 = Some (minor wood repair, graffiti)

4 = Extensive (hazardous damage)

5 = Very Extensive (structure is ruined)

FILL OUT A STRUCTURE DAMAGE FORM FOR ANY STRUCTURE THAT RANKS "2" OR HIGHER.

List of use-area structures with rankings:

EROSION PROBLEMS

1 = Very little

2 = Some: tree roots or standing water evident

3 = Moderate: exposed roots/rocks but little evidence of widening, some patches of exposed soil.

4 = Extensive: many tree roots exposed, many spots of exposed soil, ruts and/or trail widening.

Problem area locations/Comments:

PHOTOPOINT INFORMATION

All photopoints should be taken with a lens height of 60", the flash set to "off", and no zoon All panoramic photopoints start with a photo taken towards north, then continue in a clockwise direction.

New photopoints taken (photopoint type, coordinates, location description, lens azimuth, image numbers)

Existing photopoints taken (Photopoint Number, image numbers)

Structure Damage Reporting Form

Observer: _____ Date:_____

Site: _____

Structure name/type:_____

Structure location (written description, coordinates):_____

Please rate and explain the extent of the damage in the following areas, where...

1=Minimal (no maintenance needed)

2=Moderate (maintenance recommended)

3=Severe (maintenance imperative)

TAKE CLOSE-UP PHOTOS OF ALL REPORTED DAMAGE

Cleanliness (graffiti, mildew, debris build-up, odor, etc.)

Structural Integrity (crooked, wobbly, or leaning)

Wood condition (rotten, vandalized)

Hardware (rusted, loose, missing)

Other (please describe)

WMA Visit Checklist

- ○ Trail maintenance needs
- ○ Sign maintenance needs
- ○ Structure maintenance needs
- ○ Day-use area condition/maintenance needs
- ○ Sufficient ORS publications in field office
- ○ Brochure boxes adequately stocked
- ○ Hunting calendar posted and up-to-date
- ○ Users encountered on area (number, activity, address for future surveys)
- ○ Geocaches inspected
- ○ Manager concerns
- ○ New ideas for area enhancement

12.9 DHR - Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(revised February 2007)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, *'Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found in the following:

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

Chapter 872, F.S. – Offenses Concerning Dead Bodies and Graves

Other helpful citations and references:

Chapter 1A-32, F.A.C. – Archaeological Research

Chapter 1A-44, F.A.C. – Procedures for Reporting and Determining Jurisdiction Over Unmarked Human Burials

Chapter 1A-46, F.A.C. – Archaeological and Historical Report Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, pre-testing of the project site by a certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, the following information, at a minimum, must be submitted for comments and recommendations.

Project Description – A detailed description of the proposed project including all related activities. For land clearing or ground disturbing activities, the depth and extent of the disturbance, use of heavy equipment, location of lay down yard, etc. For historic structures, specific details regarding rehabilitation, demolition, etc.

Project Location – The exact location of the project indicated on a USGS Quadrangle map, is preferable. A management base map may be acceptable. Aerial photos indicating the exact project area as supplemental information are helpful.

Photographs – Photographs of the project area are always useful. Photographs of structures are required.

Description of Project Area – Note the acreage of the project, describe the present condition of project area, and any past land uses or disturbances.

Description of Structures – Describe the condition and setting of each building within project area if approximately fifty years of age or older.

Recorded Archaeological Sites or Historic Structures – Provide Florida Master Site File numbers for all recorded historic resources within or adjacent to the project area. This information should be in the current management plan; however, it can be obtained by contacting the Florida Master Site File at (850) 245-6440.

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Susan M. Harp
Historic Preservation Planner
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6367
Fax: (850) 245-6438

