



A Management Plan for the Lafayette Forest Wildlife and Environmental Area 2021 - 2031

Lafayette County, Florida



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



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MEMORANDUM

TO: James Parker
Office of Environmental Services
Division of State Lands
Florida Department of Environmental Protection

FROM: Matthew Stana
Land Conservation and Planning
Division of Habitat and Species Conservation
Florida Fish and Wildlife Conservation Commission

SUBJECT: Lafayette Forest Wildlife and Environmental Area
Ten Year Management Plan Update
Acquisition and Restoration Council (ARC) Public Hearing

DATE: August 27, 2021

Enclosed are the Lafayette Forest Wildlife and Environmental Area Management Plan and the Land Management Plan Compliance Checklist. This Plan is being submitted for the Division of State Lands compliance review and for review for the next available ARC meeting Agenda. Please contact Matthew Stana at Matthew.Stana@MyFWC.com if there are any questions related to this plan. Thank you for your assistance.

TH/DH

Enclosures

cc: Keith Singleton
Shauna Allen
Tom Houston
Dylan Haase

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PENDING DEP APPROVAL LETTER**

**A Management Plan
for the
Lafayette Forest Wildlife and Environmental Area**

Lafayette County, Florida

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



August 2021

Approved *Melissa Tucker*
Melissa Tucker, Director
Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)

Common Name of Property: Lafayette Forest Wildlife and Environmental Area (LFWEA)

Location: Lafayette County, Florida

Acreage Total: 2,148 acres

Acreage Breakdown:

<u>Land Cover Classification</u>	<u>Acres</u>	<u>Percent of Total Area</u>
Basin marsh	35.05	1.6%
Bottomland forest	52.80	2.5%
Canal/ditch	8.18	0.4%
Depression marsh	167.46	7.8%
Developed	1.07	0.1%
Dome swamp	347.94	16.2%
Floodplain swamp	133.34	6.2%
Mesic flatwoods	751.02	35.1%
Restoration mesic flatwoods	190.33	8.9%
Restoration sandhill	251.61	11.7%
Road	93.32	4.4%
Scrubby flatwoods	6.04	0.3%
Successional hardwood forest	13.57	0.6%
Upland hardwood forest	59.35	2.8%
Wet Flatwoods	31.04	1.4%

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

Lease/Management Agreement No.: 4608 (Appendix 12.1)

Use: Single _____

Multiple X

Management Responsibilities:

Agency FWC

Responsibilities

LEAD, LESSEE (Wildlife and Environmental Area, resource protection, law enforcement)

Designated Land Use: Wildlife and Environmental Area

Sublease (s): None

Encumbrances: List: Suwannee River Water Management District Access Agreement (#10074),

Reservation of Oil, Gas, and Associated Hydrocarbon with International Paper Company, a reciprocal access agreement with an inholding landowner (Nell C. Hughes), and an unrecorded cemetery easement.

Type Acquisition: Fish and Wildlife Habitat Program

Unique Features: Natural: Natural communities including mesic flatwoods and dome swamp.

Archaeological/Historical: 12 documented within the LFWEA.

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: 4,593 acres FWC Additions and Inholdings list; 10,253 acres remaining in the Lafayette Forest Florida Forever Project (Appendix 12.19).

Surplus Lands/Acreage: None

Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.4)

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

ARC Approval Date _____ BTITF Approval Date: _____

Comments: _____

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	ii, 1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	6
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	7
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	ii; 1-7; Appendix 12.1
5	A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.	18-2.018 & 18-2.021	3-5; 11; 90
6	An assessment as to whether the property, or any portion, should be declared surplus. <i>Provide Information regarding assessment and analysis in the plan, and provide corresponding map.</i>	18-2.021	53-54
7	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. <i>Please clearly indicate parcels on a map.</i>	18-2.021	81-83; Appendix 12.19
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	10
9	A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.	259.032(10)	6
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	8-11

Section B: Use Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	52-53
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	50-51
13	A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.	18-2.018	52-53
14	A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.	18-2.018	7; 83-84
15	Include a provision that requires that the managing agency consult with the Division of Historical Resources, Department of State before taking actions that may adversely affect archeological or historical resources.	18-2.021	48; 80; 89
16	Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.	18-2.021	68-86; 96
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	52-53 ;77-79

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
18	A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent "balanced public utilization," specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.	18-2.021	52-53
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.20
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	13-17; 30-40; 48-49; 68-86; 88
21	*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.	18-2.021 & 253.036	51-53
22	If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.	18-021	79-80; Appendix 12.14
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	53

*The following taken from 253.034(10) is not a land management plan requirement; however, it should be considered when developing a land management plan: The following additional uses of conservation lands acquired pursuant to the Florida Forever program and other state-funded conservation land purchase programs shall be authorized, upon a finding by the Board of Trustees, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, storm-water management projects, linear facilities and sustainable agriculture and forestry. Such additional uses are authorized where: (a) Not inconsistent with the management plan for such lands; (b) Compatible with the natural ecosystem and resource values of such lands; (c) The proposed use is appropriately located on such lands and where due consideration is given to the use of other available lands; (d) The using entity reasonably compensates the titleholder for such use based upon an appropriate measure of value; and (e) The use is consistent with the public interest.

Section C: Public Involvement Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
24	A statement concerning the extent of public involvement and local government participation in the development of the plan, if any.	18-2.021	10; Appendix 12.3 and 12.4
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	10
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. <i>Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.</i>	259.032(10)	10; Appendix 12.3 and 12.4
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.4.1

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
28	During plan development, at least one public hearing shall be held in each affected county. 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. <i>Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.</i>	253.034(5) & 259.032(10)	Appendix 12.3 and 12.4.2
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. <i>Include manager's replies to the team's findings and recommendations.</i>	259.036	Appendix 12.6; 68
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	Appendix 12.6; 68
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	Appendix 12.6; 68

Section D: Natural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. <i>Use brief descriptions and include USDA maps when available.</i>	18-2.021	13-15; Appendix 12.5
33	Insert FNAI based natural community maps when available.	ARC consensus	46-47
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	16-45
35	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding unique natural features and/or resources including but not limited to virgin timber stands, scenic vistas, natural rivers and streams, coral reefs, natural springs, caverns and large sinkholes.	18-2.018 & 18-2.021	48-49
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	48-49
37	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding mineral resources, such as oil, gas and phosphate, etc.	18-2.018 & 18-2.021	48
38	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.	18-2.018 & 18-2.021	40- 47
39	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed endangered or threatened species and their habitat.	18-2.021	44-47
40	The identification or resources on the property that are listed in the Natural Areas Inventory. <i>Include letter from FNAI or consultant where appropriate.</i>	18-2.021	45-47; Appendix 12.8
41	Specific description of how the managing agency plans to identify, locate, protect and preserve or otherwise use fragile, nonrenewable natural and cultural resources.	259.032(10)	68-93

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.	↓	68-93
42-B.	Provide a detailed description of both short (2-year planning period) and long-term (10-year planning period) management goals, and a priority schedule based on the purposes for which the lands were acquired and include a timeline for completion.	↓	86-93
42-C.	The associated measurable objectives to achieve the goals.	↓	86-93
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. <i>Include fire management plans - they can be in plan body or an appendix.</i>	↓	68-93
42-E.	A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.		93-95; Appendix 12.18
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. <i>See footnote.</i>	253.034(5)	17-40
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10) ↓	
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	68-93
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
44-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
44-D.	Related activities (see requirement for #42-D).	↓	68-93
44-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18
45	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032(10) & 253.034(5)	
45-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	68-93
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
45-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
45-D.	Related activities (see requirement for #42-D).	↓	68-93
45-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. <i>See footnote.</i>	253.034(5)	29-30; 76
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	96-97
48	Exotic and invasive species maintenance and control	259.032(10) & 253.034(5)	
48-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	68-93
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
48-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
48-D.	Related activities (see requirement for #42-D).	↓	68-93
48-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. <i>If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.</i>	18-2.018 & 18-2.021	2
50	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding water resources, including water classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Water under Rule 62-302.700, F.A.C.	18-2.021	48-49
51	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding swamps, marshes and other wetlands.	18-2.021	48-49
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034(5)	48-49
53	Hydrological Preservation and Restoration	259.032(10) & 253.034(5)	
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	79
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
53-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
53-D.	Related activities (see requirement for #42-D).	↓	68-93
53-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. <i>Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.</i>	18-2.018, 18-2.021 & per DHR's request	80; 89
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	80; Appendix 12.16
56	A description of actions the agency plans to take to locate and identify unknown resources such as surveys of unknown archeological and historical resources.	18-2.021	80; 89; Appendix 12.15 and 12.16

57	Cultural and Historical Resources	259.032(10) & 253.034(5)	
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	89
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
57-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
57-D.	Related activities (see requirement for #42-D).	↓	68-93
57-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18

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

Section G: Facilities (Infrastructure, Access, Recreation)

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. See <i>footnote</i> .	253.034(5)	81; 90
59	Capital Facilities and Infrastructure	259.032(10) & 253.034(5)	
59-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	81
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
59-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
59-D.	Related activities (see requirement for #42-D).	↓	68-93
59-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	81; 90
61	Public Access and Recreational Opportunities	259.032(10) & 253.034(5)	
61-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	↓	68-93
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	86-93
61-C.	Measurable objectives (see requirement for #42-C).	↓	86-93
61-D.	Related activities (see requirement for #42-D).	↓	68-93
61-E.	Budgets (see requirement for #42-E).		93-95; Appendix 12.18

Section H: Other/ Managing Agency Tools

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
62	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	iii-ix
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	ii
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	54-67
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	68-93

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
66	Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. 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) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.	253.034(5)	93-95; Appendix 12.18
67	Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.	259.032(10)	93-95; Appendix 12.18
68	A statement of gross income generated, net income and expenses.	18-2.018	51-52; 93-95; Appendix 12.18

*** = The referenced inventories shall be of such detail that objective measures and benchmarks can be established for each tract of land and monitored during the lifetime of the plan. All quantitative data collected shall be aggregated, standardized, collected, and presented in an electronic format to allow for uniform management reporting and analysis. The information collected by the DEP pursuant to s. 253.0325(2) shall be available to the land manager and his or her assignee.

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Management Plan Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
BEBR	Bureau of Economic and Business Research
CAS	Conservation Action Strategy
CF	Conservation Florida
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DHR	Florida Department of Historical Resources
DRP	Division of Recreation and Parks
DSL	Division of State Lands
FAC	Florida Administrative Code
FFS	Florida Forest Service
FLAM	Florida Landscape Assessment Model
FLEPPC	Florida Exotic Pest Plant Council
FNAI	Florida Natural Areas Inventory
F.S.	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
GIS	Geographic Information Systems
GPS	Global Positioning System
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
LAP	Landowner Assistance Program
LFWEA	Lafayette Forest Wildlife and Environmental Area
LMR	Land Management Review
MAG	Management Advisory Group
MSL	Mean sea level
NRCS	National Resources Conservation Service
NSS	National Speleological Society
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
ORB	Optimal Resource Boundary
PASO	Public Access Services Office
SRWMD	Suwannee River Water Management District
TNC	The Nature Conservancy
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area

1 Introduction and General Information

Located within a landscape of pinelands, basin swamp, marshes, hardwood forest, and other public conservation lands and Florida Forever project lands, the Lafayette Forest Wildlife and Environmental Area (LFWEA) provides habitat for a wide diversity of wildlife species including the gopher tortoise (*Gopherus polyphemus*) and also provides an array of fish and wildlife based public outdoor recreational opportunities, all within close proximity to the Suwannee River. Wetland and mesic forests within this larger landscape also provide potential habitat for imperiled species such as the Eastern indigo snake (*Drymarchon couperi*), wood stork (*Mycteria americana*), and little blue heron (*Egretta caerulea*). With the connection between Mallory Swamp and potentially, the Suwannee River, the LFWEA aids in conserving a corridor for wildlife movement that will become increasingly important over time.

The LFWEA is managed by the Florida Fish and Wildlife Conservation Commission (FWC) for the conservation and protection of natural resources, historical resources, and the important natural communities on site that provide habitat for a wide range of imperiled and more common wildlife species.

The LFWEA is owned by the Board of Trustees of the Internal Improvement Fund (Board of Trustees). The FWC has lead management authority for all resources within the established boundary. Original acquisition of the area was approved by the Board of Trustees and the FWC for use as a gopher tortoise mitigation park in 2008.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the LFWEA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on the LFWEA. Furthermore, it identifies the FWC's future management intent, goals and associated short and long-term objectives, and challenges and solutions. This Management Plan has been developed to guide each aspect of the LFWEA's resource and operational management for the ten-year life of the plan.

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the State of Florida through the Florida Department of Environmental Protection's (DEP) Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4608 (Appendix 12.1), and pursuant to Chapters 253 and 259, Florida Statutes (F.S.) and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of the DSL. Terms (Appendix 12.7) 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.

1.1.1 FWC Planning Philosophy

The FWC's planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group (MAG) and solicits additional input from user groups and the general public at a public hearing (Appendix 12.4). The FWC also engages area, district, and regional agency staff, as well as other FWC staff expertise, in developing this Management Plan, thereby facilitating area biologist and manager "ownership" of the Management Plan, and thus the development of meaningful management intent language, goals with associated measurable objectives, timelines for completion, and the identification of challenges and solution strategies for inclusion in the LFWEA Management Plan (Sections 5 – 7).

Further management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the current Management Plan, as well as a field review of the LFWEA. The LMR report (Section 5.1, Appendix 12.6) provides FWC staff with important information and guidance provided by a diverse team of land management auditors and communicates the recommendations of the LMR team to the FWC so they may be adequately addressed in this Management Plan, and thus guide the implementation of the LMR team recommendations on the LFWEA.

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A "living document" concept, linking this updated Management Plan to the previous one, is accomplished by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4), thereby ensuring agency accountability through time.¹ Also, in an effort to remain adaptive for the duration of this Management Plan, continuous input and feedback will be collected from FWC staff, stakeholders, user groups, and other interested parties and individuals. As needed, amendments to this Management Plan will be presented to the DSL and ARC for review and consideration.

1.2 Location

The LFWEA is located in North Central Florida in southeastern Lafayette County and encompasses approximately 2,148 acres (Figures 1 and 2). The LFWEA lies in all or parts of Sections 22- 26, and 35-36 in Township 7 South, Range 13 East (Figure 3). The LFWEA is located approximately 8 miles south of Branford, 16 miles northeast of Cross City, and 17 miles southeast of Mayo. Other municipalities near the LFWEA include Lake City (30 miles northeast) in Columbia County; Live Oak (30 miles north) in Suwannee County; and Gainesville (40 miles southeast) in Alachua County. The LFWEA is not located within any Aquatic Preserve or a designated Area of Critical State Concern.

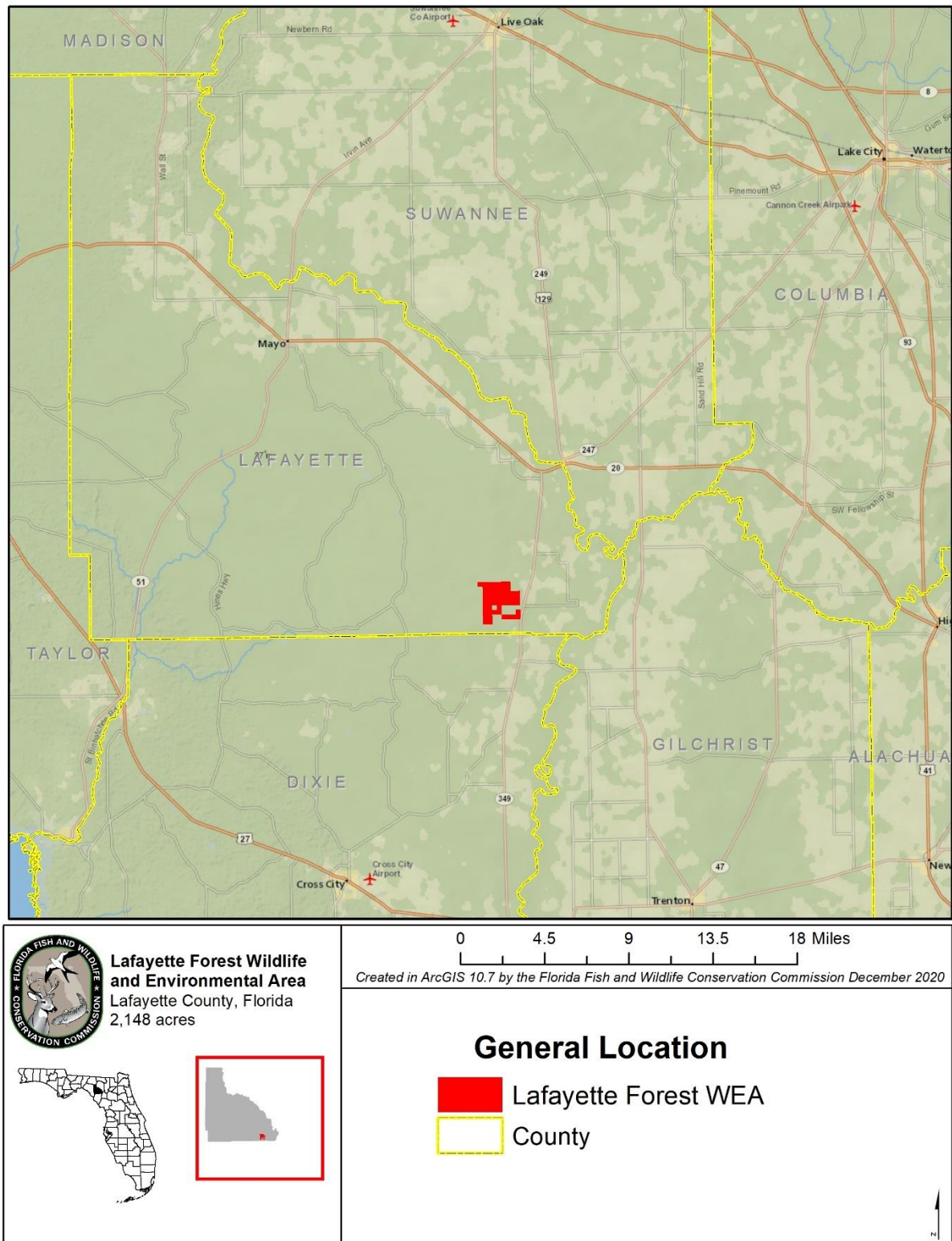


Figure 1. General Location of the LFWEA

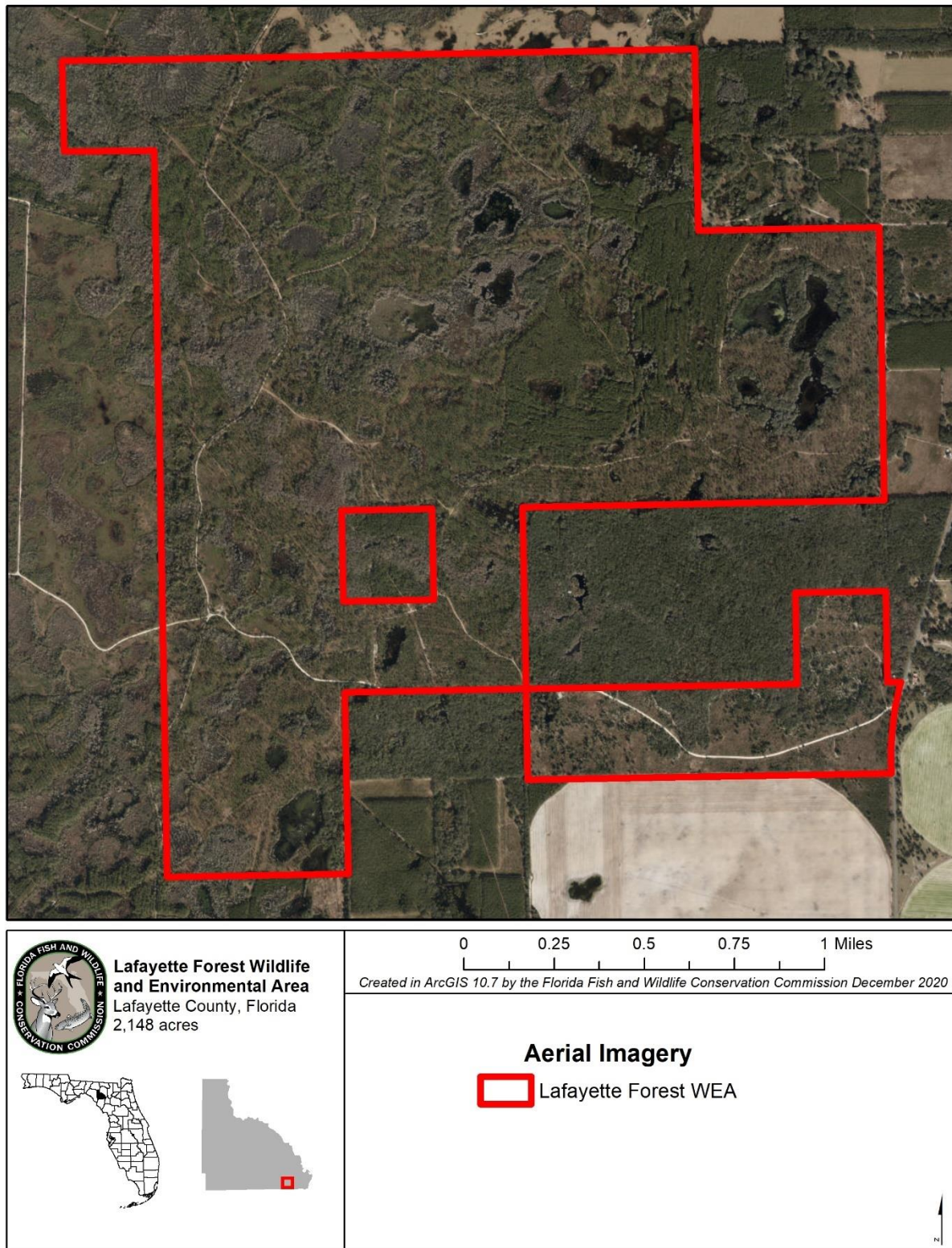


Figure 2. LFWEA Boundary and Aerial Imagery

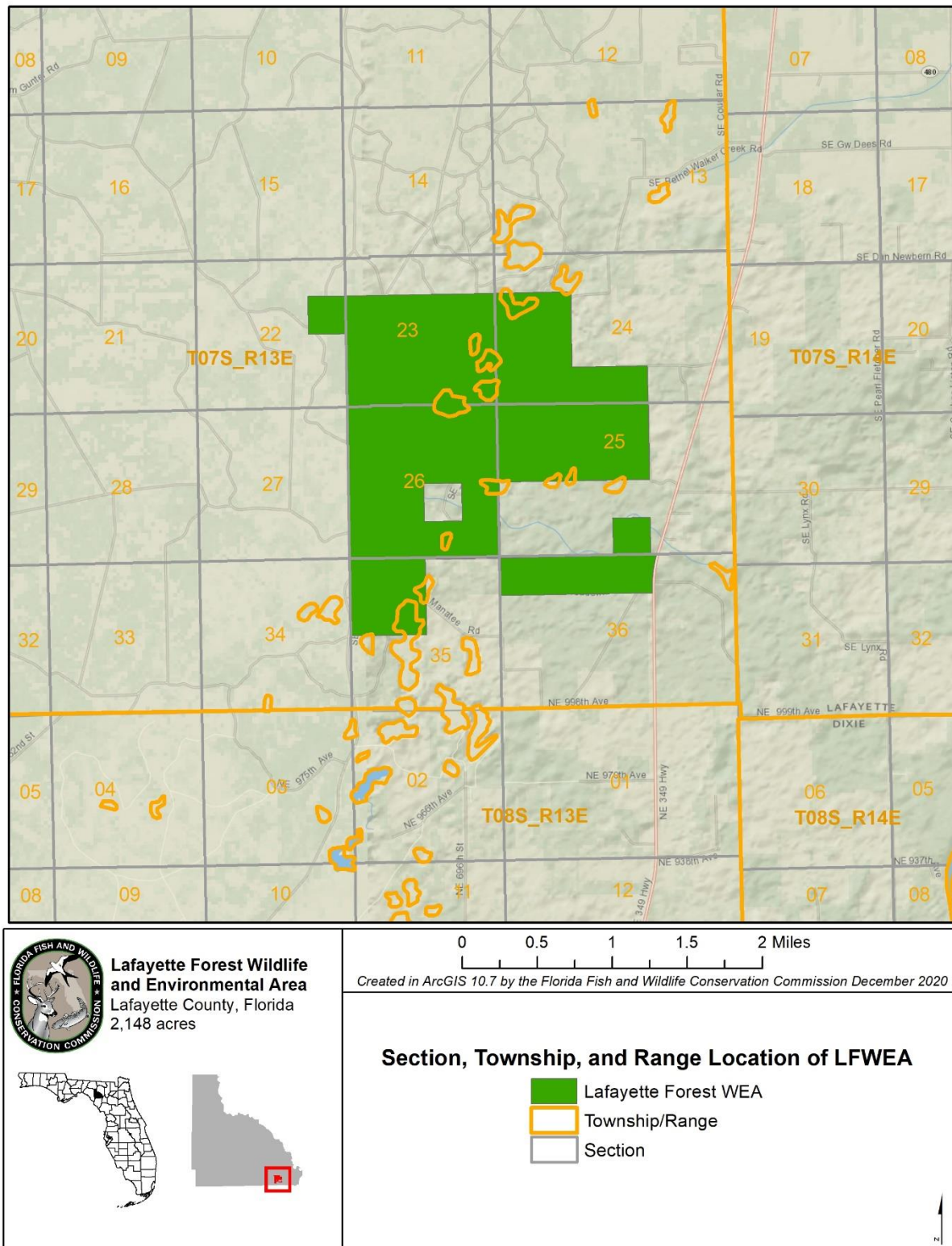


Figure 3. The LFWEA Proximity Map with Section, Township, and Range

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

The LFWEA is an important and integral component of FWC programs serving to conserve gopher tortoise habitat along with other fish and wildlife resources. The LFWEA was acquired as a gopher tortoise mitigation park as part of the Mitigation Park Program to provide for natural resource conservation, restoration, and fish and wildlife resource based public outdoor recreation. The FWC implemented the now defunct Mitigation Park Program in 1988 under Section 372.074, F.S. (since replaced by Chapter 379, F.S.) to help protect gopher tortoises from the impacts of development by providing an offsite alternative to the previous method of onsite preservation of habitat within the boundaries of a development. When developers planned to develop habitat for gopher tortoises through this program, they paid mitigation “taking” fees that were used to buy and manage high quality habitat elsewhere. As a result, the program provided an alternative method to preserve wildlife habitat, while allowing developers to develop imperiled species habitat on their project sites. The primary acquisition and conservation goals of the Mitigation Park Program for acquiring mitigation parks, such as the LFWEA, were to promote habitat conditions critical to meeting the life history requirements of the gopher tortoise and associated upland species; conserve, protect, and restore landscapes, forests, watershed, water resources, historical resources, and other elements important to ecosystem functions; and to provide an offsite mitigation alternative to the traditional method of onsite preservation of habitat within the boundaries of a development project requiring state and federally listed species permits.

The LFWEA is now managed by the FWC for the purpose of operating a Wildlife and Environmental Area (WEA), providing ecological diversity, managed habitats for both common and imperiled wildlife, and fish and wildlife-oriented outdoor recreational opportunities for the public.

1.3.2 Acquisition History

The acquisition of the LFWEA as a gopher tortoise mitigation park was approved by the Board of Trustees in April 2008. The Board of Trustees acquired the tract in cooperation with The Trust for Public Land, and closed on the property in August 2008, concurrent with the DEP-DSL accepting title via delegation on behalf of the Board of Trustees. Subsequently, in January 2009, the Board of Trustees leased the LFWEA to the FWC to manage the area for the purpose of gopher tortoise mitigation.

As mentioned previously, the FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, F.S. which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife based public outdoor recreation. It also consolidates mitigation within a geographical region by buying larger and

more manageable tracts, which are established as WEAs. All of the WEAs established through this program are managed primarily to protect and enhance habitat important to upland endangered or threatened wildlife, especially the gopher tortoise. The Mitigation Park Program has since been discontinued, but the 14 mitigation tracts, including the LFWEA, acquired through the program continue to be actively managed by the FWC for their original purposes of acquisition and conservation.

1.4 Management Authority

The FWC is the designated lead managing agency for the LFWEA under the authority granted by Lease Number 4608 from the Board of Trustees agent, DSL. 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, 373, 375, 378, 379, 403, 487, 597, and 870 of the F.S.. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

1.5 Management Directives

The 50-year Board of Trustees' Lease Agreement Number 4608 with the FWC directs the 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), F.S..." The lease agreement further directs the 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."

1.6 Title Interest and Encumbrances

As State-owned lands, title to the LFWEA is vested in the Board of Trustees (Governor and Cabinet). In January 2008, the DSL, as staff to the Board of Trustees, entered into Lease Agreement Number 4608, a 50-year lease agreement, granting the FWC management authority for the LFWEA.

Several access and property use agreements exist within the LFWEA. International Paper Company holds the rights to the oil, gas, and associated hydrocarbons in, on and under the property, together with full rights of ingress and egress and use of the surface to the extent reasonably necessary for the purpose of exploring, drilling, developing, producing, storing, removing, treating, and transporting said minerals. The FWC has a memorandum of agreement with the Suwannee River Water Management District (SRWMD) for use of the entrance road within the LFWEA to provide public access to the eastern boundary of Mallory Swamp Wildlife Management Area. The FWC will also be working with the SRWMD on a possible well monitoring license agreement. Other encumbrances to the title of the LFWEA include a reciprocal access easement from the previous landowner before the area was leased to the FWC and an unrecorded cemetery easement providing access to, and a buffer area around, a small grave site. None of these easements, either recorded or unrecorded, appear to pose any impediment to management of the property.

1.7 Proximity to Other Public Conservation Lands

The LFWEA is located in the vicinity of an extensive network of conservation lands, including lands managed by the SRWMD, the DEP, the Florida Forest Service (FFS), and the FWC. Several Florida Forever projects (Figure 4) are also located in the vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 15-mile radius of the LFWEA, including lands managed by public and private entities that conserve cultural and natural resources within this region of Florida.

Most of the conservation lands listed in Table 2 are owned in full-fee by a public entity. However, some of these areas fall within a less-than-fee ownership classification where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

Table 1. Florida Forever Projects within a 15-mile Vicinity

Project Name	GIS Acres
Florida's First Magnitude Springs	6,040.30
Ichetucknee Trace	1,716.55
Lafayette Forest	10,252.80
North Waccasassa Flats	14,152.70
Strategic Managed Area Lands List (S.M.A.L.L.)	11,572.00

Table 2. Conservation Lands within a 15-mile Vicinity

State of Florida	Managing Agency
Fort White Wildlife and Environmental Area	FWC
Ichetucknee Springs State Park	DEP-DRP
Land Family Agricultural and Conservation Easement #1 and #2	DACS-FFS
Suwannee River Wilderness State Trail	DEP-DRP
Troy Spring State Park	DEP-DRP
Water Management District	Managing Agency
Bailey Brothers Conservation Easement	SRWMD
Chinquapin Farm Conservation Easement	SRWMD
Grady Conservation Area	SRWMD
Hatchbend Conservation Area	SRWMD
Ichetucknee Conservation Area	SRWMD
Jackson Conservation Easement	SRWMD
Little River Conservation Area	SRWMD
Log Landing Conservation Area	SRWMD
Loncala, Inc. Conservation Easement #1	SRWMD
Mallory Swamp Restoration Area	SRWMD

Rock Bluff Conservation Area	SRWMD
Santa Fe Springs Conservation Area	SRWMD
Stuarts Landing Conservation Area	SRWMD
Troy Spring Conservation Area	SRWMD
Upper Steinhatchee Conservation Area	SRWMD
Wannee Conservation Area	SRWMD
County/City	Managing Agency
Hart Springs Park	Gilchrist County
Suwannee River Greenway at Branford	Suwannee County
Private/Public Conservation Organization	Managing Agency
Santa Fe River-Hartzog Conservation Easement	CF
Santa Fe River: Ratcliffe Tract	TNC
Sims Sink	NSS
Acronym Key	Agency Name
CF	Conservation Florida
DACS-FFS	Florida Department of Agriculture and Consumer Services-Florida Forest Service
DEP-DRP	Florida Department of Environmental Protection, Division of Recreation and Parks
FWC	Florida Fish and Wildlife Conservation Commission
NSS	National Speleological Society
SRWMD	Suwannee River Water Management District
TNC	The Nature Conservancy

1.8 Adjacent Land Uses

The LFWEA is located in unincorporated Lafayette County, and the majority of the area has a designated zoning of A-3 Agricultural. The intent of this zoning designation is to provide for primarily agricultural and residential uses including, but not limited to: agricultural activities (including but not limited to raising livestock, cultivation of field crops and fruits and berries, forestry, and similar uses), processing and storage of agricultural products, plant nurseries and greenhouses, single family dwellings, and mobile home dwellings. The A-3 Agricultural designation in Lafayette County permits a maximum residential density of one dwelling unit per five acres. A small portion, approximately 40 acres, of the LFWEA has a zoning designation of A-1 Agricultural. While it permits the same kinds of uses as the A-3 designation, the A-1 Agricultural designation permits a maximum residential density of one dwelling unit per 40 acres.²

The LFWEA is bordered on the north primarily by privately owned pastureland and cattle operations interspersed with abundant forested wetlands and smaller areas of depression marsh. To the west of the LFWEA lies an extensive mosaic of forested uplands, wetlands, and marshes within the Mallory Swamp Restoration Area managed by the SRWMD. To the northeast of the LFWEA lies privately owned land, with the Mallory Swamp Restoration Area to the northwest. The eastern boundary of the LFWEA borders rural areas of predominantly pasture and pine plantation, with sparse residential and commercial uses. The LFWEA is bordered on the southwest primarily by pinelands mixed with isolated wetlands and ponds. A large agricultural row crop operation with multiple center pivot irrigation systems lies along the southeastern portion of the property.

1.9 Public Involvement

The FWC conducted a MAG meeting virtually via Microsoft Teams on February 24, 2021 to obtain input from both public and private stakeholders regarding management of the LFWEA. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.4.1. Further, a public hearing, as required by Chapter 259.032(10), F.S., was held virtually via Adobe Connect (due to the COVID-19 pandemic) on April 15, 2021, to solicit input and comment from the general public regarding this Management Plan. The report of that hearing is also contained in Appendix 12.4.2. A website is also maintained for receipt of public input at <https://myfwc.com/conservation/management-plans/develop-mps/>. Further testimony and input are 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.

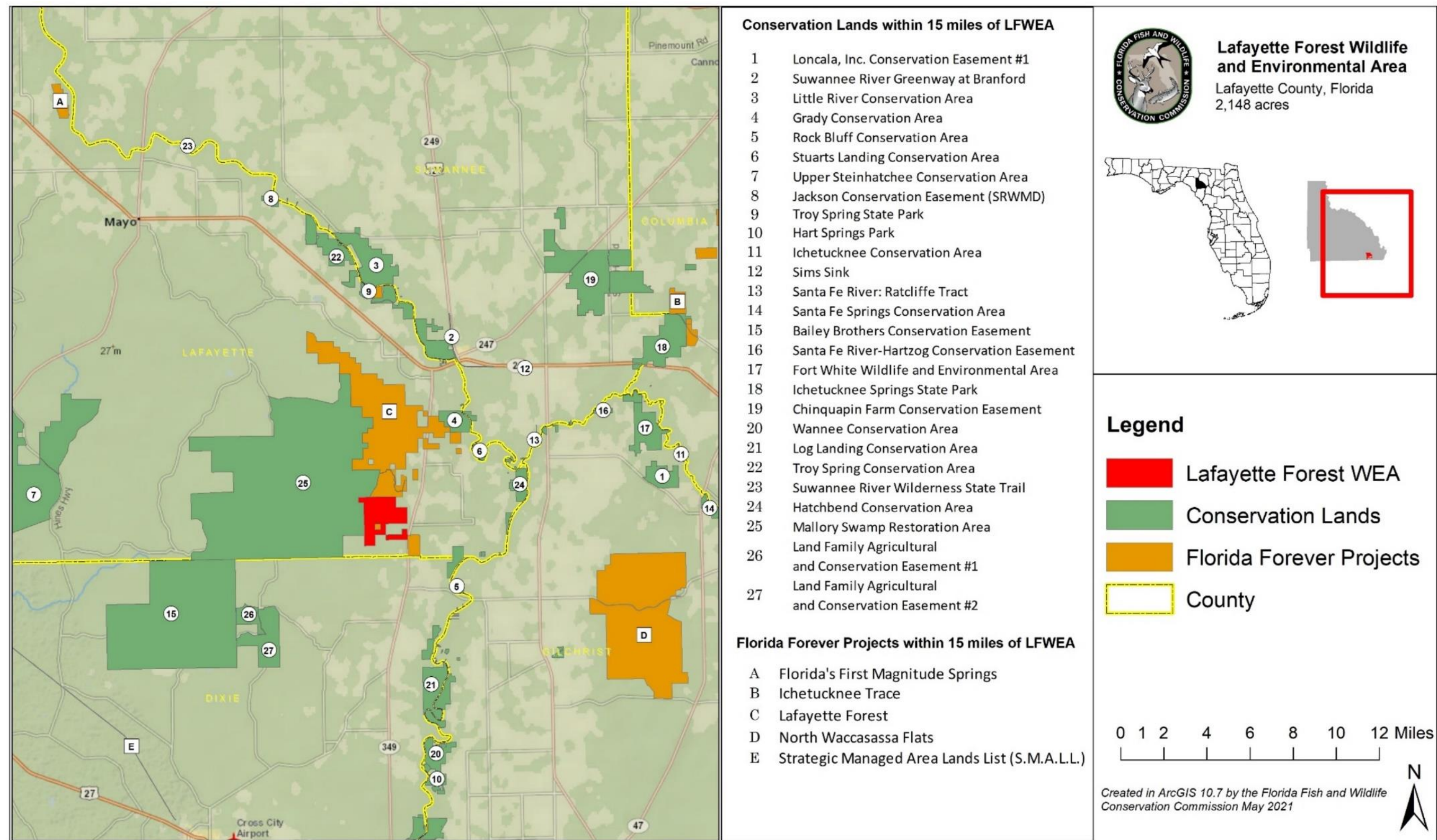


Figure 4. Nearby Conservation Lands and Florida Forever Projects

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2 Natural and Historical Resources

2.1 Physiography

2.1.1 Climate

Lafayette County is located in a warm, temperate region of Florida characterized by long, hot summers and mild winters. Average temperatures in Lafayette County range from 55 degrees Fahrenheit in winter to 81 degrees Fahrenheit in summer. Average annual rainfall is 58 inches, primarily occurring between April and September.

2.1.2 Topography

Lafayette County and the LFWFA lie within the Gulf Coastal Lowlands physiographic province as well as in the Ocala Uplift District and the Flats and Swamps subdistrict. This physiographic region is characterized by a flat, weakly dissected alluvial plain of limestone and sand deposits. The Gulf Coastal Lowlands covers the entire extent of Lafayette County, extending inland from the Gulf of Mexico shoreline to distances of between 40 and 50 miles, stopping at the western edge of the Northern Highlands physiographic region northeast of Lafayette County.³

Elevations within this province vary from zero feet mean sea level (MSL) at the Gulf of Mexico shoreline to approximately 100 feet above MSL near the Northern Highlands physiographic region. Within the LFWFA, elevations generally range from 45 feet above MSL in the southeast to 65 feet above MSL in the west.

2.1.3 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the LFWFA soil series and soil depth to water table (Figures 5 and 6). The map units described in the soil survey of the LFWFA are distributed as shown in Figure 5. Analyses of depth to water table for map units occurring within the LFWFA are also provided in Figure 6. The NRCS defines a soil map unit as: “a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey⁴.” Soil map units may contain multiple soil components, which are given names that are unique identifiers. Appendix 12.5 lists the names and official map unit descriptions of areas delineated on the detailed soil maps in a soil survey or by miscellaneous areas in the survey area as determined by the NRCS. Analysis of depth to water table for map units occurring within the LFWFA are also provided in Appendix 12.5.

Soils found within the LFWFA are generally those associated with the area’s mix of natural communities and are thus poorly to very poorly drained sandy or organic soils. Leon fine sand is the most common soil type found at the LFWFA and makes up approximately 31% of the area. Another 20% of the area is comprised of Ridgewood-Hurricane complex, as well as 20% Wesconnett and Lynn Haven soils. Various other less prominent soils include Penney sand (8%), Pamlico and Dorovan soils (5%), Ortega fine sand (5%), Meadowbrook and Harbeson soils (4%), Surrency, Plummer, and Clara soils (3%), and many others.

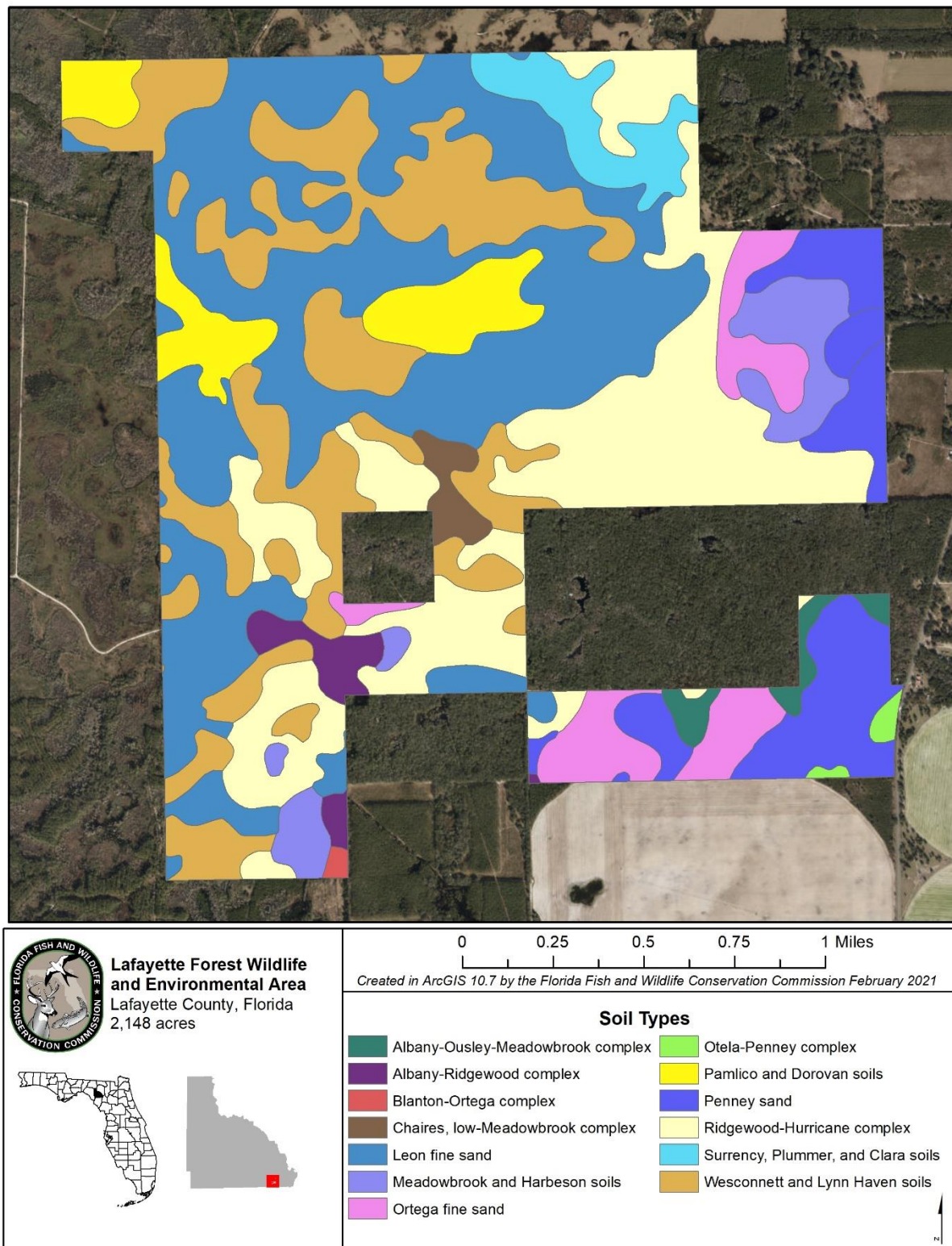


Figure 5. LFWEA Soil Types

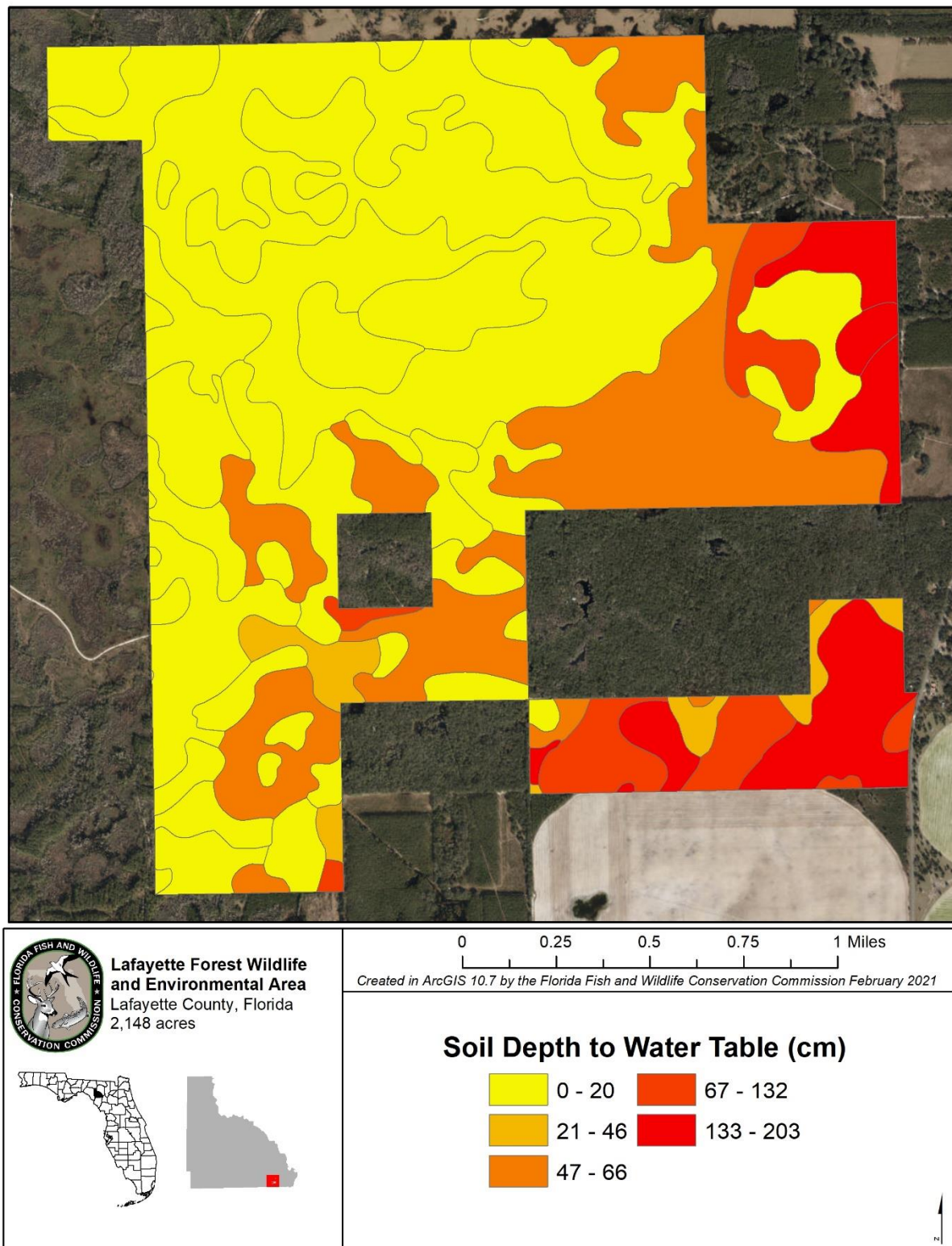


Figure 6. LFWEA Soil Depth to Water Table (cm)

2.1.4 Geologic Conditions

To date, there are no known outstanding mineral resources on the lands acquired within the LFWEA. The geology of this region represents the Eocene Epoch of the Paleogene Period in the Cenozoic Era. The formation type is limestone. Below are further descriptions of geological conditions found on or adjacent to the LFWEA. The below descriptions were derived directly from the U.S. Geological Survey website.

Undifferentiated Quaternary Sediments (covers 58% of Lafayette County) - Much of Florida's surface is covered by a varying thickness of undifferentiated sediments consisting of siliciclastics, organics, and freshwater carbonates. Where these sediments exceed 20 feet (6.1 meters) thick, they were mapped as discrete units. In an effort to subdivide the undifferentiated sediments, those sediments occurring in flood plains were mapped as alluvial and flood plain deposits (Qal). Sediments showing surficial expression of beach ridges and dunes were mapped separately (Qbd) as were the sediments composing Trail Ridge (Qtr). Terrace sands were not mapped (refer to Healy [1975] for a discussion of the terraces in Florida). The subdivisions of the Undifferentiated Quaternary Sediments (Qu) are not lithostratigraphic units but are utilized in order to facilitate a better understanding of the State's geology. The siliciclastics are light gray, tan, brown to black, unconsolidated to poorly consolidated, clean to clayey, silty, unfossiliferous, variably organic-bearing sands to blue green to olive green, poorly to moderately consolidated, sandy, silty clays. Gravel is occasionally present in the panhandle. Organics occur as plant debris, roots, disseminated organic matrix and beds of peat. Freshwater carbonates, often referred to as marls in the literature, are scattered over much of the State. In southern Florida, freshwater carbonates are nearly ubiquitous in the Everglades. These sediments are buff colored to tan, unconsolidated to poorly consolidated, fossiliferous carbonate muds. Sand, silt, and clay may be present in limited quantities. These carbonates often contain organics. The dominant fossils in the freshwater carbonates are mollusks.⁵

Ocala Limestone (covers 42% of Lafayette County) - Dall and Harris (1892) referred to the limestones exposed near Ocala, Marion County, in central peninsular Florida as the Ocala Limestone. Puri (1953, 1957) elevated the Ocala Limestone to group status recognizing its component formations on the basis of foraminiferal faunas (biozones). Scott (1991) reduced the Ocala Group to formational status in accordance with the North American Stratigraphic Code (North American Commission on Stratigraphic Nomenclature, 1983). The Ocala Limestone consists of nearly pure limestones and occasional dolostones. It can be subdivided into lower and upper facies on the basis of lithology. The lower member is composed of a white to cream-colored, fine to medium grained, poorly to moderately indurated, very fossiliferous limestone (grainstone and packstone). The lower facies may not be present throughout the areal extent of the Ocala Limestone and may be partially to completely dolomitized in some regions (Miller, 1986). The upper facies is a white, poorly to well indurated, poorly sorted, very fossiliferous limestone (grainstone, packstone, and wackestone). Silicified limestone (chert) is common in the upper facies. Fossils present in the Ocala Limestone include abundant large and smaller foraminifers, echinoids, bryozoans, and mollusks. The large foraminifera *Lepidocyclina* sp. is abundant in the upper facies and extremely limited in the lower facies. The presence of these

large foraminifers in the upper facies is quite distinctive. The Ocala Limestone is at or near the surface within the Ocala Karst District in the westcentral to northwestern peninsula and within the Dougherty Plain District in the north-central panhandle (Scott, in preparation). In these areas, the Ocala Limestone exhibits extensive karstification. These karst features often have tens of feet (meters) of relief, dramatically influencing the topography of the Ocala Karst District and the Dougherty Plain District (Scott, in preparation). Numerous disappearing streams and springs occur within these areas. The permeable, highly transmissive carbonates of the Ocala Limestone form an important part of the FAS. It is one of the most permeable rock units in the FAS (Miller, 1986).⁵

2.2 Vegetation

Through the services of the Florida Natural Areas Inventory (FNAI), the FWC has mapped the natural and anthropogenic communities of the LFWEA which describes 15 natural and altered community types existing on the LFWEA (Table 3, and Figure 7). The primary vegetative communities found within the LFWEA are mesic flatwoods, dome swamp, and restoration sandhill, which closely resemble that of the native landscapes of the area (Figure 8). FWC biologists, along with contracted surveys through FNAI, have documented native plant species (Table 4), invasive and non-native plants (Table 5), and a variety of rare plant species (Table 6), as occurring on the LFWEA.

Table 3. Natural and Altered Community Types on the LFWEA

Community Type	GIS Acres	Percentage
Basin marsh	35.05	1.6%
Bottomland forest	52.80	2.5%
Canal/ditch	8.18	0.4%
Depression marsh	167.46	7.8%
Developed	1.07	0.1%
Dome swamp	347.94	16.2%
Floodplain swamp	133.34	6.2%
Mesic flatwoods	751.02	35.1%
Restoration mesic flatwoods	190.33	8.9%
Restoration sandhill	251.61	11.7%
Road	93.32	4.4%
Scrubby flatwoods	6.04	0.3%
Successional hardwood forest	13.57	0.6%
Upland hardwood forest	59.35	2.8%
Wet Flatwoods	31.04	1.4%

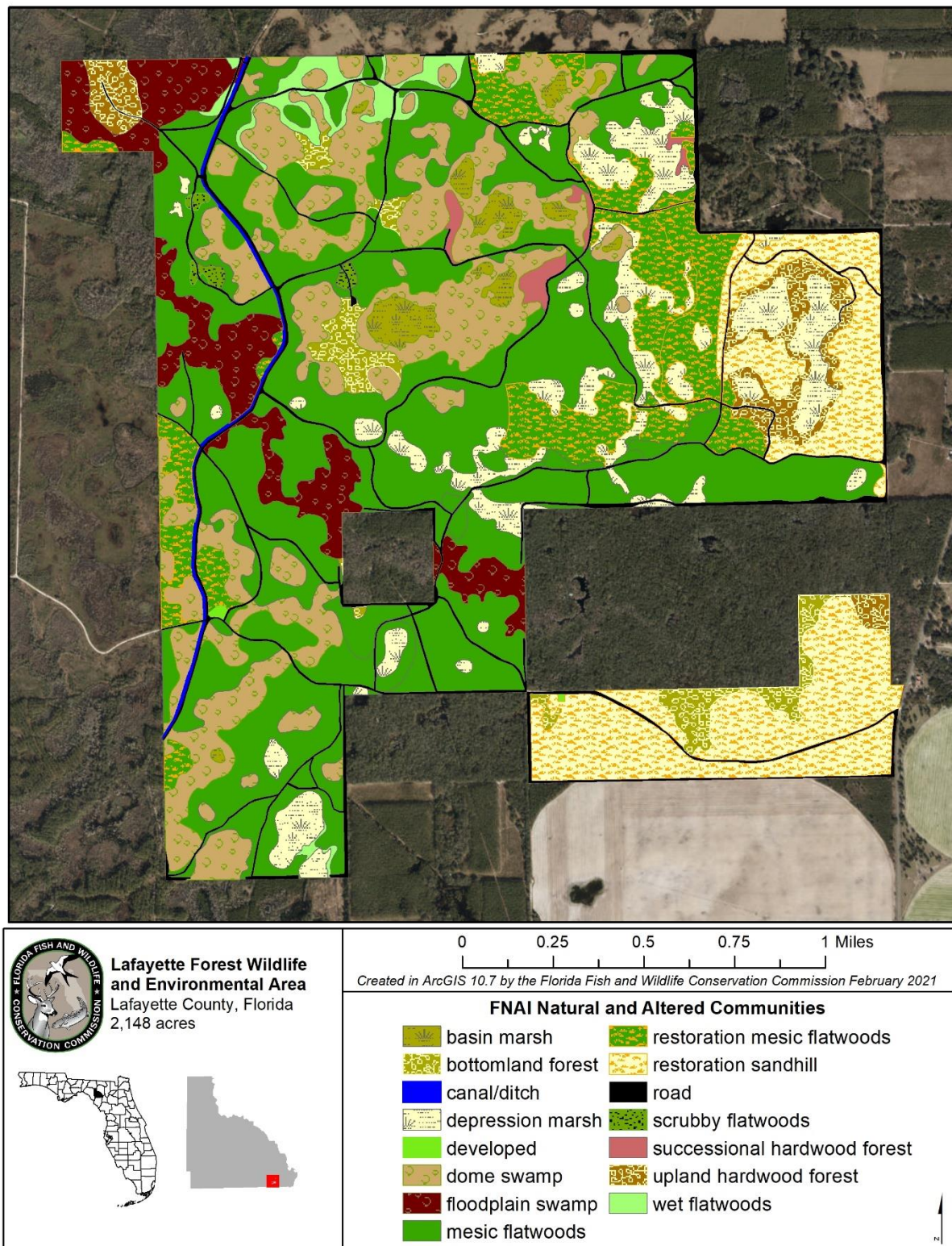


Figure 7. The FNAI Natural and Altered Communities Map for the LFWEA
Florida Fish and Wildlife Conservation Commission | LFWEA Management Plan

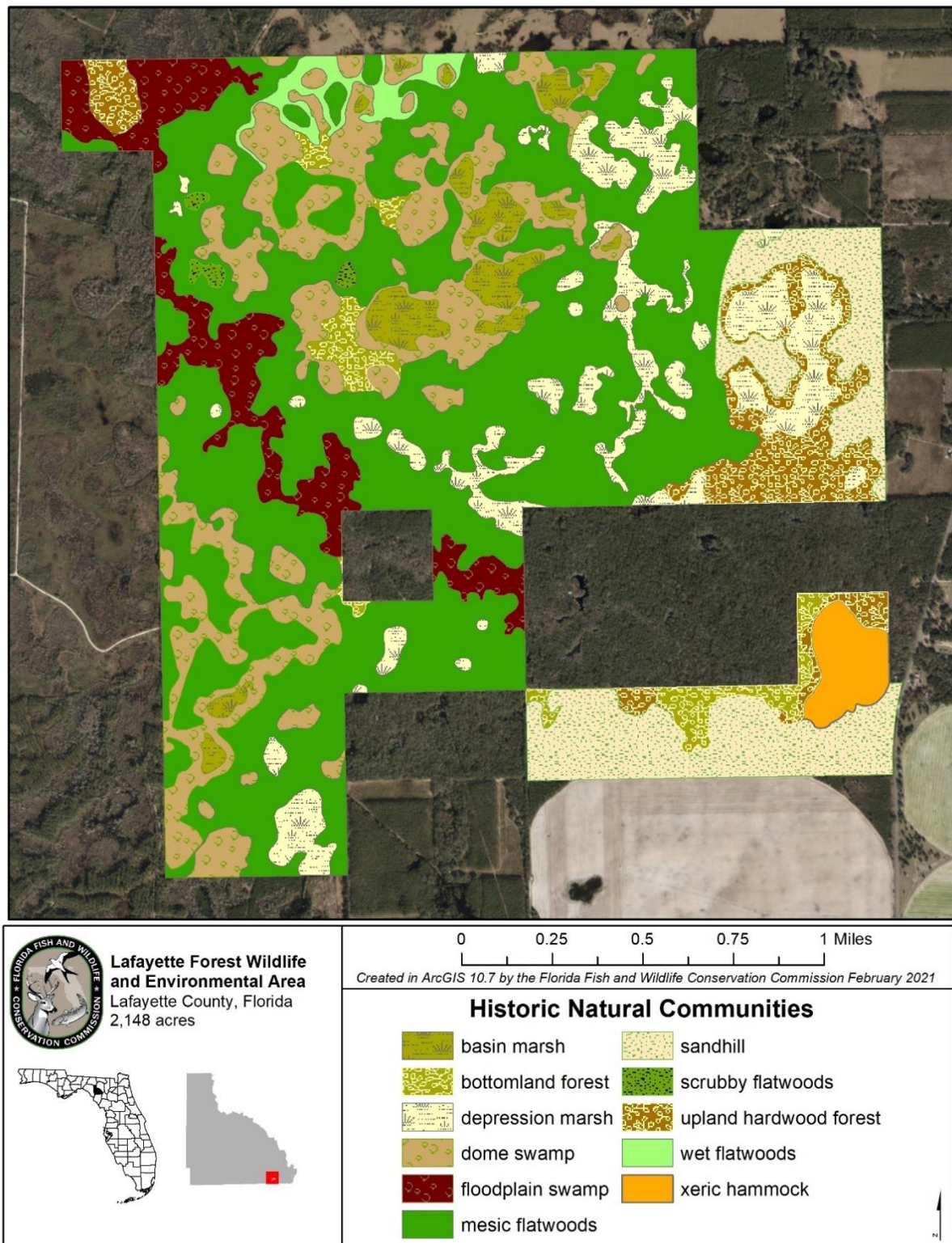


Figure 8. The FNAI Historic Natural Communities Map for the LFWEA

Florida Fish and Wildlife Conservation Commission | LFWEA Management Plan

Table 4. Native Plant Species Known to Occur at the LFWFA

Common Name	Scientific Name
Adam's needle	<i>Yucca filamentosa</i>
American beautyberry	<i>Callicarpa americana</i>
American elm	<i>Ulmus americana</i>
American holly	<i>Ilex opaca</i>
American hornbeam	<i>Carpinus caroliniana</i>
American pokeweed	<i>Phytolacca americana</i>
American wisteria	<i>Wisteria frutescens</i>
Arrow arum	<i>Peltandra</i> sp.
Atlantic pigeon-wing	<i>Clitoria mariana</i>
Atlantic St. John's wort	<i>Hypericum tenuifolium</i>
Bald cypress	<i>Taxodium distichum</i>
Baldwin's spikerush	<i>Eleocharis baldwinii</i>
Ballmoss	<i>Tillandsia recurvata</i>
Bandana-of-the-everglades	<i>Canna flaccida</i>
Bartram's air-plant	<i>Tillandsia bartramii</i>
Beaked panicum	<i>Panicum anceps</i>
Beaksedge	<i>Rhynchospora</i> sp.
Bedstraw	<i>Galium</i> sp.
Bedstraw St. John's wort	<i>Hypericum galioides</i>
Beeblossom	<i>Gaura</i> sp.
Beggarticks	<i>Bidens alba</i>
Bicolored spleenwort	<i>Asplenium heterochroum</i>
Big carpetgrass	<i>Axonopus furcatus</i>
Bigflower pawpaw	<i>Asimina obovata</i>
Black cherry	<i>Prunus serotina</i>
Black titi	<i>Cliftonia monophylla</i>
Blackgum	<i>Nyssa sylvatica</i>
Blackroot	<i>Pterocaulon pycnostachyum</i>
Bladderwort	<i>Utricularia</i> sp.
Blazing star	<i>Liatris</i> sp.
Blue huckleberry	<i>Gaylussacia frondosa</i> var. <i>tomentosa</i>
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>
Blue mistflower	<i>Conoclinium coelestinum</i>
Blueridge horsebalm	<i>Collinsonia serotina</i>
Bluestem	<i>Andropogon</i> sp.
Bluestem palmetto	<i>Sabal minor</i>
Bog white violet	<i>Viola lanceolata</i>

Common Name	Scientific Name
Bogbutton	<i>Lachnocaulon</i> sp.
Bottlebrush threeawn	<i>Aristida spiciformis</i>
Bristlystalked sedge	<i>Carex leptalea</i>
Broadwing sedge	<i>Carex alata</i>
Broomsedge bluestem	<i>Andropogon virginicus</i>
Browne's savory	<i>Clinopodium brownei</i>
Bulltongue arrowhead	<i>Sagittaria lancifolia</i>
Bully	<i>Sideroxylon</i> sp.
Bunched beaksedge	<i>Rhynchospora cephalantha</i>
Bushy bluestem	<i>Andropogon glomeratus</i>
Cabbage palm	<i>Sabal palmetto</i>
Camphorweed	<i>Pluchea</i> sp.
Camphorweed	<i>Pluchea camphorata</i>
Canadian germander	<i>Teucrium canadense</i>
Capillary hairsedge	<i>Bulbostylis ciliatifolia</i>
Carolina ash	<i>Fraxinus caroliniana</i>
Carolina basswood	<i>Tilia americana</i> var. <i>caroliniana</i>
Carolina desertchicory	<i>Pyrrhopappus carolinianus</i>
Carolina horsenettle	<i>Solanum carolinense</i>
Carolina indigo	<i>Indigofera caroliniana</i>
Carolina ponysfoot	<i>Dichondra carolinensis</i>
Carolina redroot	<i>Lachnanthes caroliniana</i>
Cat greenbrier	<i>Smilax glauca</i>
Chaffhead	<i>Carphephorus</i> sp.
Chalky bluestem	<i>Andropogon virginicus</i> var. <i>glaucus</i>
Cherry	<i>Prunus</i> sp.
Chinquapin	<i>Castanea pumila</i>
Clasping milkweed	<i>Asclepias amplexicaulis</i>
Climbing aster	<i>Symphyotrichum carolinianum</i>
Climbing fetterbush	<i>Pieris phylllyreifolia</i>
Climbing hempvine	<i>Mikania scandens</i>
Climbing hydrangea	<i>Hydrangea barbara</i>
Clustered bushmint	<i>Hyptis alata</i>
Clustered mille grains	<i>Oldenlandia uniflora</i>
Clustered sedge	<i>Carex glaucescens</i>
Coast cockspur	<i>Echinochloa walteri</i>
Coastal bedstraw	<i>Galium hispidulum</i>
Coastal rosegiant	<i>Sabatia calycina</i>

Common Name	Scientific Name
Coastalplain chaffhead	<i>Carphephorus corymbosus</i>
Coastalplain dawnflower	<i>Stylisma patens</i>
Coastalplain staggerbush	<i>Lyonia fruticosa</i>
Coastalplain willow	<i>Salix caroliniana</i>
Coastalplain yellow-eyed grass	<i>Xyris ambigua</i>
Coffeeweed	<i>Senna obtusifolia</i>
Combleaf mermaidweed	<i>Proserpinaca pectinata</i>
Common buttonbush	<i>Cephalanthus occidentalis</i>
Common pawpaw	<i>Asimina triloba</i>
Common persimmon	<i>Diospyros virginiana</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Common yellow woodsorrel	<i>Oxalis corniculata</i>
Coral greenbrier	<i>Smilax walteri</i>
Creeping eryngo	<i>Eryngium prostratum</i>
Crimson-eyed rosemallow	<i>Hibiscus moscheutos</i>
Crossvine	<i>Bignonia capreolata</i>
Croton	<i>Croton</i> sp.
Crowngrass	<i>Paspalum</i> sp.
Cuban jute	<i>Sida rhombifolia</i>
Dahoon	<i>Ilex cassine</i>
Danglepod	<i>Sesbania herbacea</i>
Darrow's blueberry	<i>Vaccinium darrowii</i>
Deerberry	<i>Vaccinium stamineum</i>
Devil's walkingstick	<i>Aralia spinosa</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Dogtongue wild buckwheat	<i>Eriogonum tomentosum</i>
Dotted smartweed	<i>Polygonum punctatum</i>
Doubleform snoutbean	<i>Rhynchosia difformis</i>
Duckweed	<i>Lemna</i> sp.
Dwarf huckleberry	<i>Gaylussacia dumosa</i>
Dwarf live oak	<i>Quercus minima</i>
Dwarf pawpaw	<i>Asimina pygmea</i>
Dwarf sundew	<i>Drosera brevifolia</i>
Earleaf greenbrier	<i>Smilax auriculata</i>
Early whitetop fleabane	<i>Erigeron vernus</i>
Eastern hophornbeam	<i>Ostrya virginiana</i>
Eastern poison ivy	<i>Toxicodendron radicans</i>
Ebony spleenwort	<i>Asplenium platyneuron</i>

Common Name	Scientific Name
Elderberry	<i>Sambucus nigra</i> ssp. <i>canadensis</i>
Elephantsfoot	<i>Elephantopus</i> sp.
Elliott's bluestem	<i>Andropogon gyrans</i>
Elliott's yellow-eyed grass	<i>Xyris elliotii</i>
Evans' reindeer lichen	<i>Cladina evansii</i>
False indigobush	<i>Amorpha fruticosa</i>
Falsefennel	<i>Eupatorium leptophyllum</i>
Fascicled beaksedge	<i>Rhynchospora fascicularis</i>
Fetterbush	<i>Lyonia lucida</i>
Fewflower milkweed	<i>Asclepias lanceolata</i>
Fimbry	<i>Fimbristylis</i> sp.
Fingergrass	<i>Chloris</i> sp.
Fireweed	<i>Erechtites hieraciifolius</i>
Flatsedge	<i>Cyperus</i> sp.
Flattened pipewort	<i>Eriocaulon compressum</i>
Flatwoods St. John's wort	<i>Hypericum microsepalum</i>
Fleabane	<i>Erigeron</i> sp.
Floatingheart	<i>Nymphoides</i> sp.
Florida bully	<i>Sideroxylon reclinatum</i>
Florida maple	<i>Acer saccharum</i> ssp. <i>floridanum</i>
Florida tick-trefoil	<i>Desmodium floridanum</i>
Flowering dogwood	<i>Cornus florida</i>
Forked bluecurls	<i>Trichostema dichotomum</i>
Forked fimbry	<i>Fimbristylis dichotoma</i>
Fringed yellow-eyed grass	<i>Xyris fimbriata</i>
Gallberry	<i>Ilex glabra</i>
Giant sedge	<i>Carex gigantea</i>
Giant White-top	<i>Rhynchospora latifolia</i>
Glade lobelia	<i>Lobelia glandulosa</i>
Goldenrod	<i>Solidago</i> sp.
Gopher apple	<i>Geobalanus oblongifolius</i>
Grassleaf rush	<i>Juncus marginatus</i>
Grassy arrowhead	<i>Sagittaria graminea</i>
Green arrow arum	<i>Peltandra virginica</i>
Green ash	<i>Fraxinus pennsylvanica</i>
Groundcherry	<i>Physalis</i> sp.
Groundsel tree	<i>Baccharis halimifolia</i>
Gum bully	<i>Sideroxylon lanuginosum</i>

Common Name	Scientific Name
Hairy laurel	<i>Kalmia hirsuta</i>
Hairy pinweed	<i>Lechea mucronata</i>
Hairy shadow-witch	<i>Ponthieva racemosa</i>
Hales's pentodon	<i>Pentodon pentandrus</i>
Hawthorn	<i>Crataegus</i> sp.
Helmet skullcap	<i>Scutellaria integrifolia</i>
Hempvine	<i>Mikania</i> sp.
Herb-of-grace	<i>Bacopa monnieri</i>
Highbush blueberry	<i>Vaccinium corymbosum</i>
Horse sugar	<i>Symplocos tinctoria</i>
Iris	<i>Iris</i> sp.
Jamaica swamo sawgrass	<i>Cladium jamaicense</i>
Jester lichen	<i>Cladonia leporina</i>
Knotroot foxtail	<i>Setaria parviflora</i>
Knotweed	<i>Polygonum</i> sp.
Lady lupine	<i>Lupinus villosus</i>
Lanceleaf greenbrier	<i>Smilax smallii</i>
Large gallberry	<i>Ilex coriacea</i>
Laurel greenbrier	<i>Smilax laurifolia</i>
Leavenworth's tickseed	<i>Coreopsis leavenworthii</i>
Lemon bacopa	<i>Bacopa caroliniana</i>
Lespedeza	<i>Lespedeza</i> sp.
Little bluestem	<i>Schizachyrium scoparium</i>
Littlehip hawthorn	<i>Crataegus spathulata</i>
Live oak	<i>Quercus virginiana</i>
Lizard's tail	<i>Saururus cernuus</i>
Loblolly pine	<i>Pinus taeda</i>
Longleaf camphorweed	<i>Pluchea longifolia</i>
Longleaf pine	<i>Pinus palustris</i>
Longleaf woodoats	<i>Chasmanthium laxum</i> var. <i>sessiliflorum</i>
Lovegrass	<i>Eragrostis</i> sp.
Maidencane	<i>Panicum hemitomom</i>
Manyflower beardtongue	<i>Penstemon multiflorus</i>
Manyflower marshpennywort	<i>Hydrocotyle umbellata</i>
Manyhead rush	<i>Juncus polycephalos</i>
Marsh fern	<i>Thelypteris palustris</i> var. <i>pubescens</i>
Marsh St. John's wort	<i>Hypericum</i> sp.
Meadowbeauty	<i>Rhexia</i> sp.