12.10 Cost Estimate – Activity Planning Detail Report

Fiscal year 2010 Projects: 7277

Activity	Title	Man Days	Salary	FuelCost	Other	Total	Units
101	Project inspection	10.00	$2,004.40	$98.20	$0.00	$2,102.60	0
104	Budget/purchasing/accounting	1.00	$200.44	$9.82	$0.00	$210.26	0
150	Personnel management	8.00	$1,603.52	$78.56	$0.00	$1,682.08	0
182	Data management	5.00	$1,002.20	$49.10	$0.00	$1,051.30	0
185	GIS	5.00	$1,002.20	$49.10	$0.00	$1,051.30	0
204	Resource planning	8.00	$1,603.52	$78.56	$0.00	$1,682.08	0
206	Prescribed burning - growing season	20.00	$4,008.80	$196.40	$1,000.00	$5,205.20	250
207	Prescribed burning - dormant season	0.00	$0.00	$0.00	$0.00	$0.00	0
208	Firebreaks	5.00	$1,002.20	$49.10	$1,000.00	$2,051.30	3
212	Exotic plant control (chemical)	10.00	$2,004.40	$98.20	$1,500.00	$3,602.60	0
221	Animal surveys	20.00	$4,008.80	$196.40	$200.00	$4,405.20	12
228	Inland aerial surveys	2.00	$400.88	$19.64	$2,000.00	$2,420.52	2
235	Vegetation and plant surveys	5.00	$1,002.20	$49.10	$500.00	$1,551.30	10
289	Native vegetation management (mechanical)	3.00	$601.32	$29.46	$0.00	$630.78	230
294	Program coordination and implementation	5.00	$1,002.20	$49.10	$0.00	$1,051.30	0
311	Boundary signs	0.00	$0.00	$0.00	$0.00	$0.00	0
312	Informational signs	2.00	$400.88	$19.64	$0.00	$420.52	0
342	Public use administration (non-hunting)	5.00	$1,002.20	$49.10	$40,000.00	$41,051.30	3
910	New facility construction -- buildings/structures	8.00	$1,603.52	$78.56	$84,000.00	$85,682.08	0

Activity	Title	Man Days	Salary	FuelCost	Other	Total	Units
923	FEM -- vehicles/equipment	10.00	$2,004.40	$98.20	$4,000.00	$6,102.60	0
926	FEM -- roads/bridges	5.00	$1,002.20	$49.10	$1,500.00	$2,551.30	6
All totals		137.00	$27,460.28	$1,345.34	$135,700.00	$164,505.62	516

12.11 Tallahassee - Leon County Comprehensive Plan Compliance

CITY OF TALLAHASSEE TALLAHASSEE-LEON COUNTY PLANNING DEPARTMENT

David Alden
Florida Fish and Wildlife Conservation Commission
Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

October 7, 2011

Dear Mr. Alden,

Based on your request sent via email to Mr. Wayne Tedder, Director of PLACE, the Tallahassee – Leon County Planning Department has reviewed the L. Kirk Edwards Wildlife and Environmental Area (LKEWEA) Management Plan for consistency with the Tallahassee – Leon County Comprehensive Plan.

The approximately 1,782-acre LKEWEA is located approximately seven miles east of downtown Tallahassee, with the northwestern boundary extending into city limits. The LKEWEA encompasses the majority of Lower Lake Lafayette, and it includes the 1,063.66 acre Wood Sink addition, part of the Upper St. Marks River Corridor Florida Forever project, which was purchased from The Nature Conservancy in December 2008. The Future Land Use designation of that portion of the LKEWEA west of Chaires Cross Road is Recreation/Open Space with Urban Fringe zoning, whereas the newer portion of the LKEWEA east of Chaires Cross Road is Rural with Rural zoning.

The 50-year Board of Trustees lease agreement with the Florida Fish and Wildlife Conservation Commission (FWC) directs FWC to "manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), FS..." The lease agreement further directs FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

Planning staff has reviewed the Tallahassee – Leon County Comprehensive Plan as requested for consistency with the LKEWEA management plan. We have listed below those objectives and policies in the relevant elements of the Plan that staff has determined as either consistent or inconsistent:

CH/SMH/smh

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CONSISTENT OBJECTIVES AND POLICIES

Conservation

1. Intergovernmental Coordination.

   Objective 1.2: [C] (Effective 7/16/90)

   State and regional agencies shall coordinate and participate with local government on environmental planning, regulations and management techniques that affect the conservation and preservation of area natural resources.

   Policy 1.2.1: [C] (Effective 7/16/90)

   Local government shall work with all applicable private, local, state and federal programs such as the Conservation and Recreation Lands program, Save Our Rivers, Surface Water Improvement and management (SWIM), Land Acquisition Trust Fund program and others in the acquisition and maintenance of unique vegetative communities, as well as protecting and enhancing surface and groundwater.