Common Name	Scientific Name
Michaux's croton	<i>Croton michauxii</i>
Michaux's hawthorn	<i>Crataegus michauxii</i>
Milkpea	<i>Galactia</i> sp.
Millet beaksedge	<i>Rhynchospora miliacea</i>
Mingled beaksedge	<i>Rhynchospora mixta</i>
Mock bishopsweed	<i>Ptilimnium capillaceum</i>
Mockernut hickory	<i>Carya tomentosa</i>
Muscadine	<i>Vitis rotundifolia</i>
Myrtle oak	<i>Quercus myrtifolia</i>
Myrtleleaf St. John's wort	<i>Hypericum myrtifolium</i>
Narrowfruit horned beaksedge	<i>Rhynchospora inundata</i>
Narrowleaf hornpod	<i>Mitreola angustifolia</i>
Narrowleaf silkgrass	<i>Pityopsis graminifolia</i>
Needleleaf witchgrass	<i>Dichanthelium aciculare</i>
Netted chain fern	<i>Woodwardia areolata</i>
Noyau vine	<i>Merremia dissecta</i>
Nutrush	<i>Scleria</i> sp.
Orange milkwort	<i>Polygala lutea</i>
Ovate marsh fern	<i>Thelypteris ovata</i>
Pale meadowbeauty	<i>Rhexia mariana</i>
Partridge pea	<i>Chamaecrista fasciculata</i>
Partridgeberry	<i>Mitchella repens</i>
Peelbark St. John's wort	<i>Hypericum fasciculatum</i>
Peppervine	<i>Ampelopsis arborea</i>
Perennial sandgrass	<i>Triplasis americana</i>
Pickernelweed	<i>Pontederia cordata</i>
Piedmont primrosewillow	<i>Ludwigia arcuata</i>
Piedmont staggerbush	<i>Lyonia mariana</i>
Pignut hickory	<i>Carya glabra</i>
Pinebarren flatsedge	<i>Cyperus ovatus</i>
Pinebarren frostweed	<i>Helianthemum corymbosum</i>
Pineland heliotrope	<i>Heliotropium polyphyllum</i>
Pineland pimpernel	<i>Samolus valerandi</i> ssp. <i>parviflorus</i>
Pineland wild indigo	<i>Baptisia lecontei</i>
Pinewoods milkweed	<i>Asclepias humistrata</i>
Pink sundew	<i>Drosera capillaris</i>
Pitted stripeseed	<i>Piriqueta cistoides</i> ssp. <i>caroliniana</i>
Poison sumac	<i>Toxicodendron vernix</i>

Common Name	Scientific Name
Pond cypress	<i>Taxodium ascendens</i>
Pondlily	<i>Nuphar</i> sp.
Poor joe	<i>Diodia teres</i>
Powderpuff	<i>Mimosa strigillosa</i>
Prairie fleabane	<i>Erigeron strigosus</i>
Pricklypear	<i>Opuntia humifusa</i>
Purple bluestem	<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>
Purple passion-flower	<i>Passiflora incarnata</i>
Queen's delight	<i>Stillingia sylvatica</i>
Rabbitbells	<i>Crotalaria rotundifolia</i>
Rattan vine	<i>Berchemia scandens</i>
Red bay	<i>Persea borbonia</i>
Red cedar	<i>Juniperus virginiana</i>
Red maple	<i>Acer rubrum</i>
Red mulberry	<i>Morus rubra</i>
Reindeer lichen	<i>Cladina subtenuis</i>
Resurrection fern	<i>Pleopeltis michauxiana</i>
Rose-rush	<i>Lygodesmia aphylla</i>
Rosy camphorweed	<i>Pluchea baccharis</i>
Rough hedgehyssop	<i>Gratiola hispida</i>
Roundleaf bluet	<i>Houstonia procumbens</i>
Roundpod St. John's wort	<i>Hypericum cistifolium</i>
Rugel's nailwort	<i>Paronychia rugelii</i>
Rush	<i>Juncus</i> sp.
Rusty staggerbush	<i>Lyonia ferruginea</i>
Sand blackberry	<i>Rubus cuneifolius</i>
Sand cordgrass	<i>Spartina bakeri</i>
Sand holly	<i>Ilex ambigua</i>
Sand live oak	<i>Quercus geminata</i>
Sand pine	<i>Pinus clausa</i>
Sand post oak	<i>Quercus margaretta</i>
Sandbur	<i>Cenchrus</i> sp.
Sandyfield beaksedge	<i>Rhynchospora megalocarpa</i>
Sandywoods sedge	<i>Carex dasycarpa</i>
Sarsaparilla vine	<i>Smilax pumila</i>
Saw greenbrier	<i>Smilax bona-nox</i>
Saw palmetto	<i>Serenoa repens</i>
Sawtooth blackberry	<i>Rubus pensilvanicus</i>

Common Name	Scientific Name
Scurf hoary-pea	<i>Tephrosia chrysophylla</i>
Sedge	<i>Carex</i> sp.
Shiny blueberry	<i>Vaccinium myrsinites</i>
Shiny woodoats	<i>Chasmanthium nitidum</i>
Shortleaf gayfeather	<i>Liatris tenuifolia</i>
Showy milkwort	<i>Asemeia violacea</i>
Shrubby primrosewillow	<i>Ludwigia suffruticosa</i>
Sidebeak pencil flower	<i>Stylosanthes biflora</i>
Silver croton	<i>Croton argyranthemus</i>
Silver plumegrass	<i>Saccharum alopecuroides</i>
Slash pine	<i>Pinus elliotii</i>
Slender beaksedge	<i>Rhynchospora gracilentia</i>
Slender flattop goldenrod	<i>Euthamia caroliniana</i>
Slender threeseed mercury	<i>Acalypha gracilens</i>
Slender woodoats	<i>Chasmanthium laxum</i>
Slimleaf pawpaw	<i>Asimina angustifolia</i>
Slippery elm	<i>Ulmus rubra</i>
Smallfruit beggarticks	<i>Bidens mitis</i>
Small's bogbutton	<i>Lachnocaulon minus</i>
Soft milkpea	<i>Galactia mollis</i>
Soft rush	<i>Juncus effusus</i> ssp. <i>solutus</i>
Southern beaksedge	<i>Rhynchospora microcarpa</i>
Southern beeblossom	<i>Gaura angustifolia</i>
Southern colic-root	<i>Aletris obovata</i>
Southern crabgrass	<i>Digitaria ciliaris</i>
Southern cutgrass	<i>Leersia hexandra</i>
Southern magnolia	<i>Magnolia grandiflora</i>
Southern shield fern	<i>Thelypteris kunthii</i>
Spadeleaf	<i>Centella asiatica</i>
Spanish moss	<i>Tillandsia usneoides</i>
Sparkleberry	<i>Vaccinium arboreum</i>
Sphagnum moss	<i>Sphagnum</i> sp.
Spiked hoary-pea	<i>Tephrosia spicata</i>
Spikerush	<i>Eleocharis</i> sp.
Spleenwort	<i>Asplenium</i> sp.
Sprawling hoary-pea	<i>Tephrosia hispidula</i>
Spurred butterfly pea	<i>Centrosema virginianum</i>
St. andrew's cross	<i>Hypericum hypericoides</i>

Common Name	Scientific Name
St. John's wort	<i>Hypericum</i> sp.
Starrush white-top	<i>Rhynchospora colorata</i>
Stinking camphorweed	<i>Pluchea foetida</i>
Sugarcane plumegrass	<i>Saccharum giganteum</i>
Summer farewell	<i>Dalea pinnata</i>
Summer grape	<i>Vitis aestivalis</i>
Swamp bay	<i>Persea palustris</i>
Swamp chestnut oak	<i>Quercus michauxii</i>
Swamp doghobble	<i>Leucothoe racemosa</i>
Swamp dogwood	<i>Cornus foemina</i>
Swamp holly	<i>Ilex decidua</i>
Swamp laurel oak	<i>Quercus laurifolia</i>
Swamp rose	<i>Rosa palustris</i>
Swamp smartweed	<i>Polygonum hydropiperoides</i>
Swamp tupelo	<i>Nyssa biflora</i>
Sweet everlasting	<i>Pseudognaphalium obtusifolium</i>
Sweet goldenrod	<i>Solidago odora</i>
Sweetbay	<i>Magnolia virginiana</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Switchcane	<i>Arundinaria gigantea</i>
Tailed bracken fern	<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>
Tall elephantsfoot	<i>Elephantopus elatus</i>
Tall threeawn grass	<i>Aristida patula</i>
Taperleaf waterhorehound	<i>Lycopus rubellus</i>
Tenangle pipewort	<i>Eriocaulon decangulare</i>
Thin paspalum	<i>Paspalum setaceum</i>
Thistle	<i>Cirsium</i> sp.
Threadleaf beaksedge	<i>Rhynchospora filifolia</i>
Threeawn	<i>Aristida</i> sp.
Tick-trefoil	<i>Desmodium</i> sp.
Titi	<i>Cyrilla racemiflora</i>
Tread-softly	<i>Cnidoscolus stimulosus</i>
Tree moss	<i>Climacium americanum</i>
Trumpet creeper	<i>Campsis radicans</i>
Turkey oak	<i>Quercus laevis</i>
Turkey tangle fogfruit	<i>Phyla nodiflora</i>
Vanillaleaf	<i>Carphephorus odoratissimus</i>
Variable witchgrass	<i>Dichanthelium commutatum</i>

Common Name	Scientific Name
Virginia buttonweed	<i>Diodia virginiana</i>
Virginia chain fern	<i>Woodwardia virginica</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Virginia marsh St. John's wort	<i>Hypericum virginicum</i>
Virginia snakeroot	<i>Aristolochia serpentaria</i>
Virginia willow	<i>Itea virginica</i>
Walter's sedge	<i>Carex striata</i>
Walter's viburnum	<i>Viburnum obovatum</i>
Water oak	<i>Quercus nigra</i>
Watershield	<i>Brasenia schreberi</i>
Wavyleaf noseburn	<i>Tragia urens</i>
Wax myrtle	<i>Morella cerifera</i>
Whip nutrush	<i>Scleria triglomerata</i>
White waterlily	<i>Nymphaea odorata</i>
White wild indigo	<i>Baptisia alba</i>
Whitehead bogbutton	<i>Lachnocaulon anceps</i>
Whorled marshpennywort	<i>Hydrocotyle verticillata</i>
Whorled milkweed	<i>Asclepias verticillata</i>
Wild olive	<i>Osmanthus americanus</i>
Willow oak	<i>Quercus phellos</i>
Winged elm	<i>Ulmus alata</i>
Winged sumac	<i>Rhus copallinum</i>
Wiregrass	<i>Aristida stricta</i>
Wisteria	<i>Wisteria</i> sp.
Witchgrass	<i>Dichanthelium</i> sp.
Woodoats	<i>Chasmanthium</i> sp.
Woolgrass	<i>Scirpus cyperinus</i>
Yankeeweed	<i>Eupatorium compositifolium</i>
Yaupon	<i>Ilex vomitoria</i>
Yellow jessamine	<i>Gelsemium sempervirens</i>
Yellow milkwort	<i>Polygala rugelii</i>
Yellow pondlily	<i>Nuphar advena</i>
Yellow-eyed grass	<i>Xyris</i> sp.

Table 5. Non-native and Invasive Plant Species Observed on the LFWEA

Common Name	Scientific Name	FLEPPC Category
Asiatic dayflower	<i>Commelina communis</i>	

Bahiagrass	<i>Paspalum notatum</i>	
Browntop millet	<i>Urochloa ramosa</i>	
Centipede grass	<i>Eremochloa ophiuroides</i>	
Cogon-grass	<i>Imperata cylindrica</i>	I
Dixie tick-trefoil	<i>Desmodium tortuosum</i>	
Indian goosegrass	<i>Eleusine indica</i>	
Japanese climbing fern	<i>Lygodium japonicum</i>	I
Mimosa	<i>Albizia julibrissin</i>	I
Purple sesban	<i>Sesbania punicea</i>	II
Showy rattlebox	<i>Crotalaria spectabilis</i>	
Smutgrass	<i>Sporobolus indicus</i>	
Tropical Mexican clover	<i>Richardia brasiliensis</i>	
Tropical soda apple	<i>Solanum viarum</i>	I

2.2.1 FNAI Natural Community Descriptions

Basin Marsh (35.05 acres)

Basin marsh is a frequently inundated herbaceous or shrubby wetland community that rarely burns. This community is often too deep to support trees and shrubs, but floating beds of aquatic species are common. Depression marsh differs from basin marsh by its adjacency to a pyrogenic community or communities. Depression marshes commonly occur within a matrix of pyrogenic communities and often burn with the surrounding landscape. Basin marshes documented at the LFWEA occur within the deeper water areas of the dome swamp community. These areas often contain widely scattered shrubs and trees. Wax myrtle, common buttonbush, and coastalplain willow are infrequently observed in this habitat. Floating aquatic plants are the primary vegetation type found in these permanent water features and include yellow pondlily, white waterlily, and combleaf mermaidweed. Emergent species are much less frequent and are represented by pickerelweed, falsefennel, and maidencane.

Bottomland Forest (52.80 acres)

Bottomland forest is a hydric forested community usually dominated by hardwood species. This community is similar to a swamp habitat but is less frequently inundated and lacks a dominance of cypress or tupelo in the canopy. The bottomland forest primarily occurs along the blackwater stream that bisects the LFWEA, draining from the eastern section of Mallory Swamp and flowing west to east. This community changes to floodplain swamp upstream and to upland hardwood forest downstream. This is due to the width of the floodplain and the depth of the flowing water as it cuts deeper into the landscape. Scattered inclusions of both floodplain swamp and upland hardwood forest occur infrequently throughout the bottomland forest. This community also occurs in a few locations outside of the stream corridor. These areas often are positioned between swamp communities where historic fires would have occurred infrequently and where inundation was not significant enough to support a tupelo or cypress canopy.

The canopy of this community often contains a diverse assemblage of tree species, due largely to the wide range of water depth and hydroperiods that occur within. Dominant canopy species

include red maple, Carolina ash, sweetgum, sweetbay, blackgum, loblolly pine, swamp laurel oak, water oak, live oak, and pond cypress. Bottomland forest contains a sparse subcanopy composed of younger individuals that are also found in the canopy layer. Shrubs are often sparse as well and are represented by American hornbeam, swamp dogwood, American holly, sweetgum, wax myrtle, Virginia willow, and fetterbush. Herbs are documented infrequently due to natural canopy shading. Common species include switchcane, bristlystalked sedge, dogfennel, partridgeberry, cinnamon fern, sawtooth blackberry, and lizard's tail. Vines are observed occasionally and include yellow jessamine and muscadine.

Depression Marsh (167.46 acres)

Depression marshes are typically small and circular wetlands, dominated by herbaceous species, and maintained by frequent fires that may occur from 1-10 years. Depression marsh is similar to basin marsh but occupies depressions within a pyrogenic community matrix.

Depression marshes at the LFWEA commonly occur in and around the former sandhill and mesic flatwoods communities and are more concentrated on the eastern side of the property. On the western half of the property, small depressions are more often dominated by trees and are categorized as dome swamp. The depression marsh community present at this site appears quite ephemeral. Water levels vary greatly throughout the year and standing water may be absent or restricted to the deeper centers of these marshes. Trees are uncommon, but scattered red maple, swamp tupelo, slash pine, swamp laurel oak, and/or pond cypress may be present. Past clearcutting of dome swamps often makes the determination of a swamp or a marsh community difficult. Historic aerial photography aids in this determination but is not always definitive. Shrubs are found in varying densities and are typically sparser in larger depression marshes in the eastern half of the site. Common shrubs include groundsel tree, peelbark, St. John's wort, bedstraw St. John's wort, myrtleleaf St. John's wort, gallberry, Piedmont staggerbush, sparkleberry, common buttonbush, titi, fetterbush, wax myrtle, coastalplain willow, and occasionally pond cypress. Herbaceous cover is often moderate to dense and is dominated by bushy bluestem, bluestem, broomsedge bluestem, chalky bluestem, big carpetgrass, spadeleaf, witchgrass, dogfennel, falsefennel, clustered bushmint, soft rush, Small's bogbutton, yellow pondlily, white waterlily, beaked panicum, maidencane, fascicled beaksedge, sugarcane plumegrass, sand cordgrass, and Virginia chain fern.

Dome Swamp (347.94 acres)

Dome swamps are typically small, forested wetlands found within a pyrogenic community matrix. Shrubs may be sparse or dense and often occur on hummocks with mucky soil or open water between them. The majority of dome swamps at the LFWEA have been severely disturbed by logging. Most communities only contain stumps or a few scattered trees.

Common trees include red maple, Carolina ash, swamp tupelo, and primarily pond cypress. A few examples of this community are not recently logged and contain closed canopies formed by younger mature to mature pond cypress. The shrub layer of the dome swamp community is often irregularly dense and includes disturbance species resulting from past logging operations. Common species include groundsel tree, titi, dahoon, swamp doghobble, sweetgum, fetterbush,

wax myrtle, coastalplain willow, common buttonbush, peelbark St. John's wort, myrtleleaf St. John's wort, Virginia willow, and swamp bay. The herb layer of this community is often densely vegetated due to the amount of sun exposure this community receives while typically lacking a canopy. Common herbaceous species include broomsedge bluestem, chalky bluestem, clustered sedge, Walter's sedge, spadeleaf, sawgrass, dogfennel, falsefennel, clustered bushmint, cinnamon fern, royal fern, beaked panicum, maidencane, swamp smartweed, pickerelweed, fascicled beaksedge, slender beaksedge, sugarcane plumegrass, lizard's tail, and Virginia chain fern. When trees are present in this community epiphytes are fairly common and include Spanish moss and Bartram's air-plant.

Floodplain Swamp (133.34 acres)

Floodplain swamp is a forested wetland that is inundated long enough during the growing season to support a canopy of cypress and/or tupelo. This community occurs within the floodplain of stream and river courses. Floodplain swamp at the LFWEA occurs along the blackwater stream that bisects the property. As this stream flows to the east, a deeper and more distinct stream channel forms, and floodplain swamp grades into bottomland forest.

The closed canopy of this community commonly contains red maple, swamp tupelo, slash pine, and pond cypress. The subcanopy is typically poorly formed and sparse, containing species present in the canopy as well as Carolina ash and swamp laurel oak. Shrubs are also sparse due to dense overstory shading. Common shrubs include dahoon, sweetgum, wax myrtle, and American elm. Herbaceous species are uncommon and consist of sedge and lizard's tail. Vines are observed occasionally and include climbing hydrangea and eastern poison ivy. This community, spared from past logging and other significant disturbances, contains some of the best examples of natural habitat on the property.

Mesic Flatwoods (751.02 acres)

Mesic flatwoods are open, pine canopy forests with a diverse understory of short shrubs and herbs occurring on low, flat terrain. Fire is an important factor in maintaining high plant diversity and historically occurred during the late spring/early summer lightning season.

At the LFWEA, mesic flatwoods was historically the most common upland habitat, occupying the lower elevations on the central and western portions of the property. However, the original community was converted to pine plantation prior to acquisition by the state. Since that time, management has focused on thinning the densely planted mature slash pines to a more natural density, usually 45 ft² per acre basal area and up to 15% cover. Shrub cover varies from sparse to dense, but the application of fire in the community limits shrubs to mainly under six feet tall. Common species are saw palmetto, gallberry, shiny blueberry, coastalplain staggerbush, fetterbush, dwarf live oak, runner oak, flatwoods St. John's wort, wax myrtle, tarflower, and sparkleberry. Vines are often abundant and include yellow jessamine, earleaf greenbrier, saw greenbrier, and muscadine. The herb layer is often sparse and populated with weedy species, although many areas are dense stands of bluestems. Higher quality groundcover species are occasionally present in small, localized areas. Common herbaceous species include broomsedge bluestem, purple bluestem, blue maidencane, vanillaleaf, pinebarren frostweed,

rabbitbells, witchgrass, tall elephantsfoot, dogfennel, thin paspalum, bracken fern, beaksedge, fringed nutrush, and whip nutrush.

Scrubby Flatwoods (6.04 acres)

Scrubby flatwoods typically consist of an open canopy of pines over a shrubby understory that includes scrub oaks and occasional herbaceous species within open patches of white sand. These communities are found on well drained to excessively drained sands. Scrubby flatwoods at the LFWEA occurs on three small rises within mesic flatwoods.

The thin canopy is composed of young slash pine and there is no subcanopy. Prescribed burning in this habitat has reduced the amount of tall shrub cover, which is now mainly sand live oak and only makes up a small amount of the total shrub layer. Short shrubs are generally less than 50% overall cover and are represented by rusty staggerbush, pricklypear, sand live oak, sand blackberry, saw palmetto, and shiny blueberry. Herbs are very sparse but include broomsedge bluestem, coastalplain chaffhead, capillary hairsedge, rabbitbells, needleleaf witchgrass, witchgrass, Piedmont pinweed, sandyfield beaksedge, creeping little bluestem, whip nutrush, sweet goldenrod, and bracken fern. Vines such as earleaf greenbrier are occasional.

Upland Hardwood Forest (59.35 acres)

Upland hardwood forest contains a diverse assemblage of upland species that prefer rich soils and fire exclusion. This community is common in and around steep valleys created by stream channels. At the LFWEA, upland hardwood forest developed historically adjacent to the blackwater stream channel that bisects the property and in a large complex of forested wetlands and uplands between the stream and the large marsh system on the east side. The extreme eastern section of the stream cuts deep into the surrounding landscape and supports a rich, stable habitat that is naturally excluded from fire. The narrowing of the stream channel reduces the floodplain and apparently has reduced fire events historically.

A large portion of the historic upland hardwood forest on the LFWEA was clearcut and planted with pines prior to state acquisition. Because the original mature forest is now gone, the area is managed as gopher tortoise habitat (early successional pine community) in accordance with the purposes for acquisition. The result is an upland hardwood forest community with a closed, mixed age class canopy of pignut hickory, southern magnolia, swamp laurel oak, and American elm. The well-formed subcanopy contains the same canopy species in addition to American hornbeam, eastern hophornbeam, swamp chestnut oak, water oak, and live oak. Shrubs are sparse and the understory of this community is most open. Shrubs include American hornbeam, red bay, swamp laurel oak, sparkleberry, needle palm, bluestem palmetto, saw palmetto, and Elliott's blueberry. Only two herbs – slender woodoats and sarsaparilla vine – form the sparse groundcover layer. Vines are present but are uncommon and include rattan vine, yellow jessamine, and muscadine. Although this community is small, it contains few disturbances and has not been logged recently. This forest provides an attractive natural buffer for the blackwater stream contained within.

Wet Flatwoods (31.04 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. One area of wet flatwoods was mapped at the LFWFA. It is unclear if the north part of this area was selectively logged or was thinned from wildfires that impacted Mallory Swamp in 2001. The southern portion was planted in pine but has since been thinned and is being managed as natural wet flatwoods.

The thin canopy contains younger mature slash pine and lacks a subcanopy. Shrubs are often dense and shade much of the groundcover. Common shrubs include titi, sweetgum, fetterbush, sweetbay, swamp bay, water oak, flatwoods St. John's wort, gallberry, saw palmetto, and shiny blueberry. Herbs are infrequent and include broomsedge bluestem, pink sundew, bracken fern, and yellow-eyed grass. Vines are common, mainly earleaf greenbrier, and laurel greenbrier.

2.2.2 FNAI Altered Communities Descriptions

Canal/Ditch (8.18 acres)

Canal/ditch are artificial linear drainage ways.

Developed (1.07 acres)

Developed areas on the LFWFA are parking areas.

Restoration Mesic Flatwoods (190.33 acres) and Restoration Sandhill (251.61 acres)

Restoration Natural Community is an altered landcover type where active restoration has been initiated in order to return the community to its historic state. Examples of restoration activities include pine thinning, longleaf pine planting, groundcover restoration, hydrology restoration, and removal of exotics and other undesirable vegetation. In historically pyrogenic natural communities, restoration activities are accompanied by the application of prescribed fire.

Restoration sandhill and mesic flatwoods communities at the LFWFA are former pine plantations, once densely planted pines occurring in rows and lacking a significant or diverse assemblage of groundcover/ herbaceous species. Prior to acquisition by the state of Florida, pines were planted in areas that were historically sandhill, mesic flatwoods, and wet flatwoods communities. Naturally pyrogenic communities at this WEA were nearly all converted to pine plantation, as well as an area of former upland hardwood forest. Most areas of densely planted pines have been thinned to appropriate densities and are being burned on a 2–4-year interval, so they are currently functioning as natural communities, albeit with significant disturbance. Planted pine stands that have not yet been completely thinned or where the groundcover is still significantly altered are considered to still be in restoration.

The canopy is commonly slash pine, but extreme southeastern sections of the forest were planted in sand pine plantations. The sand pines have been removed, and areas of former sandhill have been replanted with longleaf pine. Oaks often occur in rows that remained uncut after the site was prepared for planting pines. Logging and replanting efforts within the pine plantations have occurred at this site for multiple harvests. Small blocks of pines have been

replanted opportunistically throughout the WEA. The areas of former pine plantation that have not been replanted typically contain disturbance stands of oaks and these are classified as successional hardwood forest. Enough ground cover resources persist to support a fair-sized population of gopher tortoises.

Throughout the restoration mesic flatwoods and sandhill areas, shrubs are often dense and openings within the understory are common. Typical shrub species include gallberry, American holly, sweetgum, rusty staggerbush, coastalplain staggerbush, fetterbush, wax myrtle, sand live oak, turkey oak, swamp laurel oak, water oak, live oak, saw palmetto, horse sugar, sparkleberry, Elliott's blueberry, flatwoods St. John's wort, dwarf live oak, myrtle oak, cabbage palm, shiny blueberry, and deerberry. The herb layer is often sparse and populated with weedy species. Higher quality groundcover species are occasionally present in small, localized areas. Common herbaceous species include broomsedge bluestem, chalky bluestem, bottlebrush threeawn, wiregrass, coastalplain chaffhead, yankeeweed, slender flattop goldenrod, narrowleaf silkgrass, bracken fern, blackroot, whip nutrush, sweet goldenrod, and Virginia chain fern. Vines are often abundant and are good indicators of disturbance. Common vines include yellow jessamine, earleaf greenbrier, saw greenbrier, and muscadine. The invasive Japanese climbing fern has been documented in former pine plantation on the LFWEA. However, despite heavy amounts of disturbance, invasive species are generally rare within this community.

Road (93.32 acres)

Roads are areas that are paved or unpaved, maintained by the FWC, and used for vehicular traffic. This includes two-tracks used regularly by area staff to access and manage the LFWEA regardless of public accessibility.

Successional Hardwood Forest (13.57 acres)

Uplands that are dominated by oaks due to lack of fire and other anthropologic disturbances are classified as successional hardwood forest. At the LFWEA, this community is found around some wetlands where pine plantation is not established. Except where recent forestry operations have created gaps, the canopies in these areas are typically closed.

Common species composition in the canopy includes sweetgum, slash pine, swamp laurel oak, water oak, and live oak. These areas generally lack a true subcanopy. Shrubs are often dense and include coastalplain staggerbush, wax myrtle, wild olive, swamp laurel oak, water oak, live oak, sparkleberry, saw palmetto, deerberry, and Adam's needle. Herbaceous cover is sparse due to overstory shading. Common herbs include broomsedge bluestem, switchgrass, bracken fern, and forked bluecurls. Vines are often abundant and include yellow jessamine, earleaf greenbrier, cat greenbrier, and muscadine.

2.2.3 Imperiled Plants

For the purposes of this Management Plan, the term "imperiled species" as it relates to plants refers to plant species that the Department of Agriculture and Consumer Services (DACS) or the United States Fish and Wildlife Service (USFWS) designated as endangered or threatened. This designation is commonly known as "listed species," and all names and status

determinations were derived from Florida's Regulated Plant Index Rule (5B-40.0055 FAC) that is maintained by the DACS.

The FWC manages the lands in the WEA system using a proactive natural community focused approach. As applied by the FWC, natural resource management starts by classifying lands into distinct natural communities. The FWC then conducts management activities to maintain or enhance each community's structure and function. Land management that has a positive influence on natural community conditions benefits the species occurring in these habitats.

Table 6. Imperiled Plant Species Observed at the LFWEA

Common Name	Scientific Name	Status
Angle pod	<i>Matelea gonocarpus</i>	ST
Blue-flowered butterwort	<i>Pinguicula caerulea</i>	ST
Cardinal flower	<i>Lobelia cardinalis</i>	ST
Cinnamon fern	<i>Osmunda cinnamomea</i>	CE
Florida arrowroot	<i>Zamia integrifolia</i>	CE
Green-fly orchid	<i>Epidendrum conopseum</i>	CE
Gypsy-spikes	<i>Platanthera flava</i>	ST
Hooded pitcherplant	<i>Sarracenia minor</i>	ST
Needle palm	<i>Rhapidophyllum hystrix</i>	CE
Non-crested eulophia	<i>Eulophia ecristata</i>	ST
Royal fern	<i>Osmunda regalis</i>	CE
Yellow-fringed orchid	<i>Platanthera ciliaris</i>	ST

Acronym	Status
CE	Commercially Exploited
ST	State Threatened

FNAI conducted a listed plant survey in 2011 on the LFWEA and identified four imperiled plant species, all of which are state threatened (Table 6). Since this survey was completed, FWC staff have documented three additional state threatened imperiled plant species through opportunistic observations. The protections afforded plants that occur on conservations lands, in conjunction with management actions that include non-native plant removal and prescribed fire, will continue to maintain and enhance habitat for these and other rare plants. As such, these species should persist under planned management on the LFWEA.

In addition to the imperiled plants, five plants State listed as commercially exploited are known to occur on the LFWEA (Table 6). The FWC will continue to monitor the known occurrences of these species and report any illegal collection to the appropriate authorities.

Angle Pod (*Matelea gonocarpus*) - Angle pod prefers moist, well-drained sunny or semi-shaded areas in alluvial forests, basin swamps, baygalls, blackwater streams, bottomland forests, hydric hammocks, maritime hammocks, mesic hammocks, shell mounds, upland hardwood forests,

and upland pine communities. This species may occur along wooded roadsides and on the edges of sinkholes. Even though angle pod occurs in upland pine communities, which require frequent (2-3 years) fire, it is sensitive to fire, surviving in fire shadows. Managers should vary the seasonality and severity of prescribed burns and allow prescribed fires from adjacent fire-maintained communities to naturally burn into and naturally extinguish in its preferred communities. Since *Matelea* species are difficult to distinguish without flowers or fruits, flowering or fruiting is the best time for conducting surveys or verifying species identity. Angle pod flowers from June to August, and fruiting occurs from August to October. Staff may be able to distinguish this species from other *Matelea* species by its yellow or greenish-brown petals without a network of veins, and its lance shaped fruits that are smooth. Altered fire regimes, fire suppression, and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, restore ecotones by removing existing roads and fire breaks, and maintain and restore the natural hydrology.

Blue-Flowered Butterwort (*Pinguicula caerulea*) - Blue-flowered butterwort prefers open moist to wet sandy-peaty soils of pine flatwoods, wet prairies, and seepage bogs. This species may occupy moist to wet ditches and roadsides. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species and create open areas allowing sunlight to reach the ground. Soil and hydrologic disturbances negatively affect this species; therefore, maintain and restore the natural hydrology and avoid using heavy machinery in wetlands. Flowering, which occurs primarily from February to April, is the best time for conducting surveys or verifying species identity.

Cardinal Flower (*Lobelia cardinalis*) - Cardinal flower prefers sunny areas near sources of water in bottomland forests, dome swamps, hydric hammocks, floodplain swamps, and spring run streams. Cardinal flower is sensitive to fire and typically prefers non-pyrogenic habitats, which occasionally burn during periods of drought. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology where practicable and avoid using heavy machinery in wetlands with known occurrences of these species. Flowering, which primarily occurs from July to September, is the best time for conducting surveys or verifying species identity.

Cinnamon Fern (*Osmunda cinnamomea*) and Royal Fern (*O. regalis*) - These ferns occur in many natural communities in Florida, both wet and dry. While these species grow in many communities that the FWC typically does not actively manage, if conducting management activities near known occurrences, make efforts to protect known occurrences from chemical and mechanical treatments. These species do not require fire. However, some of the natural communities in which these species occur are fire adapted and these ferns resprout after fire. Illegal collecting and hydrological disturbances negatively affect these species; therefore, protect areas with known occurrences. Staff should maintain and restore the natural hydrology where practicable. As fronds are present year-round, these species can be identified throughout the year.

Florida Arrowroot (*Zamia integrifolia*) - Florida arrowroot prefers moist sunny to shaded areas in hydric hammocks, maritime hammocks, mesic flatwoods, mesic hammocks, sandhills, scrub, scrubby flatwoods, shell mounds, upland hardwood forests, and xeric hammocks. This species does not require fire. However, some of the natural communities in which this species occurs are fire adapted and Florida arrowroot's thick, underground stems make it resistant to fires as this species resprouts after fire. Illegal collecting and intensive forestry practices, such as site preparation that involves drastic soil disturbance, negatively affect this species; therefore, protect areas with known occurrences, and if evidence of illegal activities is observed, notify the appropriate authorities. This species is identifiable while producing cones, which occurs throughout the year with the heaviest production occurring primarily from December to March.

Green-fly Orchid (*Epidendrum conopseum*) – Green-fly orchid is epiphytic on many different trees and prefers moist to wet areas in basin swamps, bottomland forests, depression marshes, maritime hammocks, sinkholes, and upland hardwood forests. It may occur in dome swamps, floodplain swamps, hydric hammocks, and mesic hammocks. This species does not require fire, but staff should allow fire to naturally enter and extinguish within its habitats when feasible. Illegal collecting and hydrological disturbances negatively affect this species; therefore, protect areas with known occurrences. Staff should maintain and restore the natural hydrology where practicable. Flowering, which occurs from June to October, or fruiting, which occurs from September to January, is the best time for conducting surveys or verifying species identity.

Gypsy-Spikes (*Platanthera flava*) - Gypsy-spikes prefers full or partial sun and wet to moist, slightly acidic to slightly alkaline soils in alluvial forests, basin swamps, bottomland forests, floodplain swamps, hydric hammocks, mesic flatwoods, wet flatwoods, and wet prairies. This species may also occur on peaty or sandy soils along the margins of lakes, rivers, and ponds. The specific fire requirements are unknown for this species. However, since it prefers full or partial sun, a fire regime in flatwoods and prairies that include frequent (2-3 years) growing season fires that reduce the encroachment of woody species will be beneficial for this species. Because flowering in this species is highly erratic from year to year, populations may be persisting even if not seen. Soil and hydrological disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology and avoid using heavy machinery in wetlands. Flowering, which occurs primarily from late June to early August, is the best time for conducting surveys or verifying species identity.

Hooded Pitcherplant (*Sarracenia minor*) - Hooded pitcherplant prefers sunny to lightly shaded, moist to wet, sandy, acid soil in basin swamps, depression marshes, dome swamps, dry prairies, mesic flatwoods, wet flatwoods, wet prairies, shrub bogs, seepage slopes, and edges of seepage streams. This species may occur on boggy roadsides and ditches. Hooded pitcherplants have the widest ecological range compared to other *Sarracenia* species, grow on both wet and dry sites, and are more shade tolerant than most species of the genus. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species. Fires usually top-kill pitcherplants, but they survive by resprouting from rhizomes. Pitchers are identifiable all year and surveys for flowers can occur

from late March to mid-May. Soil and hydrologic disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable.

Needle Palm (*Rhapidophyllum hystrix*) – Needle palm prefers basin swamps, bottomland forests, floodplain swamps, hydric hammocks, mesic hammocks, sinkholes, slope forests, and upland hardwood forests. Even though this species is not fire tolerant, staff should allow fire to naturally enter and extinguish within its habitats when feasible. Illegal collecting and habitat alteration negatively affect this species; therefore, protect known occurrences and make sure not to negatively influence areas with known occurrences. Surveys or species identification may occur throughout the year for these species.

Non-Crested Eulophia (*Eulophia ecristata*) - Non-crested eulophia prefers open areas with at least filtered sunlight and no dense shrub competition in mesic flatwoods, pine rocklands, sandhill, scrub, scrubby flatwoods, and wet flatwoods. While this species may persist for long periods in xeric habitats without fire, occasional fire is needed to reduce competition and shading by shrubs. However, non-crested eulophia is dependent on frequent fire in moist habitats that experience rapid shrub growth and prescribed fire should occur with a frequency that will create or maintain open areas, limit the shrub layer, and encourage diverse herbaceous cover. Excessive site preparation and illegal collecting negatively affect this species; therefore, protect areas with known occurrences. Flowering, which occurs from July to September, or fruiting, which occurs from September to November, is the best time for conducting surveys or verifying species identity.

Yellow-Fringed Orchid (*Platanthera ciliaris*) - Yellow-fringed orchid prefers full or partial sun and moist to wet acidic soils in marshes, mesic flatwoods, seepage slopes, wet flatwoods, and wet prairies. It also occurs along roadsides. The specific fire requirements are unknown for this species. However, since it prefers full or partial sun, a fire regime in flatwoods and prairies that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species will be beneficial for this species. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology where practicable and avoid using heavy machinery in wetlands with known occurrences of this species. Flowering, which occurs primarily from late June to late September, is the best time for conducting surveys or verifying species identity. Because flowering in this species is highly erratic from year to year, populations may be persisting even if not seen.

It is possible other imperiled species occur on the LFWEA and, if encountered, staff will document these occurrences. Florida's imperiled species are adapted to natural communities and should continue to benefit from the FWC's ongoing and planned management to maintain and enhance natural community structure and function. Under the FWC's management, these species have a higher probability of persistence than in the absence of this management. However, while habitat management provides overall benefits to a host of species reliant upon these natural communities, imperiled species sometimes require specific attention.

2.2.4 Forest Resources

Approximately 752 acres of the LFWEA are comprised of mesic flatwoods and represent the natural community with the most potential for forest resource (timber) production. At the LFWEA, the mesic flatwoods natural community typically contains a sparse canopy of slash pine or longleaf pine. These pine canopies are often very sparse when adjacent to scrubby flatwoods, scrub, and prairie communities and somewhat denser when grading down slope towards hammock communities. A Forest Management Plan effective through 2045 provides recommended management actions for the timber resources on the property, including harvest, burning, planting, mowing, and herbicide treatments. More detailed natural community descriptions are available above in Section 2.2.1.

2.3 Fish and Wildlife Resources

As described above, the LFWEA has a variety of natural communities and habitat types that support a wide array of imperiled, rare, and more common wildlife species. Active wildlife management practices make the LFWEA an excellent place to view wildlife. The LFWEA's mesic flatwoods, sandhills, and other natural communities provide critical habitat for resident and migratory wildlife.

The FWC maintains an inventory of fauna known to occur on the LFWEA listed in the following tables, including mammals (Table 7), birds (Table 8), and reptiles and amphibians (Table 9). In addition to the species listed in the tables below, five exotic wildlife species have been documented on the LFWEA (Table 10). These inventories are continuously updated by FWC staff.

Table 7. Mammal Species Observed at the LFWEA

Common Name	Scientific Name
Bobcat	<i>Lynx rufus</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
Eastern spotted skunk	<i>Spilogale putorius</i>
Florida mouse	<i>Peromyscus floridanus</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
North American river otter	<i>Lontra canadensis</i>
Virginia opossum	<i>Didelphis virginiana</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Wild hog	<i>Sus scrofa</i>

Table 8. Bird Species Observed at the LFWEA

Common Name	Scientific Name
American coot	<i>Fulica americana</i>
American crow	<i>Corvus brachyrhynchos</i>

Common Name	Scientific Name
American kestrel	<i>Falco sparverius</i>
Anhinga	<i>Anhinga anhinga</i>
Bachman's sparrow	<i>Peucaea aestivalis</i>
Black vulture	<i>Coragyps atratus</i>
Black-and-white warbler	<i>Mniotilta varia</i>
Blue grosbeak	<i>Passerina caerulea</i>
Blue jay	<i>Cyanocitta cristata</i>
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Brown thrasher	<i>Toxostoma rufum</i>
Brown-headed nuthatch	<i>Sitta pusilla</i>
Carolina chickadee	<i>Poecile carolinensis</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Cattle egret	<i>Bubulcus ibis</i>
Chipping sparrow	<i>Spizella passerina</i>
Common gallinule	<i>Gallinula galeata</i>
Common ground-dove	<i>Columbina passerina</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Downy woodpecker	<i>Picoides pubescens</i>
Eastern bluebird	<i>Sialia sialis</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Eastern phoebe	<i>Sayornis phoebe</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Great blue heron	<i>Ardea herodias</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Green heron	<i>Butorides virescens</i>
House wren	<i>Troglodytes aedon</i>
Little blue heron	<i>Egretta caerulea</i>
Mississippi kite	<i>Ictinia mississippiensis</i>
Mourning dove	<i>Zenaida macroura</i>
Northern bobwhite	<i>Colinus virginianus</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern parula	<i>Setophaga americana</i>
Palm warbler	<i>Setophaga palmarum</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>

Common Name	Scientific Name
Pileated woodpecker	<i>Dryocopus pileatus</i>
Pine warbler	<i>Setophaga pinus</i>
Prairie warbler	<i>Setophaga discolor</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
Red-eyed vireo	<i>Vireo olivaceus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Ring-necked duck	<i>Aythya collaris</i>
Rock pigeon	<i>Columba livia</i>
Roseate spoonbill	<i>Platalea ajaja</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Southern bald eagle	<i>Haliaeetus leucocephalus leucocephalus</i>
Summer tanager	<i>Piranga rubra</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>
Tree swallow	<i>Tachycineta bicolor</i>
Tufted titmouse	<i>Baeolophus bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
White ibis	<i>Eudocimus albus</i>
White-eyed vireo	<i>Vireo griseus</i>
Wild turkey	<i>Meleagris gallopavo</i>
Wood duck	<i>Aix sponsa</i>
Wood stork	<i>Mycteria americana</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Yellow-throated vireo	<i>Vireo flavifrons</i>

Table 9. Reptile and Amphibian Species Observed at the LFWFA

Common Name	Scientific Name
American alligator	<i>Alligator mississippiensis</i>
American bullfrog	<i>Lithobates catesbeianus</i>
Banded water snake	<i>Nerodia fasciata</i>
Barking tree frog	<i>Hyla gratiosa</i>
Common musk turtle	<i>Sternotherus odoratus</i>
Cottonmouth	<i>Agkistrodon conanti</i>
Dusky pygmy rattlesnake	<i>Sistrurus miliarius</i>
Eastern coachwhip	<i>Masticophis flagellum</i>
Eastern coral snake	<i>Micrurus fulvius</i>

Common Name	Scientific Name
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>
Eastern fence lizard	<i>Sceloporus undulatus</i>
Eastern hognose	<i>Heterodon platirhinus</i>
Eastern indigo snake	<i>Drymarchon couperi</i>
Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>
Florida worm lizard	<i>Rhineura floridana</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Green anole	<i>Anolis carolinensis</i>
Green tree frog	<i>Hyla cinerea</i>
Ground skink	<i>Scincella lateralis</i>
Oak toad	<i>Anaxyrus quercicus</i>
Ornate chorus frog	<i>Pseudacris ornata</i>
Pig frog	<i>Lithobates grylio</i>
Pine woods treefrog	<i>Hyla femoralis</i>
Six-lined racerunner	<i>Aspidoscelis sexlineata</i>
Softshell turtle	<i>Apalone ferox</i>
Southern black racer	<i>Coluber constrictor priapus</i>
Southern leopard frog	<i>Lithobates sphenocephalus</i>
Southern toad	<i>Anaxyrus terrestris</i>
Striped mud turtle	<i>Kinosternon baurii</i>
Yellow-bellied slider	<i>Trachemys scripta</i>

Table 10. Exotic and Invasive Wildlife Species Observed at the LFWFA

Common Name	Scientific Name
Cattle egret	<i>Bubulcus ibis</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Rock pigeon	<i>Columba livia</i>
Wild hog	<i>Sus scrofa</i>

2.3.1 Florida Landscape Assessment Model

The FWC has developed the Florida Landscape Assessment Model (FLAM) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of landscape and wildlife species data. FLAM evaluates the Florida landscape based upon important natural resources and habitat needs of wildlife as a way to identify ecologically significant lands in the state and to assess the potential impacts of management and land-use changes. FLAM was

developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. FLAM ranks habitat from a 0-10; a rank of 10 being of greatest value. FLAM (2021) indicates that the LFWEA has a very high mean wildlife value of 7.8 (Figure 9).

2.3.2 Imperiled Fish and Wildlife

Seven imperiled animal species have been documented as occurring on the LFWEA (Table 11). The FWC maintains the state list of animals designated as Federally endangered or threatened, State endangered or threatened, or State species of special concern in accordance with Rules 68A-27.003 and 68A-27.005, respectively, FAC.

Table 11. Imperiled Wildlife Species occurring on the LFWEA

Common Name	Scientific Name	Status
American alligator	<i>Alligator mississippiensis</i>	FT(S/A)
Eastern indigo snake	<i>Drymarchon couperi</i>	FT
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	ST
Gopher tortoise	<i>Gopherus polyphemus</i>	ST
Little blue heron	<i>Egretta caerulea</i>	ST
Roseate spoonbill	<i>Platalea ajaja</i>	ST
Wood stork	<i>Mycteria americana</i>	FT

Acronym	Status
FT	Federally Threatened
FT(S/A)	Federally Threatened due to Similarity of Appearance
ST	State Threatened

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 the 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.”

At its November 2016 Commission meeting, the FWC approved Florida’s Imperiled Species Management Plan (<http://myfwc.com/wildlifehabitats/imperiled/plan/>), which included changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 FAC) came into effect in February 2021. All federally listed species that occur in Florida are included in Florida’s Endangered and Threatened Species list (<https://myfwc.com/media/1945/threatend-endangered-species.pdf>) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by FWC as being at some level of risk of extinction, are listed as state-

designated Threatened. Additionally, the FWC continues to maintain a separate Species of Special Concern category. This category was reviewed as part of Florida's Imperiled Species Management Plan, with the majority of the species previously contained within the category either being removed from Florida's Endangered and Threatened Species list due to conservation success or having their status changed to state-designated Threatened.

2.3.3 FNAI Element Occurrences

A diversity of wildlife species is found on the LFWEA. The FNAI element occurrence records include five occurrences of wildlife and plant species within the boundary or in the vicinity of the LFWEA, including gopher tortoise, Florida mouse, American alligator, Schwarz' pocket gopher ptomaphagus beetle (*Ptomaphagus schwarzi*), and giant orchid (*Pteroglossaspis ecristata*). As defined by the FNAI, an "element" is any exemplary or rare component of the natural environment, such as a species, natural community, bird colony, spring, sinkhole, cave, or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. FNAI assigns a rank to each "element" occurrence. This ranking system was developed by The Nature Conservancy (TNC) and the Natural Heritage Program Network based on the element's global rank (element's worldwide status) or state rank (status of element in Florida). The FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

Known locations of FNAI element occurrences from the most recent GIS databases are displayed in Figure 10. Appendix 12.8 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

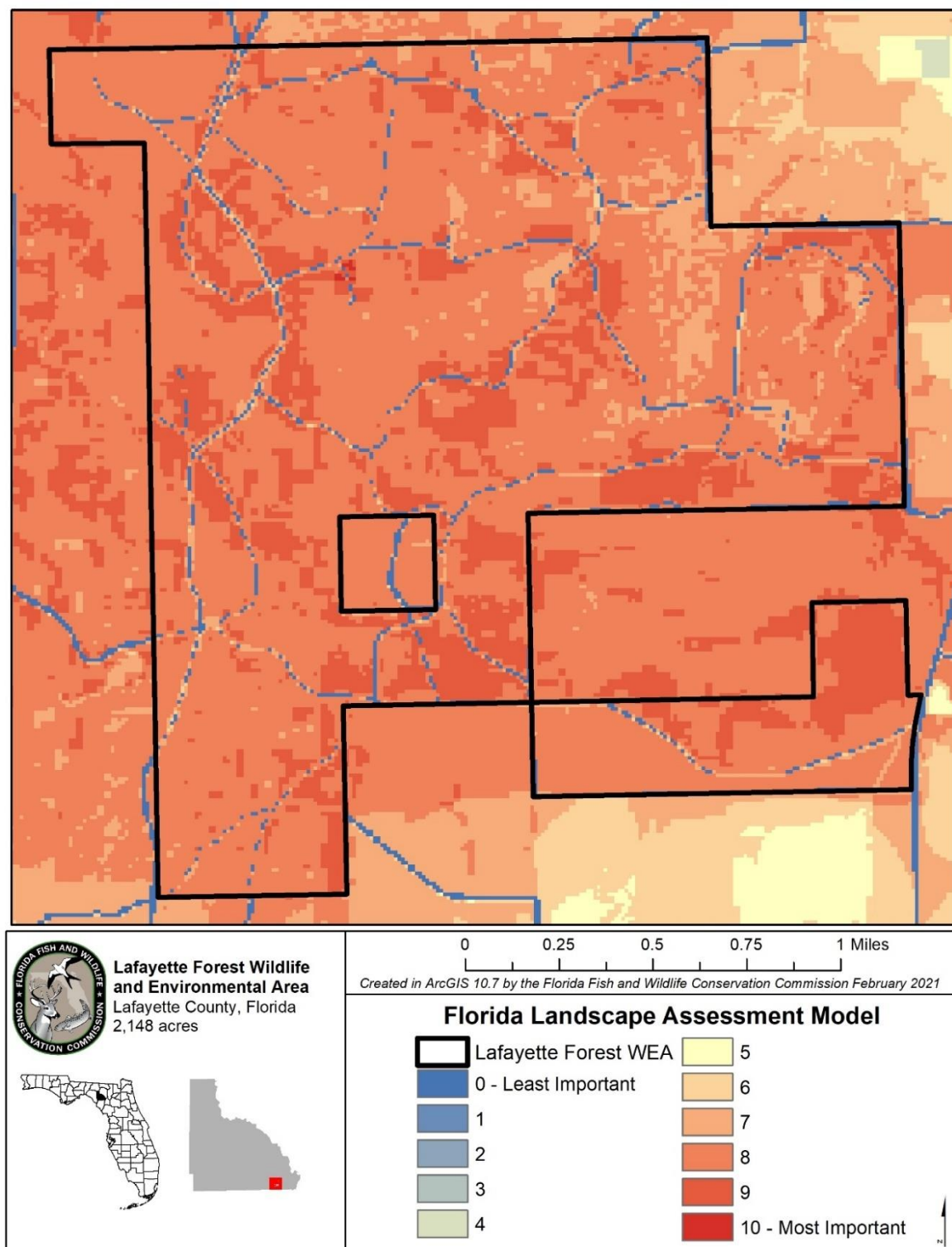


Figure 9. Florida Landscape Assessment Model

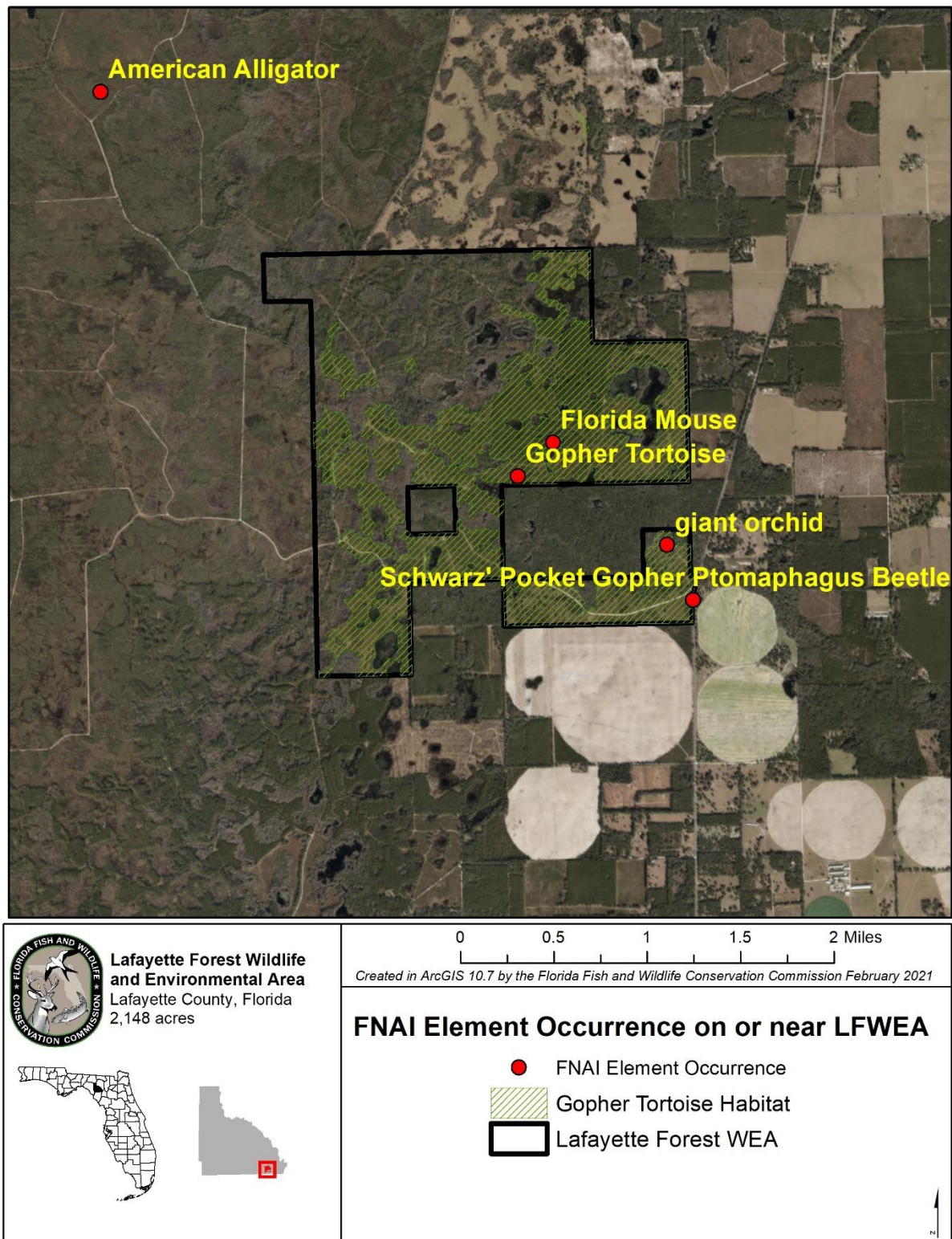


Figure 10. FNAI Element Occurrences on or near LFWEA

2.4 Water Resources

The LFWEA straddles a transition zone between Mallory Swamp to the west and the well-drained sands of the uplands that border the Suwannee River to the east. On the edge of Mallory Swamp, the acidic runoff and shallow groundwater infiltrate areas where the undifferentiated sediments are thin or only well drained sands overlie the limestone; the enhanced dissolution creates depression areas that are ponds or lakes when the water table is high. Several such ponds and small lakes occur on the western side of the LFWEA and were formed in this manner. Additionally, a blackwater stream bisects the property, generally flowing from Mallory Swamp towards the east. The LFWEA is not adjacent to any designated Special Water Category of Outstanding Florida Water and is not located within or adjacent to any Aquatic Preserve (Figure 11).

2.5 Beaches and Dunes

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

2.6 Mineral Resources

Geological data and analysis indicate that there are no known substantial deposits of mineral resources economically feasible to extract within the LFWEA. However, International Paper Company holds the rights to any oil, gas, and associated hydrocarbons that may potentially exist in, on, or under the property.

2.7 Historical Resources

The Florida Department of State's Division of Historical Resources (DHR) Master Site File observations are broken down into five categories: sites, structures, resource groups, historic bridges, and historic cemeteries. The DHR conducted a reconnaissance survey of the LFWEA in 2017 and to date, the DHR Master Site File indicates there are 12 known archaeological sites located on the area (Appendix 12.16). These include three prehistoric camp sites, one historic battleground site (Fort Downing Battleground), one historic cemetery (Frazier Cemetery), four historic camp sites, two historic homestead sites, and one historic dump site. It is possible that there are archaeological sites on the LFWEA that have not yet been recorded in the DHR Master Site File. As a result, the FWC will continue to work with the DHR to document any historical or archaeological sites as necessary and feasible. All Master Site recordings, assessments, and preservation strategies will be coordinated with the DHR.

2.8 Scenic Resources

Scenic resources of the LFWEA include the views of pinelands, basin swamp, marshes, and hardwood forests, among others. Complete descriptions of the natural communities found on the LFWEA can be found in Section **Error! Reference source not found..1** of this Management Plan.

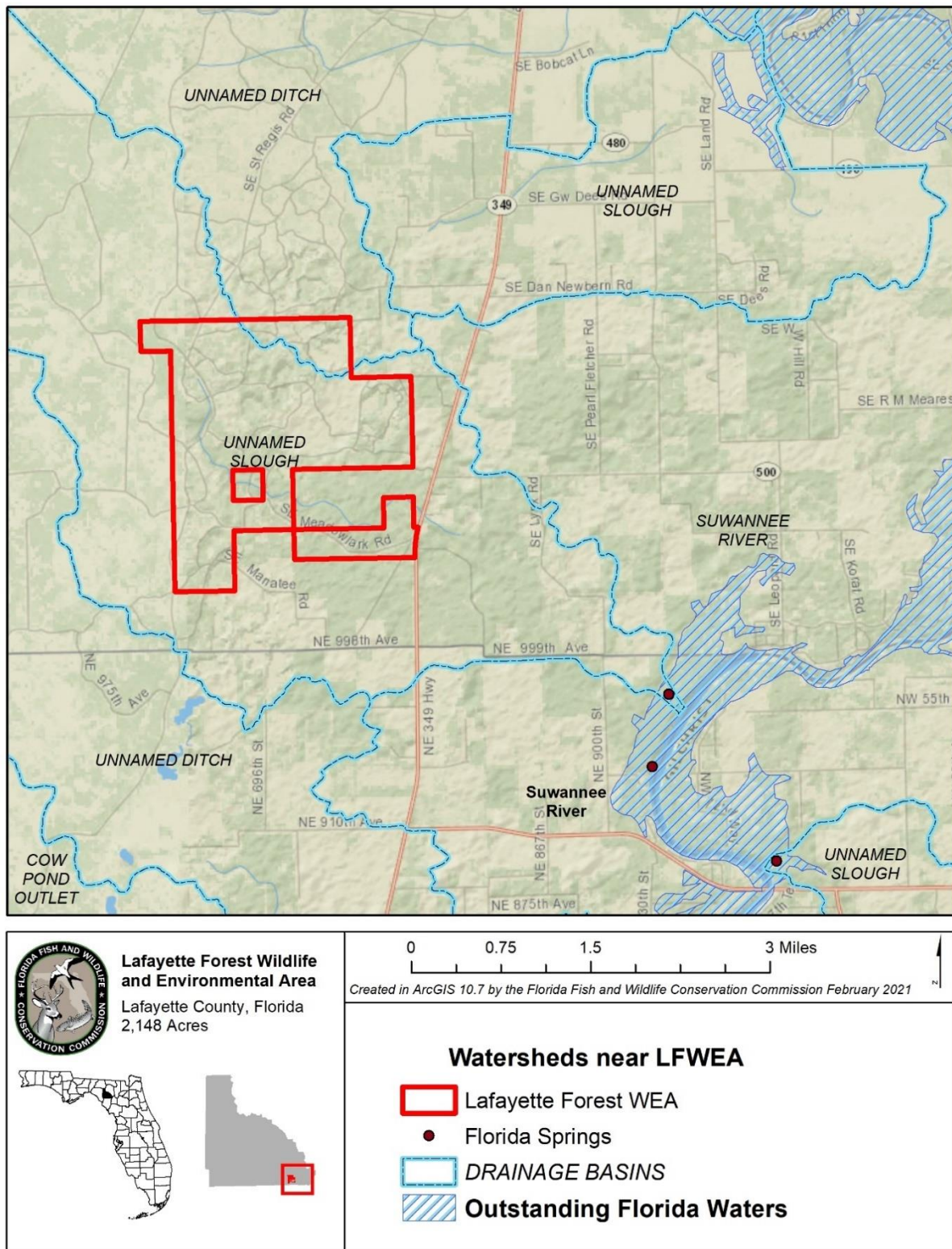


Figure 11. LFWEA Water Resources

3 Uses of the Property

3.1 Previous Use and Development

Prior to European settlement, the landscape of Florida, including this area of the peninsula, was settled and used by a variety of aboriginal peoples whose culture relied mainly on hunting, fishing, and subsistence agriculture. Though some land alteration occurred, only minor alteration of the landscape is thought to have taken place until the advent of European settlement beginning with the Spanish occupation of Florida in the 16th century. Along with more advanced agricultural practices, the Spanish and other settlers brought livestock, primarily cattle and hogs, to Florida. This began an era of broad use of the landscape for agriculture.

Rangeland cattle grazing and other agricultural practices began to be utilized in a more systematic way and occurred across much of the central Florida peninsula throughout most of the European settlement era from the 16th through the 20th century. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th century that major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development.

During the past fifty years, the site of the LFWEA has been used for timber production (silviculture) and hunting. Most of the upland areas of the LFWEA have been under intensive silviculture. Certain previous (late nineteenth century) uses are evident from the occurrence of a cemetery in the southeastern part of the minor parcel on the LFWEA.

Review of historic sources, including aerial photographs spanning the period 1959 – 2007, show the LFWEA and adjoining lands in the immediate vicinity to have undergone periodic timber harvest and re-growth to a wooded condition. The Hatchbend Hunt Club leased the LFWEA during the period 1980 – 2006.

Eastern adjoining properties also had sparse residences in a partially forested landscape, part of which yielded periodic timber harvest. The oldest such residential use dates from 1928. Other larger buildings that served commercial purposes are located across State Road 349 from the southeast corner of the LFWEA.

Between 1996 and 2004, pine plantation was cleared from the eastern uplands of the LFWEA, leaving a pattern of tree lines or windrows. Aerial photography from 2004 and 2007 shows timber removal to have occurred from the south side of the road easement extending through the minor parcel of the LFWEA. The Mallory Swamp Fire that occurred between May and June of 2001 extensively consumed forests and disturbed areas within the Lafayette Forest Florida Forever Project area. This wildfire was one of the largest in Florida's history. However, photos indicate that the LFWEA was not extensively disturbed by this fire event, which perhaps spread within a limited area adjacent to its western boundary.

3.2 Current Use of the Property

Currently, the LFWEA is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on the LFWEA each year including prescribed burning; wildlife habitat restoration and improvement; invasive and non-native species maintenance and control; road repairs and maintenance; imperiled and locally-important species management, monitoring, and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; archeological and historical resources monitoring and protection; and research related activities.

The LFWEA is being managed as a multiple-use conservation land. Multiple-use management strategies incorporate uses related to wildlife, fisheries, forest management, and natural resource based public outdoor recreation. Current and anticipated resource uses of the property are diverse. Wildlife based public outdoor educational and recreational opportunities are provided that are compatible with the original purposes for acquisition of the LFWEA. Hunting continues to be a popular recreational activity on the LFWEA. The area also offers excellent opportunities for bird watching, especially for wading birds. The diversity of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, biking, sightseeing, and horseback riding.

Due to the proximity of population centers in Lafayette County, public use can be expected to increase as public awareness of opportunities increases. The LFWEA can be accessed 365 user-days per year for all activities combined. The FWC administers hunts in the fall and spring for various game species including small game, deer, turkey, and wild hogs, which account for a little more than half of the user-days.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish and wildlife based public outdoor recreational opportunities is the primary source of economic benefits from the LFWEA and contributes to the overall economy for the North Central region of Florida. An FWC economic analysis indicates that the LFWEA generated an estimated annual economic impact of \$5,923,443* for the State and North Central Florida region. This estimated annual economic impact has aided in the creation or support of an estimated 60 jobs*. These figures were derived using an estimated visitation rate of 30,316 visitors in the 2019-2020 fiscal year. The visitation rate was calculated based on numbers obtained from vehicle counters at the LFWEA. Because the entrance road may also be used to access Mallory Swamp Wildlife Management Area, we cannot infer which property the visitors were accessing, and the actual visitation rate may be less.

The legislature appropriates funds for land management. However, further revenue generating potential of the LFWEA will depend upon future uses to be approved in the management plan. Additional revenue from environmental lands such as the LFWEA might include sales of various permits and recreational user fees and ecotourism activities if such projects could be economically developed. Revenue may also be generated from special opportunity hunts. The

annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. The long-term values of ecosystem services to local and regional land and water resources and to human health, through the protection of air and water quality are expected to be significant.

**The above figures are based on expenditure data from the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USFWS) and 2006 IMPLAN economic models assembled by Southwick Associates and the USFWS. The results were updated to 2010 based on hunting and fishing license trends and inflation. The results were combined and weighted based on the numbers of hunters, anglers, and wildlife viewers statewide. The results assume participants' expenditures and the results impacts are consistent throughout the state. Users applying these results to local situations should be aware that differences might exist between these statewide averages and the site in question and make adjustments if needed.*

3.3 Single- or Multiple-use Management

As mentioned previously, the LFWEA will be managed under the multiple-use concept as a WEA. The LFWEA will provide fish and wildlife resource based public outdoor recreation and educational opportunities, while protecting the natural and historical resources found on the area. All natural and historical resources on the LFWEA will be managed under the guidance of ARC, 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 the LFWEA. 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 12.9). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as "Rejected" are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management:

	<u>Approved</u>	<u>Conditional</u>	<u>Rejected</u>
Apiaries		✓	
Astronomy		✓	
Bicycling	✓		
Camping			✓
Cattle grazing			✓
Citrus or other agriculture			✓
Ecosystem services and maintenance	✓		
Ecotourism		✓	

	<u>Approved</u>	<u>Conditional</u>	<u>Rejected</u>
Environmental Education	✓		
First-responder training		✓	
Fishing		✓	
Geocaching		✓	
Hiking	✓		
Horseback riding	✓		
Hunting		✓	
Linear facilities			✓
Military training		✓	
Off-road vehicle use			✓
Preservation of historical sites	✓		
Protection of imperiled species	✓		
Shooting sports park			✓
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation	✓		

3.3.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on the LFWEA are made in accordance with the requirements of Section 253.034(10) F.S. and other applicable Florida constitution, statute, rule, and policy requirements, as well as other provisions governing applications for proposed incompatible uses or linear facilities on state-owned conservation lands. Upon approval and implementation of this Management Plan, any proposed future uses that have been classified herein as Rejected, or other proposed future uses that are determined to be incompatible with the purposes of acquisition or other management authorizations and guidance, will be forwarded for review and approval consideration to the DEP-DSL, ARC, and the Board of Trustees prior to any incompatible use or linear facility being authorized on the LFWEA.

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate the FWC's planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for the LFWEA (Sections 5 -7). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and historical resources was an integral part of the development of the management activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.

3.4 Acreage Recommended for Potential Surplus Review

On conservation lands where the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography

interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, the FWC considers recommendations for surplus lands as they relate to Florida's "No Net Loss of Hunting Lands" legislation (Ch. 379.3001 F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

The evaluation of the LFWEA by the FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition and remain integral to the continued conservation of important fish and wildlife resources and continue to provide good fish and wildlife resource based public outdoor recreational opportunities. Therefore, no portion of the LFWEA is recommended for potential surplus review.

4 Accomplished Objectives from the LFWEA Management Plan 2013 – 2023

This section is dedicated to reporting the extent to which the Objectives described in the LFWEA Management Plan 2013 – 2023 were successfully completed. Accomplishments for the LFWEA during the previous planning timeframe are further discussed in more comprehensive detail throughout **Section 5 Management Activities and Intent** of this Management Plan. Additionally, goals and objective for the 2021 – 2031 planning period are outlined in **Section 6 Resource Management Goals and Objectives – 2021 – 2031**.

The following resource management goals and objectives from the 2013 – 2023 LFWEA Management Plan describe the planned activities for the LFWEA during the 2013 – 2023 planning period. The degree to which the FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

Objectives Accomplished from the 2013 Lafayette Forest Wildlife and Environmental Area Habitat Management Plan

Goals and Objectives	Percent Accomplished
Habitat Restoration and Improvement	
Goal 1: Improve extant habitat and restore disturbed areas.	
Short-term (November 2013 - November 2015)	
Objective 1: Prescribe burn 220 acres per year. <i>Comment: From 2013 through 2015 FWC staff burned an average of 600 acres of fire adapted communities per year on the LFWEA.</i>	100%
Objective 2: Conduct habitat/natural community improvement on 110 acres per year including chemical and mechanical treatments and continued improvement on Management Unit 10. <i>Comment: FWC staff continues to conduct habitat improvements utilizing chemical and mechanical treatments throughout the area, including on Management Unit 10.</i>	100%
Objective 3: Develop and implement Objective Based Vegetation Monitoring (OBVM). <i>Comment: OBVM continues to be implemented and utilized on the LFWEA in order to achieve OBVM established desired future conditions.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 4: Continue to prescribe burn 220 acres per year. <i>Comment: From 2013 through 2021 FWC staff burned an average of 681 acres of fire adapted communities per year on the LFWEA.</i>	100%
Objective 5: As feasible given the current conditions of the upland communities as described in Section 4.2.2 (of the 2013 LFWEA Management Plan), re-establish a 3 - 5 year target fire return interval on 1,100 acres (100%) of fire adapted communities. <i>Comment: All fire adapted communities on the LFWEA have been maintained within the established fire return interval.</i>	100%

Objective 6: Continue implementing OBVM. <i>Comment: OBVM continues to be implemented on the LFWEA in order to achieve OBVM established desired future conditions.</i>	100%
Objective 7: Continue to conduct habitat/natural community improvement on 110 acres per year including chemical and mechanical treatments. <i>Comment: From 2013 through 2021 FWC staff conducted chemical or mechanical treatments on an average of 217 acres per year on the LFWEA.</i>	100%
Objective 8: Continue to conduct habitat/natural community restoration activities on 1,000 acres, including mechanical mid-story mowing, chemical treatment, replanting, and other restoration activities as appropriate. <i>Comment: FWC staff continues to conduct habitat improvements using mechanical mid-story mowing, chemical treatment, longleaf planting, wiregrass planting, and lopsided Indiangrass planting.</i>	100%
Objective 9: Continue to conduct timber harvest for the purposes of habitat restoration on 600 acres of the pine plantation vegetative community. <i>Comment: From 2013 through 2021 FWC staff have completed approximately 643 acres of pine plantation timber thinning.</i>	100%
Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration Goal 2: Maintain, improve, or restore imperiled species populations and habitats.	
Short-term (November 2013 - November 2015)	
Objective 1: Develop and implement a Wildlife Conservation Prioritization and Recovery (WCPR) strategy. <i>Comment: The LFWEA WCPR strategy was developed in 2014 and has continued to be implemented on the area.</i>	100%
Objective 2: Continue to collect opportunistic wildlife species occurrence data.	100%

<i>Comment: FWC staff continues to collect opportunistic wildlife species occurrence data on the LFWEA.</i>	
Long-term (November 2013 – November 2023)	
Objective 3: Continue to implement WCPR strategy by managing identified habitats and monitoring identified species. <i>Comment: The LFWEA WCPR strategy was developed in 2014 and has continued to be implemented on the area.</i>	100%
Objective 4: Conduct a gopher tortoise burrow survey every five years. <i>Comment: Gopher tortoise burrow surveys were conducted in the 2016-2017 fiscal year and are scheduled to occur again in the 2021-2022 fiscal year.</i>	100%
Other Wildlife (Game and Non-game) Habitat Maintenance, Enhancement, Restoration, or Population Restoration. Goal 3: Maintain, improve, or restore game and non-game species populations and habitats.	
Long-term (November 2013 – November 2023)	
Objective 1: Continue to collect opportunistic wildlife species occurrence data. <i>Comment: FWC staff continues to collect opportunistic wildlife species occurrence data on the LFWEA.</i>	100%
Exotic and Invasive Species Maintenance and Control Goal 4: Remove exotic and invasive plants and animals and conduct needed maintenance-control.	
Short-term (November 2013 - November 2015)	
Objective 1: To continue maintenance conditions, annually treat approximately one acre of Florida Exotic Pest Plant Council (FLEPPC) Category I and Category II invasive exotic plant species, as needed.	100%

<i>Comment: FWC staff continues to annually treat FLEPPC Category I and II invasive and exotic plant species on the LFWEA.</i>	
Objective 2: Continue to implement control measures on wild hogs and others as needed. <i>Comment: FWC staff continues to implement control measures for wild hogs.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 3: To continue maintenance conditions, annually treat approximately one acre of FLEPPC Category I and Category II invasive exotic plant species, as needed. <i>Comment: FWC staff continues to annually treat FLEPPC Category I and II invasive and exotic plant species on the LFWEA.</i>	100%
Objective 4: Continue to implement control measures on wild hog and other exotic and invasive animal species as needed. <i>Comment: FWC staff continues to implement control measures for wild hogs.</i>	100%
Public Access and Recreational Opportunities	
Goal 5: Provide public access and recreational opportunities.	
Short-term (November 2013 - November 2015)	
Objective 1: Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 40 visitors per day. <i>Comment: FWC staff continues to maintain access and recreational opportunities to allow for the area's carrying capacity.</i>	100%
Objective 2: Develop additional public access and recreational opportunities to allow for a carrying capacity of 160 visitors/day. <i>Comment: The FWC developed additional trails to allow for an increased carrying capacity of 204 visitors/day.</i>	100%

Objective 3: Continue to provide a two-panel kiosk for interpretation and education. <i>Comment: FWC staff continues to provide the two-panel kiosk on the area for interpretive and educational information for the LFWEA.</i>	100%
Objective 4: Develop three new interpretive/education programs and/or products including a trail guide, bird list, and website. <i>Comment: FWC staff developed the Tucker Trail guide, map, and website.</i>	100%
Objective 5: Maintain/design/develop 7.5 miles of trails. <i>Comment: FWC staff designed, developed, and maintained 7.69 miles of trails during this period.</i>	100%
Objective 6: Complete development of a Recreation Master Plan. <i>Comment: The LFWEA Recreation Master Plan was completed in 2014.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 7: Develop a new kiosk for interpretation and education. <i>Comment: FWC staff completed development of a new 2-panel kiosk at the western parking area.</i>	100%
Objective 8: Monitor trails biannually for visitor impacts. <i>Comment: FWC staff continues to regularly monitor trails for visitor impacts.</i>	100%
Objective 9: Reassess recreational opportunities every three years. <i>Comment: FWC staff continues to regularly reassess recreational opportunities.</i>	100%
Objective 10: Continue to provide hunting opportunities for deer, turkey, and wild hogs. <i>Comment: The FWC continues to provide hunting opportunities for deer, turkey, and wild hogs on the LFWEA.</i>	100%

Objective 11: Cooperate with other agencies, County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas. <i>Comment: The FWC continues to cooperate with other agencies, County, stakeholders, and regional landowners to investigate regional recreational opportunities.</i>	100%
Objective 12: Continue to identify partnerships that could provide for environmental educational programs and outreach. <i>Comment: The FWC continues to identify partnerships that could provide for environmental educational programs and outreach.</i>	100%
Hydrological Preservation and Restoration Goal 6: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.	
Short-term (November 2013 - November 2015)	
Objective 1: Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs. <i>Comment: FWC staff obtained a hydrological assessment in 2010.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 2: To enhance natural hydrological functions, continue to install and maintain low-water crossings and culverts as appropriate. <i>Comment: The FWC worked cooperatively with the SRWMD to implement recommendations from the hydrological assessment to install and maintain culverts in 15 locations and flashboard water control structures at six locations on the LFWEA.</i>	100%
Objective 3: Restore natural hydrologic condition and functions as recommended in hydrological assessment, as feasible. <i>Comment: The FWC worked cooperatively with the SRWMD to implement the Middle Suwannee River and Springs Restoration and Aquifer Recharge Project.</i>	100%
Forest Resource Management	

Goal 7: Manage timber resources to improve or restore natural communities for the benefit of the wildlife.	
Short-term (November 2013 - November 2015)	
Objective 1: Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate. <i>Comment: FWC staff continues to consult with the FFS/professional forestry consultants as needed and appropriate.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 2: Prepare and implement a Timber Harvest Plan including harvesting and prescribed burning activities based on restoration and maintenance needs of the natural communities and other goals established for management of the LFWEA. <i>Comment: The LFWEA Forest Management Plan was completed in June 2021.</i>	100%
Objective 3: Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate. <i>Comment: FWC staff continues to consult with the FFS/professional forestry consultants as needed and appropriate.</i>	100%
Cultural and Historical Resources	
Goal 8: Protect, preserve, and maintain the cultural resources of the WEA.	
Short-term (November 2013 - November 2015)	
Objective 1: Ensure all known sites are recorded in the Florida Division of Historical Resources (DHR) Master Site file. <i>Comment: DHR conducted a reconnaissance level survey for historical resources in 2017 and discovered 12 archaeological sites on the area. Nine of these sites have been identified as meeting the DHR's special criteria for annual monitoring and reporting.</i>	100%
Objective 2: Continue to monitor, protect, and preserve as necessary any future identified sites.	100%

<i>Comment: FWC staff continues to annually monitor and report on nine of the identified archaeological sites on the area and continue to monitor the remaining three on an annual basis.</i>	
Objective 3: FWC will coordinate with DHR to determine when a reconnaissance-level archaeological survey may be conducted. <i>Comment: The reconnaissance survey was completed by the DHR in 2017.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 4: Cooperate with DHR or trained FWC staff in designing site plans for development of infrastructure. <i>Comment: FWC staff continues to cooperate with the DHR in designing site plans for development of infrastructure.</i>	100%
Objective 5: Continue to monitor, protect, and preserve as necessary any future identified sites. <i>Comment: FWC staff continues to annually monitor and report on nine of the identified archaeological sites on the area and continue to monitor the remaining three on an annual basis.</i>	100%
Objective 6: Coordinate with DHR for Archaeological Resources Management training for area staff. <i>Comment: Local FWC staff are Archaeological Resources Management certified.</i>	100%
Capital Facilities and Infrastructure	
Goal 9: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.	
Short-term (November 2013 - November 2015)	
Objective 1: Continue to maintain one parking area facility. <i>Comment: FWC staff continues to maintain the entrance parking area facility.</i>	100%

Objective 2: Design and construct one area entryway facility capable of accommodating vehicles with trailers. <i>Comment: The entryway facility capable of accommodating vehicles with trailers was completed in the 2014-2015 fiscal year.</i>	100%
Objective 3: Maintain 21 miles of roads. <i>Comment: FWC staff continues to maintain all roads on the LFWEA.</i>	100%
Objective 4: Construct 7.5 miles of trails. <i>Comment: FWC staff constructed the 7.69 mile Tucker Trail during this period which increased the carrying capacity to 204.</i>	100%
Long-term (November 2013 – November 2023)	
Objective 5: Monitor trails and infrastructure biannually for visitor impacts. <i>Comment: FWC staff continues to regularly monitor trails and infrastructure for visitor impacts.</i>	100%
Objective 6: Continue to maintain 21 miles of roads. <i>Comment: FWC staff continues to maintain all roads on the LFWEA.</i>	100%
Objective 7: Continue to maintain 7.5 miles of trails. <i>Comment: FWC staff continues to maintain all trails on the LFWEA.</i>	100%
Objective 8: Continue to maintain two area entryway facilities. <i>Comment: FWC staff continues to maintain all facilities on the LFWEA.</i>	100%
Land Conservation and Stewardship Partnerships	
Goal 10: Enhance wildlife conservation, resource, and operational management through development of an optimal boundary.	
Short-term (November 2013 - November 2015)	
Objective 1: Identify important wildlife resources, habitat, landscape-scale linkages, and wildlife corridors for operational/resource management that may be important to the continued viability of fish and wildlife populations in the region.	100%

<i>Comment: During the development of the LFWEA Management Plan, the FWC developed an OCPB (Optimal Conservation Planning Boundary) for the area to determine potential habitat and resource needs to further enhance the area.</i>	
Objective 2: Develop a Conservation Action Strategy. <i>Comment: The FWC has developed a Conservation Action Strategy for the LFWEA.</i>	100%
Objective 3: Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship, partnerships, and potential conservation easements. <i>Comment: FWC staff regularly discusses the voluntary Landowner's Assistance Program with multiple adjoining landowners.</i>	100%
Objective 4: Identify and recommend parcels for addition to the FWC acquisition list. <i>Comment: FWC staff continues to work to identify and pursue any potential conservation acquisition needs and regularly interact with adjoining landowners and other agencies and assess potential conservation stewardship partnerships.</i>	100%
Objective 5: Identify potential non-governmental organization partnerships and grant program opportunities. <i>Comment: The FWC continues to work towards identifying partnerships and grant opportunities as needed and appropriate.</i>	100%
Objective 6: Conduct a landowner assistance/conservation stewardship partnership workshop for adjoining landowners as feasible. <i>Comment: The FWC assessed the need for and the feasibility of a landowner's assistance/conservation stewardship partnership workshop and determined it unnecessary at this time.</i>	100%
Objective 7: Collaborate with SRWMD on mutual management opportunities and efficiencies. <i>Comment: The FWC continues to collaborate with the SRWMD on mutual management opportunities and efficiencies.</i>	100%
Objective 8: Coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel such as Gulf Regional Air Space Initiative (GRASI) and other initiatives as appropriate and compatible with the conservation of the LFWEA.	100%

<i>Comment: The FWC continues to coordinate and cooperate with Department of Defense military branches to allow for training opportunities as appropriate and compatible with the conservation of the LFWEA.</i>	
Long-term (November 2013 – November 2023)	
Objective 9: Continue to identify strategic parcels to revise the completed optimal conservation planning boundary for the LFWEA as deemed necessary. <i>Comment: The FWC regularly reviews and updates the LFWEA OCPB to determine if any additions or revisions are necessary.</i>	100%
Objective 10: Continue to identify and recommend parcels for addition to the FWC acquisition list. <i>Comment: FWC staff developed an OCPB for the LFWEA, and the FWC has identified nominations to the FWC Additions and Inholdings which are included in Appendix 12.19 of this Management Plan.</i>	100%
Objective 11: Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. <i>Comment: FWC staff continues to work to identify and pursue any potential conservation acquisition needs and regularly interact with adjoining landowners and other agencies to assess potential conservation stewardship partnerships.</i>	100%
Objective 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. <i>Comment: FWC staff regularly discusses the voluntary Landowner's Assistance Program with multiple adjoining landowners.</i>	100%
Objective 13: Coordinate landowner assistance/conservation stewardship partnership workshop as deemed appropriate. <i>Comment: The FWC assessed the need and feasibility of a landowner's assistance/conservation stewardship partnership workshop and determine it unnecessary at this time.</i>	100%

Objective 14: Continue to collaborate with SRWMD on mutual management opportunities and efficiencies. <i>Comment: The FWC continues to collaborate with the SRWMD on mutual management opportunities and efficiencies.</i>	100%
Objective 15: Continue to coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel such as Gulf Regional Air Space Initiative (GRASI) and other initiatives as appropriate and compatible with the conservation of the LFWEA. <i>Comment: The FWC continues to coordinate and cooperate with Department of Defense military branches to allow for training opportunities as appropriate and compatible with the conservation of the LFWEA.</i>	100%
Climate Change Goal 11: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the LFWEA.	
Long-term (November 2013 – November 2023)	
Objective 1: Coordinate with FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the LFWEA. <i>Comment: FWC staff continues to coordinate with the FWC-FWRI Climate Change Adaptation Initiative including participating in climate change workshops.</i>	100%
Objective 2: Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the LFWEA. <i>Comment: FWC staff continues to assess the need for updating monitoring protocols and management strategies into the OBVM program for the LFWEA.</i>	100%
Objective 3: Incorporate appropriate climate change adaptation strategies into the WCPR for LFWEA. <i>Comment: FWC staff continues to assess the need for incorporating climate change strategies into the WCPR program for the CWMA.</i>	100%

Objective 4: As appropriate, update the LFWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of LFWEA's fire-adapted habitats. <i>Comment: FWC staff continues to assess the need for updating the LFWEA Prescribed Fire Burn Plan to incorporate new scientific information regarding projected climate change.</i>	100%
Objective 5: As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency's policies, programs and efforts to study, document and address potential climate change; assess the need to incorporate public education about climate change into the update of the Recreation Master Plan. <i>Comment: FWC staff continues to assess the need to document, incorporate, and provide education on evolving science, technology, and policy on climate change.</i>	100%
Research Opportunities Goal 12: Explore and pursue cooperative research opportunities.	
Long-term (November 2013 – November 2023)	
Objective 1: Explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc. as appropriate. <i>Comment: FWC staff continues to explore cooperative research opportunities with universities and other research entities.</i>	100%
Objective 2: Continue to cooperate with researchers, universities, and others as appropriate. <i>Comment: FWC staff continues to cooperate with universities and other research entities as appropriate.</i>	100%
Objective 3: Continue to assess the need for and pursue research and conservation education partnership opportunities as appropriate. <i>Comment: FWC staff continues to explore conservation education partnership opportunities as appropriate.</i>	100%

5 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 historical resources. In general, the FWC management intent for the LFWEA 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 fish and wildlife resource based public outdoor recreational opportunities on the LFWEA. 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, as noted earlier, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

On-site reviews of conservation and recreation lands that exceed 1,000 acres and are titled in the name of the Board of Trustees are required every five years by Section 259.036, F.S. These reviews determine whether the lands are being managed for the purposes for which they were acquired and whether they are being managed in accordance with their land management plan adopted pursuant to Section 259.032, F.S. According to statute, the review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

A land management review of the LFWEA was conducted in February of 2018, and the results of that review and the FWC responses to recommendations are included as Appendix 12.6. It was determined that the LFWEA is being managed in accordance with the purposes for acquisition and that management practices, including public access, are in compliance with the management plan.

5.2 Adaptive Management

Adaptive management is "learning by doing";⁶ it is the adjustment or modification of conservation actions to achieve a desired conservation goal. In practice, adaptive management is a rigorous process that includes sound planning and experimental design with a systematic evaluation process that links monitoring to management.^{6, 7} Adaptive management requires flexibility for implementation, but should be fitted over a fundamentally sound, well-planned design.

An adaptive management process produces the strongest inference and most reliable results when experimental design components are incorporated into the monitoring process. Adaptive management is most rigorously applied in an active format when components of experimental

design (i.e., controls, replication, and randomization) are included in the monitoring process.^{6, 7} Incorporating valid statistical analyses of results will further enhance the value of the adaptive management process. However, in some situations, rigorous experimental design procedures can be relaxed without invalidating monitoring results. In a passive format, adaptive management can involve applying a conservation action at a site, observing the results, and adjusting the action in the future if warranted.⁸

Proposed adaptive management, monitoring, and performance measures are developed through literature reviews and FWC staff meetings. Overall, a results-based approach is incorporated into this Management Plan, for which effective monitoring is an integral component. The FWC will monitor conservation actions, species, habitats, and major threats to the conservation of the natural and historical resources of the LFWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal required criteria for the management of the LFWEA. Monitoring and performance measures are important, but often overlooked elements, of conservation planning. Monitoring provides the critical link between implementing conservation actions and revising management goals.

Monitoring is the systematic, repeated measurement of environmental characteristics to detect changes, and particularly trends, in those characteristics. Monitoring provides essential feedback – the data needed to understand the costs, benefits, and effectiveness of planned conservation actions and the management projects undertaken to address them.⁶

For natural communities, monitoring protocols are established through FWC's Objective-Based Vegetation Management (OBVM, Section 5.3.1) program, which monitors how specific vegetative attributes are responding to FWC management. For imperiled and other locally important fish and wildlife species, monitoring protocols are established through the FWC's Wildlife Conservation Prioritization and Recovery (WCPR, Section 5.4.2) program. FWC staff may monitor additional fish and wildlife species when deemed appropriate. Non-native and invasive plant and animal species (Section 5.5) are also monitored as needed and appropriate. Recreational uses are monitored through the FWC's Public Access Services Office (PASO) program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.3). Historical resources (Section 5.9) are monitored with guidance from the DHR.

5.2.2 Performance Measures

Performance measures include qualitative or quantitative measures used to provide an estimate or index of the characteristic of interest, and to chart the overall progress of conservation actions towards specific goals. Successful monitoring programs and their associated performance measures provide natural resource professionals with valuable feedback on the effectiveness of conservation actions and make it possible to implement a more flexible adaptive management approach. An adaptive management approach ultimately will be more

efficient and effective when it tracks inputs, incorporates an effective monitoring program that integrates performance measures, and evaluates results against desired goals.

5.2.3 Implementation

The LFWEA Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs (OBVM, WCPR, PASO, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of the LFWEA and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary and the adaptive management process is repeated.

5.3 Habitat Restoration and Improvement

On the LFWEA, the FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of disturbed areas. 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. The conservation of old growth forest remains an important management consideration when found on an area. The LFWEA has quality native communities including mesic and scrubby flatwoods, basin marsh, bottomland forest, depression marsh, dome swamp, floodplain swamp, upland hardwood forest, and wet flatwoods that the FWC will continue to manage and protect. On disturbed upland sites, the FWC intends to continue natural community restoration.

FNAI has conducted surveys and mapped the current and historic vegetative communities on the LFWEA. This information will be used to guide and prioritize management and restoration efforts on the area.

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to managing the FWC-managed areas. Restoring and maintaining 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 attributes are responding to FWC management.

The first step in implementing OBVM is to map the current, and in most cases the historic natural communities, on the managed area using the FNAI Natural Community Classification. The FWC contracts with FNAI to provide these mapping services and plans to have natural community maps recertified on most areas on a five-year basis. 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, FWC land managers will identify those natural communities that will influence and guide management decisions, known as the actively managed natural communities. Through OBVM monitoring, the FWC collects data on a number

of specific vegetation attributes that provide insight about the condition of the natural community. Because the FWC is interested in the overall effect of management on the natural communities, OBVM data is analyzed at the natural community level.

Measurable habitat management objectives referred to as ‘desired future conditions’ are established for each actively managed natural community. Desired future conditions are the acceptable range of values for quantifiable vegetation attributes, such as basal area, shrub height and cover, and ground cover. The FWC collaborated with FNAI to identify ‘reference sites’ for each actively managed natural community and applied the OBVM monitoring methodology at these reference sites to determine what attribute values occur in a high-quality community (<http://www.fnai.org/reference-natural-communities.cfm>). FWC staff considers the reference site attribute values when setting area-specific desired future conditions for natural communities.

Vegetation monitoring samples the selected attributes, with the results being compared to the established desired future conditions. All monitoring performed under OBVM is completed using the program’s Standard Operating Procedures.

Consistent, long-term monitoring of managed natural communities will quantify changes in habitat conditions, provide information on the cumulative effects of management activities, and measure progress toward meeting management objectives for desired habitat conditions. Measured changes in vegetation condition are intended to be used to inform future land management actions.

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 important operational information on a natural community’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. By comparing natural community mapping products through the years, managers can track progress in moving altered communities to functioning natural communities.

5.3.2 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 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 planting and harvesting, 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 maintain or increase both species and habitat diversity and will continue a prescribed burning program on the LFWFA in accordance with vegetative management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads or wetland areas inundated with water will not carry fire as evenly, and usually burn at a lower intensity, if at all. Employing a burning program with different fire frequencies, intensities, and seasonality (dormant season vs. growing season) of prescribed burns creates habitat diversity and a mosaic of vegetation patterns. This mosaic landscape will have characteristics of both frequently and infrequently burned areas, benefitting the greatest suite of flora and fauna.

On some areas, prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. This condition creates unsuitable habitat for many wildlife species. Mechanical control of brush on upland sites by mowing, roller chopping, shredding, or incidentally by equipment during commercial timber thinning operations can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire. Mowing and roller chopping can be valuable management tools, 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 should be limited to situations where burning can only be effectively accomplished by a mechanical reduction of woody vegetation.

Whenever possible, existing firebreaks such as roads and trails, as well as natural breaks such as creeks and wetlands, will be used to define management units. Minimum-Impact Suppression Techniques, such as disk harrows, mowing, and foam lines, will be used as necessary to minimize disturbance and damage created by fire plows.

The transitional areas between two adjacent but different vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided 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 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 2-3 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 has been developed and implemented for the LFWFA (Appendix 12.11). This plan includes, but is not limited to, delineation of burn

management units, descriptions of prescribed fire methodology, safety, and smoke management guidelines.

During the previous 10-year planning period, 100% of the area's fire adapted communities were treated with prescribed fire. Approximately 100% of the fire-adapted communities are maintained within the recommended fire return intervals. As detailed in the goals and objectives in Section 6 below, the FWC plans to continue prescribed burning on the area's fire adapted communities within the recommended fire return intervals during this planning period. Potential projected challenges with continuing to successfully implement prescribed fire on the area are described further in Section 7. The continuing benefits of prescribed fire on the area's wildlife habitats along with other ongoing habitat restoration activities that are being implemented on the LFWEA are discussed in more detail below.

5.3.3 Habitat Restoration

Significant habitat management activities have taken place within many of the natural communities of the LFWEA over the course of the previous management period beginning in 2013. Since 2013, all management units with fire-adapted natural communities have been burned, most on a repeated basis as established within the management plan. This has aided in the restoration of native ground cover and improved wildlife habitat throughout the LFWEA. In addition to conducting prescribed burning, chemical treatments have been conducted on 462 acres, mechanical treatments have been conducted on 1,277 acres, and timber harvesting has been conducted on 643 acres of pine plantation to further improve and restore the natural communities at the LFWEA. Additionally, planting of longleaf pine on 233 acres, wiregrass on 204 acres, and lopsided Indiangrass on two acres has been done to further natural community restoration and improve habitat quality for wildlife such as the gopher tortoise.

In addition to prescribed fire, natural communities on the LFWEA that are under some level of habitat restoration include mesic flatwoods, wet flatwoods, and sandhill. Continuing habitat management activities on the LFWEA will focus on enhancing natural communities, maintaining recommended fire return intervals, treating and removing invasive plant species, and controlling vegetation through mechanical means as needed. Invasive species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for the LFWEA are delineated in Section 6 below.

5.4 Fish and Wildlife Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

5.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare, imperiled, common game, and non-game species, can be found on the LFWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection, and management of natural communities. As noted above, natural communities important to wildlife include mesic flatwoods, dome swamp, and depression marsh. Natural communities that are less represented

on the LFWEA include floodplain swamp, upland hardwood forest, bottomland forest, basin marsh, wet flatwoods, and scrubby flatwoods.

The size and natural community diversity of the LFWEA creates a habitat mosaic for a wide variety of wildlife species. Resident wildlife will be managed for optimum richness, diversity, and abundance. In addition to resident wildlife, the LFWEA provides resources critical to many migratory birds including waterfowl, passerines, raptors, and others. Habitats important to migratory species will be protected, maintained, or enhanced.

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. The potential for conflicts among recreational activities and user groups will also be considered and continually monitored.

Wildlife monitoring emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. The FWC will continue to conduct species inventory, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area.

Concurrent with ongoing species inventory and monitoring activities, management practices are designed to restore, enhance, or maintain rare and imperiled species and their habitats. This will be further augmented by following approved Federal and FWC species recovery plans, guidelines, and other scientific recommendations for these species. Guided by these recommendations, land management activities including prescribed burning and timber stand improvements will address rare and imperiled species requirements and habitat needs. Section 5.4.2 and Appendix 12.12 provides further information on FWC's comprehensive species management strategy for rare and imperiled wildlife and their respective habitats.

5.4.2 Imperiled and Other Locally-Important Species: Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate 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 wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to managing 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 the FWC management and uses the WCPR program to ensure management is having the desired effect on wildlife.

The goal of WCPR is to provide assessment, recovery, and planning support for the FWC-managed areas to enhance management of locally-important species and the recovery of imperiled species. WCPR program objectives include prioritizing what the FWC does for

imperiled and important species on the FWC-managed areas; ensuring the actions taken on these areas are part of statewide conservation programs and priorities; and informing others about the work accomplished on lands the FWC manages.

The WCPR program helps the FWC take a proactive, science-based approach to species management on FWC-managed lands, and in conjunction with input from species experts and people with knowledge of the area, creates site-specific wildlife assessments for imperiled wildlife species and a select suite of other locally-important species which are the focus of the WCPR program. Staff combines these assessments with area-specific management considerations to develop a WCPR Species Management Strategy (WCPR Strategy) for the area. Each WCPR Strategy contains area-specific measurable objectives for managing priority species and their habitat, prescribes management actions to achieve these objectives, and identifies monitoring protocols to verify progress toward meeting the objectives. By providing FWC managers with information on actions they should undertake, the FWC intends for the WCPR Strategy to assure the presence and persistence of Florida's endangered and threatened fish and wildlife species (see <https://myfwc.com/media/1945/threatend-endangered-species.pdf>), as well as select WCPR locally important species found on the area.

In summary, for FWC-managed areas, the WCPR program helps assess imperiled and other locally-important wildlife species needs and opportunities, prioritize what the FWC does for imperiled and other locally-important species, prescribe management actions to aid in species recovery, prescribe monitoring protocols to allow evaluation of the species' response to management, and ensure the information is shared with others. Through the actions of this program, the FWC will facilitate fulfilling the needs of locally important and imperiled wildlife species on the LFWFA. In the long-term, by implementing these strategies on FWC-managed lands and continuing to assess wildlife species' needs, the FWC will continue to play an integral role in aiding the recovery of imperiled species and preventing the future imperilment of declining wildlife species.

The FWC completed a WCPR Strategy for the LFWFA in November 2014 (Appendix 12.12). The Strategy recommends formal monitoring for four species (gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and Florida mouse) and recommends opportunistic monitoring for several others. An update to the WCPR Strategy is scheduled to be completed in 2025.

During the previous planning period the FWC conducted a gopher tortoise survey to monitor the local population, a Florida mouse survey to determine if Florida mice are present on the area, and began surveys for Bachman's sparrows and brown-headed nuthatches. Gopher tortoise surveys will continue to be conducted on the area every five years. Bachman's sparrow and brown-headed nuthatch surveys will continue to be completed annually. Surveys for Florida mice will no longer be conducted due to a revision of listing status in 2017, but their presence will continue to be captured through taxa specific inventory-style monitoring. FWC staff also completed small mammal surveys for rodent species and drift-fence surveys for herpetofauna to increase knowledge of the presence of local species. FWC staff will continue inventory-style

monitoring to record avian, mammal, and herpetofauna observations on the LFWEA and contribute to ongoing imperiled species monitoring.

5.5 Non-native and Invasive Species Maintenance and Control

The FWC will continue efforts to control the establishment and spread of FLEPPC Category I and II plants on the LFWEA. 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.

Invasive plant species known to occur on the LFWEA and treated annually by the FWC include cogon-grass, Japanese climbing fern, mimosa, and tropical soda apple (Table 5). Currently there are no areas within the LFWEA that are identified as infested with invasive plant species. The FWC will continue to monitor for exotic and invasive plant species and will document and treat as needed and appropriate.

Additionally, the FWC will continue efforts to control the introduction of non-native and invasive species, as well as pests and pathogens, on the LFWEA by inspecting any equipment brought onto the area by contractors and requiring that they be free of vegetation and dirt. If equipment used by contractors are found to be contaminated, they will be referred to an appropriate location to clean the equipment prior to being allowed on the area. This requirement is included in every contract for contractors who are conducting any operational or resource management work on the area. In this way, the FWC implements a proactive approach to controlling the introduction of exotic pests and pathogens to the area.

An exotic animal species of concern on the LFWEA is the wild hog. These animals have high reproductive rates and when populations reach high densities, wild hogs can significantly degrade natural communities through foraging activity (rooting). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate wild hog control measures, as necessary. Wild hog populations are partially controlled by quota hunt seasons for archery, muzzleloading gun, family hunt, and wild hog-still hunts. Wild hog populations may also be controlled by trapping, as necessary, to aid in minimizing the negative impacts caused by wild hog populations on the area.

Currently, maintenance and control of invasive and non-native plant species (Table 5) continues to be highly successful at the LFWEA. During the previous 10-year planning period, the FWC continued to implement extensive invasive species control and maintenance activities throughout the LFWEA. These included invasive plant species treatments on a total of ten acres, although no areas have been classified as infested. The FWC will continue to monitor for invasive plant occurrences, as well as treating any new occurrences as they are identified. Ongoing non-native and invasive plant species objectives and challenges for the LFWEA are further detailed in Sections 6 – 7 below.

5.6 Public Access and Recreational Opportunities

To facilitate wildlife viewing recreational opportunities on the area, the FWC has continued to establish and maintain hiking trails, public access roads, and informational kiosks. During the previous 10-year planning period, the FWC completed several public access, recreational, and facility improvements on the LFWFA, including trail development and the completion of a new parking area near the entrance to Mallory Swamp Wildlife Management Area with an additional two-panel kiosk. Further planned public access facility improvements are detailed in Section 6 below. Ongoing public access and recreational opportunity management challenges are addressed in Section 7 below. In addition, the FWC will continue to implement public access, recreational, and educational opportunities on the area in accordance with the LFWFA Recreational Master Plan (Appendix 12.13) and the soon to be developed Recreation Assessment.

5.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (ADA) (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 as allowed by the ADA⁹ where:

1. Compliance will cause harm to historical resources 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.

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for the LFWFA. To accomplish this, a Recreation Master Plan for the LFWFA was completed in 2013. The FWC will work with recreational stakeholders and the general public to update the Recreation Master Plan as needed for the LFWFA (Appendix 12.13). The Recreation Master Plan will continue to be used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. The Recreation Master Plan also includes planning for parking, trail design, and area resource interpretation.

5.6.3 Public Access Carrying Capacity

Baseline carrying capacities for 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 carrying capacities as necessary. The carrying capacities generated through this process are used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife resource based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities and the anticipated proportional visitation levels of the various user groups, the FWC has determined that the LFWEA can currently support 204 visitors per day. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum thresholds for public use of the respective area in order to protect the natural and historical resources on the LFWEA and to ensure that visitors will have a high-quality visitor experience. The public access carrying capacity will be periodically reevaluated, and additional capacity may be contemplated as part of the Recreation Master Plan development and implementation process.

5.6.4 Wildlife Viewing

The LFWEA is home to a variety of resident wildlife found within its mesic flatwoods and other natural communities. The LFWEA’s size and variety of habitat types create outstanding wildlife viewing opportunities. Additionally, wildlife viewing opportunities are projected to increase upon the completion of planned improvements for public access and wildlife viewing outlined in Section 6.8 of this Management Plan.

5.6.5 Hunting

Currently, the LFWEA offers several hunting opportunities, including archery, small game, muzzleloading gun, family hunt, turkey, hog, and migratory birds.

5.6.6 Fishing

Fishing is authorized year-round at the LFWEA.

5.6.7 Trails and Roads

Currently, the LFWEA offers 7.69 miles of marked, multi-use trails and 26.3 miles of roads. Hiking is available on all roads and trails within the LFWEA. Additionally, there are approximately 7.1 miles of those roads for public vehicular access and the remainder used by staff to access the LFWEA for management.

5.6.8 Bicycling

Bicycling is permitted year-round on the LFWEA.

5.6.9 Equestrian

Currently, the LFWEA offers 7.69 miles of marked, multi-use trails and 26.3 miles of roads that are available for equestrian users. One entryway on the LFWEA contains a parking area suitable for trailers.

5.6.10 Camping

Camping is not permitted on the LFWEA, however camping opportunities are available on nearby public lands.

5.6.11 Geocaching

Geocaching, also known as Global Positioning System (GPS) Stash Hunt and GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS receiver unit. 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 the FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following FWC website:

<https://myfwc.com/license/public-land-use/geocaching/guidelines/> .

5.7 Hydrological Preservation and Restoration

5.7.1 Hydrological Assessment

The FWC contracted with WRS Infrastructure & Environment, Inc. to conduct a hydrological assessment and conceptual restoration plan of the LFWEA, which was completed in June 2010. This assessment was conducted to provide a plan that identifies anthropogenic impacts to hydrology on the LFWEA and a plan to restore natural water regimes to the extent practical.

The FWC worked cooperatively with the SRWMD to implement recommendations from the hydrological assessment to install and maintain culverts in 15 locations and flashboard water control structures at six locations on the LFWEA. FWC staff will continue to implement restoration activities including installing and maintaining low-water crossings and culverts in accordance with the assessment.

5.7.2 Water Resource Monitoring

Currently, the FWC cooperates with the DEP and the SRWMD for the monitoring of surface and ground water quality and quantity and will continue to cooperate with those agencies to develop and implement any additional surface water quality and quantity monitoring protocols for the LFWEA. In this capacity, the FWC will primarily rely on the expertise of the SRWMD and the DEP to facilitate these monitoring activities. As necessary, the FWC may independently conduct or contract for water resource monitoring on the LFWEA, as guided by the DEP and the SRWMD.

5.8 Forest Resource Management

A Timber Assessment of the forest resources of the LFWEA was conducted by the FFS in 2010 and by Southern Forestry Consultants, Inc., a private forestry consultant, in 2011 (Appendix 12.14). The management of forest resources will be considered in the context of the Timber

Assessment and the overall land management goals and activities. Additionally, a Forest Management Plan was completed in June 2021. The management of timber resources will be considered in the context of the Forest Management Plan and the overall land management goals and activities. A copy of this Forest Management Plan will be available upon request by contacting the Land Conservation and Planning office at (850) 487-7063. The FWC will continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

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 management goals, the 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 as appropriate.

5.9 Historical Resources

Procedures outlined by the DHR will be followed to preserve the historical sites of the LFWEA. The FWC will consult with the DHR in an attempt to locate any additional historical features on the area. In addition, the FWC will ensure management staff has the DHR Archaeological Resources Monitoring training. The FWC will refer to and follow the DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for management of these resources and prior to any facility development or other ground disturbing activities. Furthermore, as appropriate and necessary, the FWC will contact professionals from the DHR for assistance prior to any ground-disturbing activity on the LFWEA.

To date, the DHR Master Site File currently indicates 12 known archaeological sites on the LFWEA. The FWC will submit subsequently located historic sites on the LFWEA to the DHR for inclusion in their Master Site File. In cooperation with DHR, nine of the overall known archaeological sites on the LFWEA have been identified as meeting the DHR's special criteria for annual monitoring and reporting; the FWC will continue to monitor and report on these sites annually. Additionally, the FWC will also continue to monitor the remaining three sites that are located on the area on an annual basis.

5.10 Capital Facilities and Infrastructure

The FWC's land management philosophy is designed to conserve the maximum amount of wildlife habitat while providing the minimal number of capital facilities and infrastructure necessary to effectively conduct operational and resource management activities and provide ample opportunities for fish and wildlife resource based public outdoor recreation. For these reasons, planned capital facilities and infrastructure will focus on improving access, recreational potential, hydrology, or other resource and operational management objectives.

Current infrastructure on the LFWFA is comprised of three capital facilities:

- Entrance area
- Chorus Frog Loop Trailhead with parking and informational kiosk
- Main Trailhead with parking, informational kiosk, and picnic area

As described in Section 5.6.1 of this Management Plan, for any public facilities that are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

5.11 Land Conservation and Stewardship Partnerships

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. This involves development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB), and associated Conservation Action Strategy (CAS). Increasingly, cooperative land steward partnership efforts with private landowners plays an integral role in this effort as does ongoing land conservation, either through fee-simple or less-than-fee conservation easements. In combination, this tiered model helps the FWC to further the regional conservation of important fish and wildlife habitats through a proactive, comprehensive, and cooperative approach towards conservation.

5.11.1 Optimal Resource Boundary

This three-tiered model begins with the development of an ORB, which is a resource-based analysis on a regional scale that integrates important FWC conservation research and analysis into practical planning, acquisition, and management efforts through GIS analysis. The ORB focuses on critical and important wildlife species or habitat considerations such as rare and imperiled species habitat within a particular region or ecosystem-like area on a landscape scale within which an FWC-managed area is contained while eliminating urban areas or lands that have already been conserved or protected.

5.11.2 Optimal Conservation Planning Boundary

The second tier is known as the OCPB. The OCPB combines the regional natural resources identified in the ORB, as well as regional and local area conservation planning, including habitat conservation and restoration, habitat linkages, management challenges, land use and zoning issues, infrastructure including roads and developments, improving access, eliminating

inholdings, providing prescribed burn buffers, resolving boundary irregularities, water resource protection, and conserving other important natural and historical resources.

The OCPB provides the basis for development of a broader CAS for the LFWEA. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region. As they are currently managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS (Appendix 12.19) is the third tier which implements the results of the ORB and OCPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy that prioritizes conservation needs. The CAS is integral to the development of conservation stewardship partnerships and also implements the current approved process for establishing the FWC Florida Forever Inholdings and Additions acquisition list.

Primary components of the CAS may include:

- FWC Landowner Assistance Program
- FWC conservation planning
- FWC Additions and Inholdings Program Land Conservation Work Plan
- Forest Stewardship Program proposals
- Florida Forever project proposals and boundary modifications
- Conservation easements
- Federal or State grant conservation proposals
- Regional or local conservation proposals
- Local, state, and federal planning proposals
- Non-governmental organization conservation proposals

Continued conservation of these lands may be aided by available voluntary landowner stewardship programs, conservation easements, and, in some cases, potential voluntary conservation acquisitions. Participation in any FWC conservation effort is entirely voluntary and at the sole choice of willing landowners.

Private landowners seeking assistance with habitat management will likely find it offered within FWC's Landowner Assistance Program (LAP). The FWC employs biologists who are available to provide wildlife-related assistance with land-use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. More information on FWC's LAP program and online habitat management tools are available online at: <http://myfwc.com/conservation/special-initiatives/lap/>.

5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

The FWC Additions and Inholdings Acquisition list identifies lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, have a high resource value that would otherwise be unprotected, or that could be acquired at substantially less than fair market value. Parcels on the list have been ranked high, medium, or low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff.

The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, unique acquisition opportunities like bargain sales (less than 80% of appraised value), and donations.

The FWC Additions and Inholdings list is updated through time, thus staying up-to-date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC continually analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time. Participation in any of these FWC acquisition efforts is entirely voluntary and at the sole choice of willing landowners.

Currently, there are 55 parcels totaling approximately 4,593 acres on the FWC Florida Forever Additions and Inholdings list for the LFWFA (Appendix 12.19). Additionally, 10,253 acres of the Lafayette Forest Florida Forever project remain to be acquired. Additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended as necessary and appropriate.

5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For the LFWFA, the FWC will continue to assess and identify research needs and pursue research and environmental education partnership opportunities as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on the LFWFA must have prior approval by the FWC.

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the LFWFA as set forth in the lease agreements with the Board of Trustees. In keeping with the lease agreements and to conduct its management operations in the most effective and efficient manner, the FWC cooperates with other agencies to achieve management goals and objectives described in this management plan. These include cooperating with the DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources

document (Appendix 12.15) are followed with regard to any ground-disturbing activities. In addition, the FFS assists the FWC by providing technical assistance on forest resource management. Also, the FWC cooperates and consults with the SRWMD and the DEP for the monitoring and management of both ground and surface water resources and the overall management of the LFWEA.

5.13.2 First Responder and Military Training

First-responder (public governmental police department or agency, fire, and emergency medical service personnel) training and military training are conditionally allowed on the LFWEA. Such activities are considered allowable uses only when undertaken intermittently for short periods of time and in a manner that does not impede the management and public use of the LFWEA and causes no measurable long-term impact to the natural resources of the area. Additionally, FWC staff must be notified and approve the training through issuance of a permit prior to any such training taking place on the LFWEA. Any first-responder or military training that is not low-impact, intermittent, and occasional would require an amendment to this management plan, and therefore will be submitted by the FWC to the DSL and ARC for approval consideration prior to authorization.

5.13.3 Apiaries

Currently, there are no apiaries operating on the LFWEA. However, use of apiaries is conditionally approved for the LFWEA 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 12.9). Location, management, and administration of apiaries on the LFWEA will be guided by the FWC Apiary Policy (Appendix 12.10).

5.14 Climate Change

Because of Florida's unique ecology and topography, any potential impacts as a result of climate change may be particularly acute and affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat may already be occurring, from eroding shorelines and coral bleaching to increases in forest fires and saltwater intrusion into inland freshwater wetlands.

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is likely proceeding at a rate where there will be unavoidable impacts to humans, wildlife, and habitat. Given current levels of heat-trapping greenhouse gas emissions, shifts in local, regional, and national climate patterns including changes in precipitation, temperature, increased frequency and intensity of extreme weather events, rising sea levels, tidal fluctuations, and ocean acidification are projected. The current trend of global temperature increase has appeared to accelerate in recent decades, and continued greenhouse gas emissions may result in projected global average increases of 2 –11.5° F by the end of the century.¹⁰

This apparent change in global climate has the potential to disrupt natural processes; in some areas, climate change may cause significant degradation of ecosystems that provide services such as clean and abundant water, sustainable natural resources, protection from flooding, as well as hunting, fishing, and other recreational opportunities. Consequently, climate change is a challenge not only because of its likely direct effects, but also because of its potential to amplify the stress on ecosystems, habitats, and species from existing threats such as exponential increases in surface and ground water use, habitat loss due to increased urbanization, introduction of invasive species, and fire suppression.

Potential impacts that may be occurring as a result of climate change include: change in the timing of biological processes, such as flowering, breeding, hibernation, and migration;^{11, 12, 13} more frequent invasions and outbreaks of exotic and invasive species;¹⁴ and loss of habitat in coastal areas due to sea level rise.¹⁵ Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.¹⁶ A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the potential effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. For example, the FWC has begun a process for currently developing climate change adaptation strategies for monitoring, evaluating, and determining what specific actions, if any, may be recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of exotic and invasive species. Currently, the FWC is continuing its work on the development of these potential adaptation strategies. However, as noted above, the effects of climate change may become more frequent and severe within the time period covered by this Management Plan.

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that the FWC can take are to work with partners to gather the best scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. To this end, when appropriate, the FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that the FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, the FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change, especially sea level rise and storm events, on imperiled species and their habitats on FWC-managed land.

To address the potential impacts of climate change on the LFWEA, Goals and Objectives have been developed as a component of this Management Plan (Section 6.10). Depending on the recommendations of the adaptive management strategies described above, additional specific goals and objectives to mitigate potential climate change impacts may be developed for the LFWEA Management Plan in the future.

5.15 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.

6 Resource Management Goals and Objectives

The management goals described in this section are considered broad, enduring statements designed to guide the general direction of management actions to be conducted in order to achieve an overall desired future outcome for the LFWEA. The objectives listed within each management goal offer more specific management guidance and measures and are considered the necessary steps to be completed to accomplish the management goals. Many of the objectives listed have specific end-of-the-calendar-year target dates for completion and all of them are classified as having either short-term (2021-2023) or long-term (2021-2031) timelines for completion.

6.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Long-term

- 6.1.1** Contract for recertification mapping of current natural communities.
- 6.1.2** Utilize OBVM monitoring to evaluate actively managed natural communities and adjust management efforts to meet desired future conditions as appropriate.
- 6.1.3** Continue to implement the area specific prescribed burning plan.
- 6.1.4** Continue to conduct habitat/natural community improvement, including longleaf pine planting, groundcover augmentation, and mechanical and chemical control of undesirable densities of hardwoods as needed.
- 6.1.5** Conduct timber harvest for the purposes of habitat improvement as guided/instructed in the comprehensive Forest Management Plan.

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

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

Long-term

- 6.2.1** Continue to implement WCPR strategy by managing identified habitats and monitoring imperiled species.
- 6.2.2** Continue to collect and record opportunistic wildlife species occurrence data.
- 6.2.3** Contract for a rare and invasive plant species survey.
- 6.2.4** Update WCPR Strategy by 2025.

6.3 Other Wildlife (Game and Nongame) Habitat Maintenance, Enhancement, Restoration, or Population Restoration.

Goal: Monitor, maintain, improve, or restore game and non-game species populations and habitats.

Long-term

- 6.3.1** Continue to monitor locally important wildlife species as identified in the WCPR strategy.
- 6.3.2** Continue to collect and record opportunistic wildlife occurrence data.

6.4 Non-native and Invasive Species Maintenance and Control

Goal: Remove non-native and invasive plants and animals and conduct needed maintenance and control.

Long-term

- 6.4.1** Contract for a rare and invasive plant species survey.
- 6.4.2** Continue to annually inspect for infestation or presence of FLEPPC Category I and Category II invasive plant species (Table 5) and treat as needed and appropriate.
- 6.4.3** Continue to monitor the need to implement control measures on exotic and nuisance animal species as needed.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

- 6.5.1** Develop a recreation assessment for the area.

Long-term

- 6.5.2** Continue to implement the Recreation Master Plan and update if new acquisitions or other factors warrant.
- 6.5.3** Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 204 visitors per day.
- 6.5.4** Continue to provide two kiosks, website, and trail brochure for interpretation and education.
- 6.5.5** Improve accessibility to the main entrance kiosk and picnic shelter.
- 6.5.6** Continue to maintain 7.69 miles of designated trails.
- 6.5.7** Monitor trails annually for visitor impacts.
- 6.5.8** Continue to provide hunting opportunities for all legal game species including deer, turkey, small game, and wild hogs.
- 6.5.9** Continue to provide fishing opportunities on appropriate water bodies.
- 6.5.10** Cooperate with other agencies, Lafayette County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking and multi-use trail systems between adjacent public areas.

6.6 Hydrological Preservation and Restoration

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

Long-term

- 6.6.1** Continue to install and maintain low-water crossings and culverts as appropriate to maintain and enhance natural hydrological functions.
- 6.6.2** Continue to implement hydrological restoration plan.
- 6.6.3** Continue to cooperate with the SRWMD and the DEP for the monitoring of surface and ground water quality and quantity.

6.7 Forest Resource Management

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

Long-term

- 6.7.1** Continue to implement a Forest Management Plan including reforestation, harvesting, and prescribed burning activities based on restoration and maintenance needs of the natural communities and other goals established for management of LFWEA.
- 6.7.2** Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

6.8 Capital Facilities and Infrastructure

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

Long-term

- 6.8.1** Monitor trails and infrastructure annually for visitor impacts.
- 6.8.2** Continue to maintain three facilities.
- 6.8.3** Continue to maintain 26.3 miles of roads.
- 6.8.4** Continue to maintain 7.69 miles of trails existing on site.
- 6.8.5** Reassess trails and trail routes in response to restoration activities.
- 6.8.6** Investigate the feasibility of a viewing platform and construct if appropriate.

6.9 Historical Resources

Goal: Monitor, protect, preserve, and maintain the historical resources of the LFWEA.

Long-term

- 6.9.1** Ensure all known sites are recorded in the Florida DHR Master Site file.
- 6.9.2** Cooperate with the DHR in designing site plans for development of infrastructure.
- 6.9.3** Cooperate with the DHR to manage and maintain known existing historical resources.
- 6.9.4** Continue to monitor, protect, and preserve as necessary any identified sites.
- 6.9.5** Coordinate with the DHR for cultural resource management guideline staff training.
- 6.9.6** Continue to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for the management of cultural and historic resources



Figure 12. Facility Locations on the LFWEA

6.10 Land Conservation and Stewardship Partnerships

Goal: Enhance wildlife conservation, resource, and operational management through development of an optimal boundary.

Long Term

- 6.10.1** Continue to identify and evaluate potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational management needs for the LFWEA as appropriate and necessary.
- 6.10.2** Continue to contact and inform adjoining private landowners about the FWC Landowners Assistance Program and coordinate with public entities to pursue conservation stewardship partnerships.
- 6.10.3** Continue to evaluate and identify FWC inholdings and additions priority parcels for potential conservation acquisition and pursue acquisitions as funding allows.
- 6.10.4** Continue to maintain a GIS shapefile and other necessary data to facilitate nominations within the FWC landowner assistance and conservation acquisition programs.
- 6.10.5** Continue to identify potential non-governmental land stewardship organization partnerships and grant program opportunities.
- 6.10.6** Determine the efficacy of conducting a landowner assistance/conservation stewardship partnership workshop(s) and pursue as necessary and appropriate.
- 6.10.7** Continue to evaluate and determine if any portions of the LFWEA are no longer needed for conservation purposes and therefore may be designated as surplus lands.

6.11 Climate Change Adaptation

Goal: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on fish and wildlife conservation, resources, and operational management of the LFWEA.

Long-term

- 6.11.1** Coordinate with FWC-Fish and Wildlife Research Institute (FWRI) Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the LFWEA.
- 6.11.2** As appropriate, update the LFWEA Prescribed Fire Plan, WCPR Strategy, and Recreation Master Plan to incorporate new scientific information regarding projected climate change.

6.11.3 Coordinate with FWC-Fish and Wildlife Research Institute (FWRI) Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the LFWEA.

6.12 Cooperative Management, Special Uses, and Research Opportunities

Goal: Provide access and use of the LFWEA to current cooperative managers and continue collaborative management efforts.

Long-term

6.12.1 Continue to cooperate with researchers, universities, FWRI, and others as appropriate.

6.12.2 Coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel and other initiatives as appropriate and compatible with the conservation of LFWEA.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the LFWEA and provides solution strategies that will address these challenges. These specific challenges may not be fully addressed in the broader goals and objectives section above and are thereby provided here.

Challenge 1: Currently, the FWC aims to meet FWC law enforcement and management staff standards and needs.

Strategy: Agency staff levels will continue to be evaluated to determine if increased staffing or other alternatives can improve management needs.

Strategy: Pursue funding for increased law enforcement, management staffing, and additional private sector contract services as appropriate.

Strategy: Explore potential volunteer resources for assisting with management.

Challenge 2: While currently at minimal levels, unauthorized access, illegal dumping, vandalism, poaching, and unauthorized off-road vehicle (ORV) use may pose an increased threat in the future.

Strategy: Continue to provide area-wide security through FWC law enforcement patrols.

Challenge 3: Potential future development on adjacent lands can result in incompatible land uses increasing management challenges for the area.

Strategy: Cooperate and work with Lafayette County to ensure land use and zoning designations adjacent to the LFWEA will continue to be compatible with the management of the area.

Challenge 4: The LFWEA is not a widely known recreational destination.

Strategy: Continue to coordinate and communicate with existing and future partnerships

Strategy: Cross promote the LFWEA with other regional conservation lands.

Challenge 5: McCall's Chapel Grade is expensive to maintain because of impacts from Mallory Swamp and private property access.

Strategy: Continue cooperative management through a Memorandum of Understanding (MOU) with the SRWMD for maintenance and management of McCall's Chapel Grade.

Challenge 6: Excessive wild hog populations in the region are damaging native plants and wildlife and associated habitat.

Strategy: Explore control measures to reduce wild hog population and implement as appropriate.

Strategy: Coordinate with the SRWMD to reduce wild hog population in the region.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the LFWEA. This cost estimate was developed using data developed by the 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 the Land Acquisition Trust Fund and 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 grants and potential project-specific mitigation, may be sought to supplement existing funding as needed.

The cost estimate below, although exceeding what the FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management and is consistent with the current and planned resource management and operation of the LFWEA. Cost estimate categories are those currently recognized by the FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2020-2021 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.18.

<u>LFWEA Management Plan Cost</u> <u>Estimate</u>	<i>Maximum expected one-year expenditure</i>
--	--

<u>Resource Management</u>	<u>Expenditure</u>
Exotic Species Control	\$4,260
Prescribed Burning	\$38,032
Cultural Resource Management	\$1,312
Timber Management	\$2,130
Hydrological Management	\$1,608
Vegetation Monitoring/Management	\$39,711
Wildlife Monitoring/Management	\$13,544
Subtotal	\$100,608
 <u>Administration</u>	
General administration	\$6,106
 <u>Support</u>	
Land Management Planning	\$24,304
Management Reviews	\$0
Training/Staff Development	\$4,155
Vehicle Purchase	\$0
Vehicle Operation and Maintenance	\$17,480
Other (Technical Reports, Data Management, etc.)	\$4,759
Internal Program Review	\$887
Technology and Data Management	\$4,099
Subtotal	\$117,598
 <u>Capital Improvements</u>	
New Facility Construction	\$0
Facility Maintenance	\$51,827
Subtotal	\$51,827
 <u>Visitor Services/Recreation</u>	
Info./Education/Operations	\$7,902
 <u>Law Enforcement</u>	
Resource protection	\$0
 <u>Total</u>	\$284,041*

* Based on the characteristics and requirements of this area, two FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

LFWEA Management Plan Cost Estimate *Ten-year projection*

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$37,427	(1)	(1) Immediate (annual)
Prescribed Burning	\$339,149	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$11,532	(1)	(3) Other (5+ years)
Timber Management	\$18,714	(1)	
Hydrological Management	\$14,128	(1)	
Vegetation Monitoring/Management	\$348,909	(1)	
Wildlife Monitoring/Management	\$119,090	(1)	
<i>Subtotal</i>	\$883,949		
<u>Administration</u>			
General administration	\$53,646	(1)	
<u>Support</u>			
Land Management Planning	\$213,539	(1)	
Management Reviews	\$13,817	(3)	
Training/Staff Development	\$36,504	(1)	
Vehicle Purchase	\$217,883	(2)	
Vehicle Operation and Maintenance	\$153,584	(1)	
Other (Technical Reports, Data Management, etc.)	\$41,811	(1)	
Internal Program Review	\$7,789	(1)	
Technology and Data Management	\$36,011	(1)	
<i>Subtotal</i>	\$720,938		
<u>Capital Improvements</u>			
New Facility Construction	\$317,087	(2)	
Facility Maintenance	\$455,357	(1)	
<i>Subtotal</i>	\$772,445		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$69,426	(1)	
<u>Law Enforcement</u>			
Resource protection	\$0	(1)	
<i>Total</i>	\$2,500,405	*	

* Based on the characteristics and requirements of this area, two FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

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 the 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 the FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

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

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 the 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 the LFWEA 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 the FWC as described in its Agency Strategic Plan (Appendix **Error! Reference source not found.**9). 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 253, 259, 327, 370, 372, 373, 375, 378, 403, 487, 597, and 870 F.S..

Per Chapter 388.4111 F.S., all land management plans must include an arthropod control plan in agreement with the local county arthropod control agency. However, Lafayette County does not have a mosquito control agency, so no treatments will occur on the area. This management plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Lafayette County, Florida (Appendix 12.20).

11 Endnotes

- ¹ Shanahan, D.R. A living document: reincarnating the research article. *Trials* **16**, 151 (2015).
- ² *The Lafayette County Comprehensive Plan*. 2014. Lafayette County, FL: The County.
- ³ "Physiographic Divisions of Florida (SJRWMD)." *St Johns River Water Management District*, ARCGIS, 2017,
http://services.arcgis.com/s8wtJX9suxFen6TA/arcgis/rest/services/OpenData_PhysiographicDivisions/FeatureServer.
- ⁴ Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available online. Accessed [2021].
- ⁵ Horton, J.D., 2017, The State Geologic Map Compilation (SGMC) geodatabase of the conterminous United States (ver. 1.1, August 2017): U.S. Geological Survey data release, <https://doi.org/10.5066/F7WH2N65>.
- ⁶ Sadahisa Kato & Jack Ahern (2008) 'Learning by doing': adaptive planning as a strategy to address uncertainty in planning, *Journal of Environmental Planning and Management*, 51:4, 543-559.
- ⁷ Wilhere, G. F. 2002. Adaptive management in Habitat Conservation Plans. *Conservation Biology* 16:20-29.
- ⁸ Walters, C. J. and R. Hilborn. 1978. Ecological optimization and adaptive management. *Annual Review of Ecology and Systematics* 9:157–188.
- ⁹ Architectural and Transportation Barriers Compliance Board on Final Accessibility Guidelines for Outdoor Developed Areas, Final Report (2013).
- ¹⁰ Karl, T. R., J. M. Melillo, and T. C. Peterson (Eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press. New York, NY.
- ¹¹ McCarty, J. P. 2001. Ecological consequences of recent climate change. *Conservation Biology* 15:320-331.
- ¹² Walther, G. R., E. Post, P. Convey, A. Menzel, C. Parmesan, T. J. . Beebee, J. M. Fromentin, O. Hoegh-Guldberg, and F. Bairlein. 2002. Ecological responses to recent climate change. *Nature* 416:389–395.
- ¹³ Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. *Annual Review of Ecology, Evolution, and Systematics* 37:637-669.
- ¹⁴ Logan, J. A., and J. A. Powell. 2009. Ecological consequences of climate change altered forest insect disturbance regimes. In *Climate Warming in Western North America*:

Evidence and Environmental Effects (F. H. Wagner, Ed.). University of Utah Press, Salt Lake City, UT.

¹⁵ Stevenson, J. C., M. S. Kearney, and E. W. Koch. 2002. Impacts of sea level rise on tidal wetlands and shallow water habitats: A case study from Chesapeake Bay. *American Fisheries Society Symposium* 32:23-36.

¹⁶ IPCC. 2007b. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK.

12 Appendices

12.1 Lease Agreement

SAL2

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

2,144.80 acres

LEASE AGREEMENT

LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA

Lease Number 4608

This lease is made and entered into this 16th day of JANUARY,
2009, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and FLORIDA
FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as
"LESSEE".

WITNESSETH:

WHEREAS, the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND
OF THE STATE OF FLORIDA holds title to certain lands and property being
utilized by the State of Florida for public purposes, and

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 Lafayette, 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 JANUARY 16, 2009, and ending on JANUARY 15, 2059,
unless sooner terminated pursuant to the provisions of this lease.

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, 3800 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.

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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

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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.

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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

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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

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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

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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.

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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.

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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

DAVE FEWELL
Witness

DAVE FEWELL
Print/Type Witness Name

Judy Woodard
Witness

Judy Woodard
Print/Type Witness Name

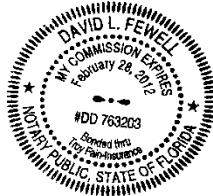
By: Gloria C. Barber (SEAL)
GLORIA C. BARBER, OPERATIONS
AND MANAGEMENT CONSULTANT
MANAGER, BUREAU OF PUBLIC
LAND ADMINISTRATION,
DIVISION OF STATE LANDS,
STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 16th day of
JANUARY 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.

David L. Fewell
Notary Public, State of Florida



Print/Type Notary Name

Commission Number:

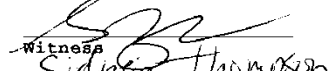
Commission Expires:

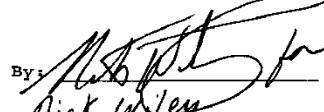
Approved as to Form and Legality

By: Sam H. Hoke
DEP Attorney

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION


Witness
G. Lemoka Beady
Print/Type Witness Name


Witness
Sandra Thompson
Print/Type Witness Name

By:  (SEAL)

Nick Wiley
Type/Print Name

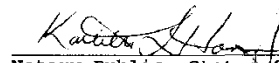
Title: Asst. Executive Director

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 1st day of January 20 09, 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.

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


Notary Public, State of Florida

Kathleen L. Hampton
Print/Type Notary Name

Commission Number: DD568288

Commission Expires: 6/26/10

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Commission Attorney

Page 12 of 15 Pages
Lease No. 4608

R11/07

• Please Return To:

Chris R. Strohmenger, Esq.
Rogers Towers, P.A.
1301 Riverplace Blvd., Suite 1500
Jacksonville, Florida 32207

Inst:200834001768 Date:9/4/2008 Time 8:50 AM
Doc Stamp-Deed:0.70

DC, Ricky Lyons, Lafayette County Page 1 of 3

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 27th day of August, A.D. 2008, between **THE TRUST FOR PUBLIC LAND**, a nonprofit California corporation, whose post office address is 306 N. Monroe Street, Tallahassee, Florida 32301, 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 \$10.00 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 Lafayette County, Florida, to-wit: See Exhibit "A" attached hereto and by reference made a part hereof.

Acceptance of Transfer of Title to Donated Lands attached hereto as Exhibit "B" and by reference made a part hereof

Property Appraiser's Parcel ID Number: 22-07-13-0000-0000-00101; 23-07-13-0000-0000-00200; 24-07-13-0000-0000-00401; 25-07-13-0000-0000-00600; 25-07-13-0000-0000-00601; 26-07-13-0000-0000-00100; 35-07-13-0000-0000-00300; 36-07-13-0000-0000-00103

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.

TO HAVE AND TO HOLD the same unto the said grantee in fee simple forever.

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 claiming by, through or under the said grantor, but against none other.

IN WITNESS WHEREOF the grantor has executed these presents, the day and year first written.

Signed, sealed and delivered in the presence of:

GRANTOR:

THE TRUST FOR PUBLIC LAND, a nonprofit California corporation

(Signature of First Witness)

Printed name of First Witness

By:

By: Robert C. McClymonds

As Its: Vice President

(Signature of Second Witness)

Printed name of Second Witness

(CORPORATE SEAL)

Exhibit "A"

Page 13 of 15 Pages

Lease No. 4608

STATE OF FLORIDA
COUNTY OF Leon

The foregoing instrument was acknowledged before me this 25 day of August, 2008, by Robert C. McClymonds, as Vice President of The Trust for Public Land, a nonprofit California corporation, 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

(NOTARY PUBLIC SEAL)

NOTARY PUBLIC
Stacy Savoie Gayhart
Commission # DD571623
Expires October 31, 2010
STATE OF FLORIDA
Bonded Notary Public - Notary Public, Inc. 800-365-7019

Notary Public

(Printed, Typed or Stamped Name of Notary Public)

Commission No.: DD571623
My Commission Expires:

NOTE TO CLERK: This deed evidences a conveyance of unencumbered property from a Section 501(c)(3) Internal Revenue Code nonprofit organization, as defined in Section 201.02(6), Florida Statutes, for no consideration and is, therefore, subject only to minimum documentary stamp taxes pursuant to Florida Administrative Code Rules 12B-4.01 4(14) and Section 201.2(6), Florida Statutes.

Exhibit "A"

Southeast $\frac{1}{4}$ of Northeast $\frac{1}{4}$ of Section 22, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Section 23, Township 7 South, Range 13 East, less the North $\frac{1}{2}$ of the North $\frac{1}{2}$;

AND

All of Lots 7 and 8, the South $\frac{1}{2}$ of Lot 5, the South $\frac{1}{2}$ of Lot 6, the South $\frac{1}{2}$ of Lot 9 and the South $\frac{1}{2}$ of Lot 10, Section 24, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Lots 3, 4, 5 and 6 and the South $\frac{1}{2}$ of Lot 10, Section 25, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

All of Section 26, Township 7 South, Range 13 East, Lafayette County, Florida, less and except the Northwest $\frac{1}{4}$ of the Southeast $\frac{1}{4}$;

AND

The Northwest $\frac{1}{4}$ of Section 35, Township 7 South, Range 13 East, Lafayette County, Florida;

AND

The North $\frac{1}{2}$ of Lots 2, 3, 4, 5 and 6, lying West of Hwy 349 of Section 36, Township 7 South, Range 13 East, Lafayette County, Florida;

Together with an easement for ingress, egress and utilities over across and through the following described parcel:

Commence at an iron pipe marking the Southwest corner of Section 25, Township 7 South, Range 13 East, Lafayette County, Florida and run North 01 degrees 22 minutes 13 seconds West, along the West boundary of said Section 25, a distance of 80.00 feet to a point, thence leaving the West boundary of said Section 25, run South 66 degrees 47 minutes 04 seconds East, a distance of 192.45 feet to a point on the South boundary of said Section 25, thence run South 88 degrees 39 minutes 15 seconds West, along the South boundary of said Section 25, a distance of 175.00 feet to the Point of Beginning.