   Policy 1.2.2: [C] (Effective 7/16/90)

   By 1991, involve other area governments, such as adjacent counties, regional, state and federal agencies, in the review process regarding ordinances and policies that affect surface waters and unique environmental communities shared by other jurisdictions.

2. Use of prescribed fire.

   Policy 1.2.3: [C] (Effective 6/14/00; Revision Effective 4/10/09)

   In conjunction with the appropriate state, federal and regional agencies and property owners, local government shall implement, maintain, and promote land management practices that enhance fire protection, wildlife habitat and sustainable silviculture practices. These practices shall include, but not be limited to, the use of prescribed burns, the creation of defensible space buffers, vegetative maintenance, and the control or removal of invasive exotics.

   In areas of wildfire hazard, the land development regulations shall require the provision of defensible space buffers surrounding new developments and multiple exits from large developments. To further the effectiveness of these practices, public awareness programs will be developed by 2010 to inform and educate existing and new property owners that these practices, prescribed burns in particular, may be regularly employed nearby and may affect their property.

3. Protect wetland areas.

   Policy 2.2.1: [C] (Effective 7/16/90)

   Protect and conserve the natural function of wetlands by limiting wetland destruction and adverse impacts..

4. Endangered species protection:

   Objective 3.1: [C] (Effective 7/16/90)

   Protect and enhance populations of endangered, threatened and species of special concern listed by Leon County and the Florida Game and Fresh Water Fish Commission, and their habitat so there is no loss of wildlife species that are in Leon County at the time of adoption of the comprehensive plan.

5. Greenways connectivity:

Policy 6.1.1: [C] (Effective 6/25/96; Revision Effective 7/20/05)

The greenways network shall attempt to interconnect existing dedicated open space areas and be comprised primarily of preservation and conservation features as described in Policy 1.3.1 [C] and 1.3.2 [C]. Floodplains and natural drainageways shall receive particular emphasis for inclusion in the network. Other lands that do not qualify as preservation or conservation features may be included in the network based on connectivity, historical value, or value as a natural resource buffer. To the maximum extent practicable, bicycle trails, pedestrian pathways, and where appropriate, utility corridors, shall be included in the greenways network.

Based on the analysis of existing objectives and policies above, the LKEWEA management plan appears to be consistent with the Tallahassee – Leon County Plan.

However, staff also recommends that the Florida Fish and Wildlife Conservation Commission consider submitting an application to the Department to change the Land Use designation of the portion of the LKEWEA east of Chaires Cross Road to Recreation/Open Space to be consistent with that portion west, and to change the zoning of the entire LKEWEA to Open Space. This would provide a land use and zoning designation consistent with the use of the property.

Thank you for the opportunity to review the LKEWEA Management Plan. If you have any questions or need additional information, please feel free to contact our department.

Sincerely,

Cherie Horne

Cherie Horne, AICP
Interim Comprehensive Planning Division Manager
Tallahassee-Leon County Planning Department

12.12 Arthropod Management 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:
L. Kirk Edwards Wildlife and Environmental Area

Is Control Work Necessary: ☐ Yes ☒ No

Location:
Leon County 7 miles east of Tallahassee

Land Management Agency:
Florida Fish & Wildlife Conservation Commission

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

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:
N/A

Proposed Larval Control:
N/A

Proposed larval monitoring procedure:

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 Larvaciding Applications:

(Please Check All That Apply:)

☐ Bti

☐ Bs

☐ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name:

☐ Ground ☐ Aerial

Rate of application:

Method of application:

Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒ No

Ground adulticiding ☐ Yes ☒ No

Please specify the following for each adulticide:

Chemical or common name:

Rate of application:

Method of application:

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

Proposed Notification Procedure for Control Activities:
N/A

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☐ Yes ☒ No

Records Location:

How long are records maintained:
N/A

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:
No

Include proposed operational schedules for water fluctuations:
N/A

List any periodic restrictions, as applicable, for example peak fish spawning times.
N/A

Proposed Modification of Aquatic Vegetation:
N/A

Land Manager Comments:
None

Arthropod Control Agency Comments:

Signatures on file