Gopher Tortoise Mitigation Park
FFWCC land acquisition
(Lafayette Forest Florida Forever)
Trust for Public Land / Lafayette Timberland, LLC

BSM
By OB Date 7.3.08

Page 1 of 1

Exhibit "A"
Page 14 of 15 Pages
Lease No. 4608

EXHIBIT "B"

ACCEPTANCE OF TRANSFER OF TITLE TO DONATED LANDS

Board of Trustees of the Internal Improvement Trust Fund of the State of Florida hereby accepts this conveyance as a transfer of title of the real property as described in this Deed in accordance with F. S. 259.04(10)(a).

Terry P. Johnson
(SIGNATURE OF FIRST WITNESS)

Terry Johnson
(PRINTED, TYPED OR STAMPED NAME OF FIRST WITNESS)

Lynda I. Godfrey
(SIGNATURE OF SECOND WITNESS)

Lynda I. Godfrey
(PRINTED, TYPED OR STAMPED NAME OF SECOND WITNESS)

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

BY: Deborah Poppell
Deborah Poppell, Division Director
DIVISION OF STATE LANDS,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION, as agent for and on behalf
of the Board of Trustees of the Internal
Improvement Trust Fund of the State of Florida

8/29/08
Date Signed

**APPROVED
FOR CLOSING**

AUG 29 2008

WCR

STATE OF FLORIDA

COUNTY OF LEON

The foregoing instrument was acknowledged before me this 29th day of August 2008, by, Deborah Poppell, Division Director, Division of State Lands, Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

(NOTARY PUBLIC SEAL)



Lynda I. Godfrey
Notary Public

Lynda I. Godfrey
(Printed, Typed, or Stamped Name of Notary Public)

Commission No.: DD 755865

My Commission Expires: 2-6-2012

Exhibit "A"
Page 15 of 15 Pages
Lease No. 4608

12.2 Access Agreements

12.2.1 SRWMD Access Agreement

MEMORANDUM OF AGREEMENT

BETWEEN

THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT

AND

THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

THIS AGREEMENT, is made and entered into by and between the Florida Fish and Wildlife Conservation Commission (herein referred to as the "COMMISSION") and the Suwannee River Water Management District (herein referred to as the "DISTRICT"), wherein the COMMISSION and the DISTRICT agree that the COMMISSION shall provide public access to the eastern boundary of Mallory Swamp Wildlife Management Area via County Road 349, through and along the McCalls Chapel Grade, which is the entrance road for the COMMISSION's Lafayette Forest Wildlife and Environmental Area (see Exhibit A). This agreement is entered into by the COMMISSION and the DISTRICT under the following terms and conditions.

WITNESSETH:

WHEREAS, the COMMISSION is the authorized managing agency of Lafayette Forest Wildlife Environmental Area (WEA) under a lease dated January 16, 2009 from the Board of Trustees of the Internal Improvement Trust Fund and retains authority over land management, restoration and all types of recreation; and

WHEREAS, the Suwannee River Water Management District is the landowner agency of Mallory Swamp Conservation Area (CA) and has cooperated with the COMMISSION to establish their lands as a wildlife management area (WMA); and

WHEREAS, the DISTRICT has authority for land management and restoration of Mallory Swamp CA/WMA, including offering non-hunting public recreational opportunities; and

WHEREAS, the DISTRICT has delegated to the COMMISSION management authority over public hunting opportunities on Mallory Swamp WMA; and

WHEREAS, both Mallory Swamp CA/WMA and Lafayette Forest WEA lie adjacent to each other with Mallory Swamp CA/WMA lying immediately west of Lafayette Forest WEA; and

WHEREAS, both the COMMISSION and DISTRICT agree to collaborate to allow area users of Mallory Swamp CA/WMA to enter and traverse the entrance road to Lafayette Forest WEA, specifically McCalls Chapel Grade, for the purpose of public access.

NOW THEREFORE, the COMMISSION and DISTRICT, for the considerations hereafter set forth, do hereby agree as follows:

1. **TERM:** This agreement shall be effective upon execution by the last party to do so and shall remain in effect until such time as the agreement is terminated as provided herein.
2. **ROUTE OF PUBLIC ACCESS TO MALLORY SWAMP:** The roadway which shall serve as the authorized public and service vehicle access to Mallory Swamp CA/WMA from the east, through Lafayette Forest WEA, shall be McCalls Chapel Grade. This road originates at the right-of-way off County Road 349 and runs westerly for approximately 2.2 miles until its intersection with the boundary of Mallory Swamp CA/WMA (see Exhibit A).
3. **RESPONSIBILITIES OF PARTIES:**
 - a. The DISTRICT shall purchase and install, at its own expense, five (5) sets of double gates to be placed and installed as designated by the COMMISSION along McCalls Chapel Grade prior to any public access. Upon completion of the gate installations, the COMMISSION will remove the pipe gate at the intersection of County Road 349 and McCalls Chapel Grade.
 - b. The COMMISSION and DISTRICT agree to cooperatively assess any required maintenance, keep the road in such condition that is easily traversable by automobile and equally share in the costs of maintaining McCalls Chapel Grade between County Road 349 and the eastern boundary of Mallory Swamp CA/WMA. Maintenance participation may include in-house maintenance using tractors, graders, mowers or dozers, supplying fill material, or hiring a contractor to perform work. If heavy duty usage (such as a haul-out route for timber operations) is required by either party and approved by the COMMISSION, the party responsible for heavy duty use shall be solely responsible for restoring the road condition back to the pre-heavy duty use condition after hauling has been completed.
 - c. The COMMISSION and DISTRICT agree that the McCalls Chapel Grade will not be used as a haul route for timber coming off of Mallory Swamp CA/WMA unless express written permission is received and approved by the COMMISSION. Such requests shall be made to the attention of the Regional Wildlife Management Biologist, Florida Fish and Wildlife Conservation Commission, 3377 E. US Highway 90, Lake City, FL 32055.
4. **TERMINATION:** The COMMISSION or DISTRICT may terminate this agreement at any time with or without cause with six (6) months advance written notice by certified mail, return receipt requested, to the other party. Upon the expiration of the six (6) month period, the DISTRICT shall discontinue all activities authorized hereunder and the

installed gates and any other equipment the DISTRICT may have installed on the property shall become the property of the COMMISSION.

5. **INSURANCE:** The COMMISSION and DISTRICT warrant and represent that each is self-funded for liability insurance, appropriate and allowable under Florida law, and that such self-insurance offers protection applicable to the DISTRICT's and COMMISSION's officers, employees, servants and agents while acting within the scope of their employment with the COMMISSION and DISTRICT, respectively.
6. **LIABILITY:** Each party hereto agrees that it shall be solely responsible for the negligent or wrongful acts of its employees and agents. However, nothing contained herein shall constitute a waiver by either party of its sovereign immunity or the provisions of Section 768.28, Florida Statutes.
7. **NON-DISCRIMINATION:** As a condition of this agreement, the COMMISSION and DISTRICT hereby covenant and agree not to discriminate against any individual's race, color, religion, sex, national origin, age, handicap, or marital status with respect to any activity occurring pursuant to this agreement.
8. **AMENDMENT:** No waiver or modification of this agreement or of any covenant, condition, or limitation herein shall be valid unless in writing and lawfully executed by the parties. It is the intention of the COMMISSION and DISTRICT that no evidence of any waiver or modification shall be offered or received in evidence in any proceeding or litigation between the parties arising out of or affecting this agreement unless such waiver or modification is in writing and executed as aforesaid. The provisions of this section shall not be waived without compliance with said writing and execution requirements.
9. **NON-ASSIGNMENT:** This agreement may not be assigned in whole or in part without the written approval of the COMMISSION. Any such assignment or attempted assignment shall be null and void.
10. **RELATIONSHIP OF PARTIES:** It is understood that an employer-employee relationship does not exist between the COMMISSION and DISTRICT, and neither party shall be responsible for providing Worker's Compensation Insurance and withholding services for the other party or his employees. The parties agree there is no conflict of interest or any other prohibited relationship between the COMMISSION and DISTRICT.
11. **OTHER AGREEMENTS:** The content of this agreement has no relationship to any other agreements between the COMMISSION and DISTRICT, and thus, shall be considered independent of any other agreements.
12. **PUBLIC RECORDS:** The COMMISSION and DISTRICT shall abide by the provisions of Chapter 119, Florida Statutes, allowing public access to all documents, papers, letters, or other material as applicable.

13. **SEVERABILITY AND CHOICE OF VENUE:** This agreement has been delivered in the State of Florida and shall be construed in accordance with the laws of Florida. Wherever possible, each provision of this agreement shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this agreement shall be prohibited or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this agreement. Any action in connection herewith, in law or equity, shall be brought in Leon County, Florida, to the exclusion of all other lawful venues.
14. **NOTICES:** Any and all notices shall be delivered to the parties at the following addresses (or such changed address or addressee as may be provided by written notice). A notice or other communication shall be deemed received by the addressee on the next business day after having been placed in overnight mail with the U. S. Postal Service, or other overnight express service such as FedEx, UPS, or similar service. Notices sent by means other than overnight delivery shall be deemed received when actually received by the addressee:
- | COMMISSION | DISTRICT |
|--|---|
| Attn: HSC/THCR Section Leader
620 S. Meridian St.
Tallahassee, FL 32399-1600 | Attn: Land Resources Manager
9225 County Road 49
Live Oak, FL 32060 |
15. **ENTIRE CONTRACT:** This agreement with all incorporated attachments and exhibits represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this agreement shall only be valid when they have been reduced to writing, and duly signed by each of the parties hereto, unless otherwise provided herein.
16. **SIGNATORIES:** This agreement is between COMMISSION and DISTRICT and shall not be interpreted to be for the benefit of any party or entity not signing this agreement.

IN WITNESS WHEREOF, the parties have hereunto executed this instrument for the purposes stated herein on the day written above.

SUWANNEE RIVER WATER MANAGEMENT DISTRICT

L. Welch
WITNESS

By: David Still
David A. Still, Executive Director
Suwannee River Water Management District

Linda G. Welch
PRINT/TYPE WITNESS NAME

Date: 5-20-10

Tilda Musgrove
WITNESS

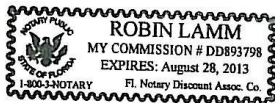
Tilda Musgrove
PRINT/TYPE WITNESS NAME

STATE OF FLORIDA
COUNTY OF SUWANNEE

The foregoing agreement was acknowledged before me this 20 day
of May, 2010 by David Still, who is personally known to
me as a Representative of the Suwannee River Water Management District.

8-28-13
My Commission Expires

Robin Lamm
Notary Public



STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

[Signature]
WITNESS

Lawson E Snyder
LAWSON E SNYDER
Division of Habitat and Species Conservation
FL Fish and Wildlife Conservation Commission

Date: 10 June 2010

Richard C Mospens
PRINT/TYPE WITNESS NAME

[Signature]
WITNESS

Approved as to form and legality:

Webster D. Termon
PRINT/TYPE WITNESS NAME

[Signature]
FWC Attorney

STATE OF FLORIDA
COUNTY OF LEON

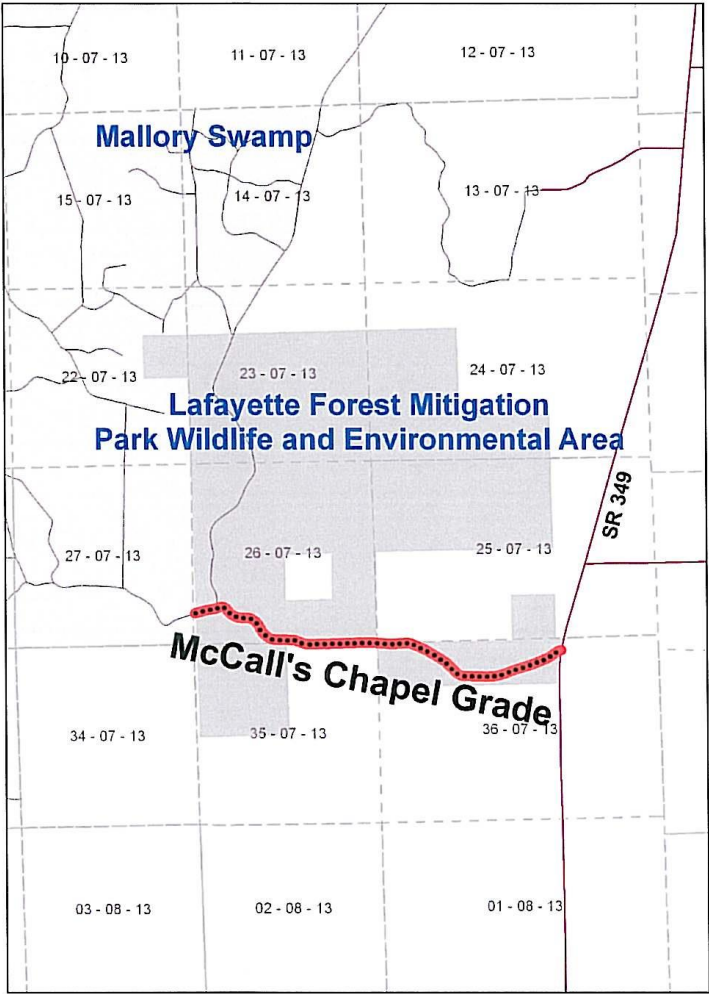
The foregoing agreement was acknowledged before me this 10 day
of June, 2010 by Lawson Snyder, who is personally
known to me as Deputy Director of the Division of Habitat and Species
Conservation, Florida Fish and Wildlife Conservation Commission.

6/26/2014
My Commission Expires

[Signature]
Notary Public



Exhibit A



12.2.2 Nell C. Hughes Access Agreement

Inst: 200834000026 Date: 1/3/2008 Time: 1:57 PM
Doc Stamp-Mort: 0.35 Int Tax: 0.02
DC, Ricky Lyons, Lafayette County Page 1 of 11

Inst: 200834000026 Date: 1/3/2008 Time: 2:01 PM
Doc Stamp-Mort: 0.35 Int Tax: 0.02
DC, Ricky Lyons, Lafayette County Page 1 of 11

RECIPROCAL EASEMENT AGREEMENT

This is a reciprocal easement agreement by and between **LAFAYETTE TIMBERLAND, LLC**, a Florida limited liability company, whose address is 9995 Gate Parkway, Suite 400, Jacksonville, Florida, 32246 ("**Lafayette Timberland**") and **NELL C. HUGHES**, whose address is 1069 Tince Road, Lake Park, Georgia, 31636 ("**Hughes**").

BACKGROUND

Lafayette Timberland and **Hughes** each own lands in Lafayette County, Florida. **Lafayette Timberland** and **Hughes** each desire to grant nonexclusive easements over their respective lands for vehicular ingress and egress and for utility purposes, for the use and benefit of the lands owned by the other.

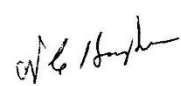
Now therefore, in consideration of \$10.00 and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Grants of Easements.

(a) **Lafayette Timberland** hereby grants to **Hughes**, her successors and assigns, invitees, agents or other persons acting on behalf of **Hughes**, upon the terms and conditions contained herein, a nonexclusive easement over and across the roadway identified on attached *Exhibit "A"* and more specifically depicted on attached *Exhibit "B"* for the purposes of vehicular ingress and egress to and from lands owned by **Hughes**, including, but not limited to, the right to access with men, trucks, machinery and equipment for purposes of maintaining and/or operating adjoining timberland, and for the installation, operation, maintenance and replacement of public utility lines and facilities serving the lands owned by **Hughes**. The easement shall be no more than thirty (30) feet in width so as to contain the existing roadway and allowing for the placement of utility lines adjacent to the roadway.

(b) **Hughes** hereby grants to **Lafayette Timberland**, its successors and assigns, invitees, agents or other persons acting on behalf of **Lafayette Timberland**, upon the terms and conditions contained herein, a nonexclusive easement over and across the roadway identified on attached *Exhibit "A"* and more specifically depicted on attached *Exhibit "C"* for the purposes of vehicular ingress and egress to and from the lands owned by **Lafayette Timberland**, including, but not limited to, the right to access with men, trucks, machinery and equipment for the purposes of maintaining and/or operating adjoining timberland. The easement shall be no more than thirty (30) feet in width so as to contain the existing roadway and allowing for the placement of utility lines adjacent to the roadway.

2. Maintenance: Reservation of Rights. **Lafayette Timberland**, as the "Grantor" of the **Lafayette Timberland** easement and as the "Grantee" of the **Hughes** Easement, and **Hughes**, as the "Grantor" of the **Hughes** Easement and as the "Grantee" of the **Lafayette Timberland** Easement, further agree as follows:



(a) Each Grantor reserves the right, at its sole discretion, to improve or otherwise alter the surface of the roads on its lands for whatever purposes the Grantor deems appropriate; it is expressly understood and agreed, however, that a Grantor is not obligated to maintain the roads or otherwise insure that they are passable. Each Grantee is hereby granted the right to maintain the roads within the easements granted to it at its own cost and expense. Any maintenance activities or operations undertaken by a Grantee or at a Grantee's direction shall be performed to the Grantor's standards. A Grantee shall give the Grantor written notice prior to commencing any maintenance activities or operations, and shall secure all necessary governmental permits prior to commencing such activities or operations. A Grantee shall furnish the Grantor with copies of such permits. Any liability resulting from such maintenance work shall be borne solely by the Grantee. A Grantee shall use every reasonable effort to prevent damage to the lands and fencing adjacent to the easement lands. Any damages resulting from or attributable to a Grantee's maintenance operations or to a Grantee's use and enjoyment of the rights granted herein shall be repaired at the Grantee's expense and the property so damaged shall be repaired to as good or better condition than its condition prior to the occurrence of the damage. Upon a Grantor's request, the Grantee shall obtain a liability insurance policy with terms and limits of liability acceptable to the Grantor.

(b) Each Grantor further reserves the right to use the roads for its purposes, including, but not limited to, the right to use the roads in connection with the Grantor's planting, growing and harvesting (logging) of timber at times and places solely within the discretion of the Grantor. As a result of a Grantor's activities on the roads, the roads may become impassable to regular vehicular traffic for prolonged periods of time. A Grantor is not obligated to undertake any road maintenance activity to insure that the roads are usable by regular vehicular traffic at any point in time. Each Grantor further reserves the right to alter the surface of the roads in connection with its business activities for purposes that are solely within the discretion of the Grantor.

3. **Termination: Reverter.** The nonexclusive easements created hereby shall terminate and the interest herein granted shall immediately and automatically revert to the respective Grantor, its successors and assigns, upon abandonment of use for twenty-four (24) consecutive months by the respective Grantee of the easement. A Grantor of an easement created hereby may, at its own expense, provide an alternate easement route for access, ingress and egress and utilities purposes. In the event of such termination and reversion or in the event of provision of an alternate easement route, the parties hereto agree that, at the other party's request, they will execute and deliver any instrument necessary or appropriate to release an easement or to disclaim any interest in the lands, or, if appropriate, to grant the alternate easement.

4. **Non-Exclusivity.** The granting of the easements hereunder shall not be deemed to preclude either party from granting other easements, whether similar or dissimilar to the easements granted herein, to others with regard to the easement lands; provided, however, that such other easements shall not unreasonably interfere with the other party's enjoyment of its rights hereunder.

5. **Compliance with Laws.** At all times, the use of the easements created hereby by *Lafayette Timberland* and *Hughes* and their respective successors and assigns shall be in full compliance with all federal, state, and local laws, rules, regulations, order, and permits, including all environmental laws, rules, regulations, orders and permits.

6. **Indemnification and Hold Harmless.**

(a) *Lafayette Timberland* hereby agrees to indemnify and hold harmless and defend *Hughes* against and from any and all claims for personal injury, death, property damage, remediation or any civil fine or other liability, together with all costs, expenses, and attorneys' fees (whether incurred at trial, on appeal, or otherwise) arising out of or in connection with, *Lafayette Timberland's* use of the *Hughes* Easement.

(b) *Hughes* hereby agrees to indemnify and hold harmless and defend *Lafayette Timberland* against and from any and all claims for personal injury, death, property damage, remediation or any civil fine or other liability, together with all costs, expenses, and attorneys' fees (whether incurred at trial, on appeal, or otherwise) arising out of or in connection with, *Hughes's* use of the *Lafayette Timberland* Easement.

(c) Without limiting the generality of Paragraph 10 below, the parties hereto acknowledge that this paragraph shall be applicable to any successor or assign of *Lafayette Timberland* or *Hughes*.

7. **Non-waiver.** The failure of either party to insist upon compliance by the other party with any obligation, or exercise of any remedy, does not waive the right to do so in the event of a continuing or subsequent delinquency of default. A party's waiver of one or more defaults hereunder does not constitute a waiver of any other delinquency or default.

8. **Title.** Each party represents that it has title in and to the easement premises, and has full authority to grant the Easement to Grantee without further approval or consent of any other person or entity. This grant of Easement is subject to any easements, restrictions, covenants and/or reservations of record, or such paramount rights as may be apparent from an inspection or survey of the easement premises.

9. **Communications.** Any notices and communications permitted or required hereunder may be given by manual delivery, by certified or registered mail, return receipt requested, or by special delivery services such as Federal Express or Express Mail. Notice shall be deemed given when received by addressee or tendered for delivery at the addressee's premises. Notice shall be addressed as provided below.

If to *Lafayette Timberland*

Lafayette Timberland, LLC
Attention : Nikolaos T. Kavalieros
9995 Gate Parkway, Suite 400
Jacksonville, Florida 32246

If to **Hughes**.

Nell C. Hughes
1069 Tince Road
Lake Park, Georgia 31636

Either party may change the address to which notices and other communications hereunder to that party shall be given, or the name of the person to whose attention the notices and communications shall be addressed, by written notice thereof to the other party, but the change shall not be effective until the other party actually receives the change notice.

10. **Attorney's Fees.** In the event that either **Lafayette Timberland** or **Hughes** or their respective successors in title institute legal proceedings against the other or its successors in title to enforce any term of the easement agreement, the party prevailing in said legal proceeding shall be entitled to recover from the nonprevailing party the prevailing party's reasonable attorney's fees and court costs incurred incidental thereto, through and including all appellate litigation and bankruptcy proceedings.

11. **Binding Effect.** This easement agreement and the rights and obligations of the parties hereunder shall be binding upon **Lafayette Timberland** and **Hughes** and their respective successors and assigns, and shall not be construed to be solely personal covenants of the parties hereto or bound hereby. This easement agreement and the easement rights and obligations of the parties hereunder are appurtenant to and shall run with title to the parties' respective lands.

12. **Governing Law.** This easement agreement shall be interpreted, construed, governed, and enforced in accordance with the laws of the State of Florida.

DATED as of the 3 day of January, 2008

[Signature Pages follow]

Nell C. Hughes

Signed in the presence of:

Krista McChesney
(NAME) Krista McChesney

Deanna Hayes
(NAME) Deanna Hayes

By: Lafayette Timberland, LLC, a Florida
limited liability company

By: Its Manager, The Archer Group, LLC a
Florida limited liability company,
formerly known as Itera
Timberland &
Development Strategies LLC, a
Florida limited liability company,
Its Manager

By: Nick Kavalieros
Name: Nick Kavalieros
Its: Manager

STATE OF FLORIDA
COUNTY DUVAL

I, Deanna Hayes, A Notary public of the State and County aforesaid, certify
that Nick Kavalieros as the Manager of the Archer Group, LLC, in its capacity as the Member
Manager of Lafayette Timberland, LLC, personally appeared before me this day and is ☒
personally know to me or ☐ has produced _____ as identification.

WITNESS my hand and office seal, this 3rd day of Dec, 2007.

Deanna Hayes
Notary Public

My Commission Expires: 4/19/09



Signed in the presence of:

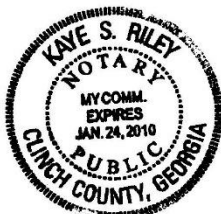
[Signature]
(NAME) Guy Dabbs IV

By: Nell C. Hughes
Name: Nell C. Hughes

[Signature]
(NAME) Christina Persay

STATE OF Ga.
COUNTY OF Lanier

The foregoing instrument was acknowledged before me this 19th day of December, 2007, by, Nell C. Hughes, as _____, a _____, who is personally known to me ☒ or who produced a current driver's license _____, and who did take an oath.



Kaye S. Riley
Notary Public
Printed/typed name: Kaye S. Riley
Commission Number: _____
Commissioner expires: Jan. 24, 2010

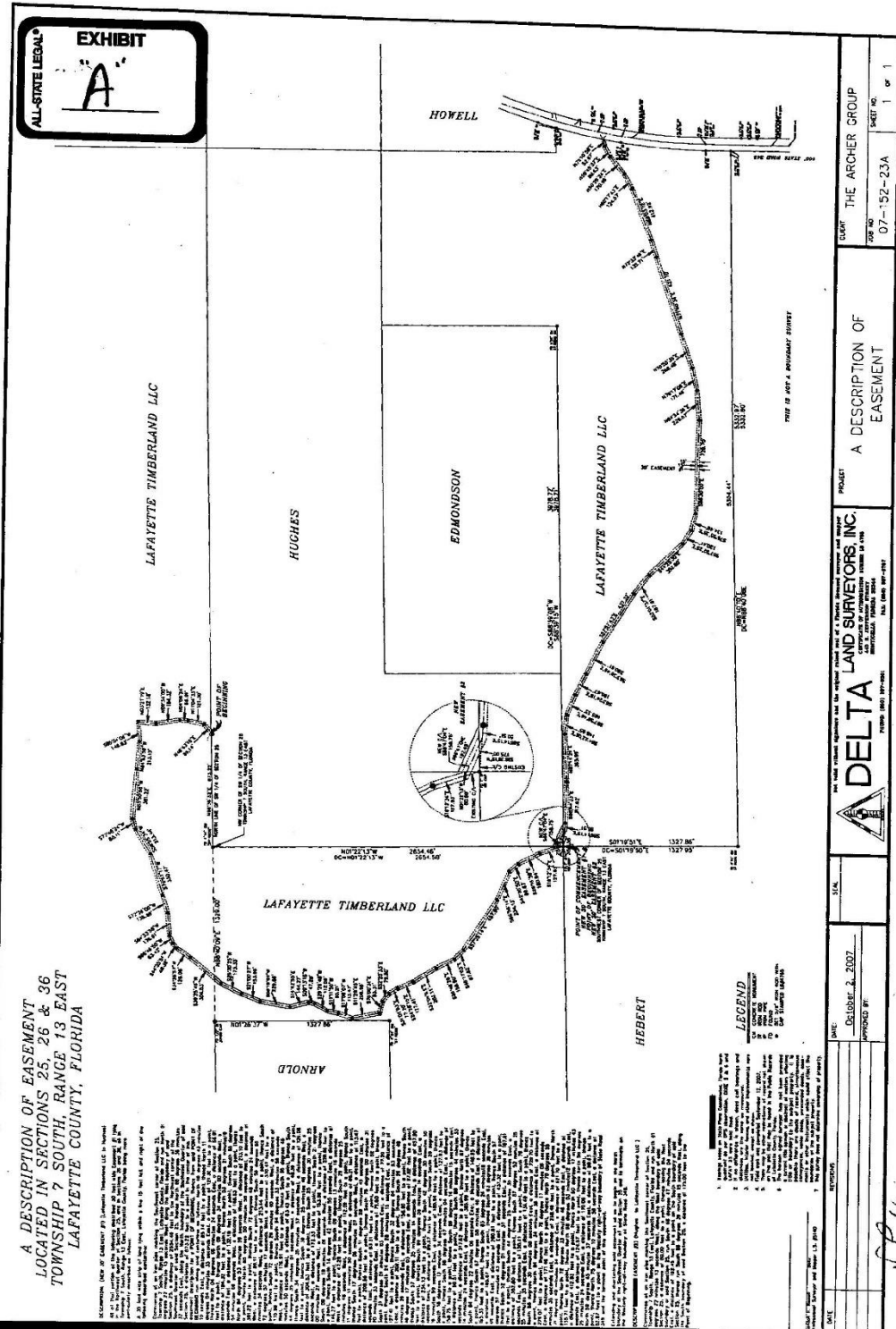


Exhibit "B"

DESCRIPTION: (NEW 30' EASEMENT #1) (Lafayette Timberland LLC to Hughes)

All of that portion of the following described 30 foot wide Easement #1 lying in the Northwest quarter of Section 25, and in Sections 26 and 36, all in Township 7 South, Range 13 East, Lafayette County, Florida being more particularly described as follows:

A 30 foot wide strip of land lying within a line 15 feet left and right of the following described centerline:

Commence at an iron pipe marking the Southwest corner of Section 25, Township 7 South, Range 13 East, Lafayette County, Florida and run North 01 degrees 22 minutes 13 seconds West, along the West boundary of said Section 25, a distance of 2654.46 feet to the Northwest corner of the Southwest Quarter of said Section 25, thence North 88 degrees 36 minutes 32 seconds East, along the North boundary of the Southwest Quarter of said Section 25, a distance of 873.22 feet to a point in the center of this easement description for a POINT OF BEGINNING, thence from said POINT OF BEGINNING run along said centerline as follows: North 48 degrees 43 minutes 10 seconds East, a distance of 85.14 feet to a point, thence North 11 degrees 04 minutes 33 seconds East, a distance of 121.30 feet to a point, thence North 04 degrees 06 minutes 24 seconds East, a distance of 66.91 feet to a point, thence North 09 degrees 34 minutes 00 seconds West, a distance of 184.32 feet to a point, thence North 03 degrees 21 minutes 19 seconds East, a distance of 132.18 feet to a point, thence South 85 degrees 54 minutes 06 seconds West, a distance of 148.83 feet to a point, thence North 84 degrees 53 minutes 59 seconds West, a distance of 213.10 feet to a point, thence North 85 degrees 50 minutes 58 seconds West, a distance of 381.22 feet to a point, thence South 72 degrees 48 minutes 24 seconds West, a distance of 80.11 feet to a point, thence South 58 degrees 55 minutes 34 seconds West, a distance of 213.44 feet to a point, thence South 72 degrees 57 minutes 17 seconds West, a distance of 330.47 feet to a point, thence South 72 degrees 26 minutes 00 seconds West, a distance of 135.88 feet to a point,

CHG/H

thence South 84 degrees 33 minutes 58 seconds West, a distance of 176.91 feet to a point, thence South 66 degrees 46 minutes 50 seconds West, a distance of 63.43 feet to a point, thence South 44 degrees 35 minutes 51 seconds West, a distance of 48.39 feet to a point, thence South 34 degrees 35 minutes 57 seconds West, a distance of 126.08 feet to a point, thence South 39 degrees 25 minutes 46 seconds West, a distance of 304.53 feet to a point, thence South 25 degrees 30 minutes 25 seconds West, a distance of 173.33 feet to a point, thence South 21 degrees 00 minutes 27 seconds West, a distance of 153.96 feet to a point, thence South 09 degrees 19 minutes 01 seconds West, a distance of 229.86 feet to a point, thence South 14 degrees 42 minutes 55 seconds East, a distance of 144.27 feet to a point, thence South 09 degrees 13 minutes 16 seconds West, a distance of 47.28 feet to a point, thence South 29 degrees 25 minutes 48 seconds West, a distance of 112.09 feet to a point, thence South 11 degrees 11 minutes 50 seconds West, a distance of 85.21 feet to a point, thence South 17 degrees 06 minutes 07 seconds West, a distance of 113.47 feet to a point, thence South 11 degrees 28 minutes 45 seconds East, a distance of 208.56 feet to a point, thence South 76 degrees 00 minutes 31 seconds East, a distance of 93.31 feet to a point, thence South 52 degrees 20 minutes 33 seconds East, a distance of 79.60 feet to a point, thence South 31 degrees 01 minutes 03 seconds East, a distance of 77.20 feet to a point, thence South 24 degrees 28 minutes 15 seconds East, a distance of 127.41 feet to a point, thence South 32 degrees 04 minutes 53 seconds East, a distance of 202.11 feet to a point, thence South 26 degrees 48 minutes 26 seconds East, a distance of 158.90 feet to a point, thence South 46 degrees 17 minutes 03 seconds East, a distance of 97.82 feet to a point, thence South 57 degrees 35 minutes 14 seconds East, a distance of 457.90 feet to a point, thence South 66 degrees 56 minutes 14 seconds East, a distance of 234.13 feet to a point, thence South 42 degrees 30 minutes 50 seconds East, a distance of 89.67 feet to a point, thence South 28 degrees 16 minutes 59 seconds East, a distance of 180.94 feet to a point, thence South 18 degrees 12 minutes 34 seconds East, a distance of 127.93 feet to a point, thence South 66 degrees 47 minutes 04 seconds East, a distance of 158.75 feet to a point, thence South 86 degrees 14 minutes 15 seconds East, a distance of 50.51 feet to a point, thence South 88 degrees 44 minutes 33 seconds East, a distance of 317.62 feet to a point, thence North

87 degrees 14 minutes 24 seconds East, a distance of 365.99 feet to a point, thence South 84 degrees 22 minutes 06 seconds East, a distance of 148.95 feet to a point, thence South 67 degrees 58 minutes 46 seconds East, a distance of 165.33 feet to a point, thence South 63 degrees 24 minutes 18 seconds East, a distance of 185.67 feet to a point, thence South 63 degrees 38 minutes 49 seconds East, a distance of 280.61 feet to a point, thence South 57 degrees 57 minutes 43 seconds East, a distance of 437.32 feet to a point, thence South 52 degrees 01 minutes 37 seconds East, a distance of 187.61 feet to a point, thence South 44 degrees 25 minutes 30 seconds East, a distance of 352.80 feet to a point, thence South 57 degrees 52 minutes 25 seconds East, a distance of 120.41 feet to a point, thence South 76 degrees 55 minutes 35 seconds East, a distance of 134.49 feet to a point, thence South 88 degrees 30 minutes 00 seconds East, a distance of 720.70 feet to a point, thence North 84 degrees 34 minutes 36 seconds East, a distance of 229.07 feet to a point, thence North 76 degrees 17 minutes 06 seconds East, a distance of 171.46 feet to a point, thence North 70 degrees 55 minutes 35 seconds East, a distance of 268.48 feet to a point, thence North 71 degrees 40 minutes 34 seconds East, a distance of 621.70 feet to a point, thence North 72 degrees 33 minutes 46 seconds East, a distance of 135.71 feet to a point, thence North 68 degrees 03 minutes 12 seconds East, a distance of 412.92 feet to a point, thence North 60 degrees 17 minutes 43 seconds East, a distance of 124.57 feet to a point, thence North 50 degrees 26 minutes 24 seconds East, a distance of 170.06 feet to a point, thence North 59 degrees 45 minutes 37 seconds East, a distance of 89.63 feet to a point, thence North 75 degrees 10 minutes 58 seconds East, a distance of 52.87 feet to a point on the Westerly right-of-way boundary of State Road 349 and the terminal point of this easement.

Extending and shortening said easement so as to begin on the North boundary of the Southwest Quarter of said Section 25 and to terminate on the Westerly right-of-way boundary of State Road 349.

Exhibit "C"

DESCRIPTION: (Hughes to Lafayette Timberland LLC)

Commence at an iron pipe marking the Southwest corner of Section 25, Township 7 South, Range 13 East, Lafayette County, Florida and run North 01 degrees 22 minutes 13 seconds West, along the West boundary of said Section 25, a distance of 80.00 feet to a point, thence leaving the West boundary of said Section 25, run South 66 degrees 47 minutes 04 seconds East, a distance of 192.45 feet to a point on the South boundary of said Section 25, thence run South 88 degrees 39 minutes 15 seconds West, along the South boundary of said Section 25, a distance of 175.00 feet to the Point of Beginning,

off

12.3 Public Hearing Notice, Advertisements, and Press Release

12.3.1 Public Hearing Notice

NOTICE

The Florida Fish and Wildlife Conservation Commission (FWC)
Announces a virtual

PUBLIC HEARING

for the

Lafayette Forest Wildlife and Environmental Area Management Plan

Lafayette County, Florida

7:00 P.M. Thursday, April 15th, 2021

Connect to the meeting by going to

<http://fwc.adobeconnect.com/lfweapublichearing/>

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Lafayette Forest Wildlife and Environmental Area (WEA). This hearing is being held **EXCLUSIVELY** for discussion of the **DRAFT** Lafayette Forest WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development go online to:

<http://myfwc.com/about/rules-regulations/>

A Management Prospectus for the Lafayette Forest WEA is available upon request. For a copy please contact Matthew Stana by email at Matthew.Stana@MyFWC.com or by phone at (850) 487-9982. Additional information can be found by visiting our public hearing website: <https://myfwc.com/conservation/management-plans/upcoming/>

12.3.2 Internal FWC Press Release

Suggested Tweet: A 10-year mgt plan for Lafayette Forest WEA will be presented at public meeting April 15 @MyFWC: [\[\[VIEW_THIS_URL\]\]](#) #CWA

Photos available: <https://www.flickr.com/gp/myfwcmedia/KmnSG7>

Input wanted for Lafayette Forest WEA's future management plan

The Florida Fish and Wildlife Conservation Commission (FWC) will present a 10- year management plan for the Lafayette Forest Wildlife and Environmental Area (WEA) at a virtual public meeting on April 15th, at 7 p.m.

The Lafayette Forest WEA encompasses approximately 2,148 acres in Lafayette County and offers many opportunities for outdoor recreation, including hunting, fishing, hiking, biking and horseback riding. The area provides important habitat for species such as gopher tortoises, Eastern indigo snakes, and wood storks.

"The Lafayette Forest WEA was purchased to ensure the preservation of fish, wildlife, and other natural and cultural resources for future generations, and to provide fish- and wildlife-based outdoor recreation opportunities to the public," said Matthew Stana, FWC Land Conservation Planner. "This draft plan will specify how we intend to accomplish that goal."

Those interested in attending the meeting can join via Adobe Connect. FWC staff will present the draft land management plan for the WEA and the public will have the opportunity to comment and ask questions. The meeting can be accessed here:

<http://fwc.adobeconnect.com/lfweapublichearing/>. Attendees will be asked to sign in as a guest and ensure their speakers are turned on.

To obtain a copy of the land management prospectus for the Lafayette Forest WEA, call Matthew Stana at (850) 487-9982 or email Matthew.Stana@MyFWC.com.

For more information and background on management plans and their goals, visit <https://myfwc.com/conservation/management-plans/terrestrial/>. Hunting and fishing regulations are not included in this plan or meeting; they are addressed through a separate public process. For more information about hunting and fishing regulations, please visit <https://myfwc.com/hunting/> or <https://myfwc.com/fishing/freshwater/>.

-30-

12.3.3 Newspaper

The *Riverbend News*, published every Wednesday in the City of Live Oak, County of Suwannee and State of Florida

AFFIDAVIT OF PUBLICATION

Before me, the undersigned authority personally appeared, **DANIELLE FEDERICO** who on oath says that she is a **REPORTER** for the ***Riverbend News***, a weekly newspaper, published in Live Oak, Suwannee County, Florida; that the attached copy of the advertisement being a notice of:

PUBLIC HEARING:

FWC LEAD MANAGED PORTIONS

was published in said newspaper in the issue of **April 07, 2021**.

Affiant further says that the said ***Riverbend News*** a newspaper published at Live Oak, in Suwannee County, Florida, and that the said newspaper has heretofore been continuously published in said Suwannee County, Florida, each week and has been entered as second class mail matter at the post office in Live Oak, in said Suwannee County, Florida, and affiant further says that *Riverbend News* has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signed by: *Danielle Federico*

Sworn to and subscribed before me this 26TH day of April 2021.

Leah M. Hodges
Notary Public



LEAH M. HODGES
Commission # HH 094936
Expires February 18, 2025
Bonded Thru Budget Notary Services

The Florida Fish and Wildlife Conservation Commission (FWC) announces a virtual PUBLIC HEARING for the FWC Lead Managed Portions of Lafayette Forest Wildlife and Environmental Area (WEA) located in Lafayette County, Florida.

FWC is conducting public hearings online to protect our communities due to COVID-19 (Coronavirus) social distancing guidelines. The public can watch and participate in these meetings for free using Adobe Connect, an online communications tool.

The meeting will start at 7:00 P.M. Thursday, April 15th, 2021. Connect to the meeting by going to <http://fwc.adobeconnect.com/fwcpublichearing/>. Please sign in as a guest and make sure your speakers are turned on.

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Lafayette Forest WEA.

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Lafayette Forest WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our Proposed Rule Changes page.

A Management Prospectus for Lafayette Forest WEA and copy of the agenda is available upon request from Matthew Stana at Matthew.Stana@MyFWC.com or (850) 487-9982.

04/07

12.3.4 Florida Administrative Register Ad

FLORIDA DEPARTMENT OF STATE
Laurel M. Lee, Secretary of State
Administrative Code
The Gray Building - 500 S. Bronough Street, Tallahassee, FL 32399-0250

Billed to:
Fish and Wildlife Conservation Commission
Florida Fish & Wildlife Conservation
Commission, Habitat & Species Conservation
620 S Meridian Street
Tallahassee, FL 32399-1600
Attn: Dylan Imlah

Account: 1072 **Invoice Date: 04/13/2021** **Invoice Number: 107093**

	P.O. #	Publication in Florida Administrative Register	#units	\$each	Extension
1		Vol/No: 47/65, April 5, 2021, Notice ID: 24262724	232	0.14	\$32.48
Invoice # must appear on all checks and correspondence. Please pay balance due: \$32.48 F.E.I.D. number: F 59-3466865 ***Net Due - 15 days - No Discount***					

TO INSURE PROPER CREDIT, PLEASE RETURN THIS PORTION.

Department of State - Division of Administrative Services - Bureau of Planning, Budget and Financial
Services - (850)245-6579

R.A. Gray Bldg - 500 S. Bronough St, 4th Fl. - Tallahassee, FL 32399-0250

Account: 1072 **Invoice Date: 04/13/2021** **Number: 107093** **Amount Due: \$32.48**

State Agencies - Journal Transfer to Account Code: 45-60-2-572001-45400100-00 BF Obj 019000 BF Cat 001903
Org Code / EO : 45400120200 7X Object:019032 Category: 001903

For Accounting Use Only: Object Code: 019032 Cat: 001903 ARGL: 16300 GL: 67100
FLAIR Account Code: 77-10-1-000083-77200100-00 Vendor FEID:

ID 24262724

Notice of Meeting/Workshop Hearing

FISH AND WILDLIFE CONSERVATION COMMISSION

Freshwater Fish and Wildlife

The Fish and Wildlife Conservation Commission announces a public meeting to which all persons are invited.

DATE AND TIME: Thursday, April 15, 2021, 7:00 p.m.

PLACE: Connect to the meeting by going to <http://fwc.adobeconnect.com/lfwepublichearing/>

GENERAL SUBJECT MATTER TO BE CONSIDERED: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Lafayette Forest Wildlife and Environmental Area (WEA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Lafayette Forest WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our Proposed Rule Changes page.

A copy of the agenda may be obtained by contacting: A Management Prospectus for Lafayette Forest WEA and copy of the agenda is available upon request from Matthew Stana at Matthew.Stana@MyFWC.com or (850)487-9982.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 7 days before the workshop/meeting by contacting: Matthew Stana at Matthew.Stana@MyFWC.com or (850)487-9982. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

For more information, you may contact: Matthew Stana at Matthew.Stana@MyFWC.com or (850)487-9982.

12.4 Public Input

12.4.1 Management Advisory Group Meeting Results

Lafayette Forest Wildlife and Environmental Area (LFWEA) Management Advisory Group (MAG) Consensus Meeting Results

February 24, 2021 Remote Meeting

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. The 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 MAG consensus meeting was held on the morning of *February 24, 2021* remotely using Microsoft Teams. The ideas found below were provided by stakeholders for consideration in the 2021 - 2031 Management Plan (MP). 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 the FWC, the Acquisition and Restoration Council (ARC), and the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the 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.

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. The ideas below are presented in the order they were received:

Idea

1. **Continue prescribed fire burn plan.** Prescribed fire is the best way to maintain quality habitat for the vegetative communities and wildlife species that exist on the area because that is a natural process they have lived with for thousands of years. Prescribed burning is a must.
2. **Continue public access and hunting opportunities, while minimizing impacts on the area.** The area is in a good place, the FWC should continue its current path.

Idea

3. **Continue to monitor and restore aquifer, and utilize drainage well if possible.** The Suwannee River Water Management District (SRWMD) are neighbors of the LFWFA as they own Mallory Swamp next door. The two areas are divided by a deep canal. The SRWMD added a drainage well eight years ago. SRWMD has a network of monitoring and drainage wells and the information from these are available publicly. Continue to monitor that well. One of SRWMD's main goals is to recharge the aquifer if possible.
4. **Design timber protocol to meet objective of wildlife preservation and restoration to site specific species.** Prior to becoming the LFWFA, this area was a timber plantation. With that in mind, it can be assumed that there's a lot more slash pine than is appropriate for sandhill or mesic flatwoods. The FWC should convert to longleaf and manage accordingly for associated wildlife such as deer and tortoises.
5. **Expand the optimum boundary to include parcels to the north of the entrance on the east side, and also the small forested parcel on the south edge.** The FWC should retain the interior landholding rationale. The parcels to the north and south protect upland and imperiled species habitat – gopher tortoises, orchids, and indigo snakes. Also facilitates aquifer recharge which is a SRWMD goal. It facilitates prescribed burning and proactively addresses the problem of wildland urban interface, which will increasingly occur in Florida's future, including in rural areas like Lafayette County. This idea would help allow the park to get ahead of the issue.
6. **Expand equestrian access without disturbing natural communities.** The Southern Trailriders Association would like established trails that are well-marked to stay on trails and off of sensitive areas.
7. **Continue maintaining and improving functional natural communities.** There are a variety of wetlands and uplands intermixed throughout the area which were previously converted from pine plantations and lacked natural processes that would have maintained natural communities like prescribed fire over the last years. The state is moving away from pine plantations and more toward natural vegetative communities. The FWC should continue to restore and maintain so that they are functioning the way they are supposed to be so that the plants and animals benefit.
8. **Better define boundaries between Mallory Swamp and LFWFA.** Conflicts may arise from different recreational seasons that are established in both areas, namely hunting. On one of the boundaries, Mallory Swamp hunters tend to end up on the LFWFA. The FWC should increase visual awareness of the boundaries between Mallory Swamp and the LFWFA.

Idea

9. **Restore native vegetation.** This goes hand-in-hand with the first idea of prescribed burning. It is the uplands that have really been impacted by human activities and need the most effort. Ditches may need to be plugged to restore hydrology.
10. **Establish protocols to increase or create wildlife habitat and maintain understory.** Increase burn regimen and make sure animals have enough area to run around procreate, forage, and thrive. With a burn plan the FWC should consider hardwood control along the edges because of "the edge effect;" mechanical or herbicide control along the edges may be necessary to avoid this.
11. **Reach out to groups and researchers doing imperiled insect monitoring and research.** The LFWFA has sandhill and we know that a number of insects occur in sandhill which is getting more attention from researchers. The LFWFA would benefit from more knowledge about these species, although it probably wouldn't impact management. However it would provide an extra draw for some people interested in insects; some active outreach to universities could accomplish this goal without too much demand on time.
12. **Continue restoring and improving hydrology while working cooperatively with Suwannee River Water Management District.** The natural communities on the area are a hodgepodge of uplands and wetlands. The wetlands are in decent shape. There is the St. Regis Canal that bisects the property going north to south. It is a huge drainage canal that has been there for 80 years or more and has altered the hydrology of the area, but over the last 5-10 years the FWC and SRWMD have worked cooperatively to implement a grant-funded project for middle Suwannee River Springs and Aquifer Recharge Project, which is a large landscape-level project. The LFWFA has done some of this work – culverts to connect wetlands, diverted water from the canal into wetlands, and the recharge well mentioned previously. The FWC needs to continue cooperation and implementation of this project.
13. **Establish cooperative relationships with neighboring landowners and inholding landowner.** A lot of these areas are not fenced, although there are some fire breaks. We need to do what we can to avoid conflict. Current relationships with landowners appear to be good, but maintaining that is very important for law enforcement and the FWC in general.
14. **Control exotic plants and animals.** Adjacent properties could spread these easily so land managers are out there looking for exotics to control. There does not seem to be much problem with the ones listed currently, but surely the FWC will have some in the future to watch out for.

Idea

15. **Retain zoning as conservation (not proposed Agriculture-3) in the Lafayette County Comprehensive Plan.** The land is designated as conservation and was acquired as such. It is important to retain that designation with the County. Changes in zoning opens the land to different types of development. It would be good to establish and maintain the intent in the comprehensive plan in the future.
16. **Managing timber resources as self-perpetuating natural forests through an ecological forestry approach.** This ties into managing for natural communities. Primarily, when the State acquired the area it was plantation and production-oriented, high-intensity, short rotation, pines and loblombs, plant quick, and cut quick. We are moving away from that approach to a more natural self-perpetuation forest through an ecological forestry approach – diverting to a more long-term sustainable forest and a management strategy that addresses that.
17. **Monitor plants and animals on a regular basis -- perhaps on a 5 year basis.** This is similar to the idea of reaching out to groups doing imperiled insect monitoring and research. This could be done as a public event such as a BioBlitz or have experts come down from universities, then have the public come out, and show off the forest and collect data.
18. **Maintaining ecological restoration protocols once restoration is in place.** Use "select harvesting" to open up spaces for natural seed drop and have staggered growth. Another area is going to start losing trees to disease; now they have implemented the aforementioned technique and have a multiage system – seedlings, saplings, and old growth. Once the site-specific type the FWC is looking for has been achieved, then move on to natural protocol to promote that system.
19. **Close unnecessary roads and convert to narrower trails if feasible and desirable.** Roads occupy about four percent of the habitat area, which seems like a significant percentage. So if the FWC determines there are unnecessary roads, removing them could enhance restoration hydrology, fire management, and in some cases reduce exotic spread through mowing and vehicle traffic. This might benefit hiking or equestrian trails.
20. **Do not institute general user fee, but look for other sources of revenue if necessary.** These are public lands; some people from the public don't have financial resources, and we have seen in this pandemic, and over the last year, that access to natural areas is critical to the health and welfare of humans. It would be good to see public lands open to the public without a fee for basic uses such as fishing and hiking.

Idea

21. **Generate revenue from overnight camping fees if necessary.**
Potentially generate revenue from established equestrian trails, or possibly a small camping area.

Comments received after the management advisory group meeting:

Jerry Krummrich – Four Rivers Audubon

I did review the background documents and believe that local Audubon chapters should find no areas of concern. We would support prospective land acquisition as outlined. Audubon would be primarily concerned with conservation of natural habitats and I see no areas of concern with current management or use descriptions.

One other area of interest for Audubon is maximizing wildlife viewing opportunities, which are optimal in this WEA. We do have one suggestion; that signage at entrances provide ready information or links to ready information regarding hunt calendars to avoid user conflicts.

**Lafayette Forest Wildlife and Environmental Area
MAG Meeting Participants**

Name

Affiliation

Active Participants

Nathan Lambert	FWC Area Biologist
Lieutenant Bryan Humphries	FWC Law Enforcement
Marc Minno	Suwannee River Water Management District
Anne Barkdoll	Department of Environmental Protection – Division of Recreation and Parks (DEP-DRP)
Shelly Wayte	Florida Forest Service
Joyce Papp	Southern Trailriders Association

Supportive Participants

Matthew Pollock	FWC Habitat and Species Conservation (HSC), Regional Biologist
Scott Johns	FWC HSC, District Biologist
Scotland Talley	FWC HSC, Regional Conservation Biologist
Jerrie Lindsey	FWC Public Access Services Office (PASO), Director
Katherine Burke	FWC PASO, Section Leader
Tom M. Matthews	FWC PASO, Recreation Planner
Tina Hannon	FWC HSC, Assistant Section Leader
Matthew Chopp	FWC Division of Hunting and Game Management
Ben Rangel	FWC PASO, Interpretive Planner and Writer
Matthew Barker	FWC HSC, Biologist
Ben Hines	FWC Florida Youth Conservation Center Network
Joel Allbritton	DEP-DRP

Invited but Unable to Attend

Jerry Krummrich	Four Rivers Audubon (Written Comments Provided)
Tom Kay	Alachua Conservation Trust
Anthony Adams	Lafayette County Board of County Commissioners
Garrett Land	Lafayette County Planning Department
Jason O'Donoughue	Division of Historical Resources
Chris Menhennett	National Resources Conservation Service
Dan Hipes	Florida Natural Areas Inventory
Carolyn Saft	Florida Native Plant Society
Laura Land	Adjacent Landowner
Suwannee Bicycle Association	Biking Stakeholder
Hatchbend Hunt Club	Hunting Stakeholder

FWC Planning Personnel

Matthew Stana	Land Conservation Planner, Facilitator
Hannah Klein	Land Conservation Planner, Facilitator
Dylan Haase	Recorder
Jackie Bucheck	Recorder

12.4.2 Public Hearing Report

PUBLIC HEARING REPORT FOR LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA MANAGEMENT PLAN

HELD BY THE LAFAYETTE FOREST WILDLIFE AND ENVIRONMENTAL AREA MANAGEMENT ADVISORY GROUP

AND THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

APRIL 15, 2021

The following report documents the public input that was received at the Lafayette Forest Wildlife and Environmental Area (LFWEA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for LFWEA that was held at 7:00-9:00 PM, on April 15, 2021 remotely via Adobe Connect due to COVID gathering restrictions.

LFWEA Management Advisory Group Introduction:

The meeting was introduced by Mr. Nathan Lambert, a LFWEA Management Advisory Group participant, who represented the LFWEA MAG. Mr. Lambert indicated that he was one of six stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated LFWEA MAG meeting held on February 24, 2021. Mr. Lambert stated that the Draft Management Plan was being presented tonight by FWC staff, and that copies of the draft plan and the LFWEA MAG meeting report were available for download on their screens. Mr. Lambert thanked everyone for attending and then introduced Mr. Matthew Stana, Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of LFWEA, FWC's planning process, and the draft components of the LFWEA Draft Management Plan.

Presentation on an Overview of the LFWEA and the FWC Planning Process:

Mr. Stana welcomed everyone and thanked the public for their attendance. Mr. Stana then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the Draft Management Plan for LFWEA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Mr. Stana then described the materials that were available for download on their screens for public review, including the LFWEA Draft Management Plan, LFWEA Management Prospectus, MAG Meeting Report, and Accomplishment Report. Mr. Stana then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Mr. Stana then presented an overview and orientation of LFWEA including a description of the natural communities, data about LFWEA visitation, revenue and economic benefits generated for the state and region by the area, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever Program Land Acquisition Projects, acquisition history, etc. He also explained FWC's planning process for the management of the public conservation land and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the LFWEA Overview and FWC's Planning Process:

Mr. Stana facilitated an informal question and answers session where members of the public in attendance, without necessarily identifying themselves, could ask questions of the FWC staff, and discuss the answers. Mr. Stana again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the Draft Management Plan for LFWEA, and not to discuss area hunting, fishing and use regulations since, as was noted earlier, FWC has a separate process for input on hunting and fishing regulations.

No questions or comments were received at this stage of the LFWEA public hearing meeting.

Presentation of the LFWEA Draft Management Plan:

At this point, Mr. Stana, began the presentation of the LFWEA Draft Management Plan. Mr. Stana then completed and concluded the presentation of the LFWEA Draft Management Plan.

Questions and Comments on the LFWEA Draft Management Plan Presentation:

Mr. Stana asked if there were any comments or questions from the public regarding the Draft Management Plan and encouraged everyone to fill out a speaker card for public

testimony. He informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

No questions or comments were received at this stage of the LFWEA public hearing meeting.

Public Testimony on the LFWEA Draft Management Plan:

No members of the public audience submitted speaker cards indicating their intention to provide formal public testimony. Mr. Stana again emphasized that the public hearing was for taking input regarding the LFWEA Draft Management Plan and opened the floor for any further public comment.

No questions or comments were received at this stage of the LFWEA public hearing meeting.

Adjournment:

Mr. Stana asked if there were any other members of the public that wished to give public testimony or comment.

No other speakers offered further comments.

Then Mr. Stana declared the public hearing adjourned.

12.5 Soil Series Descriptions

Map Unit Description

Lafayette County, Florida

[Minor map unit components are excluded from this report]

Map unit: 2 - Penney sand, 0 to 5 percent slopes

Component: Penney (90%)

The Penney component makes up 90 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 excessively drained. Water movement in the most restrictive layer is 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 80 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 4 - Blanton-Ortega complex, 0 to 5 percent slopes

Component: Blanton (55%)

The Blanton component makes up 55 percent of the map unit. Slopes are 0 to 5 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 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 44 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ortega (26%)

The Ortega component makes up 26 percent of the map unit. Slopes are 0 to 5 percent. This component is on rises 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 very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 52 inches during June, July, August, September. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 5 - Otela-Penney complex, 0 to 5 percent slopes

Component: Otela (55%)

The Otela component makes up 55 percent of the map unit. Slopes are 0 to 5 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 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 48 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Penney (43%)

The Penney component makes up 43 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 excessively drained. Water movement in the most restrictive layer is 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 80 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 11 - Pamlico and Dorovan soils, depressional

Component: Pamlico, depressional (55%)

The Pamlico, depressional component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of herbaceous organic material over sandy marine 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 moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Dorovan, depressional (43%)

The Dorovan, depressional component makes up 43 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of organic material over sandy marine 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 moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 50 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 14 - Leon fine sand

Component: Leon (90%)

The Leon component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods 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 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 not flooded. It is not ponded. A seasonal zone of water saturation is at 8 inches during June, July, August. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 15 - Wesconnett and Lynn Haven soils, depressional

Component: Wesconnett (55%)

The Wesconnett component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 very 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 not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Lynn Haven (43%)

The Lynn Haven component makes up 43 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 very 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 not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 11 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 18 - Surrency, Plummer, and Clara soils, depressional

Component: Surrency, depressional (34%)

The Surrency, depressional component makes up 34 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 very 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 not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Clara, depressional (24%)

The Clara, depressional component makes up 24 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 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 not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Plummer, depressional (23%)

The Plummer, depressional component makes up 23 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 very 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 frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 26 - Ridgewood-Hurricane complex, 0 to 5 percent slopes

Component: Ridgewood (65%)

The Ridgewood component makes up 65 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 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 26 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Hurricane (26%)

The Hurricane component makes up 26 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats on marine terraces on coastal plains, rises 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 26 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 27 - Albany-Ridgewood complex, 0 to 5 percent slopes

Component: Albany (66%)

The Albany component makes up 66 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 somewhat poorly drained. Water movement in the most restrictive layer is 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 18 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ridgewood (30%)

The Ridgewood component makes up 30 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 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 29 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 31 - Chaires, low-Meadowbrook complex

Component: Chaires, low (55%)

The Chaires, low component makes up 55 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 June, July, August, September. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Meadowbrook (35%)

The Meadowbrook component makes up 35 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 June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 34 - Ortega fine sand, 0 to 5 percent slopes

Component: Ortega (80%)

The Ortega 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 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 very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 52 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

Lafayette County, Florida

Map unit: 41 - Meadowbrook and Harbeson soils, depressional

Component: Meadowbrook (65%)

The Meadowbrook component makes up 65 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 very 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 frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Harbeson (25%)

The Harbeson component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions 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 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 not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 15 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 44 - Albany-Ousley-Meadowbrook complex, 0 to 5 percent slopes, occasionally flooded

Component: Albany, occasionally flooded (45%)

The Albany, occasionally flooded component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on stream terraces on flood plains 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 occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during June, July, August. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Ousley (25%)

The Ousley component makes up 25 percent of the map unit. Slopes are 0 to 5 percent. This component is on stream terraces on flood plains on marine terraces on coastal plains. The parent material consists of sandy alluvium. 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 very low. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during June, July, August. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Component: Meadowbrook, occasionally flooded (15%)

The Meadowbrook, occasionally flooded component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on flood plains 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 very 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 occasionally flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 53 - Penney sand, 5 to 8 percent slopes

Component: Penney (90%)

The Penney component makes up 90 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine



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Map Unit Description

Lafayette County, Florida

Map unit: 53 - Penney sand, 5 to 8 percent slopes

Component: Penney (90%)

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 excessively drained. Water movement in the most restrictive layer is 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 72 inches during June, July, August. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

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.

12.6 Land Management Review

2018 Land Management Review Team Report for Lafayette Forest Wildlife and Environmental Area

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team “shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan.”

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district or jurisdictional water management district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: Lafayette Forest Wildlife and Environmental Area

Managed by: Florida Fish and Wildlife Conservation Commission (FWC)

Acres: 2,148

County: Lafayette

Purpose(s) for Acquisition: to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.

Acquisition Program(s): Fish & Wildlife Habitat Program

Original Acquisition Date: 4/20/08

Area Reviewed: Entire Property

Last Management Plan Approval Date: 11/4/13

Review Date: 2/20/18

Agency Manager and Key Staff Present:

- Nathan Lambert, Area Manager
- Scott Johns, FWC
- Matt Pollock, FWC

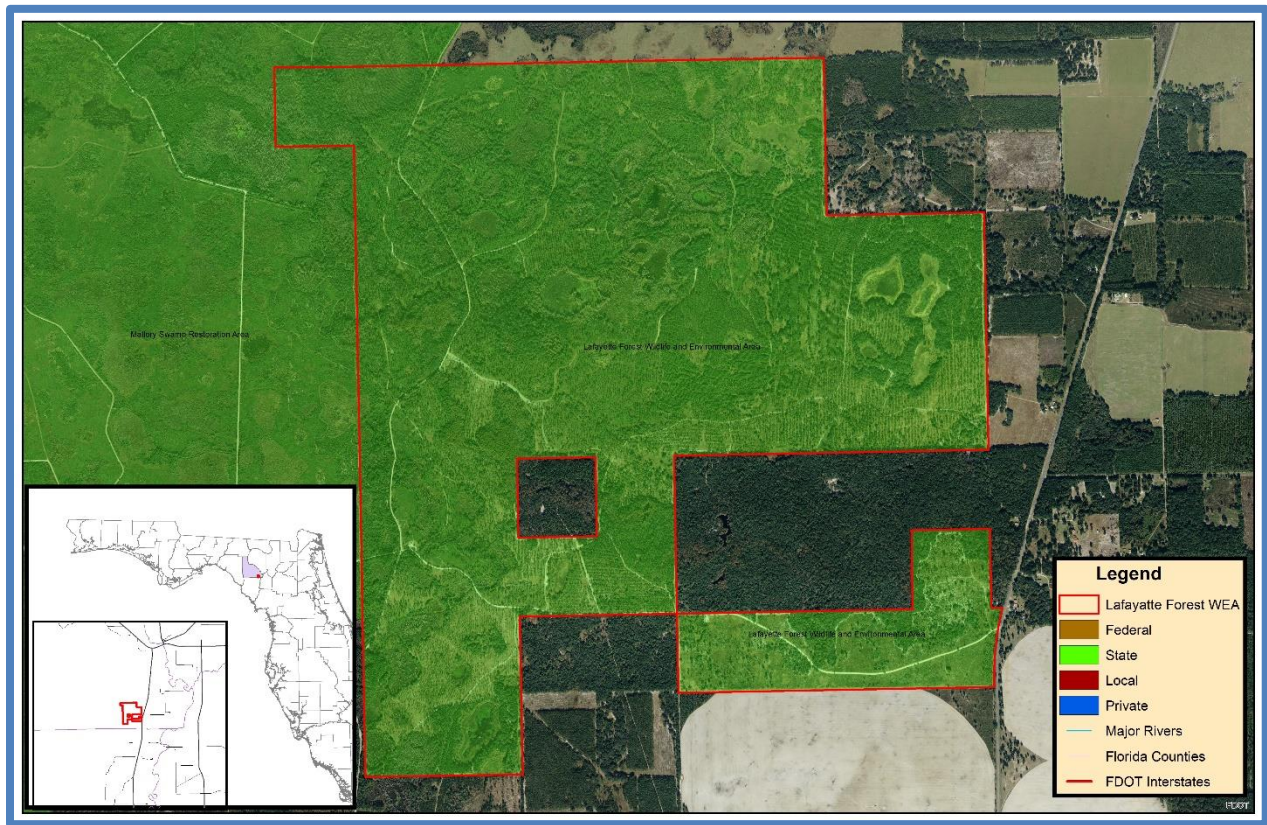
Review Team Members Present (voting)

- Anne Barkdoll, DRP District
- Doug Longshore, FFS
- Jason Neumann, DEP District,
- Bob Heeke, WMD
- Scotland Talley, FWC
- Local Gov't., None
- Michael Bubb, Conservation Org
- Private Land Manager, None

Other Non-Team Members Present (attending)

- James Parker, DEP/DSL
- Keith Singleton, DEP/DSL
- John Kunzer, FWC/IPM
- Paulette McFadden – DHR/BAR

1.2 Property Map



• 1.3. Overview of Land Management Review Results

Is the property managed for purposes that are compatible with conservation, preservation, or recreation?

Yes = 6, No = 0

Are the management practices, including public access, in compliance with the management plan?

Yes = 6, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see Appendix A.

Table 12: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	4.71	4.02
Prescribed Fire / Habitat Restoration	4.81	4.08
Hydrology	4.56	3.24
Imperiled Species	4.48	3.96
Exotic / Invasive Species	4.31	3.56
Cultural Resources	4.42	3.42
Public Access / Education / Law Enforcement	4.38	3.74
Infrastructure / Equipment / Staffing	4.39	N/A
Color Code (See Appendix A for detail)		
Excellent	Above Average	Below Average
		Poor

• 1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the FWC for working with the SRWMD for restoring wetland hydrology. (6+, 0-)
2. The team commends the FWC for collaborating with DHR to survey and document cultural sites. (6+, 0-)
3. The team commends the FWC for their restoration activities in mesic flatwoods and sandhill. (6+, 0-)
4. The team commends the FWC for their removal of windrows and biomass. (6+, 0-)
5. The team commends the FWC for a great working relationship with cooperating agencies. (6+, 0-)
6. The team commends the FWC for the excellent condition of the depression marshes, especially with regards to well applied fire regime. (6+, 0-)
7. The team commends the FWC for a great job of transitioning the area to targeted ecological communities in a short period of time. (6+, 0-)

- **1.3.2. Consensus Recommendations to the Managing Agency**

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

1. The team recommends the FWC delineate the boundaries of the Frazier Cemetery. (6+, 0-)
Managing Agency Response: The FWC will continue to consult with the DHR in an attempt to determine the extent of the Frazier Cemetery and delineate the boundary.
2. The team recommends the FWC review optimum boundary for parcels along McCall's Chapel Creek. (6+, 0-)
Managing Agency Response: The FWC agrees and supports the idea that the 40 ac. inholding should be acquired for conservation as feasible and as funding allows.

- **2. Field Review Details**

- **2.1 Field Review Checklist Findings**

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. **Natural communities, specifically scrubby flatwoods, upland hardwood forest, wet flatwoods, basin marsh, bottomland forest, floodplain swamp, depression marsh, dome swamp, mesic flatwoods, and sandhill.**
2. **Listed species: protection & preservation specifically animals, gopher tortoise, plants.**
3. **Natural resources survey/management resources specifically listed species or habitat monitoring, other non-game species or habitat monitoring, and invasive species survey/monitoring.**
4. **Cultural Resources, specifically cultural resource survey and protection and preservation.**
5. **Resource management, prescribed fire, specifically area being burned, frequency, and quality.**
6. **Restoration, specifically hydrological restoration.**
7. **Forest Management, specifically Timber inventory/assessment, Timber harvesting.**
8. **Non-native, invasive, and problem species, specifically prevention of plants and pests/pathogens and control of plants, animals, and pest/pathogens.**
9. **Hydrologic/geologic function, specifically roads/culverts, ditches, hydroperiod alteration, and water level alteration.**
10. **Ground water monitoring, specifically ground water quantity.**
11. **Surface water monitoring, specifically surface water quantity and quality.**
12. **Resource protection, specifically boundary survey, gates and fencing, signage, and law enforcement presence.**
13. **Adjacent property concerns, specifically expanding development.**
14. **Public access, specifically roads and parking.**
15. **Environmental education and outreach, specifically wildlife, invasive species, habitat management activities, interpretive facilities and signs, recreational opportunities, and management of visitor impacts.**
16. **Management resources, specifically waste disposal, buildings, equipment, staff, and funding.**

- ## 2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed:**

The review team scores did not identify items requiring improvement in the field.

- ## 2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Scrubby Flatwoods	I.A.1	4	5	5	4	5	5			4.67
Upland Hardwood Forest	I.A.2	4	5	x	5	5	5			4.80
Wet Flatwoods	I.A.3	4	5	x	5	5	5			4.80
Basin Marsh	I.A.4	4	5	4	5	5	5			4.67
Bottomland Forest	I.A.5	4	5	4	5	5	5			4.67
Floodplain Swamp	I.A.6	4	5	4	5	5	5			4.67
Depression Marsh	I.A.7	4	5	5	5	5	5			4.83
Dome Swamp	I.A.8	4	5	4	5	5	5			4.67
Mesic Flatwoods	I.A.9	4	5	3	5	4	4			4.17
Sandhill	I.A.10	4	5	3	5	4				4.20
Natural Communities Average Score										4.72
Listed species:Protection & Preservation (I.B)										
Animals	I.B.1	4	5	4	5	5	5			4.67
Gopher Tortoise	I.B.1.a	4	5		5	4	5			4.60
Plants	I.B.2	3	5	4	4	4	5			4.17
Listed Species Average Score										4.48
Natural Resources Survey/Management Resources (I.C)										
Listed species or habitat monitoring	I.C.1	4	5	4	4	4	5			4.33
Other non-game species or habitat monitoring	I.C.2	3	5	4	4	4	4			4.00
Fire effects monitoring	I.C.3	3	5	2	4	3	4			3.50
Other habitat management effects monitoring	I.C.4	3	5	3	3	4	4			3.67
Invasive species survey / monitoring	I.C.5	3	5	3	4	5	5			4.17
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	5	5	4	5	5			4.67
Protection and preservation	II.B	4	5	5	4	3	4			4.17
Cultural Resources Average Score										4.42

Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	5	5	5	5	5	5			5.00
Frequency	III.A.2	5	5	4	5	5	5			4.83
Quality	III.A.3	4	5	4	5	4	5			4.50
Resource Management, Prescribed Fire Average Score										4.78
Restoration (III.B)										
Hydrological Restoration	III.B.1	4	5	5	5	5	5			4.83
Restoration Average Score										4.83
Forest Management (III.C)										
Timber Inventory / Assessment	III.C.1	5	5	2	5	5	5			4.50
Timber Harvesting	III.C.2	5	5	5	5	5	5			5.00
Forest Management Average Score										4.75
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	4	5	5	5	5	5			4.83
prevention - animals	III.D.1.b		3	3	4	4	5			3.80
prevention - pests/pathogens	III.D.1.c		5	4	4	4	4			4.20
Control										
control - plants	III.D.2.a	4	5	5	5	5	5			4.83
control - animals	III.D.2.b		3	4	4	4	5			4.00
control - pest/pathogens	III.D.2.c	3	5	4	4	4	5			4.17
Non-Native, Invasive & Problem Species Average Score										4.31
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	5	5	5	5	5			4.83
Ditches	III.E.1.b	5	5	5	5	5	5			5.00
Hydro-period Alteration	III.E.1.c	5	5	5	5	5	5			5.00
Water Level Alteration	III.E.1.d	5	5	5	5	5	5			5.00
Hydrologic/Geologic function, Hydro-Alteration Average Score										4.96
Ground Water Monitoring (III.E.2)										
Ground water quantity	III.E.2.b	3	5	5	4	4	5			4.33
Ground Water Monitoring Average Score										4.33
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	4	5		4	4				4.25
Surface water quantity	III.F.3.b	4	5	5	5	3	5			4.50
Surface Water Monitoring Average Score										4.38
Resource Protection (III.F)										
Boundary survey	III.F.1	4	5	4	5	5	4			4.50
Gates & fencing	III.F.2	4	5	4	4	5	5			4.50
Signage	III.F.3	4	5	5	4	5	4			4.50
Law enforcement presence	III.F.4	4	5	3	5	5	4			4.33
Resource Protection Average Score										4.46
Adjacent Property Concerns (III.G)										

Land Use										
Expanding development	III.G.1.a	x	4	4	4	4	5			4.20
Inholdings/additions	III.G.2		4	3	4	3	4			3.60
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	4	5	5	5	5	5			4.83
Parking	IV.1.b	4	5	5	5	5	5			4.83
Environmental Education & Outreach										
Wildlife	IV.2.a	4	4	3	4	5	5			4.17
Invasive Species	IV.2.b	4	4	3	4	4	5			4.00
Habitat Management Activities	IV.2.c	4	4	3	4	5	5			4.17
Interpretive facilities and signs	IV.3	4	4	3	3	5	5			4.00
Recreational Opportunities	IV.4	4	4	5	4	4	5			4.33
Management of Visitor Impacts	IV.5	4	4	3	4	4	5			4.00
Public Access & Education Average Score										4.29
Management Resources (V.1, V.2, V.3, V.4)										
Maintenance										
Waste disposal	V.1.a	4	5	5		5	5			4.80
Infrastructure										
Buildings	V.2.a	4	5	5	5	4	5			4.67
Equipment	V.2.b	4	5	3	5	4	5			4.33
Staff	V.3	3	5	3	4	4	5			4.00
Funding	V.4	4	5	4	4	3	5			4.17
s										4.39

Color Code:

Excellent

Above
Average

Below
Average

Poor

Missing Vote

Insufficient
Information

See
Appendix A
for detail

• 3. Land Management Plan Review Details

• 3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. **Ground Water Monitoring, specifically ground water quantity, received below average scores. This is an indication that the management plan does not sufficiently address ground water monitoring.**

Managing Agency Response: The FWC notes that ground water monitoring cooperation with the Suwannee River Water Management District (SRWMD) is discussed on pages 68-69 and

74-75. The update to the current approved management plan will reference DEP and SRWMD as cooperating agencies for the monitoring of ground water quality and quantity. as needed.

2. **Surface Water Monitoring, specifically quantity and quality, received a below average score. This is an indication that the management plan does not sufficiently address surface water monitoring.**

Managing Agency Response: The FWC notes that surface water monitoring cooperation with the SRWMD is discussed on pages 68-69 and 74-75. The update to the current approved management plan will reference DEP and SRWMD as cooperating agencies for the monitoring of surface water quality and quantity.

• 3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Scrubby Flatwoods	I.A.1	2	3	3	5	5	5			3.83
Upland Hardwood Forest	I.A.2	2	3	3	5	5	5			3.83
Wet Flatwoods	I.A.3	2	3	3	5	4	5			3.67
Basin Marsh	I.A.4	2	3	3	5	5	5			3.83
Bottomland Forest	I.A.5	2	5	3	5	5	5			4.17
Floodplain Swamp	I.A.6	2	5	3	5	5	5			4.17
Depression Marsh	I.A.7	2	5	3	5	4	5			4.00
Dome Swamp	I.A.8	2	5	3	5	5	5			4.17
Mesic Flatwoods	I.A.9	2	3	3	5	1	5			3.17
Sandhill	I.A.10	2	3	3	5	1	5			3.17
Natural Communities Average Score										3.92
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	2	5	3	5	4	5			4.00
Gopher Tortoise	I.B.1.a	2	5		5	4	5			4.20
Plants	I.B.2	2	5	2	4	4	5			3.67
Listed Species Average Score										3.96
Natural Resources Survey/Management Resources (I.C)										
Listed species or habitat monitoring	I.C.1	2	3	2	4	3	5			3.17
Other non-game species or habitat monitoring	I.C.2	2	3	3	4	3	4			3.17
Fire effects monitoring	I.C.3	2	3	3	4	4	4			3.33
Other habitat management effects monitoring	I.C.4	2	3	3	3	4	4			3.17
Invasive species survey / monitoring	I.C.5	2	3	2	4	4	5			3.33
Cultural Resources (Archeological & Historic sites) (II.A,II.B)										

Cultural Res. Survey	II.A	2	3	3	4	5	4			3.50
Protection and preservation	II.B	2	3	3	4	4	4			3.33
Cultural Resources Average Score										3.42
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	4	3	2	5	2	4			3.33
Frequency	III.A.2	4	3	2	5	2	4			3.33
Quality	III.A.3	2	3	3	5	3	4			3.33
Resource Management, Prescribed Fire Average Score										3.33
Restoration (III.B)										
Hydrological Restoration	III.B.1	4	5	5	5	5	5			4.83
Restoration Average Score										4.83
Forest Management (III.C)										
Timber Inventory / Assessment	III.C.1	4	4	2	5	4	5			4.00
Timber Harvesting	III.C.2	4	4	3	5	4	5			4.17
Forest Management Average Score										4.08
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1.a	1	3	3	5	4	5			3.50
prevention - animals	III.D.1.b	1	3	2	4	3	5			3.00
prevention - pests/pathogens	III.D.1.c	1	3	3	4	4	5			3.33
Control										
control - plants	III.D.2.a	2	4	3	5	4	5			3.83
control - animals	III.D.2.b		4	3	4	4	5			4.00
control - pest/pathogens	III.D.2.c	2	4	3	4	4	5			3.67
Non-Native, Invasive & Problem Species Average Score										3.56
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1.a	4	4	5	5	5	5			4.67
Ditches	III.E.1.b	4	4	5	5	5	5			4.67
Hydro-period Alteration	III.E.1.c	4	4	5	5	5	5			4.67
Water Level Alteration	III.E.1.d	4	4	5	5	5	5			4.67
Hydrologic/Geologic function, Hydro-Alteration Average Score										4.67
Ground Water Monitoring (III.E.2)										
Ground water quantity	III.E.2.b	2	3	3	4	1	2			2.50
Ground Water Monitoring Average Score										2.50
Surface Water Monitoring (III.E.3)										
Surface water quality	III.E.3.a	1	3		4	1				2.25
Surface water quantity	III.E.3.b	1	3	5	5	1	2			2.83
Surface Water Monitoring Average Score										2.54
Resource Protection (III.F)										
Boundary survey	III.F.1	3	3	3	5	5	5			4.00
Gates & fencing	III.F.2	2	3	3	4	5	5			3.67
Signage	III.F.3	3	3	3	4	5	5			3.83

Law enforcement presence	III.F.4	2	3	3	4	5	5			3.67
Resource Protection Average Score										3.79
Adjacent Property Concerns (III.G)										
Land Use										
Expanding development	III.G.1.a	1	3	3	4	4	5			3.33
Inholdings/additions	III.G.2	1	3	3	4	2	5			3.00
Discussion of Potential Surplus Land Determination	III.G.3	3	3	3	4	5	4			3.67
Surplus Lands Identified?	III.G.4	3	3	3	4	5	4			3.67
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1.a	3	3	3	4	3	5			3.50
Parking	IV.1.b	3	3	3	4	3	5			3.50
Environmental Education & Outreach										
Wildlife	IV.2.a	3	3	3	4	4	5			3.67
Invasive Species	IV.2.b	1	3	3	4	4	5			3.33
Habitat Management Activities	IV.2.c	3	3	3	4	4	5			3.67
Interpretive facilities and signs	IV.3		3	3	3	5	5			3.80
Recreational Opportunities	IV.4		3	5	4	4	5			4.20
Management of Visitor Impacts	IV.5		3	3	4	4	5			3.80
Public Access & Education Average Score										3.68
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Wildlife Viewing	VI.A.1	5	5	5	5	5	5			5.00
Hunting	VI.A.2	5	5	5	5	5	5			5.00
Trails	VI.A.3	5	5	5	5	5	5			5.00
Hiking	VI.A.4	5	5	5	5	5	5			5.00
Bicycling	VI.A.5	5	5	5	5	5	5			5.00
Equestrian Use	VI.A.6	5	5	5	5	5	5			5.00
Astronomy	VI.A.7	5	5	5	5	5	5			5.00
Color Code:		Excellent		Above Average		Below Average		Poor		See Appendix A for detail
				Missing Vote		Insufficient Information				

- **Appendix A: Scoring System Detail**

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*

12.7 Management Plan Terms

Management Plan Goals and Objectives

Terms and Definitions

Assessment: Assessment—when a historic resource professional determines the possible effects—positive or negative—that an action or inaction may have on a historical resource (e.g., site, building, object or structures) by analyzing its current condition and documenting any modifications and changes to its original state as well as identifying any potential human or natural threats to its existence.

Capital Improvement: Capital improvement" or "capital project expenditure" means those activities relating to the acquisition, restoration, public access, and recreational uses of such lands, water areas, and related resources deemed necessary to accomplish the purposes of this chapter. Eligible activities include, but are not limited to: the initial removal of invasive plants; the construction, improvement, enlargement or extension of facilities' signs, firelanes, access roads, and trails; or any other activities that serve to restore, conserve, protect, or provide public access, recreational opportunities, or necessary services for land or water areas. Such activities shall be identified prior to the acquisition of a parcel or the approval of a project. The continued expenditures necessary for a capital improvement approved under this subsection shall not be eligible for funding provided in this chapter.

Desired future condition: Desired Future Condition is a description of the land or resource conditions that are believed necessary if management goals and objectives are fully achieved. Desired Future Condition varies by specific habitat and ecosystem. It can also vary, based upon a specific agency's management goals.

Evaluation: Review by a professional in archaeology, history or architecture as to the integrity and significance of the site, building or structure. The criteria of the National Register of Historic Places will be applied.

Facility: all developed structures and improvements provided for a specific purpose or contained within a clearly defined area.

Fire management plan: An element of the land management plan or an independent document that outlines the goals and objectives of a fire management program (prescribed and wildfire) for a predetermined period of time.

Historic: An object, site or structure that is 50 years or older.

Hydrological assessment: A documented, systematic evaluation by a qualified professional of the existing and historical quantity, quality, movement and function of water resources (e.g., computer modeling).

Imperiled species: A species or subspecies that is listed by the U.S. Fish and Wildlife Service as Endangered or Threatened; Florida Fish and Wildlife Conservation Commission (FWC) as Endangered, Threatened, or Special Concern; Florida Department of Agriculture and Consumer Services (FDACS) as Endangered or Threatened; or is tracked by Florida Natural Areas Inventory (FNAI) as globally or state Critically Imperiled or Imperiled. Imperiled Species does NOT refer to species that are on the FDACS list of commercially exploited plants that are not Endangered or Threatened.

Improve: the enhancement or expansion of facilities, roads and trails.

Maintenance: the daily or regular work of keeping facilities, roads and trails in proper condition.

Monitoring: Periodic examination of the site, building or structure to determine the current condition and threats such as erosion, structural deterioration, vegetation intrusion, poaching or vandalism. An updated Florida Master Site File form is used to complete this assessment.

Natural community/habitat/ecological improvement: Similar to restoration but on a smaller less intense scale. Typically includes small scale vegetation management activities, spot treatments of exotic plants, or minor habitat manipulations. Any habitat alteration that increases the diversity of a habitat or increases the population of a particular species.

Natural community/habitat/ecological restoration: The process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure, and physical characters. Activities may include vegetative treatments (e.g., hardwood removal, mechanical treatment, pine tree thinning, etc.), groundcover establishment, non-commercial tree plantings, erosion control, hydrological manipulation (filling ditches), and beach management.

Not in maintenance condition: Species composition and/or structure is outside the targeted range. The natural community is in need of more frequent or recurring management treatments that are beyond maintenance activities. Examples include natural communities with exotic plant or animal infestations that are at levels requiring significant treatment, natural communities that have exceeded maximum targeted fire return intervals, and natural communities in need of restoration treatments.

Poor, fair, good condition: Evaluating the condition of cultural resources is accomplished using a three-part evaluative scale, expressed as good, fair and poor. These terms describe the present condition, rather than comparing what exists against the ideal. “Good” describes a condition of structural stability and physical wholeness, where no obvious deterioration other than normal occurs. “Fair” describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A “fair” assessment is cause for concern. “Poor” describes an unstable condition where there is palpable, accelerating decline, and physical integrity is being compromised quickly. A

resource in poor condition suffers obvious declines in physical integrity from year to year. A poor condition suggests immediate action is needed to reestablish physical stability.

Population survey: Using broadly accepted methodologies to detect changes in population trends over time.

Public access: access by the general public to state lands and water, including vessel access made possible by boat ramps, docks, and associated support facilities, where compatible with conservation and recreation objectives.

Recorded: A Florida Master Site File form has been completed and filed with the Florida Department of State, Division of Historical Resources.

Recreational/visitor opportunity: measure of potential number of users based on existing resource conditions and developed facilities.

Repair (major): the restoration of facilities, road and trails to proper condition after damage or failure.

Restoration underway: restoration planning/design, executing, evaluating and reporting.

Restored/Maintenance condition: (refers to natural community) - within the range of target species composition and structure such that no significant, non-recurring alterations to structure or species composition are needed for ecological restoration. Invasive exotic plants or animals are absent or at levels requiring minimal recurring treatments, and prescribed fire rotations are within target intervals. Refers to Natural Communities. Includes NCs that meet DFC, and NCs that have received restoration action (such as thinning, clear-cut and native species planting) and only require time and recurring maintenance actions such as prescribed fire, maintenance level exotics control, or sustainable forestry practices if applicable.

Road: a paved or unpaved motor vehicle route unless identified and managed as a trail.

Significant: Listed in or determined eligible for listing in the National Register of Historic Places as an individual property, element of a multiple listing or in an historic district. Cultural resource professionals are able to make the determination, but final determination rests with the Director of the Division of Historical Resources.

Sustainable forestry: The stewardship and harvest of forest products in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and potential to fulfill, now and in the future, relevant ecological, economic, and social functions at local, national and global levels, and that does not cause damage to other ecosystems.

Systematic survey: A sampling protocol designed to assess the occurrence or population status of a species or a suite of species (e.g., presence/absence, mark and recapture, transect survey, etc.).

Trail: a linear route or path which has been specifically prepared or designed for one or more recreational functions such as hiking, biking, horseback riding or multiple use. In many cases, unimproved service roads are also designated as trails.

Treatment: A mechanical, chemical, biological or manual action that changes the structure or composition of an area in order to facilitate restoration or improvement.

Visitor carrying capacity: An estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site.

Wildlife activities: wildlife-associated recreation such as birdwatching, fishing, hunting, etc.

12.8 FNAI Element Occurrence Data Usage Letter



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

April 11, 2014

David Alden
Land Conservation & Planning
Florida Fish and Wildlife Conservation Commission
Tallahassee, FL

Dear David,

By virtue of this letter we are updating and continuing our agreement that it is unnecessary for your office to request FNAI element occurrence data for each land management plan you prepare, under the following conditions:

- FNAI will continue to provide our Florida Element Occurrence GIS database to FWC on a quarterly update basis;
- The FNAI GIS data will be available to FWC staff for reference and incorporation as required in management plan review and preparation.

Our database manager, Frank Price, currently provides this update via ftp to FWC staff on a quarterly basis. Current FWC contacts for the quarterly update are Beth Stys and Ted Hoehn. We are pleased to continue this beneficial collaboration with the Florida Fish and Wildlife Conservation Commission.

Sincerely,

Gary Knight
Director
Florida Natural Areas Inventory



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

12.9 FWC Agency Strategic Plan

The Florida Fish and Wildlife Commission

Strategic Plan 2020-2024



May 6, 2020

This plan was written by the FWC 2020+ Strategic Plan Development Team for the dedicated staff of the FWC, specifically designed with leaders and supervisors in mind with the intention of fostering and reinforcing our agency culture, core operations, and strategic approach to our conservation mission.

From the Executive Director

Balancing the needs of Florida's fish and wildlife resources with a diverse, growing population of people can be complicated and challenging. It is our honor to be the agency that is entrusted to take care of these resources on behalf of all Florida residents and visitors. The FWC team strives every day to uphold this public trust.

An important element of effective management and administration is focusing on strategic priorities that are vital in accomplishing our overall mission and adjusting resources accordingly. This reallocation must be done while continuing to attend to day-to-day functions. It is



critical to accurately identify these developing issues and set forth a strategy to address them. This formula is the basis for a strategic plan. As with any plan, it works best if it is a collaborative effort, with everyone having the opportunity to provide input in the planning process and identify emerging issues that require strategic solutions. We have put together diverse teams to develop the FWC's strategic plan, to encompass the major issues affecting our agency as a whole.

I also firmly believe that strategic plans are less about a printed document, and more about the process and collaboration necessary to achieve such a plan. The benefits of this process are seen and continued far beyond printing the final draft.

The success of this effort – of our mission – rests upon the shoulders of each and every one of us. Whether you work in the field or in an office, whether you're a scientist, technician, accountant, law enforcement officer, administrative assistant, or programmer, your unique skills and expertise are necessary to continue the good work of conservation that we do every day as well as the strategic work we will be taking up over these next five years. As you read through this plan, I challenge you to look for ways that you can help make a difference. I also ask that you challenge your co-workers to leverage their skills and talents for the good of our mission as well. The future of Florida's fish and wildlife conservation depends on our collective and diverse perspectives, backgrounds, contributions, creativity, and energy.

Respectfully yours,
Eric Sutton

Vision & Values

The mission of the FWC is to manage fish and wildlife resources for their long term well-being and the benefit of people. Every organization has an identity that is forged not only by what it does, but by how it conducts itself. The values embedded in our mission and expressed in the vision of FWC leadership are to make quality decisions by being dynamic, science-based, efficient, ethical, collaborative, competent, and committed to the vitality of the state and its environment.

We work diligently to conserve fish and wildlife in a manner that honors the public trust that has been vested in us through Florida's constitution. This is based in long-standing law and traditions commonly referred to as the "Public Trust Doctrine." This doctrine is steeped in the principle that fish and wildlife should be managed for the public, and reflects the belief that certain resources are an intergenerational inheritance, held in trust by government for the benefit of all current and future residents and visitors.

We envision...

a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.

Consistent with this tradition, we strive to reinforce an inclusive culture that provides for public access, public input, technical assistance groups, stakeholder and public outreach, open communication, work teams, and shared decision making. The FWC encourages scientific inquiry and diversity of thought, and actively promotes these values with our public engagement efforts. The core concepts of these values are derived from a set of nationally accepted Wildlife Governance Principles that have been developed over time and focus efforts on conservation.

Additionally, we strive to make proactive resource decisions based on the best available science, balanced with social, economic and political interests, to create durable solutions with enforcement and managerial practicality. We empower staff to act locally on behalf of the agency to ensure decision making is as close to the issues as possible. We must cultivate a diverse and inclusive culture that

cares and includes values of integrity, professionalism, dedication, and adaptability, and create an environment that is inclusive and supports diverse opinions and voices in decision making at all levels

Wildlife Governance Principles

Wildlife governance will:

- ◆ Be adaptable and responsive to citizens' current needs and interests, while also being forward-looking to conserve options of future generations.
- ◆ Seek and incorporate multiple and diverse perspectives.
- ◆ Apply social and ecological science, citizens' knowledge, and trust administrators' judgment.
- ◆ Produce multiple, sustainable benefits for all beneficiaries.
- ◆ Ensure that trust administrators are responsible for maintaining trust resources and allocating benefits from the trust.
- ◆ Be publicly accessible and transparent.
- ◆ Ensure that trust administrators are publicly accountable.
- ◆ Include means for citizens to become informed and engaged in decision making.
- ◆ Include opportunities for trust administrators to meet their obligations in partnerships with non-governmental entities.
- ◆ Facilitate collaboration and coordination across ecological, jurisdictional, and ownership boundaries.



Our Core Values

Resource Stewardship We are passionate about Florida's natural resources and use our expertise to manage and conserve fish and wildlife

Service Excellence We are solution-oriented and committed to achieving wildlife and fisheries conservation results, and efficiently meeting the needs of the public and stakeholders

Teamwork and Collaboration We communicate openly and work together effectively to achieve our common goals We appreciate the value of diverse backgrounds, expertise, and ideas, and incorporate multiple perspectives into decision making

Professional Integrity We operate honestly and ethically, and apply our processes, rules, and regulations in a consistent manner that engenders a climate of trust and fairness

Scientific and Technical Excellence We use our science-based expert knowledge, technology, and other available resources to achieve high-quality work

Accountability We set challenging goals for our achievement and hold ourselves accountable for the results

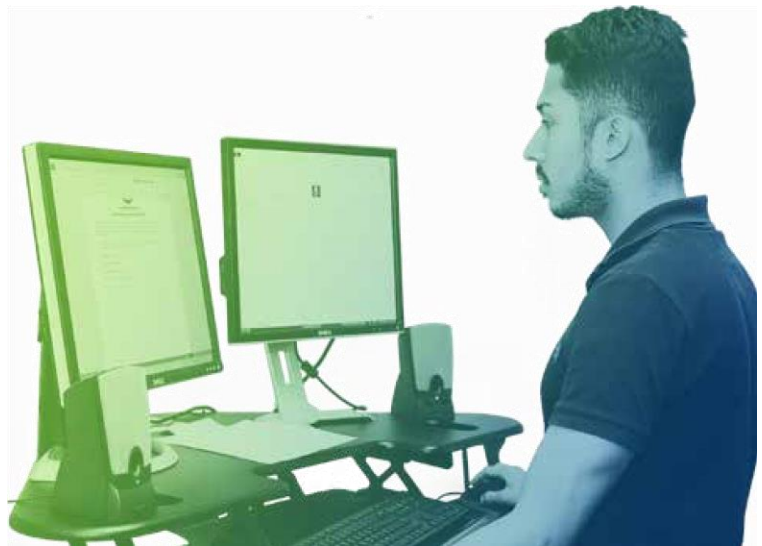


Business Practices

In addition to our core values, we also strive to follow a core business model that addresses how best to deliver our vision, strategy, and mission through key practices. These include:

- ◆ Thinking proactively and strategically to anticipate challenges and opportunities while taking actions that contribute to the achievement of long-term interests.
- ◆ Coordinating science, resource management, enforcement, and research.
- ◆ Providing a safe and healthy environment where the public can enjoy Florida's resources and waterways.
- ◆ Providing an excellent experience for our customers.
- ◆ Creating and maximizing the use of integrated work and issue teams.
- ◆ Continually striving to improve processes and efficiency for the benefit of residents and visitors.
- ◆ Leveraging technology.
- ◆ Integrating leadership development.
- ◆ Optimizing fiscal management.
- ◆ Adapting to new and emerging needs for communication.

These core values and business practices are further defined in, and serve as, the foundation of our internal communications programs, hiring practices, and annual employee evaluation process, embedding these principles into the fabric of our organization and making them meaningful to employees in their daily activities.



Overview of Strategic Planning

We have been developing strategic and operational plans since the FWC's inception in 1999. Our first planning effort focused on developing the structure and culture of a newly-formed agency. Subsequent plans similarly focused on norms and values, including development of a collaborative and team based culture. The strategic planning effort that resulted in the "FWC Agency Strategic Plan 2014-2019" was the first time we incorporated a large-scale, highly collaborative process to determine how to focus the strength of the agency on the most essential conservation challenges while ensuring safe and enjoyable public access to Florida's fish and wildlife resources. The 2014-2019 strategic plan identified agency Themes, Goals, and Strategies to define the conservation work required to achieve our mission. Hundreds of staff from across the agency at multiple levels worked in teams to create 109 measurable objectives across each of the five Themes, which were then prioritized by each Regional Leadership Team before being presented to our Commissioners. Executive leadership used that guidance, along with elements from other planning efforts, to develop

seven Strategic Initiatives. These initiatives emphasized areas where we wanted to focus attention, discipline, and resources to make significant conservation gains over the subsequent five to 10 years. Strategic work is complex and takes considerable

2014-2019 Strategic Initiatives

Boating as a Gateway to Conservation and the Outdoors: Strengthen and promote the conservation connections of boating while protecting people and natural resources, and improving boating related opportunities.

Conflict Wildlife: Maintain the support and appreciation of fish and wildlife through sustainable coexistence by reducing human wildlife conflict.

Conservation through Innovation – Marine Fisheries Management: Enhance marine fisheries through the expansion of progressive and collaborative management techniques.

Conservation through Innovation – Private Lands: Partner with private landowners as a key to enhanced conservation.

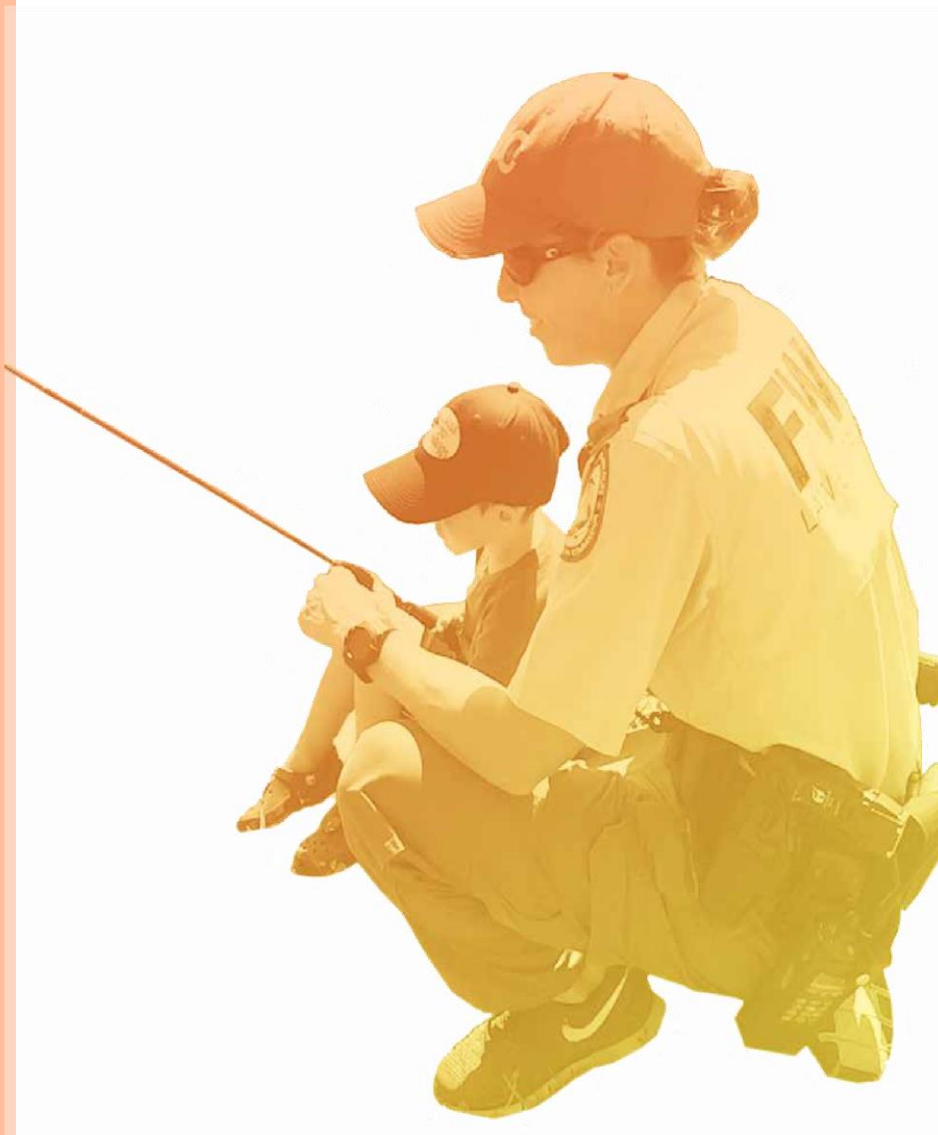
Expanding Participation in Conservation: Expand partnerships and FWC programs to encourage diverse youth and families to be more involved in the future of conservation.

Imperiled Species Management Plan: Improve the status of imperiled species to effectively reduce the risk of extinction.

Running the Business: Establish an internal infrastructure that identifies the areas of business operations and practices that represent high risk, prioritize them, and modify them to address risks.

planning and developmental investment to accomplish. Cross-divisional teams worked together to further define the SIs, develop implementation plans, and operationalize key portions of the initiatives. The work that was accomplished on these seven SIs created a foundation for furthering more effective strategic thinking, planning, and implementation of meaningful and long-lasting conservation efforts for Florida's fish and wildlife resources. The 2014-2019 SIs are now becoming part of the broader conservation work that we do and will continue to influence operational planning moving forward

The current strategic plan builds upon the knowledge gained and lessons learned from all our prior strategic planning efforts. The purpose of our agency strategic planning is to leverage our values and behaviors as an agency with our operational workforce to produce significant conservation outcomes that align with an ever-changing world to better position ourselves in the future



We must be strategic in identifying our emerging issues and opportunities to put our agency in the best position to achieve our mission. We must adapt to take advantage of changing technology, seize opportunities to improve our fiscal and operational resources, increase efficiencies, and align priorities across the agency. In order to adapt to a changing environmental, economic, and socio-political landscape, we must first understand and define the environment in which we work. This plan is focused on aligning our agency resources to address our strategic opportunities. The issues, challenges, and risks we face will be addressed in division operational plans and priorities.

Challenges we must address:

- ◆ Static revenue streams.
- ◆ Increasing program costs and infrastructure improvement needs.
- ◆ Loss of institutional knowledge with an unprecedented rate of upcoming retirements.
- ◆ Recruiting and retaining qualified employees.
- ◆ Leveraging legislative support for agency operations.
- ◆ Maintaining an adequate level of research, monitoring programs, and population assessments for fish and wildlife resource management.
- ◆ Balancing state and federal regulatory authorities and reducing unneeded regulatory burdens while ensuring sustainable species populations and protecting habitat.
- ◆ Securing habitat for fish and wildlife in the face of increasing development pressure.

Issues We Face

- ◆ Maintaining the significance of natural resources as pillars of the community and economy.
- ◆ Habitat loss and degradation.
- ◆ Climate change impacts.
- ◆ Water quality and water quantity issues.
- ◆ Changes in public views of wildlife and conservation.
- ◆ Impacts from exotic and invasive species on natural systems.
- ◆ Natural disasters and disease outbreaks.

- ◆ Managing aquatic systems and resources without control over water quality, quantity, timing, and distribution
- ◆ Gaining public support for conservation and management
- ◆ Shifts in demographics, changing attitudes toward conservation, and declining percentages of hunters and anglers, which all impact our relevancy to the public

Meeting the Challenges

We have a broad scope of core work that keeps us focused on our mission. This core work is the foundation of our agency and provides the basis for building a culture of strategic planning and doing. To address the identified challenges through strategic and operational planning, we must invest in the people, programs, and technology that best advance our highest priorities, which requires that we sunset low-priority activities, programs, or services. We must foster an agency culture and capacity to accept, understand, engage, and serve people with different interests and uses of fish, wildlife, and habitats. We must demonstrate fairness, honesty, and compassion; practice dedication and adaptability; and include diverse opinions throughout our decision-making processes.



As demographics change across the state, it becomes increasingly important to develop practices and processes that are responsive to the changing nature-based values of the public. We must focus on providing a safe environment for people to enjoy Florida's natural resources and the outdoors; adapt to the impacts of social media on communication; increase focus, capacity, and use of social sciences into agency conservation and management decisions and public engagement strategies; and foster cultural acceptance of hunting and fishing.

As we maintain a high level of core work and increase strategic planning and doing as part of our foundation, we will have a greater workload than the available resources can address. This will require a priority-based approach, meaning some work will not be completed. We will need to increase efficient use of our existing resources through realignments and decrease work on lower priority activities. We will need to work with our legislative team to secure the resources necessary for agency operations and priority issues, and leverage stakeholder relationships and partnerships to increase capacity for conservation work. We will integrate research, management, and law enforcement to focus on emerging threats, landscape conservation, and a holistic approach to watershed management. This will be accomplished through partnerships, leveraging funding sources, implementing existing plans, and fostering locally-led conservation. Achieving our conservation goals will require us to think strategically across the agency and prioritize our operations to meet the challenges that lie ahead.



Our Organization

The core work of the FWC is broad and forms the basis from which strategic effort springs. Maintaining our core competencies and work is critical to our success and this section contains an overview of the core work areas within the FWC. This is by no means an all-encompassing description of the multifaceted work conducted throughout the agency. Additional information on each of the divisions, offices, and the institute can be found within the “Programs of the FWC” annual report as well as within each division’s operational plans. This agency strategic plan focuses on a small portion of our overall work with the intent of identifying areas of strategic focus, using our existing work as the foundation.

Moreover, it is important to note that our agency’s structure is intentionally organized into inter-dependent parts that must work together to achieve our mission. Divisions serve as the main operational elements, while offices provide critical support functions across the entire agency. Regions then serve to ensure geographic continuity of policy and programs across the state. This structure necessitates strong collaboration and teaming amongst all parts of the FWC. We then carry this heavy focus on working together outside of the agency and actively engage partners, stakeholders, and the public in our decision making and implementation.

FWC

Florida Fish and Wildlife Conservation Commission

Mission: Managing fish and wildlife resources for their long-term well-being and the benefit of people.

The FWC consists of more than 3,000 employees, including 848 sworn law enforcement officers. All personnel work together to protect and manage more than 575 species of wildlife, 200 species of freshwater fish, and 500 species of saltwater fish. The FWC works to balance the needs of these fish and wildlife species and the habitats that support them with the needs of Florida’s growing population of more than 21 million residents and record numbers of visitors coming to the state – well over 100 million annually.



The Commissioners

The FWC's seven Commissioners are appointed by the Governor and confirmed by the Florida Senate to five-year terms. Their constitutional duty is to exercise the “. . . regulatory and executive powers of the state with respect to wild animal life and fresh water aquatic life and shall also exercise regulatory and executive powers of the state with respect to marine life, except that all license fees and penalties for violating regulations shall be as provided by law .”

OED

Office of the Executive Director

The Office of the Executive Director provides coordination, oversight, and support for FWC operations. It provides policy guidance, fosters accountability, and promotes continual improvement among the agency's divisions and offices. To address important conservation issues, OED coordinates and supports strong engagement of Commissioners and facilitates effective interaction with agency customers; stakeholders; federal, state, and local elected officials; federal and state agencies; and FWC staff. Further responsibilities include maintaining facilities and infrastructure and leading efforts to strategically focus agency staff and resources on conservation priorities. OED staff work closely with the agency's Senior Leadership Team to ensure effective integration of agency activities and programs across all divisions and offices.

There are multiple functions within OED, with some primary functions including media relations and informing residents and visitors about fish and wildlife resources; quickly and efficiently issuing licenses and permits for recreational fishing and hunting and for commercial saltwater and freshwater fishing; providing oversight for the agency's administrative functions such as disbursements, financial management, procurement, leasing, and property; managing an automated information technology environment that is reliable, secure, cost-effective, and responsive; and working closely with division, regional, and office directors to identify and coordinate programs with boundary-spanning implications that will benefit the FWC.



FWRI

Fish and Wildlife Research Institute

The Fish and Wildlife Research Institute provides timely information and guidance to protect, conserve, and manage Florida's fish and wildlife resources through effective research and technical knowledge.

The work done by the Fish and Wildlife Research Institute reaches far beyond the confines of the FWC. Research conducted on habitats, freshwater and marine fisheries, harvested and imperiled species, and other important plant and wildlife communities in Florida is used by federal, state, and local governments; universities; recreational and commercial fishing interests; recreational hunting and boating interests; nongovernmental organizations; and the public . FWRI integrates its research activities with management efforts of other FWC divisions.

Primary work areas within FWRI include conducting monitoring, assessments, mapping, and research to support development of management practices to protect and improve the quality of habitat and diversity of wildlife on state managed lands; maintaining an extensive collection of fish and invertebrate specimens and providing data management services and scientific library services; integrating research on predicted or emerging threats to fish and wildlife conservation, such as climate change; and acquiring and distributing biological and ecological information critical for the science based management, conservation, restoration, and wise use of Florida's fish and wildlife resources .



FFM

Freshwater Fisheries Management

The Division of Freshwater Fisheries Management manages, enhances, and conserves Florida's freshwater aquatic life for public benefit.

The Division of Freshwater Fisheries Management is responsible for directing the management and identifying the research needs of freshwater fisheries within public lakes, rivers, streams, and canals, with efforts focused on improving the fish populations and their habitats to benefit anglers and other stakeholders . This is accomplished through strategies revolving around improving aquatic habitat; increasing access; improving freshwater sport and commercial fisheries; stocking sportfish; regulations; developing management plans; increasing aquatic stewardship; and building partnerships with state, county, and city governments, industry leaders, and freshwater stakeholders . FFM has

developed a private-public partnership through the TrophyCatch conservation and marketing program, which uses citizen science to provide valuable information that contributes to the management of Florida's trophy bass fisheries. Special projects, such as the high school fishing program and kids' fishing clinics, encourage responsible fishing practices and help bolster future generations' understanding of and personal investment in the conservation of fish and wildlife resources.

Primary work areas include evaluating freshwater resources through surveys and inventories of fish populations and angler use; maintaining Fish Management Areas that provide access and promote fishing; developing aquatic habitat enhancement/restoration projects; producing fingerling and subadult fish for stocking in public waters to enhance fisheries, provide new opportunities, supplement urban pond populations, and for youth events; and work with communities surrounding major freshwater resources so they appreciate the intrinsic value and economic importance of the resource and the fishery .



HSC

Habitat and Species Conservation

The Division of Habitat and Species Conservation ensures healthy populations of all native wildlife and their habitats on a statewide basis.

The Division of Habitat and Species Conservation integrates scientific data with applied habitat and species management to maintain stable or increasing populations of fish and wildlife. Conservation integration efforts focus on the ecosystem or landscape scale to provide the greatest benefits to the widest possible array of fish and wildlife species. Accomplishing this mission requires extensive collaboration and partnering with local, state, and federal agencies to maintain diverse and healthy fish and wildlife populations for the benefit of all Floridians and visitors, which provides direct ecological, economic, aesthetic, scientific, and recreational benefits.

Primary work areas include managing, maintaining, enhancing, and restoring native natural habitats on 1.4 million acres, assisting cooperators with wildlife management on another 4.5 million acres, and working with partners to connect and expand public conservation lands; providing technical assistance to private landowners to implement wildlife conservation strategies; restoring, enhancing, and managing publicly-owned aquatic resources to improve the ecological health of freshwater, estuarine, and marine habitats; directing, coordinating, and funding control of invasive upland plants on public conservation lands and invasive aquatic plants in public waterways; developing and implementing high-priority conservation activities to improve conditions for native and imperiled wildlife; addressing human wildlife interactions and managing the impact of native and nonnative fish and wildlife species; reviewing growth management and regulated land and water use project proposals that have potential to impact Florida's fish, wildlife, and habitat resources; and promoting, facilitating, and expanding nature-based tourism, recreational opportunities, and public participation in conservation .



Hunting and Game Management

HGM

The Division of Hunting and Game Management manages and conserves game wildlife for the future, while fostering safe and responsible hunting.

The Division of Hunting and Game Management uses scientifically proven game-management strategies and professional expertise to conserve game wildlife and perpetuate sustainable hunting opportunities on public and private lands statewide. The Division also manages public shooting sports facilities throughout the state and offers hunter safety programs to foster safe, responsible hunting.



Primary work areas include managing Florida's wild game populations using science, leadership, and key partnerships; providing opportunities for responsible and sustainable hunting on public and private lands; working with stakeholders and partners to coordinate support for hunting-related activities; providing hunter safety courses and special events to ensure Florida hunters are well prepared to be safe,

responsible, and conservation minded; and constructing and managing public shooting ranges located throughout the state.

Law Enforcement

LE

The Division of Law Enforcement protects Florida's natural resources and people through proactive and responsive law enforcement services.

The FWC Division of Law Enforcement, comprised of 1,043 members including 848 sworn law enforcement officers, operates in six regions throughout the state. FWC officers are responsible for uniformed patrol and investigative law enforcement services on more than 8,400 miles of coastline, more than 13,000 square miles of offshore waters, and more than 34 million acres of land encompassing a variety of habitats including private lands, wildlife management areas, state parks, and forests.

Primary duties include protecting Florida's fish and wildlife and their habitats, and providing law enforcement services that protect public safety throughout the state of Florida. The division also provides support for state Emergency Operations Center activities and readiness for natural disasters and mutual aid requests. Personnel also engage in targeting illegal black markets and trafficking in fish and wildlife, conduct federal fisheries enforcement patrols, help to regulate the Florida seafood industry, and enforce rules related to captive wildlife.



Some internal programs undertaken by the division include professional recruitment efforts of new officers; providing world-class training and recruit instruction; conducting progressive advanced training; implementing the division career development programs; and providing intelligence information to officers in the field. The DLE enhances boating safety and waterway experiences through maintenance and repair of approximately 244 boat ramps, construction of new boat ramps, and placement and maintenance of waterway markers.

Marine Fisheries Management

MFM

The Division of Marine Fisheries Management manages Florida's marine fisheries for their long-term sustainability, their economic benefits, and for the enjoyment of the public.

The Division of Marine Fisheries Management works with stakeholders, federal agencies, other states, and regional councils to manage and provide outreach on more than 500 marine fish and invertebrates. The division also provides expertise, monitoring, and grant funding for the deployment of artificial reefs; recovers lost or abandoned lobster and crab traps; conducts wholesale-dealer audits; provides agency comments on proposed development projects that may affect marine resources; and issues special activity licenses for harvest of species for research and educational purposes . This division additionally provides outreach and education to introduce people to the sport of fishing, instill ethical angling values, and ensure comprehension of marine fisheries regulations.

Primary work areas include compiling fishery data, coordinating with other government agencies and research institutions, and soliciting information from the public regarding fishery management strategies for state saltwater fisheries regulations; serving as liaison between the FWC Commissioners, interstate fisheries commissions, and federal fishery management councils that manage marine fish species such as snapper and grouper in federal and interstate waters; promoting responsible recreational and commercial fishing activities; and administering the statewide artificial reef programs.



Approach to the Future

Strategic Framework

Maintaining the FWC's core work is foundational to achieving our mission and continuing our success of achieving conservation. Enforcement and education, public engagement, species and habitat management, comprehensive research, freshwater and marine fisheries enhancement, sustaining game wildlife as a public resource, and operating within responsible business practices are all components of the exceptional work we do every day. These central functions comprise the majority of our time and effort, and continuing to excel in this work is key to successfully conserving Florida's fish and wildlife and their habitats into the future.

Currently, considerable effort is spent responding to urgent challenges. Much of this work is reactive in nature, rapidly consumes resources, and ultimately pulls focus from identified priorities. A refined approach to the future – one that results in a more agile and focused organization – is necessary to minimize time spent reacting and increase time spent making progress toward our strategic priorities. By increasing the portion of work we do that is strategic, focused, and proactive, we can better adapt to our changing environment, integrate strategic solutions into our operations to address specific issues, and position ourselves to successfully conserve fish and wildlife into the future (Figure 1) .

The strategic approach presented here is a framework for infusing strategy into our operations and ultimately positioning the FWC to proactively address known challenges, capitalize on opportunities, and continue to successfully fulfill our mission. Investing time in strategic priorities is necessary to sustain the model for fish and wildlife conservation that the FWC has built. The conservation gains realized through focused planning and dedicated action are both worthwhile and essential. When strategic initiatives become fully integrated into the core components of the work we do, we achieve long-term, sustainable success.



Figure 1 Currently, a significant portion of our effort is spent reacting to urgent issues . With a shift to a more proactive, forward-focused approach, through time we can reduce the overall amount of reactive efforts by using approaches that address future challenges .



Establishing Dynamic Strategic Initiatives

Identifying strategic priorities at the agency, division, and section/ program level is an important component of a future-focused approach. Strategic initiatives are intended to leverage areas of strategic importance and strengthen conservation efforts. SIs are distinguished as proactive, timely, and important topics requiring increased focus and a shift in resources. SIs are not a response to urgent, reactive challenges, nor are they a shift in course due to opportunities to address topics of lower priority. They are those critically important conservation efforts that focus on future opportunity or alignment, require dedicated attention, challenge us to work across organizational lines, and for which a shift in resources or change in operational structure may be required.

Initiatives will be selected through an ongoing process that includes environmental scanning and staff input. Strategic planning will include feedback and ongoing discussion with each division to clarify emerging issues and priorities. A cross-divisional strategic planning team will compile input, identify common themes across the agency, and evaluate

Strategic initiatives:

- ◆ Realize significant benefits for conservation that otherwise would not occur.
- ◆ Are forward-focused instead of reactive.
- ◆ Need directed increase in agency focus.
- ◆ Span section or division boundaries.
- ◆ Require resource reallocation.
- ◆ May necessitate realignment or organizational transformation.

potential initiatives. This team will produce recommendations on strategic areas of focus for agency and division-level initiatives to be discussed with each division leadership team and by the FWC's Executive Leadership Team. Collectively, the ELT will determine which issues become agency-level initiatives. Then, with support from the agency's strategic planning team, initiative sponsors will coordinate cross-divisional work to further describe the initiative and develop clear objectives and timelines.

To ensure available resources are fully focused on priorities, no more than three agency SIs will be active at any given time. Limiting the number of topics we are addressing through a strategic shift in resources is intended to yield more progress in each initiative more quickly than when resources are divided among numerous initiatives. Initiatives will develop clearly defined objectives from the onset and will be evaluated annually. Many topics identified through consideration of influences, challenges, and opportunities may be urgent in nature and require cross-divisional coordination at an operational level. While only a subset of these topics will be active as an SI at any given time, we will continue to design our core work to sustainably address urgent needs by working across organizational boundaries. As this intentionally necessitates an adaptive approach, we will reassess this process after another five-year period to improve our development of strategic initiatives moving forward.

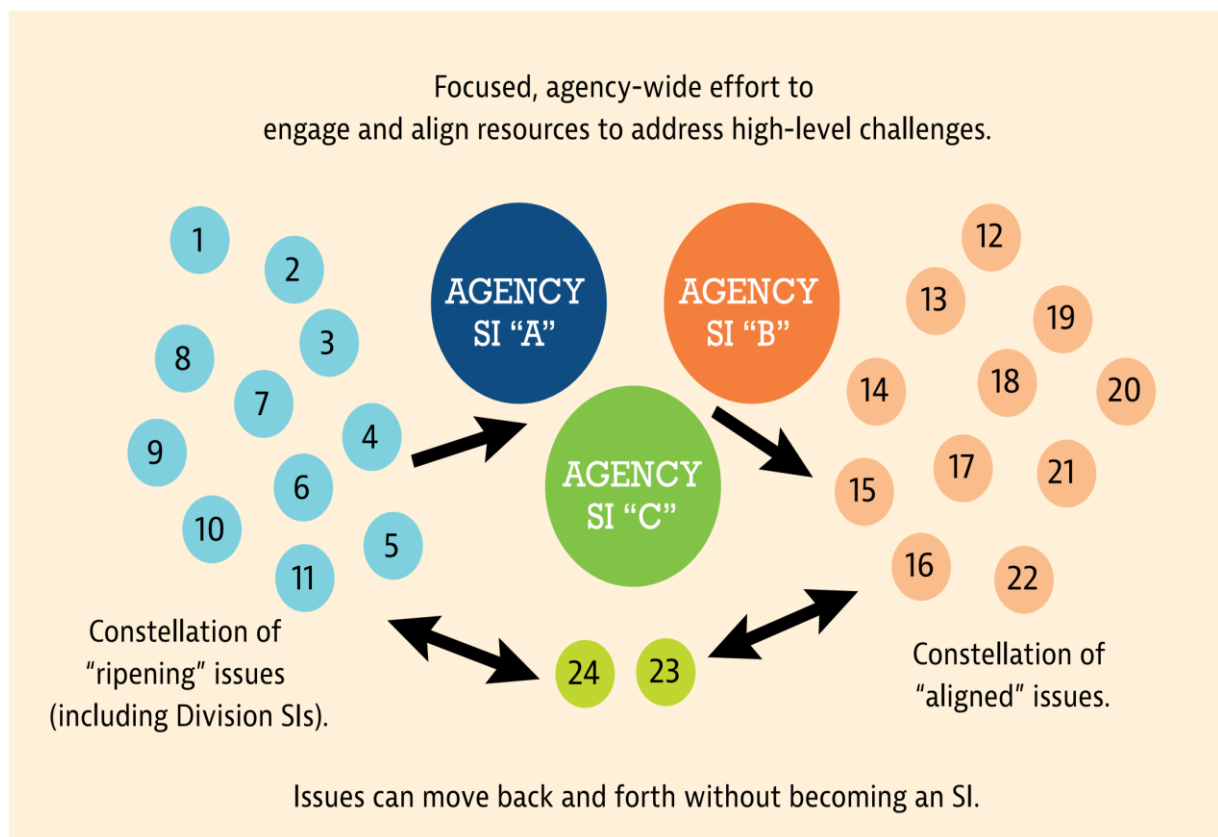


Figure 2. Dynamic Strategic Initiatives for 2020-2024

There will be no more than three agency strategic initiatives at any one time with no more than three strategic initiatives per division. Initiatives can change when special emphasis is no longer needed and they will be tracked as part of the strategic plan framework.

Integrative Work Planning

To help weave strategic thinking into the fabric of the FWC, we will identify initiatives at multiple levels of the agency (e.g., division, section, and program initiatives) to both support agency initiatives and integrate the strategic framework into the structure of our core work. While key issues will be addressed through agency initiatives, division initiatives are also critical to addressing important topics. Sections and programs may also identify initiatives by shifting focus to a refined set of topics. Divisions, sections, and programs are encouraged to apply a framework similar to the one presented here to identify priorities requiring a strategic approach and develop timely initiatives to address them. Like agency-level initiatives, these will have a refined focus, so no more than three initiatives will be active for a division at any given time. Divisions with a significant role in an agency initiative will assume the agency initiative as one of up to three initiatives on which to focus as a division. This framework is founded on each division, section, and program initiating proactive strategies in addition to maintaining operational priorities. To achieve this, divisions may need to identify operational activities that no longer warrant agency focus and evaluate where capacity can be created to refocus on proactive topics. With strategic efforts active at the agency, division, and potentially section and program levels, we will strive to align vertically to leverage resources and coordinate efforts (Figure 3).

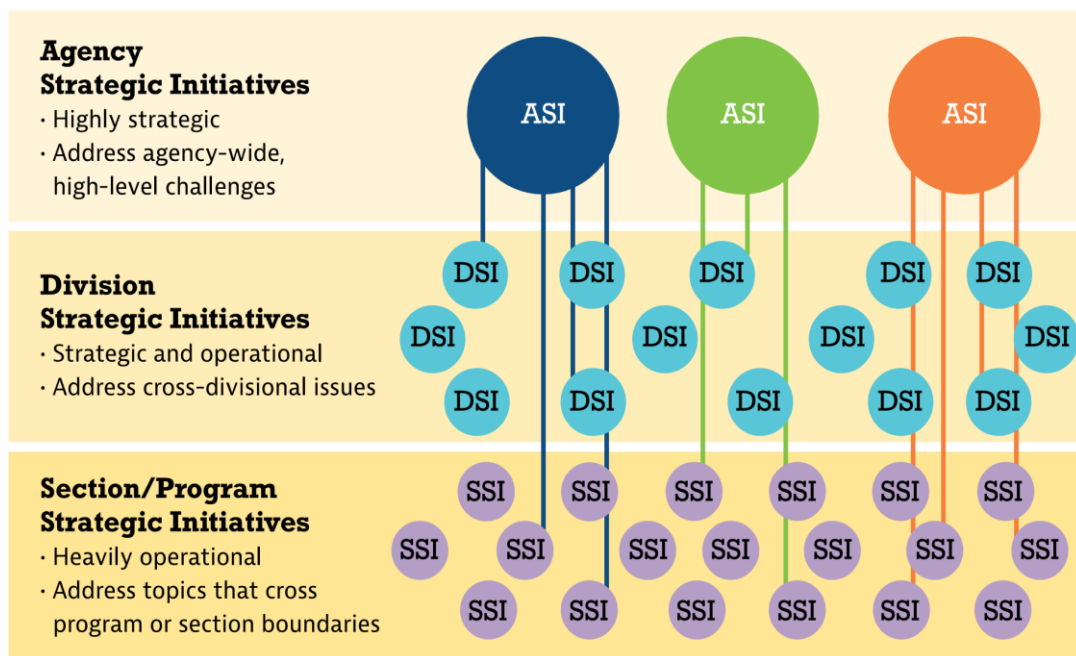


Figure 3. Strategic initiatives at the agency, division, and section or program levels. Vertical alignment of effort and coordination supports progress toward initiatives at multiple levels within the agency.

Future-focused Conservation

FWC's 2020-2024 strategic plan is built upon the idea that we must be intentional in our work to conserve Florida's fish and wildlife resources so they are available for current and future generations. Our success in this arena directly depends on our individual and collective action, and accountability for achieving our mission. Guided by this strategic approach, shaped by our values and fueled by our passion, we will work together to build the Florida we envision: a Florida where fish and wildlife are abundant and thriving in healthy and connected natural landscapes with vital working lands and waterways; where natural resources are valued and safely enjoyed by all; and wherein natural systems support vibrant human communities and a strong economy.



Strategic Initiatives: 2020

Agency Initiatives

From October 2019 through March 2020, the agency strategic planning team worked with division leadership teams to determine the next round of SIs (this process is outlined in [Appendix 1](#)). The ELT collectively affirmed the initial three agency SIs and discussed initiative alignment under the new strategic approach. Moving forward, initiative sponsors will coordinate cross-divisional work to establish clear milestones and time frames for achieving objectives under the following areas of strategic focus:

Invest Inward

A strong foundation to maintain our core functions is critical to sustaining the important work we do and achieving our mission. **Investing Inward** means focusing on key challenges within our agency that, when addressed, position us to better accomplish sustainable conservation into the future. These challenges include: 1) staff retention, recruitment, capacity, and distribution; 2) infrastructure improvements, facilities, technology, and equipment; and 3) cultivating a culture that cares through investing in morale, professional development, diversity, and inclusion.

Landscape Conservation

The **Landscape Conservation** initiative will define a unified conservation vision to be implemented at the local level and fit within a broadly agreed-upon conservation target. This conservation vision should be one that can be shared with and implemented by internal and external, public and private partners to achieve broad-scaled, long-lasting conservation outcomes. Conservation delivery at the local level will require that we develop a network of local, state, federal, and private partners to provide technical and financial resources (data, information, assistance, funding opportunities) and a stable communication network.

Relevancy, Engagement, and Support

Recognizing the need to adapt to Florida's changing demographics and values by improving agency engagement and service to broader constituencies, **Relevancy, Engagement, and Support** focuses on the need to enhance conservation through broader engagement, identify available capacity for and challenges to reaching and servicing more constituents, and establish logical steps to helping the public understand the impact that fish and wildlife conservation has on their quality of life and mental and physical well-being. This includes increasing both social and financial support for conservation.

Division Initiatives

The input provided by division leadership to determine agency strategic initiatives was also used to determine division initiatives. As outlined in the strategic framework section, divisions with a significant role in an agency strategic initiative will assume the agency initiative as one of their three division initiatives. The initiatives in Figure 4 were identified as the most timely to address at the agency and division levels. Division initiatives were also affirmed by the ELT. Each initiative will be further described by divisions as part of their workplans.

Many division initiatives align with the broader agency initiatives but will address discrete challenges relevant to the core work of those divisions. This alignment increases the focus and shift of resources towards these topics through both strategic and operational approaches and unifies work across the agency. Some divisions also have initiatives that do not directly align with agency initiatives but do represent important, timely topics that divisions, programs, and sections will strategically address. The constellation of initiatives at the agency and division levels illustrates the alignment of strategic work proposed in Figure 3.

Strategic Alignment

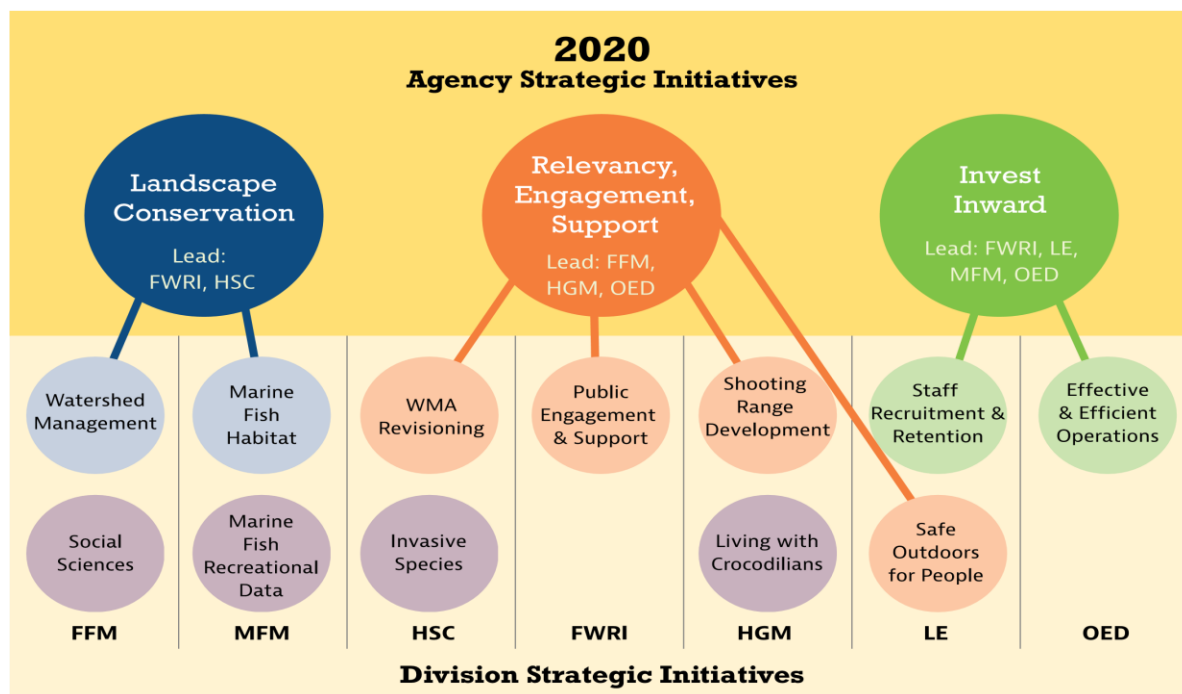


Figure 4. Vertical alignment between the agency and division initiatives shows multiple tiers of support for the broad initiative topics.

APPENDIX 1

2020 Strategic Initiative Selection Process

Division leadership teams provided input on timely initiatives to the agency strategic planning team throughout the selection process. A number of challenges and opportunities were identified through a questionnaire and follow-up discussions. Common themes emerged among the initiatives proposed by each division, and alignment was strong in several themes. These themes may affect each division in unique ways, but they represent agency-wide challenges that require a directed focus to fully address.

Table 1 on the following page is a process illustration of preliminary initiatives from the first round of data analysis. Development of agency and division initiatives went through several iterations of division-level review through the ELT as concepts evolved and solidified, eventually becoming the 2020 Strategic Initiatives outlined in Figure 4.



Table 1. Common themes were identified from the initiatives, influences, and challenges put forward by each division. This crosswalk represents proposed initiatives and alignment among agency-wide challenges. This information guided the initiative selection process for 2020.

Proposed Initiatives

	Agency Initiatives	Division Initiatives
FFM	- Wildlife conflict - Watershed management - Social sciences	- Lake management plans - Chipola and shoal bass - Largemouth bass
FWRI	- Relevancy - Landscape conservation - Diversify and modernize revenue - K-12 and new resident education	- Staff recruitment and retention - Integrative research on events - Integrative research on events - Integrate research and management
HGM	- Landscape conservation - Expand participation in conservation - Wildlife conflict	- Implement R3 plan - Shooting range construction - Living with crocodilians campaign
HSC	- Infrastructure improvement - Landscape conservation - Relevancy - Invasive species	- WMA re-visioning (relevancy) - HSC's role in landscape conservation
LE	- Invest inward - Public service - Science and conservation	- Reinforce culture that cares - Recruit and retain quality staff - Safe environment for people
MFM	- Invasives - Wildlife trafficking - Corals - Invest inward	- Maximize productivity, capacity - Marine fish habitat - Marine fish recreation - data collection
OED	- Internal focus/invest inward - Human dimensions and social science - Connectivity with other D/Os - Effective, efficient operation	OED organizational management

Common Themes

Invest Inward

- ◆ Staff: recruitment, retention, pay, capacity, distribution
- ◆ Infrastructure: facilities, technology
- ◆ Funding: stable sources
- ◆ Culture that cares: training, morale, professional development, diversity

Landscape Conservation

- ◆ Watershed management
- ◆ Integrate science with management
- ◆ WMA re-visioning
- ◆ Landscape conservation prioritization
- ◆ Marine and freshwater habitat

Relevancy, Engagement, and Support

- ◆ For fish and wildlife conservation
- ◆ For FWC as an agency
- ◆ Safe environment for people
- ◆ EPIC, R3, K-12 education
- ◆ Public service (good work)

Social Science and Human Dimensions

- ◆ Apply to management decisions
- ◆ Increase capacity to gather social science
- ◆ Increase value in FWC
- ◆ Use to influence behaviors
- ◆ Maintain focus on relevancy

Wildlife Conflict and Invasives

- ◆ Native species conflict
- ◆ Nonnative wildlife
- ◆ Invasive plants
- ◆ Aquaculture
- ◆ Trafficking and trade
- ◆ Living with crocodilians

Operational: Proactive Research and Development/Other

- ◆ Climate change
- ◆ Marine fish recreational data
- ◆ Largemouth bass
- ◆ Corals ◆ Shooting Range Construction

12.10 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.

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.

- 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 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.
 - 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 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.

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

USER SIGNATURE

Date: _____

Witness

Witness

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Mike Brooks, Section Leader
Terrestrial Habitat Conservation and
Restoration

Date: _____

Approved as to form and legality

Commission Attorney

Date: _____

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 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

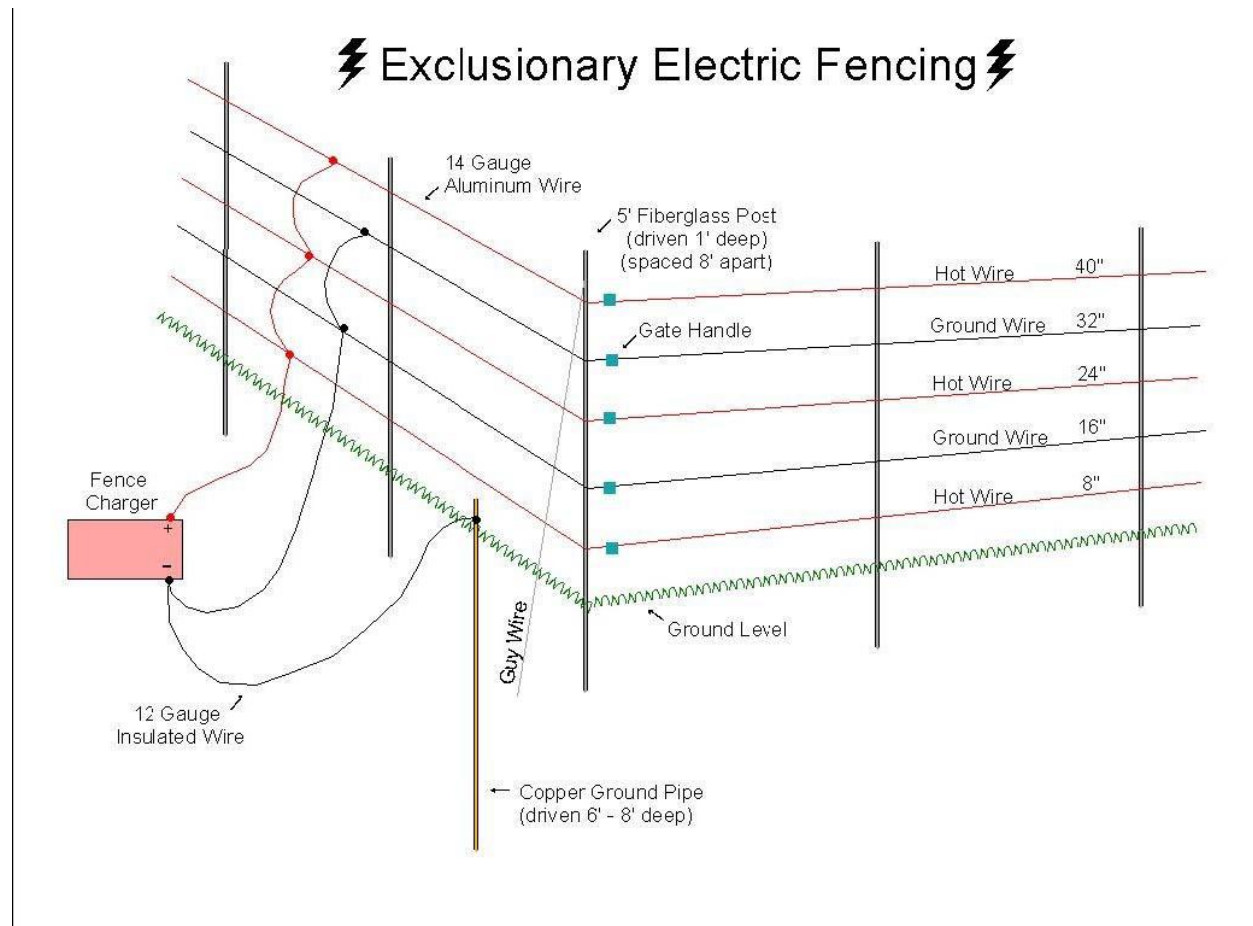
should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.

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

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AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

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.

Florida Fish and Wildlife Conservation Commission | LFWMA Management Plan

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.

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.

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.

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.

12.11 Prescribed Burn Plan

Lafayette Forest WEA Prescribed Burning Plan

INTRODUCTION

Fires, naturally occurring or man-induced, are an integral part of the ecology of the southern pine (*Pinus* spp.) region (Miller 1963) and have maintained a fire-dependent plant community in the southeast for countless years. Exclusion of fire results in the growth of dense brush and eventual succession toward a climax hardwood community. Areas covered by dense brush lose much of their value to wildlife. For example, food and browse plants are less palatable, access is restricted and predator's ability to capture prey is hampered. Additionally, heavy fuel accumulation results in increased wildfire hazard.

Prescribed burning is used extensively in forestry and wildlife management for fuel reduction, brush control, disease and insect control, site preparation and wildlife habitat improvement. It is a recommended tool for management of such game animals as white-tailed deer (*Odocoileus virginianus*), bobwhite quail (*Colinus virginianus*), mourning dove (*Zenaida macroura*) and wild turkey (*Meleagris gallopavo*) (U. S. Forest Service 1969, Stoddard 1971). The value of prescribed fire to these and other animals, such as raptors and some songbirds, are well documented (Givens 1962, Miller 1963, Stoddard 1963). Prescribed fire benefits wildlife by reducing underbrush density, thus improving access, promoting the growth of succulent vegetation and lowering browse to feeding height of deer. Additionally, it benefits aesthetic values and enhances growth and fruiting of important wildlife food plants, such as dewberries (*Rubus* spp.) and blueberries (*Vaccinium* spp.) (Halls 1977).

The Lafayette Forest WEA (LFWEA) is composed of a complex mosaic of mixed upland and wetland habitats. The primary objectives of prescribed burning at LFWEA are to (1) restore and improve wildlife habitat, (2) restore fire-dependent plant communities, (3) reduce fuel accumulation and wildfire hazard, (4) enhance aesthetics, and (5) control oak mid-story. The purpose of this plan is to ensure that all aspects of the burn are well considered and that the

burning is conducted in an orderly manner so impacts of smoke and other environmental hazards are minimized.

DESCRIPTION OF AREA

Lafayette Forest Wildlife and Environmental Area (LFWEA) is located in south east Lafayette County, between Branford and Cross City, Florida, near the Dixie county line. LFWEA encompasses 2,148 acres of ecologically compromised commercial pine plantations and various sized shallow wetlands. Wetlands make up about 1/3 of the acres within LFWEA. LFWEA was acquired from a private land development firm in 2009. Under private management, the area was known as the Archer or Itera Tract. The property was acquired as a gopher tortoise mitigation park and its current management activities emphasize the maintenance and restoration of optimum habitat conditions for listed wildlife. The site supports several listed species including gopher tortoise and Sherman's fox squirrel. The Florida Fish & Wildlife Conservation Commission has lead management authority. The lands adjacent to LFWEA include various private agricultural lands and State owned conservation lands, most notably Mallory Swamp on the western boundary. Most of the private lands are being used for row crop agriculture, commercial pine plantations and improved pasture.

PRESCRIBED BURNING PROGRAM

A. Firelines

Existing features (e.g. roads) are utilized as firelines to safely contain prescribed fires whenever feasible. These roads are evenly spaced throughout the property and delineate 10 burn zones of modest and manageable size. Many of the roads that are utilized as firebreaks require either disking or tilling to maintain functional mineral firebreaks before actual burning. Firelines will be maintained as roads by FWC personnel and maintained by mowing during non-burning intervals. The thirteen mile boundary was constructed forty feet wide, to give fire fighting equipment and personnel room to safely operate as well as a wide space to contain prescribed burning operations within the WEA boundary.

B. Size and Arrangement of Management Units

LFWEA is divided into 10 management units that function as burn zones for prescribed fire purposes. The burn zones are fairly irregular in shape because the existing road & trail network followed the meandering margins of upland terrain. Management units average 215 acres in size, with the largest management unit at 305 acres and the smallest at 115 acres.

All burn zones are composed of a complex mosaic of wetland and upland habitats, most with very heavy fuel loadings. The upland forest canopy is dominated by commercially planted slash pine (*Pinus elliottii*) with some large live oaks (*Quercus virginiana*) and turkey oaks (*Quercus laevis*), distributed about the property. The mid-story is largely composed of smaller turkey oaks, and live oaks. The wetland forest canopy is dominated by live oaks, red maple (*Acer rubrum*) and bald cypress (*Taxodium distichum*)

The upland groundcover is dominated by gallberry (*Illex glabra*), broom sedge (*Andropogon* sp.), saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*), and small oaks (*Quercus* sp.) with a diverse suite of native upland species that are still found within the ecologically compromised plantation pine stands. The groundcover is largely too dense to safely carry a manageable fire across each burn zone with even moderate weather conditions at the time of ignition.

The burn zones will likely need to be burned singly because of complex and irregular boundaries, and well as heavy fuel loadings. Prevailing climatic conditions will also affect the ability of managers to burn management units within LFWEA. Prevailing drought conditions and prescribed fire in wetlands are not compatible. A prescribed fire program can not be safely initiated (or continued) during drought periods because wetlands form the actual external boundary of much of LFWEA. Prescribed fire lines should not be cut through wetlands for ecological reasons. Until the wetlands are wet, and can safely serve as a fire break, there can not be a prescribed fire program on management units that have wetlands as a significant part of the property boundary. Drought conditions are still an issue on internal management units, or those units that do not have wetlands as boundary segments, because of the residual smoke problems associated with fire penetrating into the thick organic duff layer associated with long unburned wetlands. This problem is readily apparent when considering that much of LFWEA is

ecologically part of the Mallory Swamp system which burned for more than a month in 2001 (burned over 57,000 acres).

Mechanical mid-story treatment is being used to open up the thick and overgrown, oak dominated, mid-story. Without mechanical treatment, the mid-story is too thick to burn without resulting in a catastrophic fire. With a return to favorable climatic patterns, prescribed fire still can not be conducted safely within some management units unless the unit has been through a mid-story reduction process.

C. Type of Burn

None of the 10 management units have been burned since well before acquisition, and possibly not since 2001 when portions of the Mallory Swamp fire burned into the northern portion of LFWEA. A 3 -7 year burn rotation is most appropriate for the types of upland habitats found within LFWEA. The disturbed upland habitats should be burned with caution because of the heavy fuel loading, with low intensity firing techniques such as backing fire or strip head fire being the preferred firing techniques. Firing techniques may vary due to ambient weather conditions at the time of ignition, as well as fuel loading, which will vary greatly between management units and burn rotation. The appropriate technique will keep fire intensity down to minimize pine mortality while providing adequate heat to control mid story species. Eventually growing season fire will be targeted for ecological reasons such as controlling small oaks, stimulating the production of viable grass seeds and flowering of native forbs. However, dormant season fire may be indicated for several burn rotations until fuel loadings have moderated.

D. Season and Time of Day

A burn program at LFWEA will likely begin with several rotations of dormant season fire within each management unit. The milder dormant season conditions will be appropriate for several rotations, where the safe reduction of woody fuels is of greater concern than the

ecological benefits of growing season fire. Over time, growing season fire should come to predominate the prescribed fire program at LFWEA.

Burning will be conducted primarily during daylight hours; night burning will be avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and permits can be obtained, burning will be continued into the night, if necessary.

E. Optimal Weather Conditions

Prescribed burns should be conducted 2-5 days after a rain and require relative humidity of from 30-60%, air temperature of 60-95°F and winds from any direction can be used as long as wind speeds are not excessive (4-10 mph in the stand).

SMOKE MANAGEMENT

There is considerable flexibility when burning at LFWEA due to the absence of smoke sensitive areas in the immediate vicinity. State Road 349, is the eastern boundary of LFWEA, and will be well posted with caution signs if there is any likelihood of smoke crossing the road. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,500 feet and transport wind speed of 5-15 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as needed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

PERSONNEL AND EQUIPMENT NEEDED

A. Personnel

Under ideal conditions, burning of any compartment can be conducted with a minimum crew of six; however, a crew of eight to ten trained personnel is optimal. All participating staff will be required to wear personal protective equipment (PPE) as identified in the agency's prescribed burn policy.

B. Equipment

Fire fighting hand tools, drip torches, burn fuel, four-wheeled ATVs, hand held radios, and Type VI fire engines (brush trucks) are required equipment. Road side smoke caution signs (hazard) signs will be used if needed.

C. Fire Weather Monitoring

One person will be assigned to monitor fire weather on each burn. This person will monitor and record wind speed, wind direction and humidity hourly, or as requested by any burn crew member, during the burn. If conditions stray outside of the burn prescription the burn boss will be notified and appropriate measures can be taken.

PERMITS AND NOTIFICATIONS

A permit will be obtained from the Florida Forest Service (FFS) on the morning of the burn.

SPECIAL CONSIDERATIONS

Care will be taken to protect environmentally sensitive areas and to employ the best fire management actions that will provide the greatest long term benefit to the largest number of species. Wildland fire is an ecologically disruptive event in the immediate short term. But the long term benefits of properly timed and applied prescribed fire greatly exceed any short term disruptions.

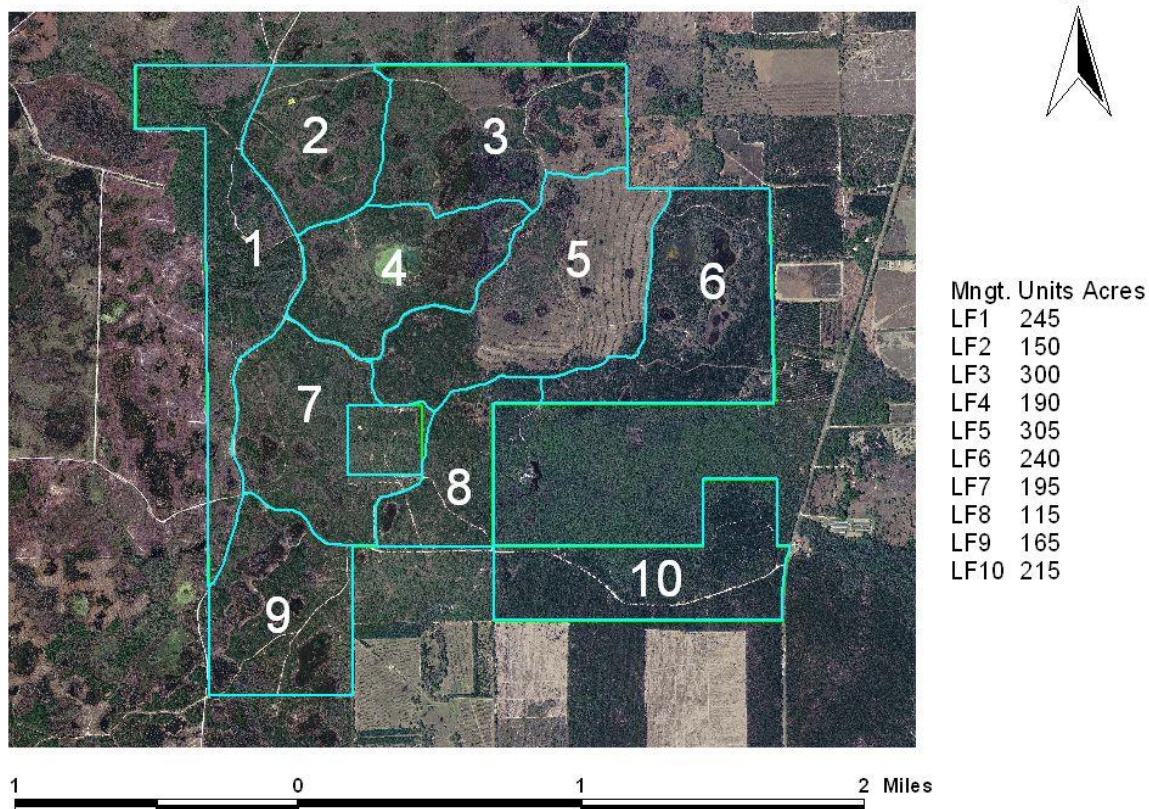
Gopher tortoises (*Gopherus polyphemus*) and both game and non-game birds that breed in the sandhill ecosystem are dependent on the vegetative response of the groundcover to fire, and research has shown no adverse effects on the populations of these species from prescribed burning (Means and Campbell 1981). Although individual tortoises may be destroyed by fire on rare occasions, prescribed burning provides better habitat for tortoise populations than unburned areas (J. Diemer, FGFWFC, pers. commun.).

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Figure 1. Location of burn zones / management units on Lafayette Forest Wildlife Environmental Area (LFWEA), Lafayette County, Florida.

Lafayette Forest WEA Management Units



**12.12 Wildlife Conservation and Prioritization and Recovery Program
Strategy (WCPR)**

Lafayette Forest Wildlife and Environmental Area Species Management Strategy

November 2014

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Wildlife and Habitat Management Section

A product of the Wildlife Conservation
Prioritization and Recovery Program



Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Wildlife and Habitat Management section (WHM) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area system (WMA/WEA). This approach uses information from statewide models, in conjunction with input from species experts and people knowledgeable about the area, to create site-specific assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. The 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 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 process for evaluating focal species needs using an ecosystem management approach on the Lafayette Forest Wildlife and Environmental Area (LFWEA). Natural community management focused on a set of focal species benefits a host of species reliant upon the same natural communities. Monitoring select species verifies whether natural community management is having the desired effect on wildlife. To maximize the potential benefit to conservation, staff considered the role of LFWEA in regional and statewide conservation initiatives throughout the process.

[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 and need. This includes species-specific objectives for the gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and Florida mouse.

[Section 4](#) describes specific land management actions recommended for focal species. This section also discusses management considerations necessary to ensure continued persistence of focal species.

[Section 5](#) describes species-specific management and monitoring prescribed for the area and identifies any research that would be necessary to guide future management efforts. For this area, no species management or research was recommended. Monitoring is recommended for the gopher tortoise, Bachman's sparrow, brown-headed nuthatch, and Florida mouse. Documenting opportunistic encounters with other focal species is recommended.

[Section 6](#) identifies coordination that will assist in conserving these focal species. We identify coordination with 5 other units in the FWC and inter-agency coordination with 4 other entities.

[Section 7](#) describes efforts that are prescribed to occur "beyond the area's boundaries" to ensure conservation of the species on the area.

Continuation of current resource levels would be required to 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. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with continuation of existing resources.

Acronym List

ARCI	Avian Research and Conservation Institute
BMU	Bear Management Unit
CPS	Conservation Planning Services (office)
DFC(s)	Desired Future Condition(s)
FFS	Florida Forest Service (formerly Division of Forestry)
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWLI	Florida Wildlife Legacy Initiative
FWRI	Fish and Wildlife Research Institute
ISM	Imperiled Species Management (section)
ISMP	Imperiled Species Management Plan
LFWEA	Lafayette Forest Wildlife and Environmental Area
LTDS	Line Transect Distance Sampling
MU(s)	Management Unit(s)
OBVM	Objective Based Vegetation Management
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Analysis
SaMP	Survey and Monitoring Protocol database
SAP	Species Action Plan(s)
SCP	Species Conservation Planning (section)
SFC	Southern Forestry Consultants, Inc.
SGCN	Species of Greatest Conservation Need
SHCA	Strategic Habitat Conservation Area
SMA	Strategic Management Area
SRWMD	Suwannee River Water Management District
SSC	Species of Special Concern
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WHM	Wildlife and Habitat Management (section)
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

Statewide Species Prioritization Parameters

This table provides the values for the 6 prioritization parameters for the focal species. Parameters that are “triggered” (exceed the threshold) are in **bold**. Typically, the more parameters a species triggers, the higher the statewide prioritization.

Species Common Name	Millsap et al ¹		State Wildlife Action Plan ²		Population Viability Analysis (PVA) on managed lands	
	Biological Score ³	Supplemental Score ⁴	Population Status ⁵	Population Trends ⁶	Probability of a 50% decline ⁷	Populations persisting (to 80 or 100 years) ⁸
Gopher Frog	24.6	12	medium	declining	0	9% (to 80)
Eastern Indigo Snake	24.7	21	low	declining	NA	NA
Florida Pine Snake	23.7	15	medium	declining	0	31% (to 80)
Gopher Tortoise	27.3	17	medium	declining	0	55% (to 100)
Bachman's Sparrow	16.0	12	medium	declining	0	49% (to 80)
Brown-Headed Nuthatch	17.0	13	medium	declining	0	25% (to 80)
Cooper's Hawk	15.0	12	not a SGCN ⁹	not a SGCN ⁹	96%	100% (to 100)
Limpkin	24.3	14	medium	unknown	0	100% (to 100)
Northern Bobwhite	11.0	14	low	declining	0	100% (to 100)
Southeastern American Kestrel	28.0	14	low	declining	0	67% (to 100)
Southern Bald Eagle	21.3	10	medium	increasing	0	100% (to 100)
Swallow-Tailed Kite	25.7	13	low	unknown	20%	50% (to 100)
Wading Birds	23.7	13	varying	varying	0	100% (to 100)
Florida Mouse	22.0	19	medium	declining	74% (in 83 yrs)	17% (to 65)
Sherman's Fox Squirrel	24.0	17	low	declining	0	28% (to 80)
Southeastern Myotis	22.6	16	medium	stable	5%	100% (to 100)
Florida Black Bear	32.7	13	medium	stable	5%	100% to (100)

¹ scores derived from Millsap et al, (1990) “Setting priorities for the conservation of fish and wildlife species in Florida”, as updated by staff of the FWC. We use the most recent updates to score.

² [Florida's State Wildlife Action Plan](#)

³ Species trigger this parameter if the score is ≥ 25.9

⁴ Species trigger this parameter if the score is ≥ 15

⁵ Species trigger this parameter if the score is low or unknown

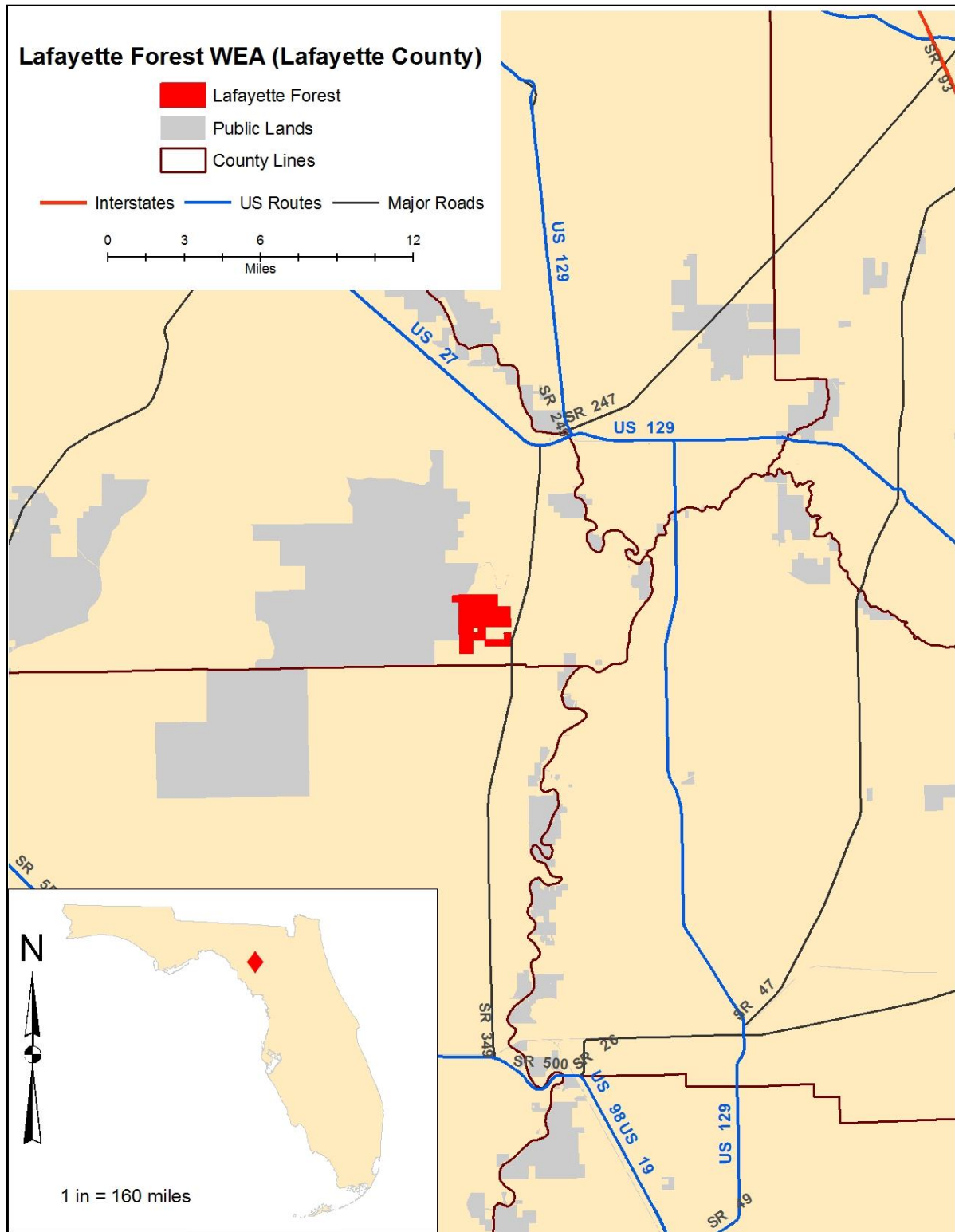
⁶ Species trigger this parameter if the score is declining or unknown

⁷ Species trigger this parameter if the score is > 0

⁸ Species trigger this parameter if the score is $\leq 75\%$

⁹ SGCN = Species of Greatest Conservation Need

Locator Map



Section 1: Introduction

The FWC manages the lands in the Wildlife Management Area system using a proactive approach, which includes an understanding of natural communities of plants and animals. As applied by FWC, natural community management starts by classifying lands into distinct natural communities that we then manage in a way that maintains or enhances the communities' unique structure and function. This ecological management of natural communities improves and restores the habitats upon which wildlife depends. Natural community management that has a positive influence on the natural community condition benefits the wildlife living in these habitats.

Another important aspect of FWC's management approach is ensuring that it is science-informed and meets the needs of Florida's wildlife. The agency's Wildlife Conservation, Prioritization, and Recovery Program (WCPR) created this Species Management Strategy for LFWEA to inform and guide management on the area, and to verify that area management is meeting the needs of wildlife. The FWC intends for this Strategy to: 1) provide land managers with information on management actions that should be taken provided the necessary resources are available; 2) promote the presence and facilitate the persistence of wildlife species on the area; and 3) provide measurable objectives that can be used to evaluate the success of wildlife management on the area.

When developing a Strategy, WCPR staff utilizes concepts that facilitate the analysis and evaluation of an area's opportunities to manage for wildlife. The [focal species](#) concept is an approach to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species FWC selected as focal species includes umbrella species, keystone species, habitat specialist species, and indicator species. Other concepts in a Strategy include Objective Based Vegetation Management and Strategic Management Areas. [Objective Based Vegetation Management](#) (OBVM) is a method used to assess if vegetation management within natural communities is achieving the desired conditions. A [Strategic Management Area](#) (SMA) is a specially designated piece of land where additional management actions are required to address a particular species' needs.

In addition to the concepts discussed above, we use specific definitions in a Strategy. *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. *Imperiled Species* refers to any plant or animal federally listed under the Endangered Species Act, or state-listed by the Florida Fish and Wildlife Conservation Commission or the Department of Agriculture and Consumer Services.

Creating the LFWEA Strategy involved a number of steps. First, staff assessed the results of species-specific habitat models and statewide potential habitat maps for focal species to determine which focal species had potential habitat on LFWEA. We then used

staff knowledge, species-expert opinions, and area-specific natural community maps, to modify the statewide models to create area-specific potential habitat maps for each focal species on the area. Next, we conducted a workshop at which local staff, species experts, and section leaders discussed and evaluated LFWEA's potential role in the conservation of focal species. For each species, workshop participants determined the status of the species on the area; evaluated the opportunities for management on the area; specified appropriate monitoring and research actions; and identified beneficial coordination and 'beyond the boundary' considerations. Using the information from the workshop, staff drafted the Strategy document and sent it to species experts and other professionals for review. Following the review, the Strategy was finalized and staff initiated implementation of actions in the Strategy.

Staff considered the goals and objectives in LFWEA's Management Plan (formerly known as Conceptual Management Plan) when discussing and assessing the species; therefore, this Strategy supports the goals of the Management Plan. Management plans are on a 10-year revision cycle. During the next revision of the Management Plan, staff will incorporate the objectives in this Strategy into the Management Plan, and append this Strategy to the revised Management Plan.

While this Strategy focuses on LFWEA, 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. Natural community management is the core of FWC's ecological management approach, and by paying special attention to the needs of focal and imperiled species, we verify that our management actions are having the desired effect. By implementing the actions in the Strategy, the FWC believes our management will keep common species common, aid in the recovery of listed species, and benefit the largest suite of native wildlife.

Section 2: Current and Historic Management on Lafayette Forest Wildlife and Environmental Area

2.1: Location, Acquisition, and Influences on Current Condition

Lafayette Forest Wildlife and Environmental Area (LFWEA) encompasses approximately 2,148 acres in southeastern Lafayette County. LFWEA is located approximately 8 miles south of Branford, 16 miles northeast of Cross City, and 17 miles southeast of Mayo. Other municipalities near the LFWEA include Lake City (30 miles northeast) in Columbia County; Live Oak (30 miles north) in Suwannee County; and Gainesville (40 miles southeast) in Alachua County.

The LFWEA is bordered on the north primarily by privately-owned pastures and cattle operations, interspersed with abundant forested wetlands and smaller areas of depression marsh. To the west of the LFWEA is the Mallory Swamp Tract, an extensive mosaic of forested uplands, wetlands, and marshes managed by the Suwannee River Water Management District (SRWMD). The eastern boundary of the LFWEA borders rural areas of predominantly pastures and pine plantation, with sparse residential and commercial uses. The LFWEA is bordered on the southwest primarily by pinelands mixed with isolated wetlands and ponds. A large agricultural row crop operation with multiple center pivot irrigation systems lies along the southeastern border of the property.

Mallory Swamp encompasses >30,000 acres west of the LFWEA and is currently the center of a basin-wide restoration project that is intended to increase water storage, improve aquifer recharge, and restore discharge volume of springs along the middle Suwannee River. This project will include LFWEA as well as other public and private lands in the basin. A large wildfire burned through Mallory Swamp in 2001, which disrupted community structure and available habitat for species such as bald eagles (*Haliaeetus leucocephalus*).

The Hatchbend Conservation Area and the Rock Bluff Conservation Area, both managed by the SRWMD, are located nearby to the southeast of LFWEA. The Grady Conservation Area and Stuart's Landing Conservation Area, also both managed by the SRWMD, are located nearby and to the northeast of area. Other areas managed by the FWC in the vicinity of the LFWEA include the Fort White Wildlife and Environmental Area (approximately 11 miles east of the LFWEA), the Bell Ridge Longleaf Wildlife and Environmental Area (approximately 17 miles east of the LFWEA), and the Andrews Wildlife Management Area (approximately 18 miles south of the LFWEA). A number of other conservation areas are near the LFWEA along the Suwannee and Santa Fe Rivers.

The acquisition of the LFWEA as a Gopher Tortoise Mitigation Park was approved by the FWC in April 2008. The FWC acquired the tract in cooperation with The Trust for Public Land, and closed on the property in August 2008. The FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Chapter 372.074 Florida Statutes. This statute establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife-based public outdoor recreation.

Prior to state acquisition, LFWEA had been primarily managed as industrial pinelands. Typical industrial pine management practices such as intensive site preparation, high-density plantings, short rotations, road, and drainage alterations are evident throughout LFWEA. There is also evidence of historic timber harvests occurring within the forested wetlands. During the large Mallory Swamp wildfire in 2001, a small portion of LFWEA

west of the St. Regis grade was burned, however, there is no evidence of prescribed fire being applied on the area in the years just prior to acquisition.

2.2: Management and Monitoring Since State Acquisition

The FWC manages LFWEA for native habitat, maintenance of high-quality natural communities, and restoration of disturbed areas. The natural communities of LFWEA have been altered extensively by past timber management practices ([Table 1](#)). The current focus of management activities on LFWEA is reducing the basal area of pine plantations and reintroducing prescribed fire. To facilitate these efforts, FWC contracted with Southern Forestry Consultants, Inc. (SFC) in 2011 to produce a timber assessment that provided recommendations for timber thinning and planting longleaf pine where appropriate. FWC contracted with WRS Infrastructure & Environment, Inc. to conduct a hydrologic assessment and conceptual restoration plan for LFWEA in 2010. The report provided overview of the hydrologic alterations that have occurred and options for restoring the hydrology to the extent practicable on LFWEA.

Staff initiated hydrologic assessment and restoration planning shortly after acquisition. The major hydrologic alterations on LFWEA were the construction of a road system and the development of the St. Regis grade and canal. The canal is located along the western boundary of LFWEA and extends several miles north and south of the area. The SRWMD began the hydrologic restoration project in the Mallory Swamp basin once the assessment was completed and restoration planning was underway. This project will encompass LFWEA as well as other public and private lands in the basin.

Area staff conducted the first restoration project on LFWEA in 2010, which consisted of clear cutting sand pine (*Pinus clausa*) and removing hardwood biomass on 168 acres of Management Unit (MU) LF10 ([Figure 1](#)). This timber harvest was followed by an aerial treatment with Velpar-ULW herbicide to control the re-sprouting of oaks from cut stumps. In 2011, natural community restoration continued with the planting of both longleaf pine (*Pinus palustris*) and wiregrass (*Aristida stricta*) seedlings on the same 168 acres of LF10 where sand pines and laurel oaks (*Quercus laurifolia*) had been removed the year before. Staff planted longleaf pine seedlings at a rate of 400 trees per acre and wiregrass was planted at the rate of 800 seedlings per acre. These plantings should enhance the fine fuel component of the groundcover over time.

In 2011, FWC hired a contractor to mow and mulch 108 acres of mid-story on the pine plantation in MU LF8 ([Figure 1](#)). The contractor also mowed 183 acres on LF7 in 2012, and mowed 92 acres on LF6 in 2013. Until prescribed fire has been restored to all management units, future land management activities planned on LFWEA will include additional mowing projects.

In March 2013, the first prescribed burns were conducted on LFWEA. Area staff burned 319 acres in MUs LF8 and LF10. In April of that same year, 183 acres were burned in LF7. Both burns succeeded in reducing mid-story hardwoods and had a positive effect on the herbaceous ground cover. However, due to the excessive fuel loading, the resulting hotspots killed a number of pine trees. In March 2014, area staff burned 740 acres in MUs LF2, LF3, and LF4 following thinning. These burns effectively reduced logging debris and resulted in little crown scorch in the canopy.

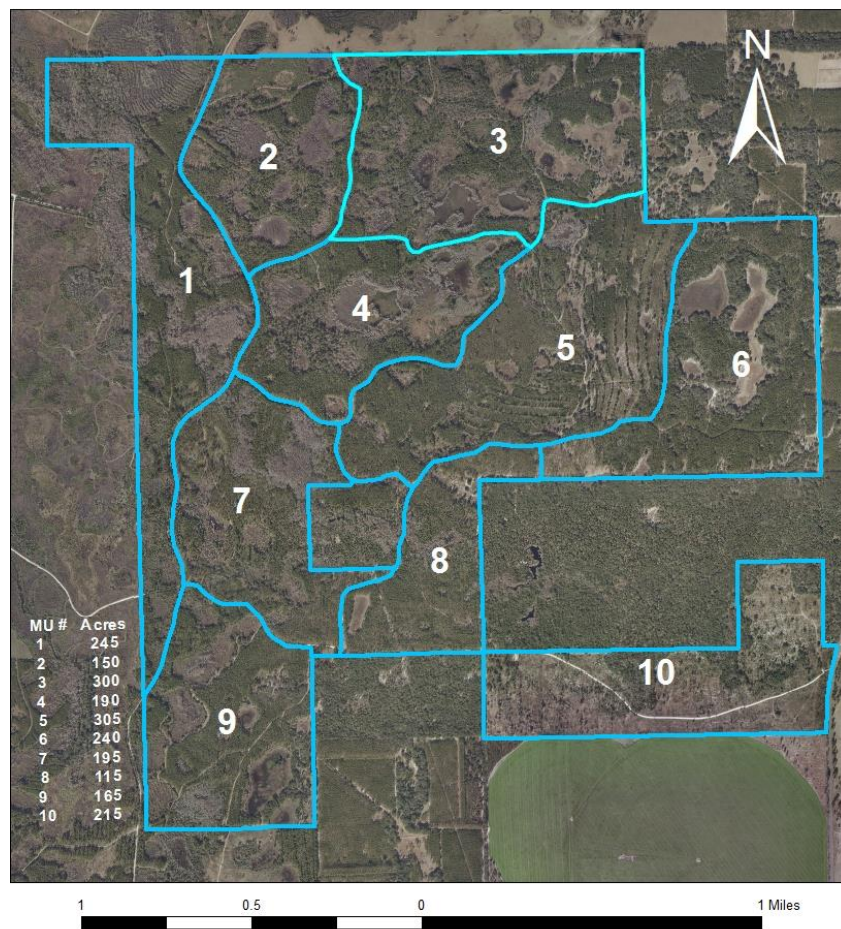


Figure 1. Lafayette Forest WEA Management Units

Timber thinning was initiated in 2013 with 268 acres thinned in MUs LF1, LF2, LF3, LF4, and LF7. The thinning was a logger select thinning with an initial target residual basal area (BA) of 50-60 square feet/acre. After the logging crew began, area staff asked the logger to further reduce the basal area to 40 ft²/acre. Florida Forest Service (FFS) state lands forester Doug Longshore administered the thinning ([Section 6.2](#)). In addition to thinning pines, hardwood biomass was also harvested and chipped. The thinning crew also clear-cut 12 acres in LF7 to remove all dead or dying trees which were still of some market value after

the 2013 prescribed burn. The removal of the hardwoods and thinning should reduce the risk of pine mortality during future prescribed burns. This harvest produced 2,679 tons of chip and saw, 12,906 tons of pulpwood, and 3,394 tons of chips, which generated \$186,870.59 dollars in revenue.

Currently, a large percentage of natural communities mapped on LFWEA are typed as altered pine plantation and ruderal ([Table 1](#)). Due to this extensive alteration, there are currently no communities that are monitored via the OBVM program. However, mesic flatwoods and sandhill will be monitored once management restores acres to function as these natural communities. This restoration will require continued thinning, burning, and remapping by the Florida Natural Areas Inventory (FNAI) in order to be typed as non-altered communities.

Table 1. Mapped acreage of current and historic plant communities on LFWEA, including management status and number of focal species that use the community.

Community Type	Estimated Current Acreage	Estimated Historic Acreage	# of focal species that use the NC
Basin Marsh	35	67	7
Bottomland Forest	54	57	3
Depression Marsh	147	166	8
Dome Swamp	346	315	8
Floodplain Swamp	134	136	6
Mesic Flatwoods ¹	0	424	12
Pine Plantation ¹	1,030	0	13
Ruderal	313	0	14
Sandhill	0	901	16
Scrubby Flatwoods	2	10	12
Successional Hardwood Forest	53	0	11
Upland Hardwood Forest	6	13	6
Wet Flatwoods	16	47	7
TOTAL ACRES ²	2,136	2,136	

¹ Communities that are actively managed and will be monitored via the OBVM process; other communities are managed, but will not be monitored via OBVM.

² The total acres identified in the lease differs from the total acres identified during the mapping effort. This is possibly due to a combination of digitizing error and complications in determining actual boundaries.

Survey and monitoring activities have been limited since the acquisition of the property. LFWEA staff conducted a gopher tortoise (*Gopherus polyphemus*) survey prior to

2008 as part of the mitigation park acquisition. The estimated density of tortoises at that time was 1.04 tortoises per acre in suitable habitat. As part of the area-wide hydrologic assessment, WRS Infrastructure & Environment, Inc. conducted a limited gopher tortoise burrow survey in 2012 to determine potential impacts of hydrologic restoration on tortoises near wetlands. Tortoise burrows found in this survey were at elevations that are unlikely to be significantly affected by proposed hydrologic restoration.

In 2011, staff contracted FNAI to perform a rare plant survey on LFWEA. FNAI identified 4 state-listed threatened species, including palegreen orchid (*Platanthera flava*), angle pod (*Matelea gonocarpus*), hooded pitcherplant (*Sarracenia minor*), and giant orchid (*Pteroglossaspis ecristata*). Several state-listed commercially exploited species were also observed, including green fly orchid (*Epidendrum conopseum*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis* var. *spectabilis*), needle palm (*Rhapidophyllum hystrix*), and coontie (*Zamia pumila*). Only one invasive exotic plant, Japanese climbing fern (*Lygodium japonicum*) was documented on LFWEA. Treatment was applied in 2012 and staff will monitor and continue to treat invasive species as needed.

2.3: Future Timber Management, Hydrology, and Habitat Restoration

FWC staff is currently restoring the upland areas to the historic natural communities of scrubby, mesic, and wet flatwoods and sandhill. Past silvicultural activities altered all of the upland natural communities on LFWEA and affected the hydrology of the wetland communities to varying degrees across the area. The historic lack of prescribed fire on the area has also altered the current condition of the communities on LFWEA, and mechanical treatments may be applied prior to restoring a functional burn interval.

Staff plans to complete the thinning of all the slash pine (*Pinus elliottii*) plantations in 2014 and 2015, as recommended in the 2011 SFC timber assessment. The timber sale will be administered by FFS and will complete all timber harvesting activities on LFWEA. After thinning is completed, FWC will evaluate future timber management options based on the response of the pines to the thinning and prescribed burning over the next 5-10 years. The result of thinning and restoration of prescribed fire into long-unburned stands will likely cause some pine mortality. Where pine survival is good (>30 BA), no further timber management will be necessary over the next 15-20 years. In areas where pine mortality creates openings or very low canopy density (<30 BA), replanting of slash or longleaf pine may be necessary. The 2011 SFC timber assessment provides guidance regarding the appropriate species for planting by MU. The primary consideration for timber management is to provide vertical structure for wildlife habitat and needle cast to facilitate prescribed fire.

Prescribed fire is critical to the restoration of the natural communities on LFWEA. LFWEA has approximately 1,548 burnable acres that include upland natural communities and embedded depression marshes that typically burn with the surrounding uplands ([Table](#)

1). LFWEA has been significantly altered by the historic conversion of the area to pine plantations, however, the understory and ground cover in upland areas appear to be reasonably intact. After thinning and the introduction of prescribed fire, staff anticipates that no additional ground cover restoration will be needed.

A prescribed burn plan developed in 2012 provides guidance to staff when developing annual prescribed burning goals. Staff burned 1,140 acres on LFWEA in 2013 and 2014, and is positioned to get all burnable acreage into the desired 2-5 year fire return interval. Staff conducted all of the initial fires in the dormant season due to the lack of fire history on the area. Dormant season burning will occur for one or more rotations, and as the stands are thinned and fuels reduced, a shift to growing season burning will occur. Growing season burns (April-September) are preferred to maximize control of understory shrubs and hardwoods, but dormant season burning will continue as necessary to meet management objectives or maintain desired fire frequency.

Staff manages the wetland areas on LFWEA with prescribed fire and hydrologic restoration. The process of assessing impacts to wetland communities and the potential for hydrologic restoration was initiated by FWC staff and is now being incorporated into the larger hydrologic restoration effort led by the SRWMD for the entire Mallory Swamp basin. The goal of the SRWMD project is to increase water storage, increase aquifer recharge, and restore spring flows in the basin. On LFWEA, hydrologic restoration will raise the surface water table, lengthen the hydro period in basin and depression marshes, and reduce extreme variation of stream flows in the creek.

The planned hydrologic restoration activities on LFWEA include installation of weirs in the St. Regis canal and replacement and upgrading of culverts or low water crossings where necessary. SRWMD reviewed the assessment and planning commissioned by FWC and found that the planned activities are consistent with the larger project objectives. At this time, FWC and SRWMD are cooperating to include LFWEA in the larger hydrologic restoration project.

Section 3: Focal Species

The FWC's management approach focuses on maintaining and restoring the ecological form and function of natural communities. However, in some instances, it is important to consider the needs of specific wildlife species and to monitor the influences of natural community management on these species. To achieve a science-informed approach to species management, the FWC uses the focal species concept embraced by the [Wildlife Habitat Conservation Needs in Florida](#) project. This concept allows one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset

of species selected includes umbrella species, keystone species, habitat specialist species, and indicator species.

The Public Lands Conservation Planning (PLCP) project, an expansion of the Wildlife Habitat Conservation Needs in Florida project, added a few species and provided potential habitat modeling on public lands. For the PLCP, the FWC selected 60 focal species (including 1 group of species, the wading birds) for which potential habitat models were created to generate statewide potential habitat maps for each focal species. The FWC's 2003 landcover data served as the base layer for all potential habitat models, and staff selected additional layers considering the particular natural history of each species (e.g., species' range, known occurrence records); as such, each model is species specific. Once statewide potential habitat maps were completed, a Population Viability Analysis (PVA) was conducted for each focal species.

The statewide landcover-based habitat models identified 18 of the 60 focal species to have potential habitat on LFWEA ([Section 3.1](#)). For all focal species modeled to have potential habitat on the WEA, staff created more accurate area-specific potential habitat maps by using the same statewide models but replacing the landcover data with area-specific natural community data. The resulting area-specific potential habitat maps were then refined based on the input of local managers and species experts.

The WCPR Workshop for LFWEA held February 20-21, 2014, brought decision makers together to assess species' opportunities and needs, identify measurable objectives, outline necessary coordination efforts, and determine required actions such as monitoring. To facilitate informed discussion of the species, WCPR staff compiled a workbook that contained information on the focal species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included considering the number of statewide prioritizations the species triggered ([Statewide Species Prioritization Table](#)), the species' listing status, and the long-term security of the species (i.e., examining PVA results). Other factors considered were the species' use of actively managed communities ([Table 1](#)), species' response to management, and any local overriding factors (e.g., status of species in the region, local declines or extirpations). A brief summary of the opportunity and need assessments for each focal species is available in [Section 3.2](#).

3.1: Lafayette Forest WEA Focal Species List

Workshop participants assessed 18 species for their level of opportunity or need on LFWEA. In the following species list, we use a ¹ to denote species for which a measurable objective is identified, a ² for species for which some level of monitoring is recommended, a ³ for species for which a SMA is recommended, and a ⁴ for species for which species management is recommended. Occasionally, statewide models indicate a species has potential habitat on the area, but the local assessment indicates there is little opportunity to

manage for these species. These [limited opportunity species](#) are denoted with an *. Except for those species identified with a number, workshop participants and expert reviewers determined that ongoing management would meet the needs of the species. Therefore, for species with no numerical superscripts, participants and reviewers agreed there is no need for measureable objectives, monitoring, SMAs, or species-specific management.

Gopher frog (*Lithobates capito*)

Eastern indigo snake (*Drymarchon couperi*)

Florida pine snake (*Pituophis melanoleucus mugitus*)

Gopher tortoise (*Gopherus polyphemus*)^{1, 2}

Bachman's sparrow (*Peucaea aestivalis*)^{1, 2}

Brown-headed nuthatch (*Sitta pusilla*)^{1, 2}

Cooper's hawk (*Accipiter cooperii*)

Limpkin (*Aramus guarauna*)

Northern bobwhite (*Colinus virginianus*)

Short-tailed hawk (*Buteo brachyurus*)

Southeastern American kestrel (*Falco sparverius paulus*)

Southern bald eagle (*Haliaeetus leucocephalus*)

Swallow-tailed kite (*Elanoides forficatus*)

Wading birds (Multiple species)

Florida black bear (*Ursus americanus floridanus*)*

Florida mouse (*Peromyscus floridanus*)^{1, 2}

Sherman's fox squirrel (*Sciurus niger shermani*)

Southeastern myotis (*Myotis austroriparius*)

3.2: Focal Species Opportunity/Needs Assessment

This section provides an assessment of the opportunities for management, and the needs of each of the focal species. The assessment considers a number of attributes, including the status of a species, the number of prioritization parameters it triggers, the species' response to management, and the amount and spatial arrangement of species' potential habitat available on the area. Because all species listed by the United States Fish and Wildlife Service (USFWS) are FWC-listed, we will provide only the federal listing status for federally listed species. When a species is not federally listed but is FWC-listed, we will provide the FWC listing status. The FWC is currently in the process of developing an Imperiled Species Management Plan (ISMP) for FWC-listed species. The FWC has

management plans for FWC-listed species in the form of Species Action Plans (SAPs). Staff have reviewed these plans and incorporated the recommended conservation actions into the Strategy.

Unless otherwise noted, all reported acres of potential habitat are the result of using the area-specific natural community data in the species' potential habitat model. These estimates include all the area mapped in a natural community identified as potential habitat including patches that may not be contiguous with other suitable habitat. During the workshop, participants considered the spatial arrangement and habitat patch size when assessing the potential role LFWEA plays in the conservation of each species. For species that require larger habitat patches, we considered the continuity and condition of habitat on lands adjacent to the WEA. To determine the restoration potential, we inserted the historic natural community data into the potential habitat models and generated the acres of potential habitat that could be obtained if all natural communities are restored.

3.2.1: Gopher Frog

Gopher frogs have not been documented on LFWEA; however, no surveys have been conducted on the area to determine their status. Gopher frogs breed in seasonally-flooded grassy ponds that lack predatory fish. Potential breeding ponds exist on LFWEA, but upland habitat is limited and in fair to poor condition. After breeding, frogs move into uplands, which are typically fire-maintained xeric habitats with intact ground cover. While gopher frogs often occupy gopher tortoise burrows, they also use rodent and crayfish burrows, stump holes, and hollow logs. They are rarely found more than 1 mile from breeding habitat.

Gopher frogs are an FWC-listed Species of Special Concern (SSC). Based on a recent biological status review, the gopher frog does not warrant listing in Florida. The gopher frog will remain a SSC until the FWC approves the ISMP and the rule change removes it from the list. A [SAP](#) has been developed for the gopher frog with the goal to ensure that conservation status of the gopher frog is maintained or improved in order to prevent a future listing of the species as threatened or endangered. Of the 5 objectives in the [SAP](#) for achieving this goal, LFWEA can contribute by maintaining suitable habitat for the species. This species triggers 2 of 6 prioritization parameters ([priorities table](#)) and is a moderate statewide priority.

Models identified 693 acres of gopher frog potential habitat on LFWEA, although some mesic flatwoods modeled are only marginally suitable for gopher frogs. Sandhill is far more suitable than flatwoods, and restoration of these communities will benefit this species. Despite the lack of information on minimum habitat requirements or home ranges, the available acreage should be enough to support a viable population of gopher frogs provided they occur on the area and wetlands are suitable for breeding. Restoration of sandhill through frequent prescribed fire will maintain and or enhance suitable habitat for gopher

frogs, especially when fires burn through associated wetlands. Ongoing sandhill restoration has the potential to increase the suitability of habitat conditions. Additional land management considerations are found in [Section 4.3.1](#).

Successful natural community management designed for the benefit of gopher tortoises should benefit the gopher frog, if present on the area. To document whether the species occurs on the area, staff should coordinate with the Fish and Wildlife Research Institute (FWRI) to survey breeding ponds when suitable water levels exist ([Section 6.1.2](#)). If documented on LFWEA, staff should conduct regular monitoring for gopher frogs if resources are available. Gopher frogs can be monitored by dip-netting suitable breeding ponds for tadpoles, or drift fence surveys using funnel traps and pitfalls. Audio recorders may also be used to document the species when water levels are not ideal. Currently, FWRI has made available software for analyzing calls from species such as ornate chorus frogs, and will likely make this technology available for monitoring gopher frogs. Until their status on the area has been identified, staff will document any opportunistic observations of gopher frogs on LFWEA in the appropriate location ([Section 5.2.4](#)). Future burrow scope surveys for gopher tortoises on LFWEA may also detect gopher frogs, should the species actually occur on the area.

The area goal is to enhance and maintain the suitability of habitat for gopher frogs on LFWEA. To meet this goal, staff will continue to apply prescribed fire and natural community restoration in an effort to maintain the habitat in a condition that will support the species.

3.2.2: Eastern Indigo Snake

Eastern indigo snakes have not been documented on LFWEA. The nearest documented occurrence of an indigo snake was in eastern Gilchrist County, approximately 20 miles from LFWEA. Commonly associated with scrub, sandhill, and scrubby flatwoods, indigo snakes also use pine flatwoods, hardwood hammocks, marsh edges, and agricultural fields. Gopher tortoise burrows are important refuge sites for indigo snakes and provide protection from cold and desiccation. Indigo snakes will also use cotton rat burrows, hollowed tree stumps, ground litter, trash piles, and rock piles for refuge.

The eastern indigo snake is a federally Threatened species that triggers 3 of 4 of the available prioritization parameters ([priorities table](#)). On LFWEA, there are 1,923 acres of potential habitat modeled for this species. Literature suggests that at least 2,471 acres of habitat are required to support a viable population of indigo snakes. Although LFWEA cannot independently support a population of indigo snakes, there is enough potential habitat in adjacent Mallory Swamp and private lands to collectively support a viable population within the region.

Management actions that maintain or enhance habitat for this species include

prescribed fire and mechanical treatments that restore natural community structure and function. Stumps and other coarse woody debris should be retained during land management activities as potential refuge sites. Additional land management considerations are found in [Section 4.3.2](#).

Because there is no adequate monitoring technique available for this species, opportunistic monitoring is recommended ([Section 5.2.4](#)) and any observations should be shared with FWRI ([Section 6.1.2](#)). Any future herpetological drift-fence surveys planned for LFWEA should include large snake traps in addition to funnel and pit-fall traps, as this type of trap is more likely to capture large snakes like the indigo snake. Eastern indigo snakes using gopher tortoise burrows also may be documented during any future burrow-scoping surveys on LFWEA ([Section 5.2.1](#)). While these surveys will not provide population-level information, they can at least indicate that the site is being used by indigo snakes and contributing to its conservation.

The goal for LFWEA is to enhance and maintain the suitability of habitat to support indigo snakes. However, even if FWC management continues to accommodate the needs of this species, the persistence of indigo snakes likely depends on management actions occurring on adjacent public and private lands. Staff will coordinate with FWC's Conservation Planning Services (CPS) to ensure adjacent private landowners are aware of the habitat needs and conservation of indigo snakes ([Section 6.1.3](#)).

3.2.3: Florida Pine Snake

The Florida pine snake is not documented to occur on LFWEA. Pine snakes have been documented nearby in Lafayette, Dixie, Gilchrist, and Suwannee Counties, so it is possible the species uses LFWEA. There is little information about the specific habitat requirements of this species, except it is most closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations on sandy soils dominated by pines and a well-developed grassy understory, though they have been documented in a number of plant communities. Southeastern pocket gophers (*Geomys pinetis*) are a preferred prey item and Florida pine snakes commonly use pocket gopher burrows for refuge. They also may be found in stump holes and, occasionally, gopher tortoise burrows. Pocket gopher burrows are evident in the southeast corner of LFWEA and in pasture to the north and east of LFWEA.

The Florida pine snake triggers 3 of 6 prioritization parameters ([priorities table](#)) and is an FWC-listed SSC. Based on a recent biological status review, the FWC will reclassify the pine snake as a threatened species after approval of the ISMP currently in development. A [SAP](#) has been developed for the Florida pine snake with a goal to maintain or improve the conservation status of the Florida pine snake to the point that the species is secure within its

historic range and no longer needs to be listed. Of the 5 objectives in the [SAP](#) for achieving this goal, LFWEA can contribute by maintaining suitable habitat for the species.

Models identified 658 acres of potential habitat for Florida pine snake on LFWEA. According to the literature, pine snakes and indigo snakes have similar home range sizes, and at least 2,471 acres of suitable habitat are required to support a viable population of pine snakes. While LFWEA cannot support a viable population in isolation, LFWEA has enough potential habitat to significantly contribute to the local population.

Potential habitat on LFWEA is currently in fair to poor condition for pine snakes. Planned restoration of sandhill on LFWEA will provide further benefits to this species. Because there is not enough habitat on LFWEA to support a population, the persistence of the Florida pine snake on LFWEA will depend on the condition of habitat in the surrounding landscape. Potential habitat on adjacent privately owned property is also in fair to poor condition for Florida pine snakes. We recommend coordination with CPS staff to facilitate cooperation with surrounding landowners to help ensure LFWEA remains connected to the regional pine snake population ([Section 6.1.3](#)).

Management actions that maintain or enhance habitat for this species include prescribed fire and ground cover restoration treatments that aid in restoring sandhill and associated natural communities. Stumps and other coarse woody debris should be retained during land management activities to serve as temporary refuges. Additional land management considerations are found in [Section 4.3.2](#).

The Florida pine snake is a wide-ranging species and local monitoring will not likely detect trends in the state population. Therefore, area staff should conduct opportunistic monitoring of Florida pine snakes on the area ([Section 5.2.4](#)), and any observations should be shared with FWRI ([Section 6.1.2](#)). Any future herpetological drift-fence surveys planned for LFWEA should include large snake traps in addition to funnel and pit-fall traps, as this type trap is more likely to capture large snakes like the pine snake. Florida pine snakes using gopher tortoise burrows should also be documented during any burrow-scoping surveys on LFWEA ([Section 5.2.1](#)). While these surveys will not provide population level information, they can at least indicate that the site is being used by the Florida pine snake and contributing to its conservation.

The goal is to maintain suitable habitat in a condition that will allow LFWEA to support the regional pine snake population. To meet this goal, staff will continue to apply prescribed fire and natural community restoration in an effort to maintain the habitat in a condition that will support the species. The continued presence of this species on LFWEA depends on conditions that influence the regional population.

3.2.4: Gopher Tortoise

The FWC purchased LFWEA to secure habitat for the gopher tortoise as mitigation for habitat loss to land development activities. As such, management to benefit this species is a high priority. The gopher tortoise is relatively common where suitable habitat occurs on the area, with the density estimated at 1.04 tortoises per acre in suitable habitat in 2012.

The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. It prefers xeric upland communities maintained with frequent fire that benefits the ground cover on which it feeds. The gopher tortoise is often considered a keystone species because many other species use their burrows, including focal species such as the Florida mouse and gopher frog. The gopher tortoise is listed as a state-Threatened species, and is a candidate for federal listing. This species triggers 4 of 6 prioritization parameters ([priorities table](#)), making it a high statewide priority. The FWC revised the state-wide [Gopher Tortoise Management Plan](#) in 2012 and has placed an emphasis on increasing the number of tortoises on public lands.

Models indicate 1,171 acres of potential habitat for gopher tortoises on LFWEA. The literature for gopher tortoises recommends that approximately 250 acres is the minimum habitat required to support a viable population. It is likely that LFWEA has enough potential habitat to support a viable population, provided current densities are maintained or increased with restoration of natural communities. Area staff have a significant opportunity to enhance the suitability of gopher tortoise habitat on LFWEA through the use of prescribed fire and timber thinning. Planned management to restore a more natural fire regime in fire-dependent communities will increase the suitability of available habitat and allow LFWEA to support a viable population. The continued persistence of gopher tortoises will benefit other wildlife species that may occur on LFWEA, including the eastern indigo snake and gopher frog. Additional land management considerations are found in [Section 4.3.3](#).

The [2013 Area Management Plan](#) for LFWEA establishes a long-term objective to monitor the gopher tortoise population on a 5-year interval. An established gopher tortoise mitigation park line transect burrow survey has been the standard protocol for lands in the gopher tortoise mitigation program. Recently, the gopher tortoise was petitioned to be federally-listed as a Threatened species in the eastern-most portion of its range (comprising Alabama, Georgia, South Carolina, and Florida). To identify actions included in the federal listing process, the FWC has partnered with the USFWS and 4 state wildlife agencies on a Candidate Conservation Agreement for the gopher tortoise. Part of this agreement standardized gopher tortoise monitoring region-wide, which led to the adoption of the Line Transect Distance Sampling (LTDS) monitoring protocol for estimating intact gopher tortoise populations. The LTDS survey methodology requires the examination of each burrow with a video scope to detect gopher tortoises in the burrow. Conducting a LTDS survey will estimate gopher tortoise density within a range of confidence, which will allow

managers to track changes in the population, rather than just changes in the number of burrows. This protocol will be adopted for future monitoring on LFWEA ([Section 5.2.1](#)).

The area goal is to sustain a viable gopher tortoise population on LFWEA. To meet this goal, staff will continue to apply prescribed fire and natural community restoration in an effort to maintain the habitat in a condition that will support the species. The measurable objectives are:

1. For the duration of this Strategy, maintain the current gopher tortoise habitat with prescribed fire on a 1-3 year fire return interval in the sandhill natural community, and 2-5 year interval in flatwoods communities.
2. Survey all suitable habitat to estimate the gopher tortoise population on LFWEA by 2016.
3. Track changes in the population by repeating monitoring every 5 years.

3.2.5: Bachman's Sparrow

Bachman's sparrows have previously been documented on LFWEA (on ebird.org), but have not been confirmed by area staff. Nesting has not been documented on LFWEA. According to the Florida Breeding Bird Atlas, Bachman's sparrow breeding has been confirmed in nearby Gilchrist County and is highly likely in Lafayette and Dixie counties. Area staff have not previously conducted specific monitoring to determine the spatial distribution or relative abundance of Bachman's sparrows on LFWEA. Bachman's sparrows prefer mature pine forests with a low basal area and healthy herbaceous vegetation, well-maintained dry prairie, or early-successional old-field habitat. Frequent prescribed fire (2-3 years) can maintain habitat in suitable condition for this species on LFWEA.

The Bachman's sparrow triggers 2 of 6 prioritization parameters ([priorities table](#)) and is currently experiencing range-wide population declines. Models indicate 1,161 acres of potential habitat for Bachman's sparrows on LFWEA, however, much of this habitat is currently in fair-to-poor condition. LFWEA has enough potential habitat to sustain a local population if maintained in suitable condition. Bachman's sparrow is considered management-responsive and the occurrence of frequent fire is critical to maintaining suitable habitat for this species. 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 ≥ 3 years. Current land management focusing on thinning pine plantations and the frequent use of prescribed fire on LFWEA will continue to improve and maintain suitable habitat for Bachman's sparrow. Additional land management considerations are found in [Section 4.3.4](#).

Staff does not currently monitor Bachman's sparrows on LFWEA, largely due to limited resources and higher management priorities. By 2015, the regional conservation biologist will conduct a baseline survey to document the presence of the species in the area using call playback methods. If Bachman's sparrows are detected on the area, annual surveys can be conducted to track the distribution of the species on LFWEA over time. Any

future monitoring for this species should be combined with monitoring for brown-headed nuthatches on the area, pending available staff resources ([Section 5.2.2](#)).

The goal for LFWEA is to provide suitable habitat for the Bachman's sparrow and contribute to sustaining the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The measurable objectives are:

1. Conduct a baseline survey to determine presence or absence of Bachman's sparrow by 2015, and repeat survey at least once by 2020 if species is undetected.
2. If the species is detected on the area, begin conducting annual surveys for Bachman's sparrow in all potential habitat.

3.2.6: Brown-Headed Nuthatch

The brown-headed nuthatch has not been documented on LFWEA and no surveys have attempted to document their presence on the area. The Florida Breeding Bird Atlas confirms brown-headed nuthatches are breeding in Gilchrist and Dixie counties, and that breeding is also very likely in Lafayette County. This species prefers open stands of mature pines managed with frequent fire. Older pine forests (>35 years for longleaf or slash pine) and stands with basal area between 35–50 ft²/acre are suitable, although nuthatches can use pine stands with younger trees and higher basal areas. Brown-headed nuthatches are weak cavity nesters and they occasionally use cavities excavated by other species. This species prefers old decaying oaks with a diameter at breast height (dbh) of <10 inches for cavity excavation. Snag protection during management activities can maintain suitable cavity trees for this species to excavate.

The brown-headed nuthatch triggers 2 of 6 prioritization parameters ([priorities table](#)) and is currently experiencing range-wide population declines. Models indicate 1,376 acres of potential habitat on LFWEA, but much of the potential habitat is currently in fair to poor condition for brown-headed nuthatches. This species is management responsive and there is moderate opportunity for management on LFWEA to have a positive influence. Therefore, management for this species is a moderate priority. LFWEA, combined with adjacent Mallory Swamp, has enough potential habitat to sustain a local population of brown-headed nuthatches.

Planned and ongoing land management actions will improve the suitability of potential habitat for this species. Current efforts to increase prescribed burning and pine thinning are creating the more open forest and high snag density that brown-headed nuthatches prefer. Management that includes increasing the amount of prescribed fire should continue to maintain and enhance habitat for this species. Ongoing timber management will reduce the basal area in the more altered communities on LFWEA, and efforts to create snags during land management can further improve habitat for brown-headed nuthatches. Additional land management considerations are found in [Section 4.3.5](#).

Staff does not currently monitor brown-headed nuthatch on LFWEA, largely due to limited resources and higher management priorities. By 2015, the regional conservation biologist will conduct a baseline survey to document the presence of the species in the area using call playback methods. If brown-headed nuthatches are detected on the area, annual surveys can be conducted to track the distribution of the species on LFWEA over time. Any future monitoring for this species on the area should be combined with monitoring for Bachman's sparrow ([Section 5.2.2](#)).

The goal for LFWEA is to provide suitable habitat for the brown-headed nuthatch and contribute to sustaining the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species on LFWEA is dependent on conditions that influence the regional population. The measurable objectives are:

1. Conduct a baseline survey to determine presence or absence of brown-headed nuthatch by 2015, and repeat survey at least once by 2020 if species is undetected.
2. If the species is detected on the area, begin conducting annual surveys for brown-headed nuthatch in all potential habitat.

3.2.7: Cooper's Hawk

Area staff have not observed the Cooper's hawk on LFWEA. The Florida Breeding Bird Atlas suggests that Cooper's hawk probably breeds in Lafayette, Dixie, and Gilchrist counties. Commonly associated with woodlands, this species will nest in a variety of habitats including swamps, floodplain and bottomland forests, sand pine scrub, and baygalls. Nests are usually placed near the crown of a tree, close to an edge in dense stands of oaks. Cooper's hawks primarily feed on other birds, so nests are located in proximity to suitable hunting areas. Nesting may occur on LFWEA, although it has not yet been documented.

The Cooper's hawk triggers 1 of 6 prioritization triggers ([priorities table](#)). Models indicate 1,508 acres of potential habitat on LFWEA. Cooper's hawks are not typically considered management dependent and the opportunity for management to have significant influence on this species at the population level is low. Because the Cooper's hawk is not management dependent, if the species is present, it is likely to persist on LFWEA without directed management. Despite the low level of management opportunity, planned and ongoing natural community management will benefit this species by improving conditions for their prey. Additional land management considerations are found in [Section 4.3.6](#). Cooper's hawk monitoring is not conducted on LFWEA; however, opportunistic observations, especially nesting, will be documented ([Section 5.2.4](#)). If nests are documented on the area, managers should avoid actions that disturb the nest site.

The goal is to restore and maintain appropriate natural communities to provide suitable habitat for the Cooper's hawk to ensure LFWEA contributes to the sustainability of the regional population. While the potential presence of Cooper's hawk on LFWEA depends

on conditions that affect the regional population, the amount of potential habitat on LFWEA and adjacent conservation lands increases the likelihood that this species will use areas on LFWEA in the future.

3.2.8: Limpkin

Limpkins have not been documented on LFWEA. The Florida Breeding Bird Atlas lists limpkin breeding as probable in Lafayette and Dixie Counties. Limpkins use freshwater marshes, swamps, springs and spring runs, and pond and river margins where they feed on apple snails and other aquatic mollusks. Although some potential habitat exists on the area, the lack of sightings indicates that limpkins may only occasionally occur on LFWEA while moving from adjacent areas, such as Mallory Swamp.

The limpkin triggers 1 of 6 statewide prioritization parameters ([priorities table](#)) and is currently a FWC-listed SSC. A recent biological status review determined that the limpkin does not warrant listing. The species will remain a SSC until the FWC approves the ISMP and the rule change removing the species from the list. A [SAP](#) has been developed for the limpkin with the goal to ensure that conservation status of the limpkin is maintained or improved in order to prevent a future listing of the species as Threatened or Endangered. The [SAP](#) for the limpkin recommends maintaining or increasing the population size of the limpkin through management and protection of foraging and nesting habitat, which LFWEA has a limited role in supporting.

On LFWEA, models indicate 571 acres of potential habitat for limpkin. The available habitat for limpkins on LFWEA is primarily dome swamp and the floodplain swamp along the unnamed stream running through the property. While information on minimum habitat requirements for this species is lacking, based on the natural history of the species, LFWEA likely does not have enough potential habitat to support a viable limpkin population. The opportunity to influence the limpkin at the WMA-level is limited, and staff should make efforts to ensure that management activity in the uplands does not negatively impact water quality. Although management opportunity is limited, LFWEA has the potential to provide foraging habitat for limpkin that can benefit the overall regional population.

Limpkins are highly mobile and sensitive to water quality and the availability of apple snails. Because of this mobility, they are more sensitive to habitat conditions at the regional scale. Actions on LFWEA focus on the protection of water quality and the integrity of habitats used by limpkins, therefore current management is compatible with the needs of this species. Hydrologic restoration activities may improve foraging opportunities for limpkins by increasing hydroperiod in wetlands, and may also improve the opportunity for breeding to occur on LFWEA. Additional land management considerations are found in

[Section 4.3.7](#). Limpkin monitoring is not currently conducted on LFWEA, although opportunistic observations of nests and individuals will be documented ([Section 5.2.4](#)).

The goal is to provide suitable habitat for the limpkin to ensure LFWEA contributes to the sustainability of the regional population. However, the long-term persistence of limpkins on LFWEA will be influenced by factors affecting the regional population. Due to the limited potential habitat on the area and the high mobility of this species, maintaining habitat in suitable condition for limpkin will allow LFWEA to occasional use by the species.

3.2.9: Northern Bobwhite

Northern bobwhites are occasionally heard on LFWEA, although systematic efforts to document local distribution and relative abundance have not been attempted. Bobwhites are associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Northern bobwhites require an interspersed of multiple habitat conditions to meet their dietary and cover needs. Areas with abundant native warm-season grasses and herbaceous annual vegetation are used for raising broods and foraging. Shrubs or other thickets are useful as roosting habitat or escape cover. A 2-3 year fire return interval is typically necessary to maintain the patchy herbaceous or saw palmetto ground cover this species prefers.

The northern bobwhite is a game species that triggers 2 of the 6 statewide prioritization parameters ([priorities table](#)). However, documented declines in the statewide bobwhite population are cause for concern and this species is a focus of a number of ongoing conservation initiatives, making it a high statewide priority. Models indicate 1,171 acres of potential habitat on LFWEA. Literature suggests that 2,000-4,000 acres are likely necessary to support a viable population, however, the potential habitat on LFWEA is currently in fair to poor quality for northern bobwhite. For these reasons, LFWEA likely cannot support a viable population in isolation. Potential habitat is available on adjacent private lands, which can contribute to the bobwhite's overall persistence on this area.

Ongoing prescribed fire and timber thinning efforts will improve habitat conditions for northern bobwhite on LFWEA and help support the regional population. Frequent prescribed fire, with varied timing of burns on adjacent units, should create a good mosaic of favorable habitat for bobwhite. Growing season fire is the preferred method for management on LFWEA, but staff also use dormant season burns if conditions are not suitable during the growing season. Additional land management considerations are found in [Section 4.3.8](#). Although the northern bobwhite will likely benefit from ongoing management at LFWEA, it is unlikely to be a featured game species on the area. Due to higher management and monitoring priorities on LFWEA, bobwhite monitoring is not recommended at this time.

The area goal is to maintain suitable habitat for northern bobwhite on LFWEA to continue to support the regional population. While LFWEA may not support a viable

population in isolation, there is potential habitat on the adjacent private lands that will help support the regional population.

3.2.10: Southeastern American Kestrel

The southeastern American kestrel has not been observed on LFWEA. Breeding has been documented nearby in eastern Lafayette County, as well as Dixie and Gilchrist counties. Kestrels generally breed in open agricultural landscapes surrounding LFWEA to the north and south. Southeastern American kestrels utilize upland habitats, including sandhills and longleaf savannas, pastures, sand pine scrub, and prairies. As a secondary cavity nester, southeastern American kestrels use previously excavated cavities in large snags. They will utilize artificial cavities when placed in areas of suitable habitat. They require adequate perch sites, low ground cover (<1 ft), and an open canopy (<20%) within foraging areas.

The southeastern American kestrel is listed as state-Threatened and will remain Threatened upon approval of the ISMP. The southeastern American kestrel triggers 4 of 6 prioritization parameters ([priorities table](#)). Models indicate 688 acres of potential habitat for southeastern American kestrels on LFWEA. Average breeding territory size for this species is 125 acres, though more area may be necessary if the habitat quality is low. The potential habitat on LFWEA is on the east side of the property adjacent to private lands that are also potentially suitable; therefore, kestrels on neighboring private lands could potentially include LFWEA within their home range. The [SAP](#) for this species recommends acquisition of suitable lands by the State and installations of nest boxes within preferred natural communities, such as sandhill, which are not abundant in the area. The level of opportunity on LFWEA is low, given the small amount of potential habitat and the fact that birds have not been observed on the area during the breeding season.

Ongoing efforts to restore LFWEA's natural community structure and function may improve the habitat suitability for kestrels, but will not significantly increase the quantity of habitat. Management actions that maintain or enhance habitat for this species include prescribed fire, natural community restoration, and management that favors mature stands of longleaf pine. Additional land management considerations are found in [Section 4.3.9](#). Opportunistic observations of southeastern American kestrel during the breeding season (mid-March-May) will be documented ([Section 5.2.4](#)). If kestrels are observed on the area during the breeding season, the opportunity for installing nest boxes may be reconsidered.

The goal is to provide suitable habitat for southeastern American kestrels that will allow individuals using LFWEA to function as part of a regional population. However, the presence of this species on LFWEA depends on conditions that influence the regional population. By conducting management that maintains and enhances habitat suitability, LFWEA will meet the needs of the species, should it occur on the area.

3.2.11: Southern Bald Eagle

The southern bald eagle has not been documented nesting or foraging on LFWEA. There was at least one nest in Mallory Swamp prior to the 2001 wildfire on private land, but that nest has likely been abandoned as the eagle has not been seen since. There are at least 4 recently-active nests within 20 miles of LFWEA, but activity has not been recorded since 2010. Bald eagles use a wide range of natural communities for foraging and prefer to nest in forested areas close to open water. While not considered management dependent, this species does benefit from active management to restore natural communities provided nest protection guidelines are followed.

The southern bald eagle triggers 0 of the 6 prioritization parameters ([priorities table](#)). However, federal and state protections are in place for this species and there is a FWC [Bald Eagle Management Plan](#) to ensure the continued recovery of the species. Models identify 607 acres of potential habitat on LFWEA for bald eagles. The majority of potential habitat is dome swamp, which is not actively managed, making the management opportunity for this species is low. Given the close proximity of LFWEA to Mallory Swamp and the Suwannee River, there is a potential that bald eagles may establish a nest on the area in the near future. Additional land management considerations are found in [Section 4.3.10](#).

The FWC monitors southern bald eagle nesting using aerial surveys at the statewide level, so there is no need for local monitoring. If staff observes nesting behavior by bald eagles on LFWEA (e.g., courtship flights, carrying sticks), staff will attempt to determine the location of any nest on the area ([Section 5.2.4](#)). If an active bald eagle nest is documented, staff will report to the FWC eagle nest website and the taxa coordinator at baldeagle@myfwc.com. Managers will follow management guidelines around existing and potential nest sites by limiting direct disturbance to nest trees during management activities.

It is unlikely that any WMA will independently support a population of this wide-ranging, migratory species. The goal is to continue to provide suitable habitat for the southern bald eagle that will allow individuals using LFWEA to function as part of a regional population. By maintaining potential nest trees in well-maintained natural communities, management at LFWEA will continue to meet the conservation needs of this species, and can likely support eagle nesting in the future.

3.2.12: Swallow-Tailed Kite

The swallow-tailed kite is occasionally seen in the vicinity of LFWEA, although nesting has not been documented on the area. Breeding has been confirmed nearby in southern Levy County and in the adjacent Dixie and Gilchrist counties along the Suwannee and Santa Fe rivers. Swallow-tailed kites are habitat generalists and utilize a variety of natural communities. Tall trees (especially pine and cypress) within hydric forests are an

important component of nesting habitat and open areas are used for foraging. Trees that are dominant or taller than surrounding trees are preferred as nest trees. Shrub height and density tends to be higher around nest sites. Because this species has high nest site fidelity, maintaining suitability of nesting areas is important. Potential nest sites currently exist on LFWEA and nests may occur on adjacent private lands. The Mallory Swamp property to the north and west of LFWEA is currently undergoing an extensive restoration project and should provide a large area of suitable habitat for kites once the project is complete.

The swallow-tailed kite triggers 4 of 6 statewide prioritization parameters ([priorities table](#)). Models indicate 1,790 acres of potential habitat on LFWEA, but much of the potential habitat is currently in fair to poor condition. Given the generalist nature of this species and its high mobility, it is unlikely that LFWEA could independently support a population of swallow-tailed kites. LFWEA has the potential to contribute to the regional population by maintaining nesting sites and foraging habitat in suitable condition. Swallow-tailed kites are not considered management dependent, although this species does benefit from active management to restore natural communities. Pine thinning can help improve the structure of forested communities and timber management that favors open, mature stands of native pine will benefit this species in the long-term. Prescribed fire and timber thinning that aids in restoring natural community structure should continue to maintain and enhance habitat for this species. Swallow-tailed kites are sensitive to nest disturbance and efforts should be taken to maintain potential nest sites during land management activities. Additional land management considerations are found in [Section 4.3.11](#).

The Avian Research and Conservation Institute (ARCI) is a research organization that conducts statewide research on swallow-tailed kite and short-tailed hawk populations. Area staff are encouraged to coordinate with ARCI for future monitoring of swallow-tailed kites on LFWEA ([Section 6.3](#)). Staff should document observations of nesting behavior by swallow-tailed kites on LFWEA ([Section 5.2.4](#)). If nests are documented on the area, managers should avoid actions that disturb the nest site and the nest should be reported to ARCI ([Section 6.3](#)).

The goal is to provide suitable habitat for the swallow-tailed kite that will allow individuals using LFWEA to continue to function as part of a regional population. To meet this goal, staff will continue to apply prescribed fire and consider known and potential nest sites during management activities to maintain the habitat in a condition that will meet the needs of the species. The continued presence of this species on these areas depends on conditions that influence the regional population.

3.2.13: Wading Birds

Although no formal surveys have been conducted, only 2 of the 8 focal wading bird species have been observed on the LFWEA; the white ibis (*Eudocimus albus*) and little blue

heron (*Egretta caerulea*). The great egret (*Ardea alba*), snowy egret (*Egretta thula*), reddish egret (*Egretta rufescens*), tricolored heron (*Egretta tricolor*), roseate spoonbill (*Platalea ajaja*), and wood stork (*Mycteria americana*) have not been seen on LFWEA. LFWEA also contains enough wetland habitat to potentially support nesting colonies, although none have been documented on the area. No active nesting colonies have been reported on the area and there has been no official effort to survey for wading birds or nesting colonies on LFWEA. Considering the proximity to Mallory Swamp, it is likely that wading birds will continue to be observed on the area in the future.

Statewide, this group of species is a moderate priority ([priorities table](#)). The little blue heron and white ibis are two FWC-listed SSC in the wading bird group, which also contains one federally-listed species (the Threatened wood stork). The little blue heron has a high Millsap biological score and a Species of Greatest Conservation Need (SGCN) population trend that is declining, while the trend of the white ibis population is unknown. Of the other species in the wading bird group, the snowy egret and roseate spoonbill have SGCN population trends identified as declining, while the tricolored heron has an unknown trend. A [SAP](#) has been developed for this suite of wading birds with a conservation objective to improve the quality and amount of wading bird habitat. Due to the amount of available habitat and proximity to Mallory Swamp, LFWEA has a role in fulfilling this objective through proper management of wetland communities.

Models indicate 788 acres of potential habitat for wading birds within dome and floodplain swamps on the LFWEA. The available habitat for wading birds on the area is not actively managed. Since no nesting has been documented on LFWEA, wading birds are considered a moderate local priority. Wading birds are capable of significant dispersal and are heavily influenced by regional conditions. The opportunity to influence them at the area-level is limited to protecting nesting colonies from disturbance and insuring that management activity in the uplands does not impact water quality. Additional land management considerations are found in [Section 4.3.12](#). When active colonies are identified, measures to protect these colonies from disturbance, such as maintaining 330-ft buffers during nesting season, will be taken. Staff should document opportunistic observations of nesting activity within LFWEA ([Section 5.2.4](#)).

The area's goal is to continue to provide suitable habitat that allows wading birds on the LFWEA to function as part of the regional population. As hydrologic restoration occurs in neighboring Mallory Swamp, the distribution and condition of suitable habitat for wading birds may shift. Due to the amount of available habitat on LFWEA, the area has the potential to support foraging and breeding activity for wading birds into the future.

3.2.14: Florida Mouse

Florida mice have not been documented on LFWEA and there has never been a survey to document this species on the area. Florida mice commonly inhabit fire-maintained, xeric uplands that have well-drained, sandy soils. Abundance of Florida mice is highest in areas supporting early-succession vegetation. Populations of Florida mice tend to decline as natural communities become more densely vegetated, more heavily shaded, and more mesic. The Florida mouse is an obligate commensal of the gopher tortoise and may not be able to persist long-term on sites where tortoises are absent.

This species triggers 4 of the 6 statewide prioritization parameters ([priorities table](#)). A recent biological status review determined that the Florida mouse does not warrant listing, and the FWC will remove the species from the species of special concern list after approval of the ISMP. A [SAP](#) has been created for the Florida mouse and will be used to guide management actions for this species across the state. Actions recommended in the Florida mouse [SAP](#) include maintaining a stable gopher tortoise population and managing habitat in a mosaic of conditions with an oak component. Additional land management considerations are found in [Section 4.3.13](#).

Models indicate 605 acres of potential habitat for Florida mice on LFWEA. Literature suggests Florida mice require 75–200 acres of suitable habitat to support a viable population. Based on this information, habitat on LFWEA as currently managed could support a population of Florida mice, should they occur on the area. This species is management-responsive and there is the opportunity for management on LFWEA to have a positive influence. Therefore, this species would be a medium priority for management should they occur on the area. Continuing to apply prescribed fire in sandhill communities will benefit Florida mice by promoting healthy native ground cover.

To document the presence or absence of the Florida mouse on LFWEA, area staff should conduct a trapping survey in all potential habitat. If Florida mice are not documented during this survey, we recommend repeating the survey after 5 years. Should Florida mice remain undocumented after 2 survey attempts, area staff can discontinue the monitoring effort. Once the status of Florida mice on LFWEA is confirmed, staff will consider whether the resources and opportunity are available to warrant future monitoring ([Section 5.2.3](#)).

The goal is to maintain habitat to sustain a Florida mouse population if present on LFWEA. To meet this goal, staff will continue to apply prescribed fire in uplands to maintain the diverse ground cover preferred by this species. The measurable objectives are:

1. Conduct a baseline survey to determine presence/absence of Florida mouse by 2018.
2. If Florida mice are not documented during this survey, repeat the baseline survey by 2023.

3.2.15: Sherman's Fox Squirrel

Sherman's fox squirrels have been observed on LFWEA, and they are known to occur in the local area on private lands. During a public web-based observation reporting survey in 2011, FWC documented Sherman's fox squirrels on adjacent private lands less than one mile away from LFWEA. Suitable habitat for fox squirrels includes longleaf pine sandhills and pine-oak mixed woodlands with sparse shrub cover, such as along the edges of longleaf pine savannas and live oak forests. Fox squirrels often use large oaks for nest sites and daytime refugia, while mature longleaf pines that produce seed bearing cones are an important food source in the summer. A mosaic of habitat conditions across the landscape ensures a year-round supply of food items that vary seasonally.

Sherman's fox squirrel is an FWC-listed SSC that triggers 4 of the 6 statewide prioritization parameters ([priorities table](#)). The species is management responsive and there is moderate opportunity for management to have a significant effect on this species on the area. A recent biological status review found the Sherman's fox squirrel did not meet the criteria for Threatened status; however, the species will remain a species of special concern due to uncertainty in the data used for analysis. The [SAP](#) for the Sherman's fox squirrel recommends actions that maintain and enhance habitat corridors on public and private lands.

Models indicate 688 acres of potential habitat for fox squirrels on LFWEA, although habitat on LFWEA and adjacent lands is in fair to poor condition. Literature suggests 2,000-9,000 acres are required for a viable population of Sherman's fox squirrels. There is not enough potential habitat on LFWEA to sustain a population in isolation and management on surrounding lands will influence the persistence of Sherman's fox squirrels in this area. For this reason, coordination between CPS and private landowners will increase the opportunity for management to positively influence fox squirrel habitat in the vicinity of LFWEA.

Management actions that benefit Sherman's fox squirrels include prescribed fire and mechanical treatments to maintain an open canopy in natural communities. The species also benefits from the retention of mature mast-producing hardwoods. Prescribed fire, rather than broad-spectrum herbicide treatments, will ensure that mature hardwoods are retained even as coverage of hardwoods is reduced to restore native ground cover. Additional land management considerations are found in [Section 4.3.14](#).

Because this species naturally occurs at low densities and can be difficult to detect, no formal monitoring effort is recommended. Area staff should document all opportunistic observations of fox squirrels on LFWEA for the 3-5 years following this Strategy to establish the current distribution of the species ([Section 5.2.4](#)). After the area of regular occupancy is established for LFWEA, area staff can reduce their effort to only documenting adults in the presence of juveniles, or observations of fox squirrels in novel locations. This monitoring effort will ensure that Sherman's fox squirrels will be documented when observed in areas that have undergone natural community restoration.

The goal is to provide suitable habitat that allows Sherman's fox squirrel on LFWEA to function as part of a regional population. While the continued presence of fox squirrels on

LFWEA depends on conditions affecting the regional population, habitat conditions on private lands may provide an opportunity to conserve this species.

3.2.16: Southeastern Myotis

The southeastern myotis has not been documented on LFWEA, but no standardized survey for bats has been conducted on the area. LFWEA is located south and west of large maternity roosts in Suwannee and Gilchrist counties, so the area may have a role in myotis conservation. Southeastern myotis forage primarily over marshes, rivers, creeks, and lakes. They will forage in other natural communities including hammock edges and in flatwoods. Roosting habitat varies seasonally. Individuals may roost in caves, culverts, bridges, hollow trees, and occasionally bat houses. In Florida, most of the known maternity sites are located in caves. Hollow trees and manmade structures, such as culverts and bridges, also serve as maternity sites, but the prevalence and importance of these to the population is not fully understood.

This species triggers 2 of 6 prioritization parameters ([priorities table](#)) and is a moderate statewide priority. Models indicate 1,655 acres of potential habitat on LFWEA. However, the majority of the modeled potential habitat is forested communities. While the species occasionally feeds in forests, sites over water are more important foraging habitat. This species is not typically considered management dependent and the opportunity to affect this species on LFWEA is low.

The proximity to known roosts and a major river suggests LFWEA may have a role in myotis conservation. LFWEA is in an area of karst geology, so undocumented cave roosts may occur in the vicinity. The potential for large hollow trees in some areas of LFWEA could provide roost trees. Should a roost be detected on the area ([Section 5.2.4](#)), staff will communicate with the FWC mammal taxa coordinator to determine appropriate protection measures ([Section 4.3.15](#)).

The area goal is to continue to provide suitable habitat for southeastern myotis that allows myotis on LFWEA to function as part of a regional population. While the continued presence of southeastern myotis on LFWEA depends on conditions that affect the regional population, the amount of potential habitat on LFWEA and adjacent conservation lands increases the likelihood that this species will continue to persist on LFWEA.

3.2.17: Limited Opportunity Species

On LFWEA, reasonable opportunity for management is lacking for Florida black bear, a focal species modeled to have potential habitat on the area. Staff should document observations of bears ([Section 5.2.4](#)), and if they are documented with increasing regularity,

area staff should coordinate with the Imperiled Species Management Section (ISM; [Section 6.1.5](#)) and LFWEA's role in their conservation and recovery should be re-visited.

Florida Black Bear – Florida black bears, or their sign, have not been reported on LFWEA. A single nuisance report has been made near Bell Ridge Longleaf WEA, which is located 20 miles to the east of LFWEA. No road-killed bears have been reported within 10 miles of the area. During a 2014 hair-snare survey, researchers documented evidence of a single bear occurring within 8 miles of LFWEA, which indicates that bears may occasionally move through the landscape surrounding the area.

The Florida black bear was removed from the Threatened list by the State of Florida in 2012 and has since received an [FWC Bear Management Plan](#). The species triggers 2 of 6 prioritization parameters ([priorities table](#)). Potential habitat models identify 1,837 acres of LFWEA as Florida black bear habitat, however this habitat is mainly mapped as pine plantation and ruderal habitat. Ongoing efforts to restore natural communities on LFWEA will not have an impact on available bear habitat, should the species occur on the area.

The [FWC Bear Management Plan](#) places LFWEA within the Big Bend Bear Management Unit (BMU), which includes the Chassahowitzka sub-population. There have been efforts to establish bears in the Lower Suwannee National Wildlife Refuge to the south of LFWEA and the Bear Management Plan calls for establishing a linkage between the Apalachicola and Big Bend BMUs. If these efforts are successful, it would put occupied bear habitat much closer to LFWEA and increase the likelihood of visitation by bears. However, LFWEA is not within the primary or secondary range of Florida black bear as identified by the 2012 management plan.

Efforts to monitor Florida black bears are best accomplished at the regional level, therefore, local monitoring efforts are not recommended for LFWEA. Opportunistic observations, especially denning or breeding activities (sows with cubs), should be documented and shared with the FWC bear program ([Section 6.1.5](#)). Due to the limited opportunity to manage for bears within this area, there is no goal recommended for Florida black bears on LFWEA. However, if efforts to increase the bear subpopulation in the Big Bend BMU are successful, the proximity of Mallory Swamp increases the likelihood LFWEA may have a role in future bear conservation efforts.

3.3 Other Listed and Locally Important Species

While natural community management, considerate of a set of focal species, provides benefits to a host of species reliant upon these natural communities, species that are imperiled sometimes require specific attention. Further, subsection 253.034(5) of the Florida Statutes (F.S.) requires all land management plans to include an analysis of the property to determine if significant natural resources, including listed species, occur on the property. If

significant natural resources occur, the plan shall contain management strategies to protect the resources. The Florida Forever Act (s. 259.105, F.S.) adds that all State lands that have imperiled species habitat shall include, as a consideration in the management plan, restoration, enhancement, management, and repopulation of such habitats. In this subsection, we discuss listed or locally important species that are not PLCP focal species.

It is possible other imperiled species occur on LFWEA, and if encountered, staff will document these encounters. Florida's imperiled species are adapted to natural communities and should continue to benefit from FWC's ongoing or planned ecological management that aims to restore natural community structure and function. Under FWC's ecological management, these species have a higher probability of persistence than in the absence of this management.

3.3.1: Other Imperiled Wildlife

In addition to the listed species discussed in [Section 3.2](#), 3 listed animal species are known or are likely to occur on LFWEA: American alligator (*Alligator mississippiensis*), eastern diamondback rattlesnake (*Crotalus admanteus*), and Homosassa shrew (*Sorex longirostris eionis*). One species, the ornate chorus frog (*Pseudacris ornata*) is not listed, but is of conservation interest and has been documented on the area recently.

American Alligator – American alligator has been observed on LFWEA, and the species occurs in Mallory Swamp and the Suwannee River. The alligator is federally-listed due to similarity of appearance with other listed crocodilians. Planned management on LFWEA to maintain the floodplain forest and adjacent uplands will help protect water quality and help meet the needs of this species.

Eastern Diamondback Rattlesnake – There are no documented occurrences of the eastern diamondback rattlesnake on LFWEA, but the species occurs in pine savannas throughout Florida. The USFWS has received a petition for federal listing of the eastern diamondback rattlesnake and FWRI is actively seeking reports of casual observations of the rattlesnake to provide updated information. Planned management on LFWEA to restore pine forests will help meet the needs of this species and opportunistic observations will be documented in the Survey and Monitoring Protocol (SaMP) database ([Section 5.2.4](#)).

Homosassa Shrew – The Homosassa shrew is a sub-species of the southeastern shrew (*Sorex longirostris*) that has not been documented on LFWEA. Previously thought to be limited to a small range, researchers originally believed the species was restricted to mesic communities in Citrus County. However, one study suggested this species actually has a larger range throughout the northern peninsula, south of the Suwannee River. A recent

biological status review determined the subspecies does not warrant listing on the FWC's imperiled species list. However, due to concerns regarding the available data, the FWC will retain the Homosassa shrew as a SSC. The [SAP](#) developed for the Homosassa shrew addresses research and monitoring actions needed to resolve the uncertainty of its conservation status.

Shrews forage and nest in leaf litter and downed woody debris that is abundant in forested communities. Incidental observations or specimens captured during herpetofauna survey efforts should be reported to the mammal taxa coordinator ([Section 6.1.1](#)). Planned management to protect and maintain forested communities will allow LFWEA to meet the needs of this subspecies.

Ornate Chorus Frog – The ornate chorus frog has recently been documented on LFWEA by FWRI staff dip-netting in ponds and placing audio recorders (frog loggers) near ephemeral ponds on LFWEA. While not listed, the ornate chorus frog is a species of conservation concern and is believed to be declining throughout its range. Using prescribed fire on LFWEA to restore pine forests and the associated ephemeral wetlands will help meet the needs of this species. Area staff will continue to cooperate with FWRI in monitoring the status of this species.

3.3.2: *Rare Plants*

A listed plant survey conducted by FNAI in 2011 on LFWEA identified 4 [state-Threatened plants](#), angle pod (*Matelea gonocarpus*), palegreen orchid (*Platanthera flava*), giant orchid (*Pteroglossaspis ecristata*), and hooded pitcherplant (*Sarracenia minor*). The protections afforded plants that occur on conservations lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain habitat for these and other rare plants. As such, these species should persist under planned management on LFWEA.

Angle pod – Angle pod is found in upland hardwood forests and hydric hammocks, in rich soil over limestone, often near natural openings in the canopy, such as the sides of sinkholes or along waterways. Threats include loss of habitat to human alteration, competition from invasive exotics, and mechanical soil disturbance. Soil-disturbing activities such as road grading and plowing fire lanes can be destructive to this species, and should be avoided near known occurrences.

Palegreen orchid – Palegreen orchid is found on slight rises or tree bases in floodplain swamps and hydric hammocks. Threats include loss of habitat to human

alteration, competition from invasive exotics, and hydrologic alteration. Heavy machinery use should be avoided near known occurrences.

Giant orchid – Giant orchid is found on open, dry, sandy sites in flatwoods and sandhill ecotones. Threats include conversion of sandhill and flatwoods to pine plantation and competition from invasive exotics. Soil-disturbing activities such as road grading and plowing fire lanes can be destructive to this species, and should be avoided near known occurrences.

Hooded pitcherplant – The hooded pitcherplant is found in the ecotones between pine flatwoods and wetland depressions or cypress domes. Hooded pitcherplants are often found in slightly drier, more shaded habitats than other species of pitcherplant which prefer open, sunny, moist savannas. Threats include lack of fire, competition from invasive exotics, and soil disturbance. Soil-disturbing activities such as plowing fire lanes can be destructive to this species, and should be avoided near known occurrences.

In addition to the listed plants, 5 plants on the State list of commercially exploited plants, green-fly orchid (*Epidendrum conopseum*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis* var. *spectabilis*), needle palm (*Rhapidophyllum hystrix*), and coontie (*Zamia pumila*), were observed on LFWEA. Staff should be aware that some potential exists for illegal collection of these plants and if evidence of illegal activity is found on LFWEA, appropriate authorities should be notified.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 18 focal species 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 restoration of upland and wetland communities, and use of prescribed fire, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions. We may designate SMAs when actions over and above ongoing natural community management are required in a specific location ([Section 4.1](#)). In addition, to ensure natural community management addresses the needs of these focal species, we evaluate the OBVM Desired Future Conditions (DFCs) for natural communities ([Section 4.2](#)). [Section 4.3](#) provides recommendations for species that need specific protective measures or land management considerations to ensure their continued use of the property.

4.1: Strategic Management Areas

The intent on LFWEA is to apply management actions that maintain intact natural communities in good condition and restore degraded or altered natural communities to a condition that will better suit focal and listed species. However, SMAs focus management actions on MUs with the highest possibility of success, and or MUs most critical for the conservation of a species on the WEA. Staff designates SMAs to achieve at least one of the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence and conservation of a species or suite of species. These specific actions should aid in restoring, enhancing, or maintaining the habitat or population.
- Identify an area in which to focus specific land or species management actions for the best chance of success, when there is more restoration and enhancement than can be accomplished in short order on the WEA. 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 WEA that it warrants special designation to ensure protection against negative alteration.
- Identify areas that are critical for research or monitoring.
- Recommend MU-specific natural community DFCs that differ from the DFCs in the natural community area-wide, when this is necessary to benefit a specific species.

Workshop participants agreed that planned and ongoing management actions across LFWEA will meet the needs of the focal species; therefore, they did not designate any SMAs.

4.2: Objective-Based Vegetation Management Considerations

OBVM is an approach to land management that emphasizes maintaining and restoring natural plant communities towards pre-determined desired conditions. The OBVM DFCs ([Table 2](#)) target a range of values for various habitat attributes within actively managed communities. However, if a focal species requires a different range in values than is reflected in the statewide DFCs, or depends on an attribute that is not commonly monitored on other state lands, we may recommend adjusting the DFC range or adding the attribute. The workshop gave participants the opportunity to evaluate if the current DFCs meet the needs of focal species and if not, to suggest modifications. The following are common reasons to modify DFCs:

- To obtain maximum habitat suitability for a species that requires a different range of DFC values than the statewide or current DFC values.

- To benefit a particular species in specific MUs, typically when we have designated a SMA that requires a change in natural community DFCs only within the SMA and not in the natural community area-wide.
- To add an attribute that was not previously monitored.

The FWC has not conducted an OBVM workshop for LFWEA. Due to past habitat alteration, there are no functioning natural communities that are OBVM monitored. However, with the restoration actions staff are applying, sandhill and mesic flatwoods are communities that will be monitored via the OBVM process in the future. At the WCPR workshop, participants agreed that use of the reference sites' values would best meet the needs of the focal species. Reference sites are areas identified by FNAI as representing the highest quality examples of natural communities in the State. [Table 2](#) reflects the recommended OBVM DFCs for mesic flatwoods and sandhill on LFWEA, based on the FNAI's reference site recommendations.

Table 2. Desired Future Conditions for specific vegetative attributes in actively-managed natural communities at LFWEA as identified through FNAI reference site data.

Lafayette Forest WEA Attributes	OBVM	Mesic Flatwoods	Sandhill
Basal Area of Pine (sq ft per acre)		20-80	20-60
Non-Pine Stem Density (7 m radius)		0	<3
Subcanopy (2 - 4" DBH)		<1	<1
Shrub Stem Density > 3 ft		<1	0
Maximum Shrub DBH (in)		<0.5	<1
Average Maximum Shrub Height (ft)		<2	<3
Shrub Cover (%)		<25	10-20
Serenoa Petiole Density > 3 ft		0	0
Average Maximum Serenoa Height (ft)		<3	<3
Serenoa Cover (%)		10-25	<5
Herb Cover (%)		>25	>25

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that maintains or restores the structure and function of the natural communities they use. However, specific management recommendations and precautions are necessary to ensure continued suitability of the area for some species. The following recommendations should help LFWEA continue to fulfill its role in the conservation of these species.

4.3.1: Gopher Frog

Gopher frogs frequently move between wetland breeding ponds and adjacent uplands. Do not place new firebreaks or roads along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is preferable to allow fire to burn through the wetland. Staff will use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins. Mechanical and chemical treatments should only be used sparingly to reduce effects on pond-breeding amphibians.

4.3.2: Eastern Indigo Snake and Florida Pine Snake

Large upland snakes such as the eastern indigo and Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for these species but could also be directly detrimental. When using heavy equipment during land management activities, staff should avoid direct mortality, if possible. When practical, heavy equipment should be kept at least 25 feet from areas with a high density of pocket gophers or gopher tortoise burrows, as pine snakes regularly use the burrows of both species and forage on the pocket gophers.

During land management activities, managers should not remove stumps, and instead leave coarse woody debris and residual stumps intact to provide cover for these species. If it becomes necessary to pile and burn excess logging slash, managers ensure some debris remains in the stand to provide cover for these species. Creating brush piles can also provide cover for these species if escape cover is lacking.

The following items shall be incorporated in project specifications for all contractors operating heavy equipment in eastern indigo habitat:

- A description and photos of the eastern indigo snake, its habits and protection under Federal law;
- Instructions not to injure, harm or kill this species;
- Directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming the planned activity;
- Telephone numbers of FWC staff to be immediately contacted if a dead or injured eastern indigo snake is encountered (also see Coordination, [Section 6.1](#)).

4.3.3: Gopher Tortoise

Timing of mechanical treatments should be done so as to minimize negative impacts to gopher tortoises. Gopher tortoises are generally less active and remain in burrows during

the winter months; therefore, mechanical equipment at this time will be less likely to crush or otherwise harm foraging tortoises. Because it is difficult for equipment operators to see hatchling tortoises, and hatchlings are most abundant during September and October, staff should avoid mechanical treatments during these months when practical. However, also consider how timing of the treatment will affect management results because growing season treatments frequently are more successful in creating the diverse ground cover required by the gopher tortoise. Regardless of timing, managers should make efforts to minimize impacts to known burrows, whether active, inactive, or abandoned.

4.3.4: Bachman's Sparrow

Prescribed fire improves habitat quality for Bachman's sparrows, and the restoration of native sandhill ground cover will increase the acreage of available habitat on LFWEA. With restoration of a native warm-season grass-dominated ground cover, suitable habitat can be maintained through frequent (≤ 3 -year) use of prescribed fire in sandhills. 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. The species may also abandon habitat if fire is excluded for more than 3 years. Because males use small shrubs as singing perches, leave some patches of low shrubs when using mechanical treatments to reduce understory. Follow mechanical treatment with a prescribed burn to improve conditions for Bachman's sparrow.

4.3.5: Brown-Headed Nuthatch

Brown-headed nuthatches have not been documented on LFWEA and current conditions are not optimal. However, management can be applied to increase habitat suitability, which will increase the potential for future occupation by the species. This cavity-nesting species is dependent on the presence of snags for suitable nesting habitat. As such, retain snags during land management activities and evaluate the affect of management activities on snags to ensure that new snags are replacing consumed snags. Old short snags with flaking bark and soft wood, and old decaying oaks with a diameter at breast height of <10 inches are important potential nesting sites for this species. Take care to retain these particular types of snags when possible.

4.3.6: 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, area staff should protect known nests from disturbance during land management activities by maintaining a 50-foot buffer around the nest during the nesting

season. When practical, managers should avoid heavy alteration of the habitat surrounding the nest. Whenever signs of Cooper's hawk nesting (e.g., carrying nesting material, aggressive dive bombing) are encountered, document the location and make an effort to protect the nest site.

4.3.7: Limpkin

It is possible that ongoing actions (e.g., prescribed fire, mechanical treatment, and herbicide) could have negative impacts on limpkins if the needs of the species are not considered during the planning of these activities. Staff can reduce potential negative impacts on this species by identifying the location of nests beforehand and actively avoiding these locations during management activities such as hydrological restoration and prescribed burns. Staff should be aware of potential nesting activity near ponds and marshes in March-June to avoid disturbing this species during planned management.

4.3.8: Northern Bobwhite

The primary land management tool used to benefit northern bobwhite is the frequent use of prescribed fire. Conducting prescribed fires using a variety of firing techniques and environmental conditions with the goal of promoting a mosaic burn is essential to bobwhite conservation. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Growing season fires are generally preferred as they trigger flowering and viable seed production in many native species. Recent evidence suggests that the frequency of fire may be just as important as the seasonality of burn. Thus, if growing season burns do not occur, it is better to burn the unit during the following dormant season than to wait until the following summer. Smaller burn units (50–200 acres) are the preferred method of providing habitat diversity for bobwhite over larger burn units (>1,000 acres).

Pine stands with basal areas >70 ft²/acre should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and or disking strips during the summer months to promote herbaceous growth.

4.3.9: Southeastern American Kestrel

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites and perches. While ongoing management will encourage the open foraging condition this species requires, snag management will also benefit southeastern American kestrels. This practice includes

retaining large snags during land management activities, protecting snags when safe and practical, and promoting the creation of new snags in areas currently lacking them. If nesting is documented, managers should minimize the amount of mechanical activity within 500-feet of the nest during the nesting season and protect the snag during prescribed fire activities. For more information on management for kestrels, see:

Stys, B. 1993. [Ecology and habitat protection needs of the southeastern American kestrel \(*Falco sparverius paulus*\) on large-scale development sites in Florida](#). Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 13. Tallahassee, Florida, USA.

4.3.10: Southern Bald Eagle

State and federal law requires protection of bald eagles, including avoiding disturbance of nesting eagles. Managers will follow the management guidelines in the [FWC management plan](#) when planning activities within 660-feet of known eagle nests. Any new nests that are located will be documented. As this species is surveyed on a statewide basis, the [bald eagle nest locator](#) will be checked annually to determine if any new nests have been detected. Management should avoid unnaturally dense stands around eagle nests. Continue to manage stands in which eagle nests occur, but avoid negative impacts to the eagles per the guidance of the management plan. During management activities, retain large, mature pines as potential future eagle nesting sites.

4.3.11: Swallow-Tailed Kite

While swallow-tailed kites have not been documented nesting on LFWEA, it is important to preserve future potential nest trees. This can be done by retaining the largest, oldest, site-appropriate native trees on the landscape during land management. Because swallow-tailed kites exhibit high nest site fidelity, protect known nest sites from disturbance and alteration by maintaining a 330-foot protective buffer around active nests during nesting season (March-June). When possible, kite nesting areas should be managed to have a higher shrub height and density than surrounding areas as this may reduce the likelihood of nest predation. If kite activity is observed during nesting season, particularly if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, document this information and try to locate the nest. 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, Florida, USA.

4.3.12: Wading Birds

It is possible that some future actions (e.g., prescribed fire, timber harvest) could have negative impacts on wading birds if the needs of the species are not considered during the planning of these activities. The potential to have negative impacts on these species can be reduced by taking actions to avoid disturbing colonies of nesting wading birds. This is accomplished by providing a 330-foot buffer around colonies during the nesting season.

4.3.13: Florida Mouse

Florida mice maintain the highest densities where gopher tortoise burrows are abundant, so management for gopher tortoises generally benefits Florida mice. Florida mice will benefit from having an oak component in pinelands, therefore, managers should retain mast-producing oaks in appropriate sites (e.g., fire shadows) during sandhill restoration. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent that interferes with other species needs and natural community management. Maintaining high diversity in the ground cover as well as a diversity of mast producing shrubs and trees within pine uplands creates the highest quality Florida mouse habitat. Small patches of xeric habitat can sustain Florida mice if they remain connected to other habitat patches, therefore maintaining an active prescribed fire program in mesic pine stands with embedded xeric patches will help sustain Florida mice.

4.3.14: Sherman's Fox Squirrel

To help these areas reach their full potential for fox squirrels, prescribed fire should continue to be used to create an open, mature forest structure. Efforts to reduce canopy closure in the upland mixed woodland will benefit this species by providing the open conditions the species prefers. As fox squirrels require an oak component, mature oaks should be retained in appropriate sites (e.g., fire shadows) during sandhill restoration. Ideally, a variety of mast-producing species in a range of age classes should be retained, but not to the extent that interferes with other species needs and natural community management. Maintaining single, large hardwood trees and small patches of oaks within pine uplands during timber management activities creates the highest quality fox squirrel habitat. Studies conducted in southwest Georgia produced a recommendation of 2-3 large single trees (>12 inch diameter at breast height), or patches of smaller trees (4-12 inch diameter at breast

height), for every acre of pine savannah, to accommodate the needs of Sherman's fox squirrels. Staff should consider these recommendations when planning timber management projects.

4.3.15: Southeastern Myotis

Large hollow trees, particularly hardwoods or cypress in forested wetlands are potential roost sites for southeastern myotis. Area staff should protect these potential roost trees when possible during land management activities. Prior to removing old culverts or abandoned buildings, check for occupancy by bats.

Some bat species of roost in leaf litter on the ground when the temperature drops 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, delay initiation of prescribed fire until the air temperature has warmed to 50°F when possible. Delaying fire initiation will allow bats to have warmed sufficiently and become alert prior to the application of fire, allowing them the opportunity to escape. 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

Land management considerate of the needs of a suite of focal species provides direct benefits to many associated species. However, land management actions alone are insufficient to maintain or recover some species. These species need species-specific management ([Section 5.1](#)). Additionally, monitoring ([Section 5.2](#)) is required to verify management is having the desired influence on wildlife. [Section 5.3](#) identifies research necessary to guide future management.

5.1: Species Management

Species management as used here refers to actions other than land management, monitoring, or research, taken for a specific species. Species-specific management actions can include actions such as translocation, restocking, or installing artificial cavities. These actions may be needed for species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery. Additionally, species that are not present on a site, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction, may require species-specific management. [Section 2](#) and [Section 4](#) provide information on land management actions, such as prescribed fire or

mechanical treatments. [Section 5.2](#) covers monitoring related actions, including banding or tagging. Workshop participants agreed that planned and ongoing management actions across LFWEA will meet the needs of the focal species; therefore, they did not designate any species management actions for LFWEA.

5.2: Species Monitoring

Monitoring is critical to evaluating the effect of management on wildlife. While we are unable to monitor all of the focal species on LFWEA, the recommended monitoring will assess species in all actively managed communities and select wetland-dependant species. The recommended monitoring also 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. The FWC will make monitoring data available to cooperating agencies and organizations, such as FNAI ([Section 6](#)).

This section lists the monitoring recommended for LFWEA and provides the purpose for each monitoring effort. The FWC is in the process of standardizing monitoring protocols for a number of these species, and developing the SaMP database for data storage. Area staff will work with the regional conservation biologist to implement standardized protocol, standardize ongoing monitoring that does not have a standardized protocol, and ensure data is included in SaMP.

5.2.1: Gopher Tortoise Monitoring

The purpose of gopher tortoise monitoring will be to track the distribution and relative abundance of the species to determine the effect of management on the population trend. Previous surveys followed the established gopher tortoise mitigation park protocol. However, the FWC is part of a gopher tortoise Candidate Conservation Agreement and has adopted the LTDS monitoring protocol for the gopher tortoise throughout its range. Using the LTDS protocol for estimating the gopher tortoise population will allow managers the ability to track changes in the population, rather than just changes in the number of burrows. There is an effort under way to prioritize public lands in Florida for LTDS monitoring. This protocol will be adopted on LFWEA in all future surveys. Data will be reported to the gopher tortoise plan coordinator ([Section 6.1.1](#)) and entered into SaMP.

5.2.2: Bachman's Sparrow and Brown-Headed Nuthatch Monitoring

Bachman's sparrows have been identified as 'indicator' species; in this case, a species whose continued presence is an indicator of well-managed sandhill and flatwoods natural communities. Brown-headed nuthatches are a snag dependent species that are

management responsive. The purpose of monitoring these species is to establish a baseline measure of relative abundance (% of occupied points) and then to track this measure of relative abundance over time to ensure management is having the desired effect. Surveys will follow a [standardized monitoring protocol](#), originally developed by Dr. Jim Cox at Tall Timbers, that includes point counts and callback tapes.

Area staff will conduct a baseline survey on LFWEA to determine the status of both these species. If neither species is present, the area will be resurveyed at a 5 year interval to determine if the site has become occupied. If the site is occupied by one or both species, regular monitoring will be conducted.

If resources are available and the species is detected on the area, these surveys should be conducted annually. However, monitoring at least once every 3 years can provide sufficient population trend data. If annual monitoring establishes that a healthy population occurs on the area reverting to a 3-year interval is recommended.

5.2.3: Florida Mouse Monitoring

The purpose of monitoring Florida mice is to determine presence of Florida mice on LFWEA. Area staff will conduct a baseline survey for Florida mice in appropriate xeric habitat by 2018 using the standard [Florida mouse survey protocol](#). If Florida mice are not captured, one additional survey will be conducted after 5 years. If the site is not occupied after the second survey, efforts will be discontinued. If Florida mice are present, monitoring will continue at a 5-year interval.

5.2.4: Opportunistic Monitoring Opportunities

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. By following the [Opportunistic Observations for Wildlife](#) protocol, staff ensures their data are compatible with other opportunistic observation. Documentation of opportunistic sightings including information on species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be entered into the SaMP database. Monitoring data will be made available to cooperating agencies, and organizations such as FNAI ([Section 6.4](#)). Record encounters or sign of the following focal species:

- Gopher frog
- Eastern indigo snake
- Florida pine snake
- Cooper's hawk (nesting behavior)
- Limpkin

- Southeastern American kestrel (March-July)
- Southern bald eagle (record and report new nests)
- Swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring and any nesting activity)
- Any observations of wood stork, roseate spoonbill, reddish egret, snowy egret, or wading bird nesting colonies
- Florida black bear
- Sherman's fox squirrel (especially if found in novel habitat or evidence of breeding)
- 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 available. Cases may arise where little or no information is available to guide management, and research is needed. Many research needs for imperiled species have been identified in the individual species SAPs, and LFWEA staff should cooperate with these research efforts when the opportunity arises. However, workshop participants did not identify any species research needs specific to LFWEA.

Section 6: Intra/Inter Agency Coordination

The WCPR process identified many recommendations regarding possible management actions for focal species. WHM staff can handle most proposed management actions; however, coordination with other sections in FWC or with other agencies sometimes is necessary or more efficient. This section describes coordination that is necessary outside of the WHM section, 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 the Strategy was drafted. As positions experience turnover, when in doubt, contact the current Section Leader or supervisor to determine the appropriate person now holding the position.

6.1: Florida Fish and Wildlife Conservation Commission

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 statewide conservation efforts is often lost. Managers will share

monitoring data with the appropriate taxa coordinator and with program coordinators for species that are part of conservation initiatives or other management programs. The regional SCP biologist is a good source of information on the regional status of non-game species. The mammal taxa coordinator has access to bat detectors and is a good source of information on bat issues. FWC staff is authorized to handle federally listed species as long as actions are consistent with the requirements of the agency's [Endangered Species Act Section 6 Cooperative Agreement](#). To meet these requirements, staff will provide reporting as outlined in the Agreement to the agency's Endangered Species Coordinator. Please note some contacts will also be covered under [Section 6.1.2; FWRI](#), and [Section 6.1.4; Florida's Wildlife Legacy Initiative](#).

Contacts:

Brad Gruver, Species Conservation Planning Section Leader: (850) 617-9502
Craig Faulhaber, Avian Taxa Coordinator: (352) 732-1225
Terry Doonan, Mammalian Taxa Coordinator: (386) 754-1668
Brooke Talley, Herpetofauna Taxa Coordinator: (850) 921-1143
Deborah Burr, Gopher Tortoise Management Plan Coordinator: (850) 921-1019
Michelle van Deventer, Bald Eagle Management Plan Coordinator: (941) 894-6675
Blair Hayman, Regional Biologist: (386) 754-1662

6.1.2: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with FWRI staff conducting monitoring and research for bald eagles by reporting new eagle nests to baldeagle@myfwc.com. Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. The avian research administrator position administers the FWC's [migratory bird scientific collection permit](#). Report handling of migratory birds covered by the permit to this person in January of each year.

Contacts:

Robin Boughton, Section Leader: (352) 334-4218
Anna Farmer, Biological Administrator (herps): (352) 334-4216
Jeff Gore, Biological Administrator (mammals): (850) 265-3677
Andrew Cox, Research Administrator (avian): (352) 334-4241
Janell Brush, Assistant Research Scientist (bald eagle): (352) 334-4202
Kevin Enge, Associate Research Scientist (herps): (352) 334-4209

6.1.3: Conservation Planning Services (CPS)

CPS works with private landowners and may be able to assist in making contacts or providing incentives for management activities on neighboring private lands. Additionally, CPS staff administers the FWC's environmental commenting process, which may help with commenting on environmental use permits. Maintaining communication regarding current and future projects will be critical.

Contacts:

Scott Sanders, CPS Section Leader: (850) 488-3831

Dale Caldwell, Regional Coordinator: (386) 754-6244

6.1.4: Florida's Wildlife Legacy Initiative (FWLI)

FWLI is an FWC program developed to generate and coordinate cooperative conservation projects that address high priority issues identified in Florida's State Wildlife Action Plan. FWLI can assist in identifying potential partners and assisting with collaborative efforts for monitoring and management of focal species. FWLI is a potential source of project funding via [Florida's State Wildlife Grants program](#). Regular communication with this section will be valuable.

Contacts:

Brian Branciforte, Program Administrator: (850) 617-9503

Ashley Ballou, North Central Wildlife Legacy Biologist: (386) 754-1667

6.1.5: Imperiled Species Management Section (ISM)

The Imperiled Species Management Section (ISM) is responsible for the implementation and evaluation of imperiled species management and recovery plans, and have staff dedicated to management of the Florida black bear. Staff can coordinate with these individuals on issues related to these species.

Contacts:

Carol Knox, Section Leader: (850) 922-4330

Dave Telesco, Biological Administrator (bears): (850) 922-4330

Mike Orlando, Biological Scientist (bears): (386) 965-2464

6.2: Florida Forest Service (FFS)

The FFS provides authorizations for prescribed burning, assists in controlling escaped fires, and periodically conducts wildfire mitigation activities. FFS can provide assistance with timber management including administration of contracts for thinning operations.

LFWEA staff should continue to coordinate prescribed fire and timber management activities with FFS.

Contacts:

Eric Black, Lafayette County Forest Area Supervisor, Perry District: (386) 294-2364

6.3: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps information on swallow-tailed kite and short-tailed hawk populations. Location information on the swallow-tailed kite and short-tailed hawk, particularly nests or nesting behavior, should be shared with ARCI.

Contacts:

Dr. Ken Meyer, Avian Researcher: (352) 335-4151; meyer@arcinst.org

Gina Kent, Research Ecologist and Coordinator: (352) 514-5607;
ginakent@arcinst.org

6.4: Florida Natural Areas Inventory (FNAI)

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 often used for planning purposes. By entering data into the SaMP, staff ensures their data are available to FNAI. FWC also has a contract with FNAI for plant and animal surveys if the need exists and resources are available.

Contacts:

Dan Hipes, Chief Scientist: (850) 224-8207 x 218

Kim Gullledge, Senior Ecologist (850) 224-8207 x 203

Amy Jenkins, Senior Botanist: (850) 224-8207 x 224

6.5: Suwannee River Water Management District (SRWMD)

The SRWMD manages the adjacent Mallory Swamp and is the lead agency for hydrologic restoration in the area. SRWMD has installed and monitors a number of piezometers, wells, and gages on LFWEA related to the basin wide hydrologic restoration

effort. Close cooperation with SRWMD is necessary for successfully completing hydrologic restoration efforts on LFWEA.

Contacts:

Ann Shortelle, Executive Director: (386) 362-1001

Bob Heeke, Senior Land Resources Manager: (386) 362-1001

Dale Jenkins, Senior Hydrogeologist: (386) 362-1001

Section 7: Beyond the Boundaries Considerations

With appropriate management, there is enough potential habitat to support the gopher tortoise, the species for which the area was purchased. Some species, such as the gopher frog or Florida mouse, could be supported on LFWEA, but may not occur on the area and may not be able to colonize the area in the future due to barriers in the surrounding landscape. Many of LFWEA's focal species are highly mobile or wide ranging (e.g., southern bald eagle, swallow-tailed kite, wading birds and Sherman's fox squirrel) and will likely continue to occur on the area. The long-term persistence of these species is dependent on regional conditions. The surrounding network of conservation lands along the Suwannee River will help ensure the persistence of many of the wide-ranging focal species.

While the primary purpose for acquisition of LFWEA is the conservation of the gopher tortoise and other upland species, a number of focal species are dependent upon the wetland communities that are part of the landscape. Focal species such as the gopher tortoise, Florida pine snake, brown-headed nuthatch, and Sherman's fox squirrel are dependent on the sandhill and mesic flatwoods communities, while the gopher frog, southeastern myotis, and wading birds rely upon the depression marshes and dome swamps to meet their needs. Many of LFWEA's species are dependent on the availability of suitable habitat on adjacent private and public lands. Because LFWEA is a relatively small tract, the actions of adjacent landowners will determine if some of these focal species will persist on LFWEA. Many adjacent parcels are in public ownership or in conservation easements and provide some stability for many focal species.

As many of LFWEA's focal species also occur on neighboring public lands, staff should maintain communication with SRWMD staff. The current collaboration with SRWMD on hydrologic restoration efforts in the basin will strengthen the good partnership that already exists between FWC and SRWMD in the area. Collaboration with neighboring conservation managers for land and species management activities will further benefit focal species found in the Mallory Swamp Basin and Suwannee River valley. Conservation partnerships are critical to the long-term persistence of many species and should be encouraged.

The current management boundaries identified for LFWEA do not include all important habitats for focal species, such as the lands identified as Strategic Habitat Conservation Areas (SHCAs) for swallow-tailed kite and Florida black bear. The FWC originally identified SHCAs in the Closing the Gaps in Florida's Wildlife Habitat Conservation System report (Cox et al. 1994; available at [Closing the Gaps Report, 1994](#)). 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 a recent FWC update to the Closing the Gaps entitled "[Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas](#)". The swallow-tailed kite, Cooper's hawk, Florida black bear, and Florida mouse are species for which an SHCA was identified within 3 miles of LFWEA tracts. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition as well as land use and management that is compatible with the needs of LFWEA's focal species should be a priority.

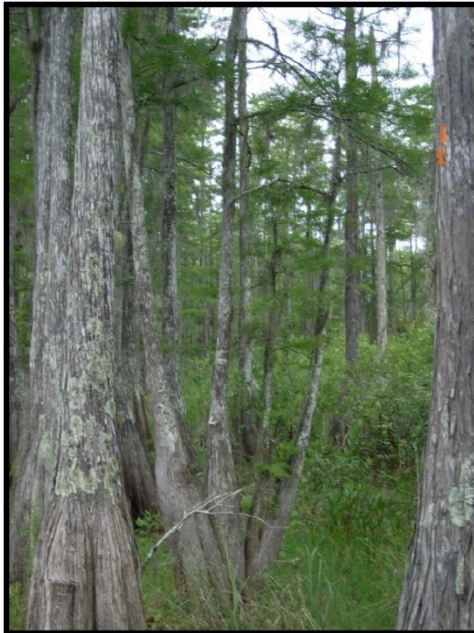
Much of the private land in the area is currently in some form of agricultural or silvicultural land use, but some of these lands are likely to be converted to more intensive uses. CPS staff assists private landowners by providing technical assistance, financial incentives, and workshops to educate and inform private land managers. The workshops also provide a forum where landowners can interact with staff from public conservation lands and establish communication. Staff should continue to coordinate with CPS to ensure private landowners are informed about incentive programs that encourage conservation-based management, and that they receive the proper technical assistance to affect this management. CPS should ensure environmental commenting includes recommendations for compatible use of lands adjacent to LFWEA.

Document Map

Species	Species Assessment	Land Management Actions	Species Management	Species Monitoring	Coordination
Gopher Frog	3.2.1	4.3.1		5.2.4	6.1.2
Eastern Indigo Snake	3.2.2	4.3.2		5.2.4	6.1.2 , 6.1.3
Florida Pine Snake	3.2.3	4.3.2		5.2.4	
Gopher Tortoise	3.2.4	4.3.3		5.2.1	
Bachman's Sparrow	3.2.5	4.3.4		5.2.2	
Brown-headed Nuthatch	3.2.6	4.3.5		5.2.2	
Cooper's Hawk	3.2.7	4.3.6		5.2.4	
Limpkin	3.2.8	4.3.7		5.2.4	
Northern Bobwhite	3.2.9	4.3.8			
Southeastern American Kestrel	3.2.10	4.3.9		5.2.4	
Southern Bald Eagle	3.2.11	4.3.10		5.2.4	
Swallow-Tailed Kite	3.2.12	4.3.11		5.2.4	6.3
Wading Birds	3.2.13	4.3.12		5.2.4	
Florida Mouse	3.2.14	4.3.13		5.2.3	
Sherman's Fox Squirrel	3.2.15	4.3.14		5.2.4	
Southeastern Myotis	3.2.16	4.3.15		5.2.4	
Florida Black Bear	3.2.17			5.2.4	6.1.5

12.13 Recreation Master Plan

Recreation Plan for Lafayette Forest Wildlife and Environmental Area



○ Florida Fish and Wildlife Conservation Commission



Office of Public Access and Wildlife Viewing Services

September 2013

I. Introduction

Purpose of Plan/Planning Process

This Plan serves as a guide for providing recreational experiences with an emphasis on those focused on wildlife viewing and nature study on Lafayette Forest Wildlife and Environmental Area (LFWEA). The Plan contains specific recommendations for recreational trail development and related enhancements such as trailheads and viewing structures. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences. The plan was developed by the Florida Fish and Wildlife Conservation Commission (FWC) Office of Public Access and Wildlife Viewing Services (PAWV) in collaboration with LFWEA staff with input from other FWC divisions.

Location

LFWEA comprises 2,148 acres of swamps, marshes, flatwoods, and hardwood hammocks in southeastern Lafayette County (Figure 1). The property abuts Mallory Swamp Restoration Area (SRWMD) to the west and lies about 5 miles west of the Suwannee River. The property is a key part of a mosaic of public lands and Florida Forever projects that protects the ecology of the region and contributes to a corridor between the Suwannee River and the Steinhatchee River. LFWEA supports a diversity of wildlife populations that provide opportunities for hunting and wildlife viewing. A network of roads and trails accommodate bicyclists, hikers, horseback riders, hunters, and other recreationists.

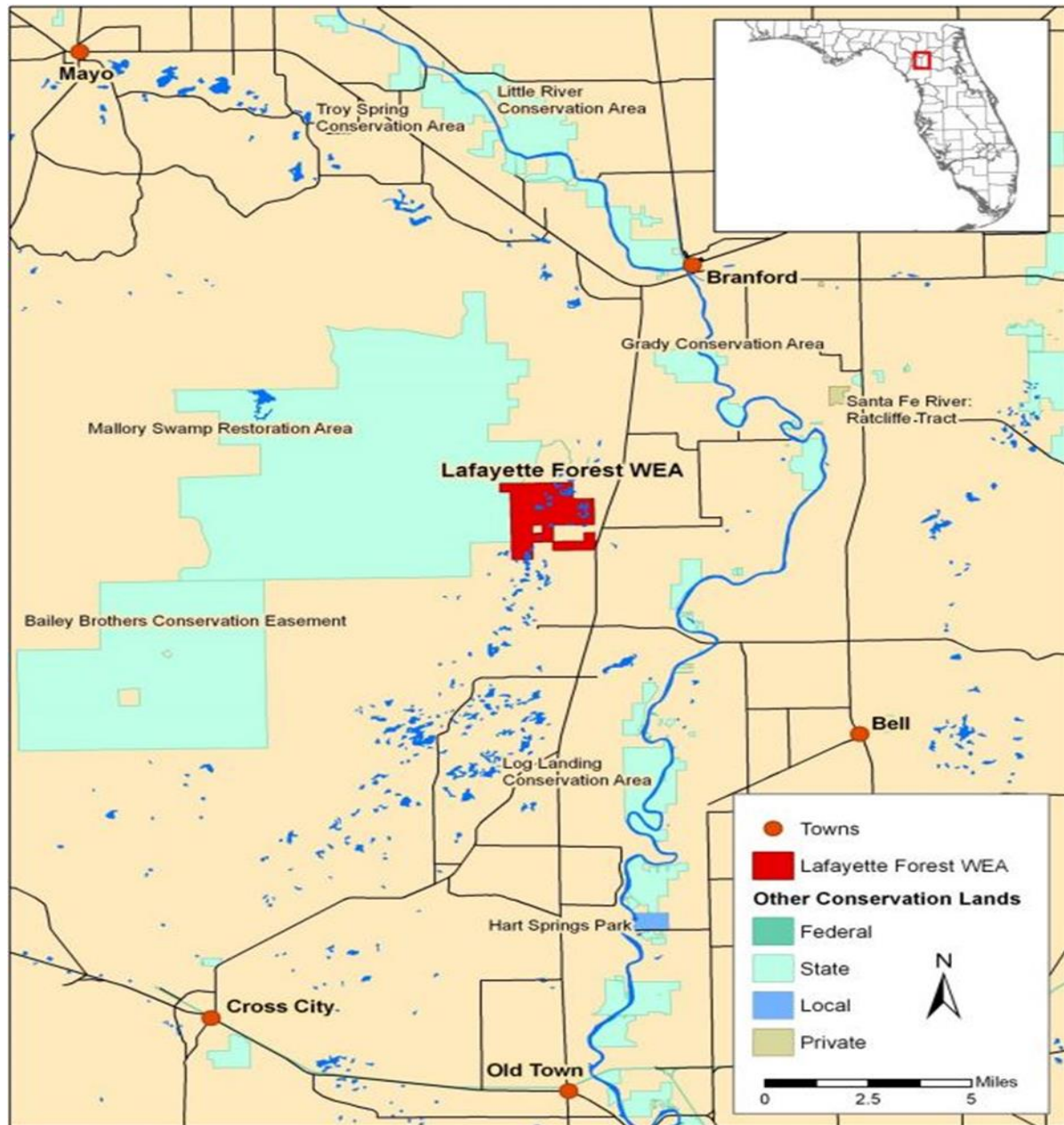
Acquisition Purpose

LFWEA was approved as an acquisition by the Florida Fish and Wildlife Conservation Commission (FWC) as a Gopher Tortoise (*Gopherus polyphemus*) Mitigation Park in April, 2008. FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 379.212, FS, which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife.

II. Resource Inventory

Topography and Hydrology

LFWEA is relatively flat with elevations from 65 feet in the higher areas to 45 feet in the creek bottoms and depression marshes. There is a small unnamed creek running through the central portion of the WEA which is surrounded by floodplain swamp. The topography is suitable for easy to moderate hiking while the sandy soils can make for a more challenging experience. There are no paddling opportunities due to variable water levels and creek obstructions.



Natural Communities

(Figure 2)

Natural Community Type	Acres	% Area
Pine Plantations	1030.4	48.2%
Dome Swamp	346	16.2%
Bare Soil/Clear	302.1	14.1%
Depression Marsh	146.6	6.9%
Floodplain Swamp	133.9	6.3%
Mixed Wetland Hardwoods	53.5	2.5%
Successional Hardwood	53.0	2.5%
Basin Marsh	35.1	1.6%
Wet Flatwoods	16.1	0.8%
Canal/Ditch	8.3	0.4%
Upland Hardwood Forest	6.2	0.3%
Rural/Open	2.4	0.1%
Scrubby Flatwoods	2.1	0.1%
Total	2135.7	100%

Sensitive Areas

Any of the wetland areas on LFWEA are potentially sensitive to disturbance. There is a drainage that runs through the center of the property as well as several large depression marshes. Organic soils in wetlands are easily churned up and wetland plants easily displaced by physical disturbance and access to these areas should be controlled and monitored to avoid damage.

Wildlife

Wildlife viewing is good at most spots on the WEA, especially in and around the wetlands. Bird species on the WEA include the indigo bunting, yellow-billed cuckoo, and ruby-throated hummingbird. The hardwood forests provide habitat for white-tailed deer. Clearcut areas on the WEA provide good edge habitat and opportunities to spot wildlife. Also, in the drier uplands there are numerous gopher tortoise burrows.

Cultural Resources

The Florida Master Site File contains no historic sites within the boundary of LFWEA. However, there is a small burial plot just south of McCall's Chapel Grade with signage designating it as "Frazier Cemetery".

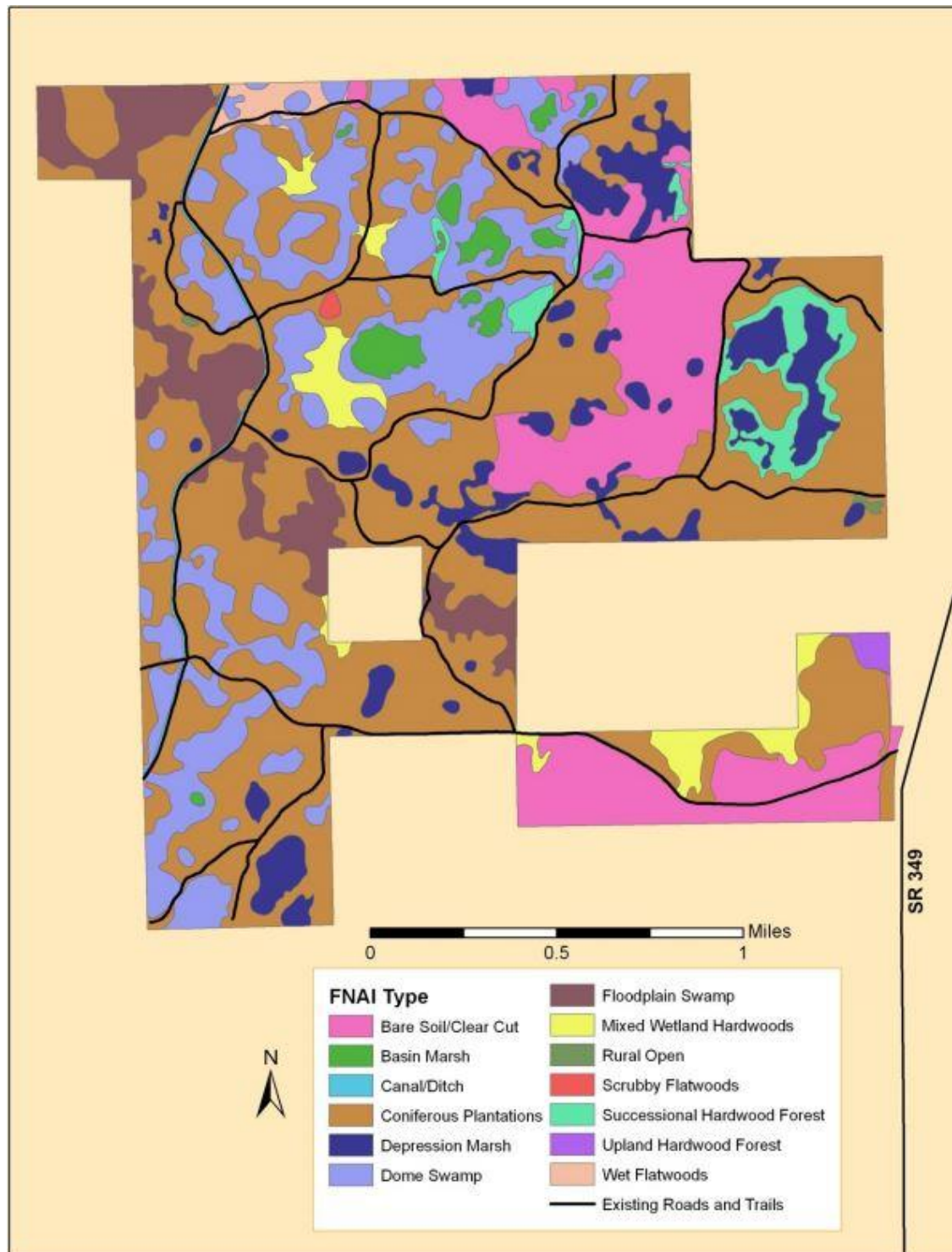


Figure 2: LFWEA Natural Communities

Scenic Resources

LFWEA offers a variety of scenic vistas. Depression marshes are readily accessible and the open vistas they provide contrast with the surrounding pines and successional hardwood forests.

Resource Management

The FWC's resource management goals for the area include restoring the areas altered by plantation silviculture. To accomplish this objective, the FWC will use prescribed fire, mechanical and chemical vegetation control. Reforestation and restoration of natural hydrology are likely necessary actions needed to restore these areas to historic natural communities such as sandhill. Invasive, exotic plants such as Japanese climbing fern (*Lygodium japonicum*) and mimosa (*Albizia julibrissin*) occur on the area and will be controlled with mechanical and chemical controls.

III. Visitor Experience Goals

Lafayette Forest WEA has the potential to provide visitors with opportunities to see and learn about the area's natural resources, plant communities, wildlife and wildlife management, while engaging in recreational activities focused on fish and wildlife resources. Visitor experience goals are those concepts and experiences we want visitors to take away from their time at Lafayette Forest WEA. These goals guide both interpretive and recreation planning.

At Lafayette Forest WEA, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on LFWEA while:
 - Becoming acquainted with wildlife and natural plant communities through interpretive materials at welcome kiosks, trails and wildlife viewing sites.
 - Understanding LFWEA's natural, cultural and commercial history, within the context of the state's history and prehistory.
 - Understanding how we are working to conserve gopher tortoises and other species on this WEA that was purchased and established through FWC's Mitigation Park Program, which used fees paid by developers to purchase high-quality habitat for endangered and threatened species.
 - Appreciating LFWEA as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world.
2. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC's goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.
3. Understand the management goals and activities of the FWC on LFWEA and their emphasis on protecting and enhancing habitats important to upland endangered or threatened wildlife, especially the gopher tortoise.

II. Recreation Planning Context

Lafayette Forest is within 15 miles of several other public recreation areas that offer a variety of recreation opportunities.

Public recreation areas within 15 miles of LFWEA:

Area	Hiking	Biking	Camping	Paddling	Fishing	Horseback Riding	Hunting	Wildlife Viewing
Little River Conservation Area (SRWMD)	✓	✓	✗	✗	✓	✓	✓	✓
Fort White Wildlife and Environmental Area	✓	✓	✗	✓	✓	✗	✓	✓
Ichetucknee Springs State Park	✓	✗	✗	✓	✗	✗	✗	✓
Hart Springs Park (Gilchrist Co.)	✓	✓	✓	✓	✓	✗	✗	✓
Log Landing Conservation Area (SRWMD)	✓	✓	✗	✗	✓	✓	✗	✓
Mallory Swamp Restoration Area (SRWMD)	✓	✓	✗	✗	✓	✓	✓	✓
Troy Springs State Park	✓	✗	✗	✓	✓	✗	✗	✓
Steinhatchee Springs (SRWMD)	✓	✓	✗	✗	✓	✓	✓	✓

III. Recreation Assessment

Existing Recreational Use and Facilities

The purpose of this section is to identify and describe the existing recreational uses and facilities on LFWEA and note their status and condition (Figure 3) as well as to propose enhancements to these uses. This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

LFWEA offers opportunities for a variety of high quality, wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2013-2023 Management Plan, the analysis of existing resources and uses, and the interpretive themes developed for the area, the following activities should be continued and enhanced as described in this section. Conditional activities are those that require additional permits or permission.

- Astronomy (Conditional)
- Bicycling

- Ecotourism (Conditional)
- Environmental Education
- Fishing (Conditional)
- Geocaching (Conditional)
- Hiking
- Horseback Riding
- Hunting (Conditional)
- Wildlife observation

Visitation on Lafayette Forest WEA is measured with one magnetic vehicle counter located on McCalls Chapel Grade near the entrance from SR 349. Visitation has averaged 66 visitors/day for July 2011 to July 2012.

Visitor Contact Points and Roads/Vehicle Access- The main entrance for LFWEA is on SR349. The entrance kiosk and area parking are currently located approximately 0.25 miles west from SR349 down a limerock road. There is also vehicle access from the west from Mallory Swamp Conservation Area (SRWMD). This route is also being used as a primary entrance into Mallory Swamp and gets significant use. Another parking area including horse trailer accommodation will be put in further down McCalls Chapel Grade where it meets the western portion of Lafayette Loop to serve as the trailhead for the proposed trail network. Improvements to parking have been near the main entrance and will serve as a trailhead for a short, interpretive trail. The trail will circumnavigate the the mixed wetland hardwood natural community just southwest of the parking area.

Vehicles are allowed on McCalls Chapel Grade all year from 1 ½ hours before sunrise until 1 ½ hours after sunset 365. Vehicles can use Lafayette Loop during hunts and the day before scheduled hunts, and are prohibited at all other times. Tracked vehicles, all-terrain vehicles, airboats, and unlicensed/unregistered motorcycles are prohibited.

McCalls Chapel Grade is a well-maintained limerock road. Lafayette Loop is a compacted, grassy two-track with occasional patches of loose sand. Both roads are suitable for two-wheel drive vehicles.

There is wayfinding signage on the interior roads. These signs are FWC's standard brown and white reflective metal signs. There are no approach signs for LFWEA on SR 349

Hunting - Hunting is an approved use on LFWEA with seasons for archery, muzzleloading gun, family hunt, wild hog-still, spring turkey, and migratory birds. There are 40 days of hunting each year excluding migratory birds. From 1 September to 30 November there are hunts during 6 weekends and a total of 22 hunting days. More than half (15) of these days are archery hunts. From 1 January to 31 March there is hunting during 4 weekends and a total of 18 days. Eight of

these hunting days are Spring Turkey, during which hunting ends at 1:00 pm. Quota permits limit the number of hunters accessing the area during all hunting seasons to provide a safe, high-quality-hunting experience.

Fishing/Boating/Paddling - The basin marshes and small creek on the WEA are dry most of the year so there are no notable paddling or boating opportunities and very little demand or opportunity for fishing.

Trail Use – Hiking, bicycling and horseback riding are permitted on LFWEA.

Trail infrastructure

There are currently no designated recreational trails on LFWEA. Two trails are proposed, one about 7 miles long, and one about ½ mile. The larger interior trail will consist of two connected loops. The trail will traverse mostly existing roads with a few sections following hunting trails. The ½ mile trail will be a loop beginning and ending at the existing parking area on McCalls Chapel Grade. It will travel around small depression marshes and under a mixed pine and hardwood overstory. This trail will mostly follow existing game trails and will require little vegetation clearing.

Wildlife Viewing and Nature Study – Wildlife viewing opportunities are available throughout LFWEA, with some of the best, most accessible wildlife viewing opportunities located along the loop trails. There are no viewing structures at these sites to enhance the viewing experience. There is an opportunity for a viewing structure near a cypress swamp/depression marsh in the central part of the WEA.

Picnicking - There are currently no picnic shelters or picnic tables on the WEA. Picnic tables will be considered at appropriate locations along the proposed trails and will be installed at the new trailhead.

Camping – Camping is not permitted on the WEA. A special use permit for camping may be authorized for certain organized groups or for special events.

Geocaching – is allowed on the area. There are currently no permitted geocaches on LFWEA. Approval of new geocaches and disposition of existing geocaches is at the discretion of the site manager and coordinated by FWC's Office of Public Access and Wildlife Viewing Services.

Special Events/Tours – There are no regular events at LFWEA.

Staff/Volunteers - There is currently a Fisheries and Wildlife Biological Scientist III, a Fisheries and Wildlife Biological Scientist II, and a Wildlife Technician shared between LFWEA and other north Florida mitigation parks.

Summary of Proposed Improvements

(Figure 3)

- A multi-use trail about 7 miles in length.
- A ½ mile hiking trail near the existing parking area on McCall's Chapel Grade.
- A new parking area and trailhead where the western end of Lafayette Loop meets McCall's Chapel Grade with horse trailer accommodation, a kiosk, and covered picnic tables
- A picnic table along the larger trail in a shaded location
- A wildlife viewing structure overlooking the cypress swamp in the north-central portion of the WEA
- Interpretive signage explaining the clearcut area adjacent to the existing parking area on McCall's Chapel Grade.
- Approach signs on County Road 349

Carrying Capacity

In order to minimize disturbance of wildlife and other natural resources and to provide an enjoyable experience for visitors, FWC calculates a carrying capacity for its managed areas (Appendix 2). This carrying capacity takes into consideration natural community sensitivity, known locations of sensitive natural communities, known archaeological and historic sites, existing recreation facilities and wildlife disturbance distances with a turnover rate that varies with the activity or facility. This capacity is not a visitation goal but rather is a level at which the natural and recreation resources of the area can sustain use without damage. Current capacity for LFWEA is 40 people per day (including hunting capacity). If all planned facilities are constructed, this capacity increases to 204 people per day.

Work Plan

PAWV will work with local staff to prepare annual work plans and budgets to implement the Recreational Trail Plan for Lafayette Forest WEA. PAWV will be responsible for 1) developing cost estimates for recreation-related facilities; 2) coordinating design and permitting; and 3) obtaining construction bids and the work of contractors during the construction phase. This includes pre-construction meetings, site visits at construction milestones and final reviews. Generally, the area manager and staff monitor construction sites frequently during the construction process to make sure contractor is not doing damage to the surrounding area.

PAWV will design interpretive materials for the area in consultation with management area staff. Generally, the cost of producing maps and interpretive products and maps comes out of the PAWV budget.

1. Short Term

- Finalize the route for, and mark two designated loop trails
- Place a picnic table near the large oaks along the trail near the northeast property boundary
- Install approach signs on CR349

3. Long Term Completion and Ongoing Tasks

- Construct a new parking area and trailhead where the western end of Lafayette Loop meets McCalls Chapel Grade
- Move the kiosk from the existing parking area to the new parking area and trailhead
- Install interpretive signage explaining the management goals for the clear cut area at the existing main entrance parking area
- Construct an observation platform overlooking cypress swamp

○ ***Monitoring and Management of Recreation Facilities***

PAWV will monitor recreation infrastructure on the WEA biannually including trail and structure photopoints. PAWV will also create an annual monitoring report at the end of each fiscal year. Any impacts encountered during each monitoring will be brought to the attention of PAWV and WEA staff to determine the best course of action for correction and prevention.

Measurable indicators for monitoring key aspects of the visitor's experience and resources at Lafayette Forest WEA are described in Appendix 3. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

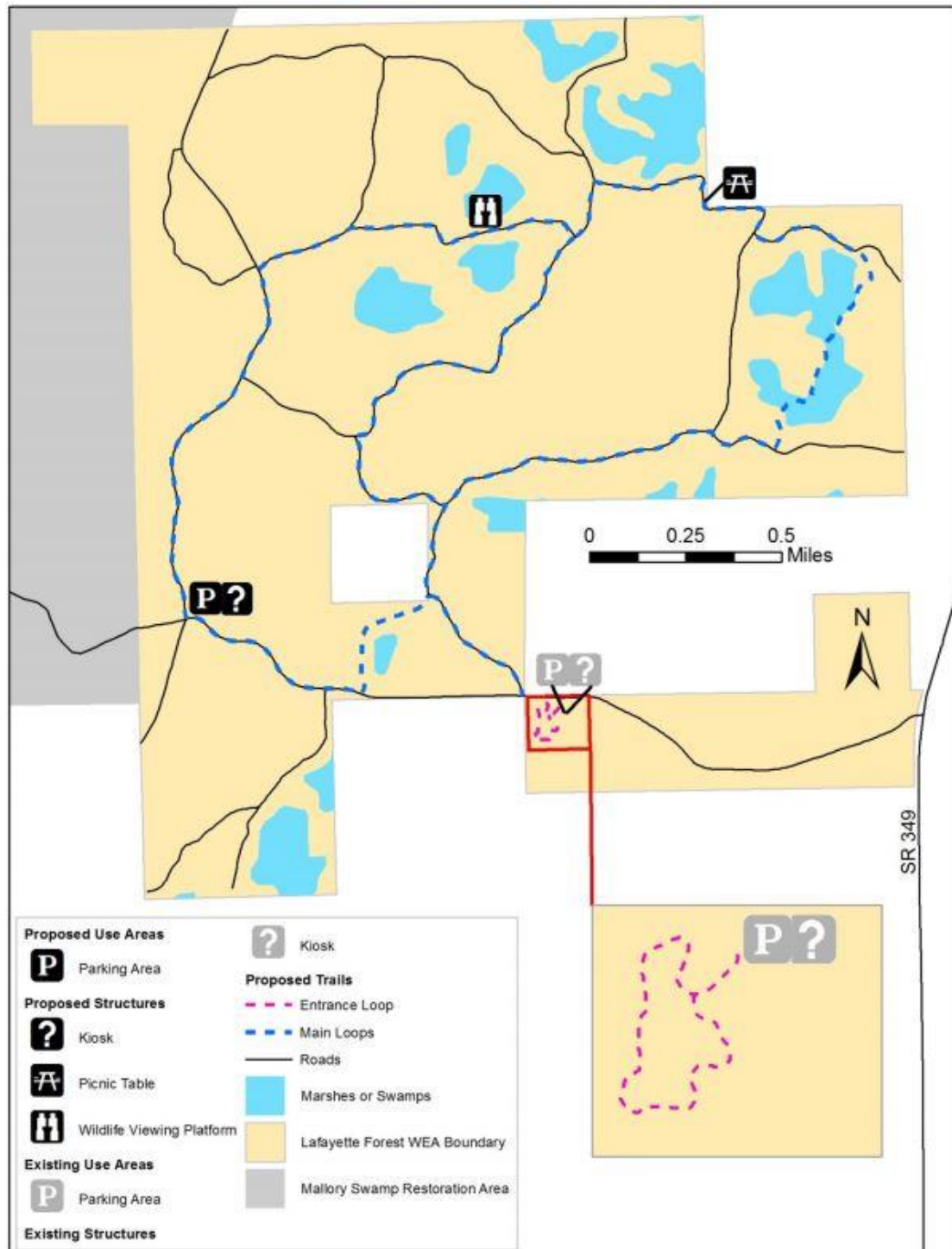


Figure 3: LFWEA Existing and Proposed Recreation Facilities

○ **References**

A Management Plan for Lafayette Forest Wildlife and Environmental Area 2013 – 2023 (Draft). Florida Fish and Wildlife Conservation Commission (2013).

Guide to the natural communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL (2010).

Management Prospectus for Lafayette Forest Wildlife and Environmental Area 2011. Florida Fish and Wildlife Conservation Commission (2011).

- **Appendices**

Appendix 1: Recreation and Wildlife Viewing Facilities Design Guidelines

- **Entrances**

Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.

- **Viewing structures**

Structures should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself. For towers, each level should focus visitor attention to a different habitat or feature.

- **Trails**

Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing, include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season.

General considerations in developing facilities:

- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small “developed” zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials

produced to support recreation opportunities.

- Install interpretive signs and panels as appropriate at all recreation facilities.
- Route trails to interpret restoration and wildlife management activities.
- Insure interpretation of highly desired species viewable on the area.

Universal Access

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
- compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.

○ **Appendix 2: Carrying Capacity Methodology**

FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC's managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated through this process are not a visitation goal but are a guideline included in the overall 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 is 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
- Soils
- 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 1-100. 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.

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 will show the different types of recreation experiences appropriate for each zone of the area. This guides potential trail lengths, trail types, types of facilities and other parameters related to 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 buffer 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 is 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 is generated using GIS and is adjusted to minimize disturbance “hot spots” such as overlapping disturbance buffers. Point facilities (i.e. observation structures) have a single 100-meter radius buffer. The temporal component of carrying capacity is developed based on the Florida Park Service turnover estimate of two per day on primitive hiking trails or four per day on shorter, improved nature trails. In addition, existing and planned parking and other trailhead limitations are 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 are based on potential trail corridors and potential point facility sites derived from the Recreation Zoning and site visits by OPAWVS and area staff. Another product of this estimate is 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.

Camping Facility Carrying Capacities

- Primitive tent camping with no facilities or limited facilities (fire ring, picnic table): 4 people/site with a turnover of once per day.
- Standard camping site (fire ring, picnic table, improved or paved pad, toilet facilities): 8 people/site with a turnover of once per day.
- Generally group camping will be 30 people per 5 acres of camping area.

Picnic Areas

- 8 tables/acre and 4 people/table with a turnover twice a day.

Structures

- Structures dependent on trails for access will be included in the calculated trail capacity.
- Structures that can be accessed independently of trails will have a carrying capacity determined on a case-by-case basis based on the type and size of the structure.

Shoreline Fishing Areas

- Shoreline fishing areas will have a capacity of 1 angler per 25 linear feet.

Seasonal Hunting

- 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. Areas with dove fields will have a dove field capacity of one hunter to 1.75 acres of dove fields. This capacity is in addition to the calculated capacity for non-hunting recreation uses. Areas with quota permits will have the hunting capacity established as double the maximum number of permits for any one season to account for guest permits.

As needed, capacities for other uses not listed above will use the carrying capacity guidelines published by the Florida Park Service as a baseline.

Recreation Impact Monitoring

To provide a quantitative measure of recreation impacts, limits will be established as “No impact ranks greater than 1,” as observed during each biannual monitoring conducted by OPAWVS field staff. If any ranking values are greater than 1, the site will be assessed to determine the source of the impact. If impacts are the result of recreation activities (as opposed to facility design or other sources), the carrying capacity will be revisited and corrective measures will be developed by OPAWVS and area staff.

- **Appendix 3: Management and Monitoring**
- **Recreation Facility Monitoring Protocol**

Florida Fish and Wildlife Conservation Commission Office of Public Access
and Wildlife Viewing 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 Public Access and Wildlife Viewing Services (PAWV) 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

Frequency

Starting in FY 2013-2014, trails will be monitored annually in the fall and structures monitored annually in the spring. Prior to FY13-14 trails and structures were both monitored biannually.

Photopoints

Panoramic and single photopoints are used to track and document impacts such as trail degradation, corridor condition, structural integrity and vandalism. Single photopoints are taken at use areas to capture the overall condition. Additionally, each amenity and structure has a photopoint associated with it. Panoramic photos are taken at use areas in a central location and at trailheads. Photopoints are predetermined (with the exception of trouble areas along trails), geographically referenced, and consistent. Data are compiled by analyzing panoramas and photopoints from each monitoring session and combining the findings with impact indices recorded for each site.

Photopoints should be recorded with GPS, which can also be used to navigate back to the photopoint location on future monitoring visits. A description of the location should be recorded to ensure maximum accuracy in relocating the photopoint.

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. Parallel photopoints will not need to be processed but should be organized as above.

Trails

Trails are monitored with a panoramic photopoint centered at the trailhead, and one photopoint wherever problems areas exist: one photo taken facing forward on the trail and one facing the opposite direction on the trail.

Use areas

Use areas have 2 photopoints. One is a panoramic photo taken at the center of the use area that follows the procedure for trailhead 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, photopoints 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 that the issue is brought to the attention of the appropriate personnel, both internal and external to FWC, and tracking the issue through resolution.

Litter Impacts		
Rating	Category	Description
1	None	
2	Very Little	small isolated pieces of litter
² 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
5	Very Extensive	large areas used for trash dumping

Structure or Amenity Damage		
Rating	Category	Description
1	None	none/ loose bolts on new structures.
2	Very Little	minor graffiti or scratches, dirty, light crazing or oxidation, crooked, minor cracks.
² 3	Some	minor wood repair; extensive graffiti; cuts or gouges; bullet holes; major cracks, extensive crazing or fading.
4	Extensive	hazardous damage, rotten supports, severe rust, illegible signs, burnt
5	Very Extensive	structure is missing or rendered completely ruined/useless

Trail and Use Area Erosion		
Rating	Category	Description
1	Very little	mostly natural groundcover distribution or man-made materials (concrete, aggregate, mulch, etc.)
2	Some	localized patches of bare soil from use or runoff from structures or impervious surfaces; vehicle tracks noticeable; standing water; minor hog damage
² 3	Moderate	large areas of bare soil created by use, ruts from vehicles, areas muddied by use, roots partially exposed, heavy hog damage
4	Extensive	channelization, washout, and/or undercutting banks; roots mostly exposed; deep ruts; trail widening

Trail Corridor Condition		
Rating	Category	Description
1	Within Standards	minimal vegetation encroachment
² 3	Exceeds Standards	trail needs some mowing/lopping/chainsawing; minor tree fall
3	Unacceptable	trail is generally overgrown and difficult to find; tree fall that impedes passage

²Ratings of three and above exceed PAWV standards for structure and amenity damage or litter impacts and trail erosion.

³Ratings of two and above exceed PAWV standards for trail corridor condition.

WMA Visit Checklist

- Trail maintenance needs
- Sign maintenance needs
- Structure maintenance needs
- Day-use area condition/maintenance needs
- Sufficient PAWV 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

12.14 Timber Assessments

12.14.1 Florida Forest Service Timber Assessment (2010)

TIMBER ASSESSMENT
LAFAYETTE FOREST
WILDLIFE and ENVIRONMENTAL AREA
PREPARED BY
DOUG LONGSHORE
SENIOR FORESTER, OTHER PUBLIC LANDS REGION 2
FLORIDA DIVISION OF FORESTRY
SEPTEMBER 2010

PURPOSE

This document is intended to fulfill the timber assessment requirement for Lafayette Forest Wildlife and Environmental Area (LF WEA) as required by 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.

BACKGROUND

This property was formerly owned and managed by one of the large industrial forest companies that operated in the southeast. Following corporate downsizing and buyouts, this property wound up in private ownership prior to state purchase. The tract contains approximately 1,448 acres of uplands and 697 acres of wetlands. Typical of industrial pine pulpwood management, the vast majority of the uplands were mechanically site prepared and planted to slash pine. The age of the slash pine ranges from approximately 8 to 20 years old. No thinning of pine stands has taken place up to this point. No prescribed burning has taken place on the property; however there is evidence of fire on the west side of property, probably from the Mallory Swamp Fire in 2001. An approximate one chain buffer has been cleared around the majority of the property boundary. Some road improvements have been made. Informational kiosks and signage have been established. One stand of merchantable slash pine and hardwood has been harvested within the past two years. This stand has not been site prepared or replanted to date.

GOALS AND OBJECTIVES

This property is to be managed as a Gopher Tortoise Mitigation Park for natural resource conservation, restoration, and resource-based public outdoor recreation within a multiple-use management concept. The main emphasis however, is the restoration and management of gopher tortoise habitat.

With this as the primary goal, an accurate soil map will provide managers the basis for their management decisions in working toward this goal.

Gopher tortoises prefer habitats characterized by a relatively open tree canopy which allows ample sunlight to reach the ground, promoting the growth of a healthy ground

cover. It will be essential to introduce frequent prescribed fires into this area in order to insure the success of restoration and maintenance efforts.

TIMBER MANAGEMENT

A useful measurement of tree stocking and density is its Basal Area per acre (BA). Basal Area is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (The diameter of individual trees measured at this height is referred to as its diameter breast height or DBH.) Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. North Florida slash pine stands with 80 to 110 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than it does larger diameter trees to equal one square foot of basal area. (For example: It takes 357 evenly spaced, six-inch diameter breast height trees to equal 70 sq. ft. BA. Whereas, only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. BA.)

Basal Area can be roughly correlated to crown coverage and therefore needle-cast. About 40 to 60 sq. ft. BA should provide sufficient needle-cast to carry prescribed fire and still allow adequate sunlight for native grasses to be maintained.

The ultimate goal of most fire maintained, natural communities in Florida is to have uneven-aged pine stands. Other than the very few areas that already contain mature pine timber, this goal is in the distant future.

The first step toward achieving this goal is to begin thinning merchantable planted pine. Specific thinning recommendations need to be made on a stand by stand basis, however this may involve row thinning, whereby a specified row (every third for example) is clearcut and suppressed, diseased, and poor formed trees are removed in the remaining rows. This harvesting technique opens the stand up allowing sunlight to reach the ground improving growing conditions for ground cover species. The completion of thinning operations provides an excellent opportunity to introduce fire into areas that may have been considered too rough to safely burn.

In addition to thinning, small clearcut harvests will be utilized as a management tool. These clearcuts will be in conjunction with thinning operations and will involve the removal of “off-site” slash pine growing on the higher and drier sites. These clearcut areas will then be chemically site prepared and planted to longleaf pine, creating a mosaic effect, ultimately restoring the upland sites to longleaf pine.

The need for second and later thinnings will depend on how low the BA was taken in the first thin and the growth rate of the remaining trees. If the BA is reduced to 50 to 70 sq. ft. in the first cut, another harvest will probably be needed in ten to fifteen years. Trees removed from the second and succeeding operations produce more valuable products and therefore more money. Current market conditions have some second thinning products worth at least five times as much as the original wood that was cut. Third thinning trees

can be worth twice as much as the second thin. All of this revenue can be generated and still have a stand of pine trees, a healthy ecosystem, and future nesting and denning trees.

EXISTING TIMBER RESOURCES

The Lafayette Forest Wildlife and Environmental Area is a large tract of land and identifying individual stands and defining exact acres requiring a specific management practice is beyond the scope of this assessment. A detailed Soil Type Map and Timber Stand Description would be required to properly plan long-term timber management activities. The following are general descriptions and management recommendations. The primary objective on this tract is the restoration and management of gopher tortoise habitat. A healthy ground cover of grasses and forbs must be established and maintained in order to accomplish this goal. From a timber management standpoint, this means that in general, pine-stocking levels need to be maintained in the 40 to 60 sq. ft. BA range.

Current Recommendations

Begin mapping work of property including detailed soils map, stand map, roads, location of existing gopher tortoise burrows, etc. With these tools and the ability to overlap these "layers", detailed plans can be made for future thinnings, clearcuts, and reforestation efforts.

Begin thinning pine stands where Basal Area exceeds 80 square feet per acre (this will include most of the merchantable pine stands). Priority should initially be given to those stands growing on the lower, wetter sites. These stands will be thinned to approximately 60 square feet per acre by removing selected rows for access and diseased, deformed, suppressed, and over-crowded trees from the remaining rows, leaving only healthy, vigorous, and well spaced trees.

Identify the higher, drier sites for potential clearcut harvests. Typically, these sites will exhibit the poorest growth of slash pine. Delineate these areas on the ground, keeping in mind they may cross "stand boundaries". Attempt to make these areas irregular in shape of at least twenty acres in size, in order to facilitate future management activities.

Incorporate these patch clearcuts with planned thinnings. The size and number of these clearcuts will depend upon budget limitations, as these areas will require chemical site preparation and longleaf reforestation one to two years following harvest. Timber sale proceeds should offset forestry related site preparation and tree planting expenses.

Following thinning operations, begin prescribe burning program with cool, winter burns, initially.

Identify those younger slash pine stands with the lighter, flashy fuels such as grasses and pinestraw and begin prescribe burning with cool, winter burns.

Plan for herbicide treatment of clearcut areas in the spring of 2011 then plant longleaf tublings during the summer of 2011. Arrangements for summer tublings need to be made in October before the planned planting.

SUMMARY

Lafayette Forest Wildlife and Environmental Area presently supports dense, slash pine plantations, a result of past, intensive forest management practices. As ownership of this property has changed and management goals have headed in a different direction, the state finds itself in a unique opportunity of possibly benefiting financially from the results of past intensive pine plantation management and using those same funds restoring and enhancing the same land those trees grew upon. These pine plantations, in their present condition, are not conducive for the enhancement of gopher tortoise habitat, the purpose of this land acquisition.

Primary timber management activities will include thinning existing stands most suitable for long term management of old growth slash pine. The desired result of these thinning operations will improve prescribed burning conditions, thus improving ground cover conditions. In addition to thinning operations, areas determined to be “off site” slash pine will systematically be clearcut. First priority for clearcut harvests, will be given to those higher, drier sites, which typically exhibit the poorest growth from slash pine.

These clearcut areas will later be chemically site prepared and planted to longleaf pine. Over time, a multi aged, upland longleaf pine habitat will be well on its way to recovery.

12.14.2 Southern Forestry Consultants Timber Assessment (2011)

Timber Assessment - Lafayette Forest WEA

Southern Forestry Consultants, Inc. conducted an inventory and review of the timber resources on the Lafayette Forest WEA in Lafayette County, Florida for the Florida Fish and Wildlife Conservation Commission (FWC). The purpose of this inventory was to provide FWC with a baseline map and timber inventory and to provide them with information and guidance for future management to integrate timber revenues with their overall goal of natural habitat restoration.

Prior to initiating the timber cruise, the acreage of each pre-determined management unit was mapped using a commercial grade GPS unit. This data was converted to a shape file using ArcGIS as the mapping system. The commercial pine timber stands were determined and separated by similar characteristics (species, age, etc.). Interior wetlands, creek drainages, and clear-cut areas were excluded. Stand ages were determined by taking increment borings throughout each unit. A map showing the ten management units and their associated stands is included in this report.

The merchantable commercial (planted) timber stands were sampled using 10 BAF prism plots on a 10 chain (660') by 4 chain (264') grid or one plot for every four acres. The data on these variable radius plots was collected using a Nomad handheld data recorder. The plot grid was laid out on the data recorder using Solo Forest software that allowed each timber cruiser to navigate to the plots via GPS coordinates. A hard copy of the plot grid and plot locations along with a summary of the plot numbers and their corresponding locations on the grid map is included with this report. Each plot was flagged, labeled, and its plot center marked on the ground with blue and white striped flagging tape. This system will allow any plot to be re-visited at a later date, if desired. The tally on any given plot(s) can be provided upon request.

On each prism plot, the cruiser measured and recorded the diameter breast high (dbh) in 2" classes and merchantable height in 8' increments on each tree and placed it in the highest product class using Two Dog cruising software. The timber was separated into sawtimber, chip-n-saw, and pulpwood for the pine, and into sawtimber and pulpwood on hardwood. These were planted pine stands and contained very little hardwood. In addition, the cruiser made note of the understory conditions in each stand. The product specifications used were as follows:

Pine Sawtimber	11.0" minimum dbh; 8.0" minimum diameter top
Pine Chip-n-saw	9.0" minimum dbh; 5.0" minimum diameter top
Pine Pulpwood	4.5" minimum dbh; 3.0" minimum diameter top
Hardwood Logs	12.0" minimum dbh; 10.0" minimum diameter top
Hardwood Pulpwood	6.0" minimum dbh; 3.0" minimum diameter top

For pre-merchantable commercial timber stands, sampling was done using 1/20 acre circular plots on a 10 chain (660') by 8 chain (528') grid. On each plot, a stem count and the total height of a dominant tree was taken and recorded.

A summary of the merchantable and pre-merchantable timber stands is included in this report on a per acre and total basis and is shown in Table 1. For merchantable stands, it shows the volume in tons, the basal area, and trees per acre for each stand and by product class plus the tract total. Also included are the inventory summaries for each Unit and stand. For pre-merchantable stands, it shows the average trees per acre and average total height of the dominant trees.

Table 2 shows the acreages of each stand, understory condition, and management recommendations for that particular stand. (Refer to Table 3 in this report for a description of the understory condition codes). It should be noted that stands that are not numbered on the map are non-timbered areas that are primarily ponds and creek drains. However, in referencing old infrared aerial photographs, it is apparent that some of these acres were once planted in pine. FWC should contemplate whether they wish to convert these acres back to pine plantations or not.

Although the history of the property is not known, in all likelihood, there was a wildfire at some point that impacted the west and north sides of this property and destroyed some of the planted pines which were probably not merchantable at the time. Some of the areas that are mapped and cruised as commercial timber areas contain only scattered timber and “stringers” of pine along wetland areas. If there was a wildfire, it is possible that these areas simply did not burn and the timber was not destroyed. These “stringers” of pine are displayed on the type map.

Finally, one of the criteria of the inventory was that it must meet a specified statistical standard. The inventory had to achieve a sampling error of +/- 10% at the 95% confidence interval for either basal area or volume per plot for the combined timber cruise. Basal area was selected as the criteria for this project and the overall sampling error was 5.8% at the 95% confidence interval. A copy of the statistical summary for the timber inventory is included in this report.

12.15 Management Procedures Guidelines - Management of Archaeological and Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised June 2021)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. Historic Property Definition

Historic properties include archaeological sites and historic structures as well as other types of resources. Chapter 267, Florida Statutes states: “ *‘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 Chapter 267, F.S. and state policy related to historic properties, state agencies of the executive branch must provide the Division of Historical Resources (Division) the opportunity to comment on any undertakings with the potential to affect historic properties that are listed, or eligible for listing, in the National Register of Historic Places, 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 undertaking. (267.061(2)(a))

State agencies must consult with the Division when, as a result of state action or assistance, a historic property will be demolished or substantially altered in a way that will adversely affect the property. State agencies must take timely steps to consider feasible and prudent alternatives to the adverse effect. If no feasible or prudent alternatives exist, the state agency must take timely steps to avoid or mitigate the adverse effect. (267.061(2)(b))

State agencies must consult with Division to establish a program to locate, inventory and evaluate all historic properties under ownership or controlled by the agency. (267.061(2)(c))

State agencies are responsible for preserving historic properties under their control. State agencies are directed to use historic properties available to the agency when that use is consistent

with the historic property and the agency's mission. State agencies are also directed to pursue preservation of historic properties to support their continued use. (267.061(2)(d))

C. Statutory Authority

The full text of Chapter 267, F.S. and additional information related to the treatment of historic properties is available at:

<https://dos.myflorida.com/historical/preservation/compliance-and-review/regulations-guidelines/>

D. Management Implementation

Although the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual and do not include detailed project information. Specific information for individual projects must be submitted to the Division for review and comment.

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. The Division's recommendations may include, but are not limited to: approval of the project as submitted, recommendation for a cultural resource assessment survey by a qualified professional archaeologist, and modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions or alterations to historic structures as well as new construction must also be submitted to the Division for review. Projects involving structures fifty years of age or older must be submitted to the Division for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant.

Adverse effects to historic properties must be avoided when possible, and if avoidance is not possible, additional consultation with the Division is necessary to develop a mitigation plan. Furthermore, managers of state property should make preparations for locating and evaluating historic properties, both archaeological sites and historic structures.

E. Archaeological Resource Management (ARM) Training

The ARM Training Course introduces state land managers to the nature of archaeological resources, Florida archaeology, and the role of the Division in managing state-owned archaeological resources. Participants gain a better understanding of the requirements of state and federal laws with regard to protecting and managing archaeological sites on state managed lands. Participants also receive a certificate recognizing their ability to conduct limited monitoring activities in accordance with the Division's Review Procedure, thereby reducing the time and money spent to comply with state regulations. Additional information regarding the ARM Training Course is available at:

<https://dos.myflorida.com/historical/archaeology/education/arm-training-courses/>

F. Matrix for Ground Disturbance on State Lands

The matrix is a tool designed to help streamline the Division's Review Procedure. The matrix allows state land managers to make decisions about balancing ground disturbance and stewardship of historic resources. The matrix establishes types of undertakings that are either minor or major disturbances and then guides the land manager to consult the Division, conduct ARM-trained project monitoring, or proceed with the project. Additional information regarding the matrix is available at:

<https://dos.myflorida.com/historical/archaeology/education/dhr-matrix-for-ground-disturbance-on-state-lands/>

G. Human Remains Treatment

Chapter 872, *Florida Statutes* makes it illegal to willfully and knowingly disturb human remains. In the event human remains are discovered, cease all activity in the area that may disturb the remains. Leave the bones and nearby items in place. Immediately notify law enforcement or the local district medical examiner of the discovery and follow the provisions of Chapter 872, FS. Additional information regarding the treatment of human remains and cemeteries is available at:

<https://dos.myflorida.com/historical/archaeology/human-remains/>
<https://dos.myflorida.com/historical/archaeology/human-remains/abandoned-cemeteries/what-are-the-applicable-laws-and-regulations/>

H. Division of Historical Resources Review Procedure

Projects on state owned or controlled properties may submit projects to the Division for review using the streamlined State Lands Consultation Form. The form provides instructions to submit projects for review and outlines the necessary information for the Division to complete the review process. The State Lands Consultation Form and additional information about the Division's review process is available at:

<https://dos.myflorida.com/historical/preservation/compliance-and-review/state-lands-review/>

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Compliance and Review Section
Bureau of Historic Preservation
Division of Historical Resources

R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

StateLandsCompliance@dos.myflorida.com

Phone: (850) 245-6333
Toll Free: (800) 847-7278
Fax: (850) 245-6435

12.16 Historical Resources

Site Number	Site Name
LF119	Lafayette Pond
LF120	Mallory Hill
LF121	Ft. Downing Battlefield
LF122	Chert Horseshoe
LF123	Bare Soil
LF124	Old Cribb's Place
LF125	Meadowlark Dumpsite
LF126	Hogeweg Turpentine Camp
LF127	Murphy Turpentine Camp
LF128	Creekside Camp
LF129	Yarbrough Turpentine Camp
LF130	Frazier Cemetery

12.17 Land Management Uniform Accounting Council Categories

Land Management Uniform Cost Accounting Council

Uniform Land Management Cost Categories and Subcategories

1. Resource Management

- a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.
- b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.
- c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.
- d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.
- e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.
- f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

2. Administration

- a. Central Office/Headquarters. -- Headquarters units conducting general administration of land under management by the agency. Includes upper management direction,

administration and fiscal, budget, personnel, purchasing and record keeping required for operations oversight and specific programs. Includes all duties unless they specifically relate to other categories or subcategories.

- b. Districts/Regions. -- Sub-state administrative districts or regions conducting general administration of the properties under their management. Includes all duties, unless they specifically relate to other categories or subcategories. General operating costs of district or region administrative facilities are included.
- c. Units/Projects. -- Conducting general administration duties at a specific management unit (state park, state forest, state wildlife management area, etc.). Includes supervisory duties, fiscal and record keeping duties, and any other duties that do not specifically relate to other categories or subcategories. General operating costs for the property, such as utilities, telephones and garbage collection, are included.

3. Support

- a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.
- b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.
- c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.
- d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.
- e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.
- f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

4. Capital Improvements

- a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.
- b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

5. Visitor Services/Recreation

- a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency's mission or instill in visitors an understanding and appreciation for Florida's natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.
- b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

6. Law Enforcement

The provision of all activities for enforcing criminal, conservation and boating laws on land, freshwater and marine environments and all costs associated with these services. Includes the provision of uniform patrol. Includes overt and covert criminal investigations. Includes regulation of commercial wildlife trade. Also includes the direction and administration of all law enforcement programs and activities, and all associated costs.

Land Management Uniform Accounting Council and FWC Activity Code Groupings

Resource Management

Exotic Species Control

- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)

Prescribed Burning

- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks

Cultural Resource Management

- 201 Cultural resource management

Timber Management

- 202 Timber management

Hydrological Management

- 215 Hydrology management
- 216 Dams, dikes, levees
- 217 Canals
- 218 Water level management
- 194 Lake restoration

Other

- 185 GIS
- 186 Biometrics
- 200 RESOURCE MANAGEMENT
- 203 Tree and shrub planting
- 213 Wildlife management
- 214 Listed Species management
- 219 Upland restoration
- 282 Herbaceous seeding
- 283 Clearings
- 289 Native vegetation management (mechanical)
- 290 Native vegetation management (chemical)
- 221 Animal surveys
- 228 Inland aerial surveys
- 235 Vegetation and plant surveys
- 250 MONITORING AND ASSESSMENTS
- 252 Biomedical monitoring
- 253 Ecological monitoring
- 256 Habitat monitoring analysis
- 263 Nest box monitoring
- 264 Population demographics
- 295 Biological data collection, analysis, and reporting

275	Permits and authorizations
276	Commission rule development and review
277	Relocation
278	CITES tags
281	Other resource management
284	Feeding/watering
285	Nest structures
286	Population control
287	Stocking enhancements/population augmentation
288	Nuisance animal complaints
293	Mortality investigations
294	Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
296	Habitat protection technical assistance
750	URTD assessment
789	Site Preparation – GCR
790	Irrigation – GCR
791	Seed Collection – Hand
792	Seed Collection – Mechanical
793	Herbicide Maintenance Treatment

Administration

Central Office/Headquarters

100	ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
104	Budget/purchasing/accounting

Districts/Regions

See Location code

Units/Projects

See Location code

Support

Land Management Planning

103	Meetings C includes workshops, conferences, staff, and other meetings.
204	Resource planning

Land Management Reviews

209	Land Management Reviews
101	Project inspection C field inspections of projects.

Training/Staff Development

150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.

Vehicle Purchase

128	New Vehicle and Equipment Purchase
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Vehicle Operation and Maintenance

- 923 FEM C vehicles/equipment
- Other
 - 140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
 - 141 Grant applications
 - 180 SYSTEMS ADMINISTRATION AND MANAGEMENT
 - 182 Data management
 - 184 Metadata development and management
 - 187 IT
 - 188 Web development
 - 721 Geospatial analysis techniques
 - 191 Stamp design coordination
 - 226 Human dimensions surveys

Capital Improvements

New Facility Construction

- 910 New facility construction C buildings/structures
- 912 New construction C roads/bridges
- 913 New construction C trails
- 914 New construction C fences

Facility Maintenance

- 920 Facility and equipment maintenance (FEM) C buildings/structures
- 921 FEM C utilities
- 922 FEM C custodial functions
- 925 FEM C boating access
- 926 FEM C roads/bridges
- 927 FEM C trails
- 928 FEM C fences

Visitor Services/Recreation

Information/Education Programs

- 145 Technical bulletin

Operations

- 311 Boundary signs
- 312 Informational signs
- 320 Outreach and education C attending or developing educational or informational materials or events for the public
- 327 Becoming an Outdoor Woman C enhancement
- 331 Wings Over Florida
- 339 Range safety operations
- 341 Public use administration (hunting)
- 342 Public use administration (non-hunting)
- 350 Customer service support C disseminating written or verbal information or assistance to the public
- 700 STUDIES

Law Enforcement

FWC Activity Code Numeric Listing

- 100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
- 101 Project inspection C field inspections of projects.
- 103 Meetings C includes workshops, conferences, staff, and other meetings.
- 104 Budget/purchasing/accounting
- 128 New Vehicle and Equipment Purchase
- 140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
- 141 Grant applications
- 145 Technical bulletin
- 150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.
- 180 SYSTEMS ADMINISTRATION AND MANAGEMENT
- 182 Data management
- 184 Metadata development and management
- 185 GIS
- 186 Biometrics
- 187 IT
- 188 Web development
- 191 Stamp design coordination
- 194 Lake restoration
- 200 RESOURCE MANAGEMENT
- 201 Cultural resource management
- 202 Timber management
- 203 Tree and shrub planting
- 204 Resource planning
- 205 Prescribed burning
- 206 Prescribed burning C growing season (April 1 to September 30)
- 207 Prescribed burning C dormant season (October 1 to March 31)
- 208 Firebreaks
- 209 Land Management Reviews
- 210 Exotic species control
- 211 Exotic plant control (mechanical)
- 212 Exotic plant control (chemical)
- 213 Wildlife management
- 214 Listed Species management
- 215 Hydrology management
- 216 Dams, dikes, levees
- 217 Canals
- 218 Water level management

219	Upland restoration
221	Animal surveys
226	Human dimensions surveys
228	Inland aerial surveys
235	Vegetation and plant surveys
250	MONITORING AND ASSESSMENTS
252	Biomedical monitoring
253	Ecological monitoring
256	Habitat monitoring analysis
263	Nest box monitoring
264	Population demographics
275	Permits and authorizations
276	Commission rule development and review
277	Relocation
278	CITES tags
281	Other resource management
282	Herbaceous seeding
283	Clearings
284	Feeding/watering
285	Nest structures
286	Population control
287	Stocking enhancements/population augmentation
288	Nuisance animal complaints
289	Native vegetation management (mechanical)
290	Native vegetation management (chemical)
293	Mortality investigations
294	Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
295	Biological data collection, analysis, and reporting
296	Habitat protection technical assistance
311	Boundary signs
312	Informational signs
320	Outreach and education C attending or developing educational or informational materials or events for the public
327	Becoming an Outdoor Woman C enhancement
331	Wings Over Florida
339	Range safety operations
341	Public use administration (hunting)
342	Public use administration (non-hunting)
350	Customer service support C disseminating written or verbal information or assistance to the public
700	STUDIES
721	Geospatial analysis techniques 740 EVALUATIONS AND ASSESSMENTS
750	URTD assessment
789	Site Preparation – GCR

- 790 Irrigation – GCR
- 791 Seed Collection – Hand
- 792 Seed Collection – Mechanical
- 793 Herbicide Maintenance Treatment
- 910 New facility construction C buildings/structures
- 912 New construction C roads/bridges
- 913 New construction C trails
- 914 New construction C fences
- 920 Facility and equipment maintenance (FEM) C buildings/structures
- 921 FEM C utilities
- 922 FEM C custodial functions
- 923 FEM C vehicles/equipment
- 925 FEM C boating access
- 926 FEM C roads/bridges
- 927 FEM C trails
- 928 FEM C fences

12.18 Operation Plan Fiscal Year 2020 – 2021

Activity	Description	Man Days	Salary	Fuel Cost	Other	Total
101	Project inspection	10.00	\$2179.80	\$85.00	\$0.00	\$2264.80
182	Data management	4.00	\$871.92	\$34.00	\$400.00	\$1305.92
185	GIS	2.00	\$435.96	\$17.00	\$50.00	\$502.96
202	Timber management	8.00	\$1743.84	\$68.00	\$0.00	\$1811.84
204	Resource planning	7.00	\$1525.86	\$59.50	\$1350.00	\$2935.36
207	Prescribed burning - dormant season	59.00	\$12860.82	\$501.50	\$10000.00	\$23362.32
208	Firebreaks	5.00	\$1089.90	\$42.50	\$6000.00	\$7132.40
210	Exotic species control	10.00	\$2179.80	\$85.00	\$1500.00	\$3764.80
215	Hydrology Management	4.00	\$871.92	\$34.00	\$550.00	\$1455.92
221	Animal surveys	12.00	\$2615.76	\$102.00	\$1500.00	\$4217.76
289	Native vegetation management (mechanical)	16.00	\$3487.68	\$136.00	\$0.00	\$3623.68
311	Boundary signs	4.00	\$871.92	\$34.00	\$1000.00	\$1905.92
312	Informational signs	4.00	\$871.92	\$34.00	\$500.00	\$1405.92
923	FEM -- vehicles/equipment	16.00	\$3487.68	\$136.00	\$32307.00	\$35930.68
926	FEM -- roads/bridges	18.00	\$3923.64	\$153.00	\$25000.00	\$29076.64
927	FEM -- trails	8.00	\$1743.84	\$68.00	\$500.00	\$2311.84
Total:		187.00	\$40,762.26	\$1,589.50	\$80,657.00	\$123,008.76

12.19 Conservation Action Strategy



A Conservation Action Strategy for the Lafayette Forest Wildlife and Environmental Area

Lafayette County, Florida

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



Introduction

Located within a landscape of pinelands, basin swamp, marshes, hardwood forest, and other public conservation lands and Florida Forever project lands, the Lafayette Forest Wildlife and Environmental Area (LFWEA) provides habitat for a wide diversity of wildlife species including the gopher tortoise (*Gopherus polyphemus*) and also provides an array of fish and wildlife based public outdoor recreational opportunities, all within close proximity to the Suwannee River. Wetland and mesic forests within this larger landscape also provide potential habitat for imperiled species such as the eastern indigo snake (*Drymarchon couperi*), wood stork (*Mycteria americana*), and little blue heron (*Egretta caerulea*). With the connection between Mallory Swamp and potentially, the Suwannee River, the LFWEA aids in conserving a corridor for wildlife movement that will become increasingly important over time.

The LFWEA is owned by the Board of Trustees of the Internal Improvement Fund (Board of Trustees), and managed by the Florida Fish and Wildlife Conservation Commission (FWC) for the conservation and protection of natural and historical resources, and of the important natural communities on the site that provide habitat for a wide range of imperiled and more common wildlife species. The FWC has lead management authority for all resources within the established boundary (Figure 1 and Figure 2). Original acquisition of the area was approved by the Board of Trustees and the FWC for use as a gopher tortoise mitigation park in 2008.

This LFWEA Conservation Action Strategy (CAS) has been developed as an integral component of the FWC Land Conservation Work Plan and the LFWEA Management Plan. The CAS provides recommended land conservation acquisition and stewardship actions for the LFWEA. As described in the LFWEA Management Plan, the FWC utilizes a three-tiered approach to land conservation and stewardship analysis and recommended actions that includes identifying, acquiring, or otherwise protecting important conservation lands adjacent to, or in proximity to, existing FWC-managed areas. Part of this process involves development of an Optimal Resource Boundary, Optimal Conservation Planning Boundary (OCPB), and a CAS.

The CAS was developed to aid in the recommendation of lands within the LFWEA OCPB for inclusion on the FWC Florida Forever Additions and Inholdings (A&I) Acquisition List; to enhance the ongoing operational and resource management of the LFWEA; sustain the overall conservation of wildlife within and adjacent to the LFWEA; increase wildlife habitat or landscape conservation connectivity on adjacent public and private conservation lands; maintain adequate prescribed burning buffers; aid in landscape conservation connectivity; conserve additional wildlife habitat; and provide more public access opportunities on conservation lands.

Additionally, the CAS also fulfills an objective in the Land Conservation and Stewardship section of the LFWEA Management Plan. Following are other elements of this CAS including more information on the area's location; acquisition purposes and history; adjacent land uses within the vicinity of the LFWEA; the OCPB; and the recommended prioritized conservation actions that have been developed to provide a proactive, comprehensive, and long-term strategy for further potential land conservation opportunities within, adjacent to, and surrounding the LFWEA. More detailed information about the LFWEA

including operational and resource management goals, objectives, and baseline resource data may be found in the LFWEA Management Plan.

Location

The LFWEA is located in North Central Florida in southeastern Lafayette County and encompasses approximately 2,148 acres. The LFWEA lies in all or parts of Sections 22- 26, and 35-36 in Township 7 South, Range 13 East. The LFWEA is located approximately 8 miles south of Branford, 16 miles northeast of Cross City, and 17 miles southeast of Mayo. Other municipalities near the LFWEA include Lake City (30 miles northeast) in Columbia County; Live Oak (30 miles north) in Suwannee County; and Gainesville (40 miles southeast) in Alachua County. The LFWEA is not located within any Aquatic Preserve or a designated Area of Critical State Concern.

Purpose for Acquisition

The LFWEA is an important and integral component of FWC programs serving to conserve gopher tortoise habitat along with other fish and wildlife resources. As mentioned previously, the LFWEA was acquired as a gopher tortoise mitigation park as part of the Mitigation Park Program to provide for natural resource conservation, restoration, and fish and wildlife resource based public outdoor recreation. The FWC implemented the now defunct Mitigation Park Program in 1988 under Section 372.074, Florida Statutes (F.S.) (since replaced by Chapter 379, F.S.) to help protect gopher tortoises from the impacts of development by providing an offsite alternative to the previous method of onsite preservation of habitat within the boundaries of a development. When developers proposed to develop habitat for gopher tortoises through this program, they paid mitigation “taking” fees that were used to buy and manage high quality habitat elsewhere. As a result, the program provided an alternative method to preserve wildlife habitat, while allowing developers to develop imperiled species habitat on their development project sites. The primary acquisition and conservation goals of the Mitigation Park Program for acquiring mitigation parks such as the LFWEA were to promote habitat conditions critical to meeting the life history requirements of the gopher tortoise and associated upland species; conserve, protect, and restore landscapes, forests, watershed, water resources, historical resources, and other elements important to ecosystem functions; and to provide the aforementioned offsite mitigation alternative to traditional onsite habitat preservation within the boundaries of a development project requiring state and federally listed species permits.

The LFWEA is now managed by the FWC for the purpose of operating a Wildlife and Environmental Area (WEA), providing ecological diversity, providing managed habitat for both common and imperiled wildlife, and for providing the public with fish and wildlife oriented outdoor recreational opportunities.

Acquisition History

The acquisition of the LFWEA as a gopher tortoise mitigation park was approved by the Board of Trustees in April 2008. The Board of Trustees acquired the tract in cooperation with The Trust for Public Land (TPL), and closed on the property in August 2008, concurrent with the Florida Department of Environmental Protection (DEP)/Division of State Lands (DSL) accepting title via delegation on behalf of

the Board of Trustees. Subsequently, in January 2009, the Board of Trustees leased the LFWEA to the FWC to manage the area for the purpose of gopher tortoise mitigation.

The FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, F.S. which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife based public outdoor recreation. It also consolidates mitigation within a geographical region by buying larger and more manageable tracts, which are established as WEAs. All of the WEAs established through this program are managed primarily to protect and enhance habitat important to upland endangered or threatened wildlife, especially the gopher tortoise. The Mitigation Park Program has since been discontinued, but the 14 mitigation tracts, including the LFWEA, acquired through the program continue to be actively managed by the FWC for their original purposes of acquisition and conservation.

Proximity to Other Public Conservation Lands and Florida Forever Projects

As stated previously, the LFWEA is surrounded by a myriad of conservation lands, including Mallory Swamp Restoration Area to the west and the Hatchbend Conservation Area to the east. Conservation lands near the LFWEA are shown in Figure 1. The surrounding lands include conservation areas managed by the Suwannee River Water Management District (SRWMD), the DEP, the FWC, Gilchrist County, Suwannee County, and other private and public conservation organizations such as The Nature Conservancy (TNC) and Conservation Florida.

Most of the conservation lands within the vicinity of the LFWEA are owned in full-fee by a public entity. However, some of these areas fall within a less-than-fee ownership classification where the land is owned and being managed by a private landowner while a public agency or not-for-profit organization holds a conservation easement on the land.

The LFWEA is part of the Lafayette Forest Florida Forever project. The project area includes 13,176 acres, in which approximately 2,923 have been acquired, leaving 10,253 remaining acres in the project yet to be acquired. Additionally, the LFWEA is adjacent to the Strategic Managed Areas Lands List (S.M.A.L.L.) project which includes 11,898 acres, in which approximately 326 have been acquired, leaving 11,572 acres in the project yet to be acquired.

Adjacent Land Use

The LFWEA is located in unincorporated Lafayette County, and the majority of the area has a designated zoning of A-3 Agricultural. The intent of this zoning designation is to provide for primarily agricultural and residential uses including, but not limited to: agricultural activities (e.g., raising livestock, cultivation of field crops and fruits and berries, forestry, and similar uses), processing and storage of agricultural products, plant nurseries and greenhouses, single family dwellings, and mobile home dwellings. The A-3 Agricultural designation in Lafayette County permits a maximum residential density of one dwelling unit

per five acres. A small portion, approximately 40 acres, of the LFWEA has a zoning designation of A-1 Agricultural. While it permits the same kinds of uses as the A-3 designation, the A-1 Agricultural designation in Lafayette County permits a maximum residential density of one dwelling unit per 40 acres.

The LFWEA is bordered on the north primarily by privately owned pastureland and cattle operations interspersed with abundant forested wetlands and smaller areas of depression marsh. To the west of the LFWEA lies an extensive mosaic of forested uplands, wetlands, and marshes within the Mallory Swamp Restoration Area managed by the SRWMD. To the northeast of the LFWEA lies privately owned land, with the Mallory Swamp Restoration Area to the northwest. The eastern boundary of the LFWEA borders rural areas of predominantly pasture and pine plantation, with sparse residential and commercial uses. The LFWEA is bordered on the southwest primarily by pinelands mixed with isolated wetlands and ponds. A large agricultural row crop operation with multiple center pivot irrigation systems lies along the southeastern portion of the property.

Florida's Changing Population

More U.S. residents moved to Florida than any other state in 2018, making it one of the fastest growing in the nation. Florida had the nation's fourth-highest growth rate (1.5 percent), the third-highest population (21 million), the second-highest number of total new residents (323,000) and 133,000 people who came from elsewhere in the country between July 1, 2017 and July 1, 2018. This means that, Florida's population is growing by nearly 1,000 people a day: about half of the newcomers are foreign-born immigrants and half are from other U.S. states. In the years to come, Florida's growth rate is expected to stabilize. The 2019 U.S. Census estimates that there are 8,482 people living in Lafayette County. The Department of Economic Affairs, Bureau of Economic and Business Research's (BEBR) medium-range population projection indicates that in the year 2030, there will be 9,400 people living in Lafayette County. The BEBR population projections for the counties surrounding Lafayette county for the year 2030 are as follows: Dixie County – 17,000; Gilchrist County – 19,700; Madison County – 19,700; Suwannee County – 50,400; and Taylor County – 23,600.

However, it should be noted that, according to Wildlife 2060, the population of Florida is predicted to double from 18 million to more than 36 million by 2060 (FWC 2008). The FWC has prepared a report titled, "[Wildlife 2060: What's at Stake for Florida](#)" to relay the changes that may occur in Florida's fish and wildlife and in our own lifestyles, if the state's population doubles. Recent predictions indicate if that happens, as a study published by [1000 Friends of Florida](#) suggests, about seven million acres of land could be converted from rural and natural to urban uses.

LFWEA Optimal Conservation Planning Boundary

Several properties have been identified for inclusion in the OCPB (Figure 3). 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 the LFWEA and other wildlife habitat. Lands within the OCPB are considered to be important in order to buffer the boundaries of the LFWEA from potential adjacent incompatible developments and to aid the 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 and continued conservation of wildlife and other natural resources.

Potential Conservation Stewardship Opportunities Surrounding the LFWEA

The FWC Landowner Assistance Program (LAP) provides many potential opportunities for conservation minded landowners to obtain the assistance and advice of FWC staff and programs for improving land conservation practices on their lands. The LAP routinely conducts workshops for interested landowners to interact with FWC staff and learn how they may participate in the program. In addition, the LAP works with landowners to enroll in the Natural Resources Conservation Service conservation cost-share programs in order to assist with implementation of wildlife friendly practices.

At the time of the plan development, no specific land stewardship workshops had been conducted for landowners adjacent to the LFWEA. The role and development of Land Conservation and Stewardship Partnerships is fully explained in both sections 5.11 and 6.10 of the Management Plan. Private landowners seeking assistance with habitat management will likely find it offered within FWC's LAP. The FWC employs biologists who are available to provide wildlife related assistance with land use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. The FWC will continue to evaluate the level of interest and efficacy of providing technical assistance to adjacent private landowners on enhancing the conservation management of their lands. More information on FWC's LAP program and online habitat management tools are available online at: <http://myfwc.com/conservation/special-initiatives/lap/>.

FWC Florida Forever A&I Acquisition List Conservation Benefits Analysis

Several properties have been identified for recommended acquisition under the auspices of FWC's Florida Forever A&I Acquisition program for the LFWEA (Figure 4-6). The A&I list identifies lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, have a high resource value that would otherwise be unprotected, or that could be acquired at substantially less than fair market value. Consistent with Florida Forever program criteria, parcels on the list have been ranked High, Medium, or Low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff.

The FWC Florida Forever A&I Acquisition List is updated through time, thus staying up to date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC continually analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time.

The FWC continues to recommend acquisition of the remaining lands within the Lafayette Forest and S.M.A.L.L. projects as essential to the long-term conservation of wildlife and to the optimal resource and

operational management of the LFWEA. Parcels on the FWC Florida Forever A&I Acquisition List will be acquired if possible, according to their priority ranking for acquisition and landowner willingness to sell their lands. Participation in any FWC acquisition is entirely voluntary and at the sole discretion of willing landowners.

Prioritization of Lands on the FWC Florida Forever A&I Acquisition List

Figures 4-6 depict the results of the FWC's Acquisition Prioritization Model Analysis and the recommended prioritization of acquisition actions of lands on the FWC Florida Forever A&I Acquisition List for the LFWEA. These parcels are prioritized on the accompanying map (Figure 6), into one of three priority categories: High, Medium, and Low. The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, unique acquisition opportunities like bargain sales (less than 80% of appraised value), and donations.

It should be noted that, only parcels located directly in or adjacent to the subject area can be recommended for acquisition through the FWC Florida Forever A&I Acquisition program. A corresponding list also provides more detailed ownership information. A complete list of all the parcel identification numbers, corresponding prioritization ranking, and acreage are provided in Table 1. If the circumstances with adjacent land uses and conservation opportunities arise, the FWC may recommend adding other parcels to the FWC Florida Forever A&I Acquisition List.

Acquisition Partnership Opportunities

Opportunities for working with other potential acquisition partners within this project area include DEP, SRWMD, Alachua Conservation Trust, Lafayette County, Dixie County, Conservation Florida, TNC, TPL, and other organizations and potential grant program opportunities.

Analysis of the Potential and Need for Fee vs. Less-than-Fee Acquisition

At this time, the FWC continues to recommend full-fee acquisition of the lands on the FWC Florida Forever A&I Acquisition List for the LFWEA that are either inholdings, or are located immediately adjacent to the area, to optimize the conservation of fish and wildlife, public access and use, and overall resource and operational management of the area. However, since the LFWEA is located within a rural landscape of working agricultural and silvicultural lands, less-than-fee acquisition of large acreage tracts on the FWC Florida Forever A&I Acquisition List should also be considered as a viable conservation alternative for larger tracts of land. Since, less-than-fee acquisitions in a largely rural, working landscape may often provide many of the same conservation benefits that are derived from full-fee acquisitions, if the landowner has a desire to continue to manage their lands to maintain a working landscape in a manner that will also enhance the conservation benefits provided by their lands. Though, it should be noted that landowner preference is also a key factor in determining whether to pursue a full-fee or less-than-fee conservation acquisition.

Recommendations for Prioritized Land Conservation Actions

Following are the prioritized recommendations of conservation actions for the LFWEA:

1. Acquire parcels on the FWC Florida Forever A&I Acquisition List as prioritized and feasible with available funding.
2. Recommend adding parcels within the Lafayette Forest and S.M.A.L.L Florida Forever projects and/or parcels that are within the LFWEA OCPB for inclusion on the FWC Florida Forever A&I Acquisition List.
3. Working with surrounding landowners and as needed, recommend addition of parcels to nearby Florida Forever projects, the OCPB, and/or the A&I Acquisition List.
4. Continue to assist and support DEP/Board of Trustees with the acquisition of the lands remaining within Lafayette Forest and S.M.A.L.L. projects within the vicinity of the area.
5. Continue to work with private landowners near the LFWEA to encourage participation in available conservation stewardship programs.
6. Recommend landowner assistance workshop(s) for neighboring and surrounding landowners to assist with enhanced conservation of these lands.
7. Continue to cooperate with public and private organizations for conservation of lands within the OCPB.
8. Continue to recommend acquisition of identified land through DEP, SRWMD, Alachua Conservation Trust, Lafayette County, Dixie County, Conservation Florida, TNC, TPL, and other organizations and potential grant programs.

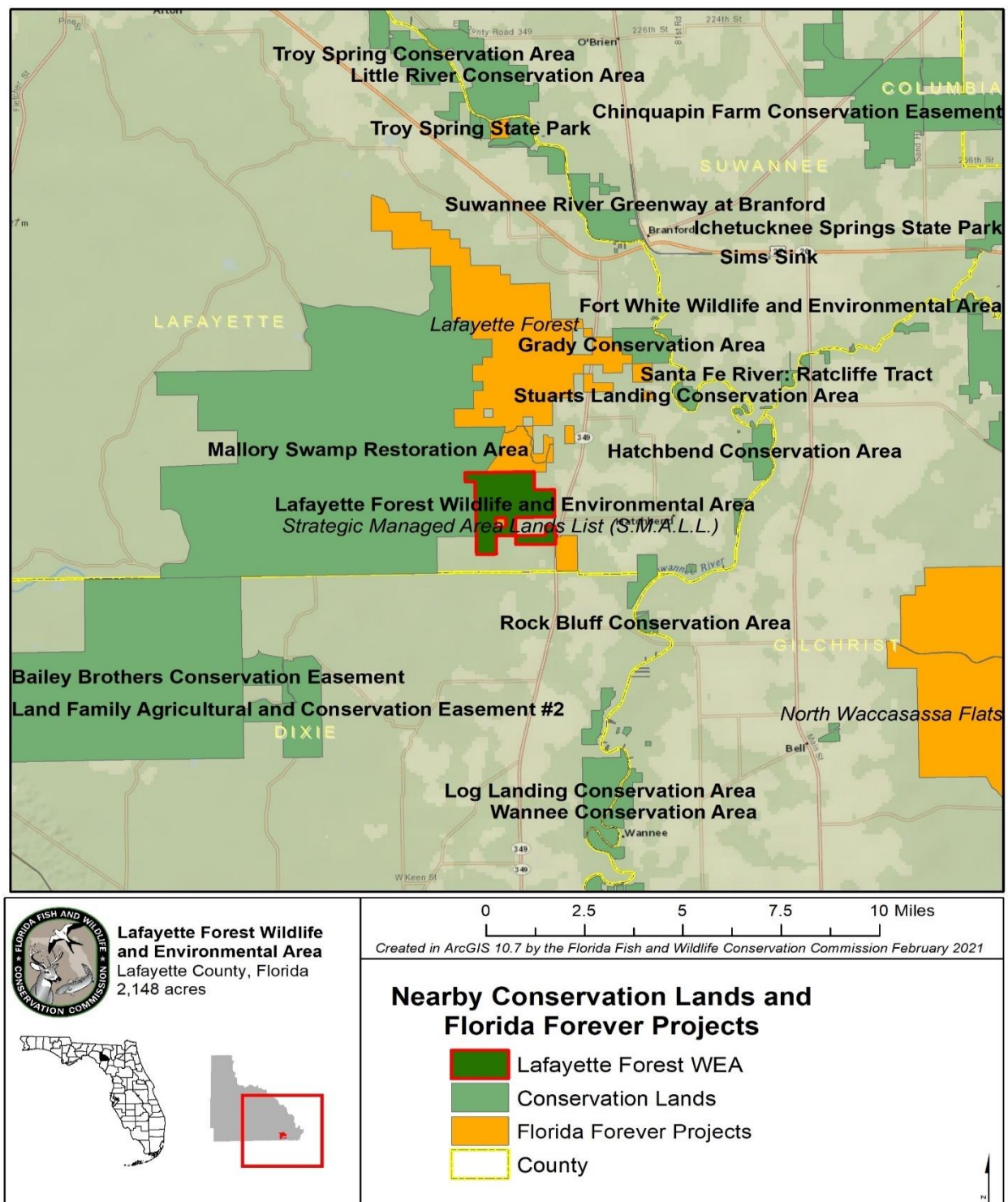


Figure 13. Vicinity Map of the LFWEA

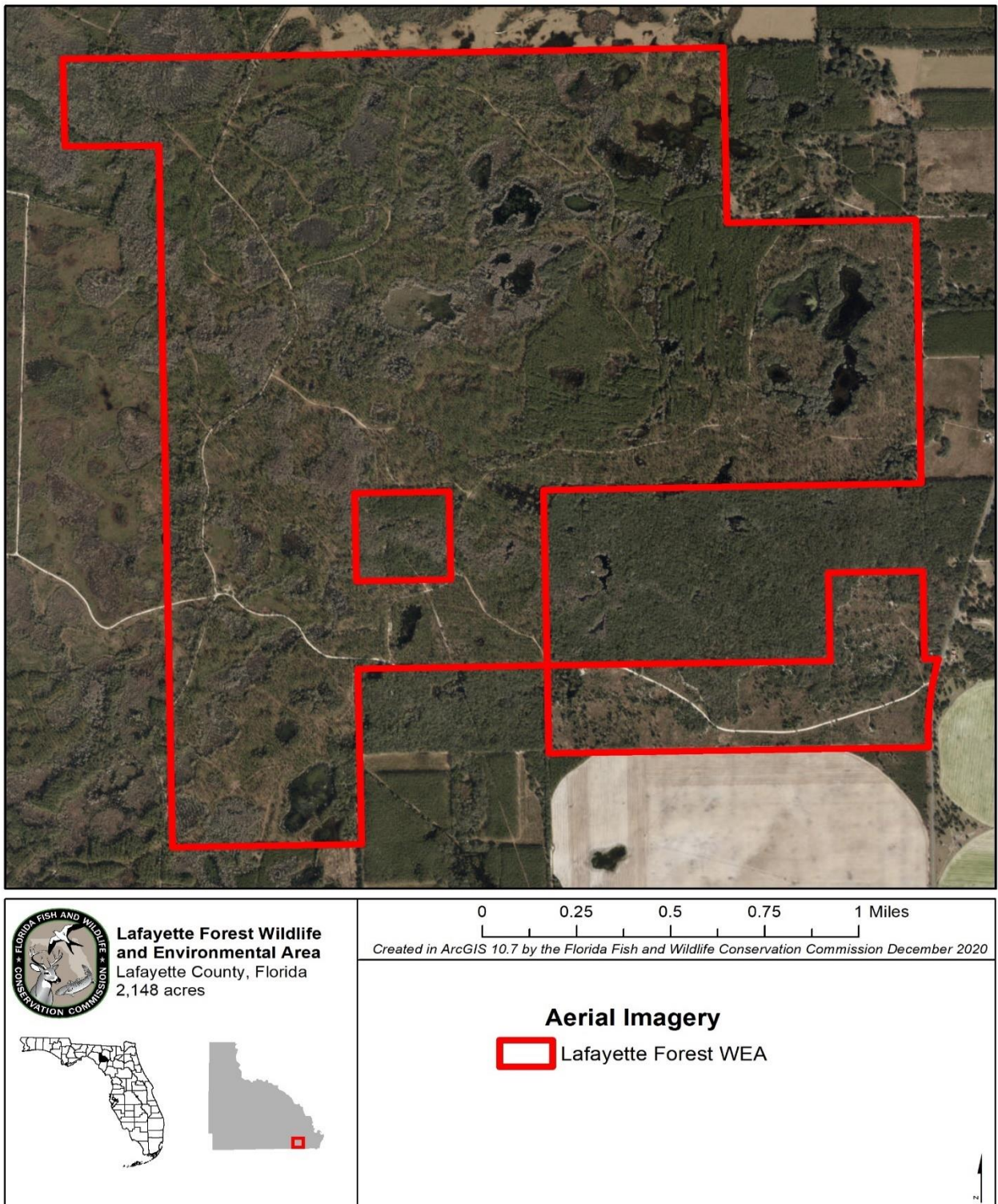


Figure 14. Aerial Imagery

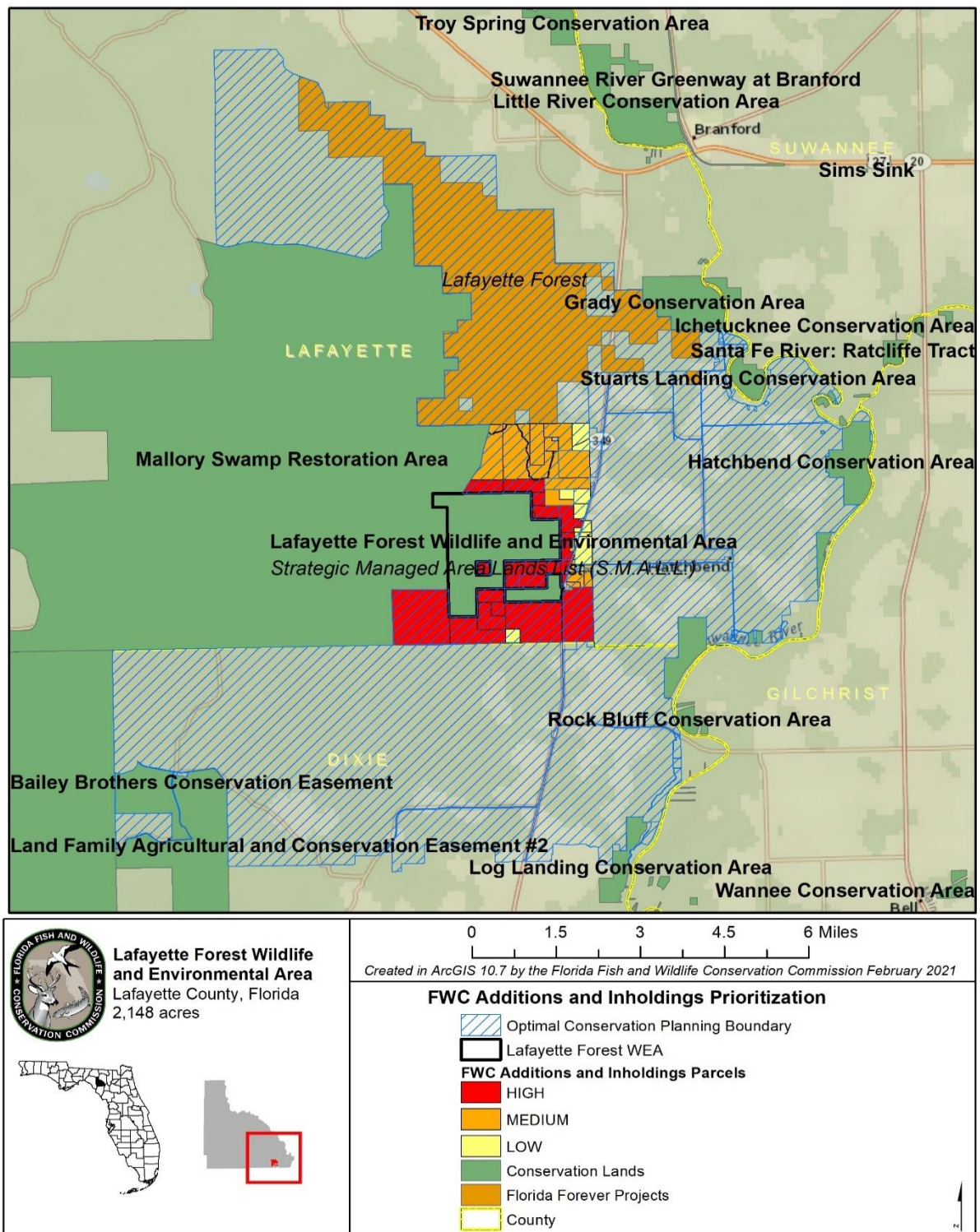


Figure 15. Optimal Conservation Planning Boundary

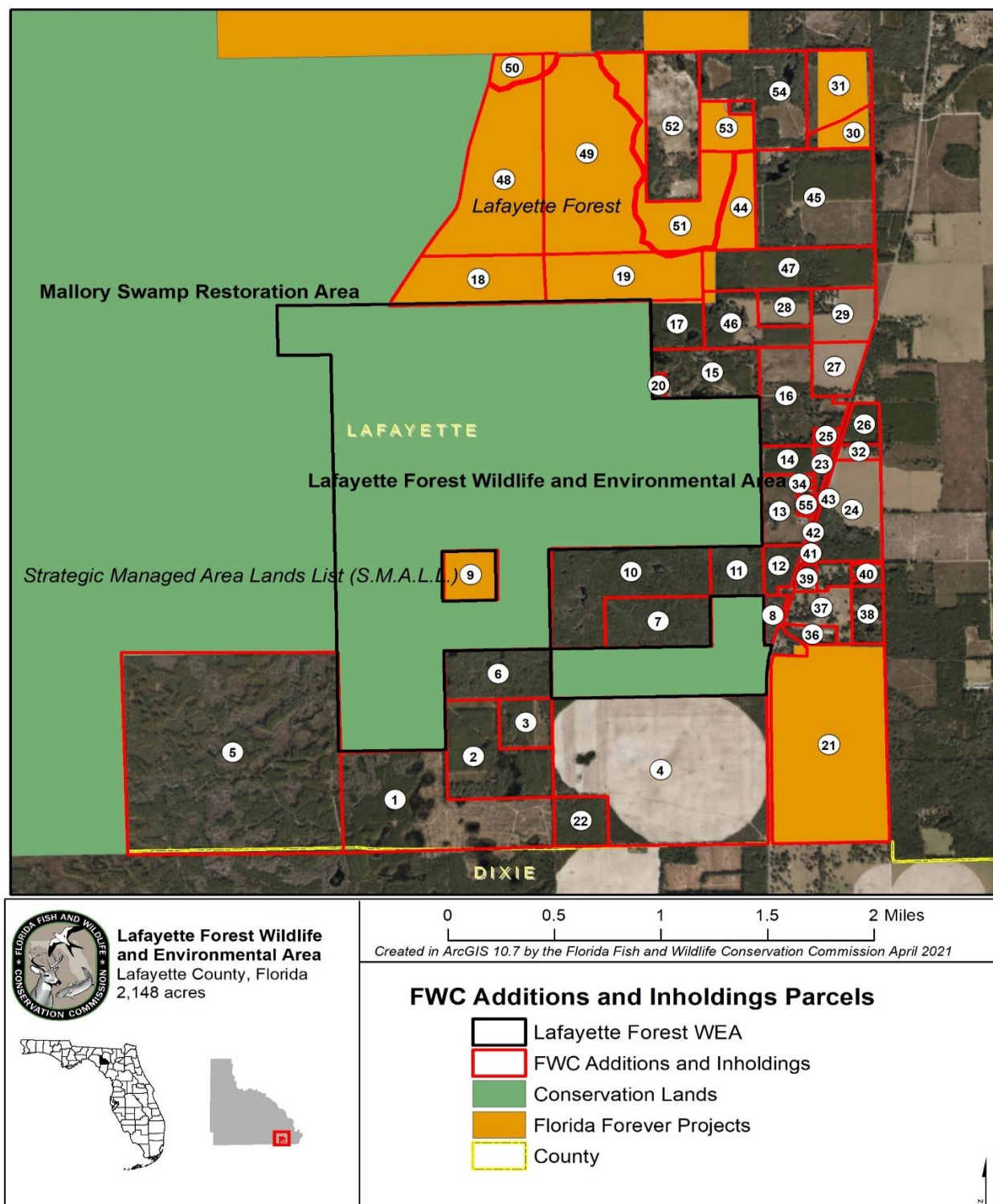


Figure 16. FWC Additions and Inholdings

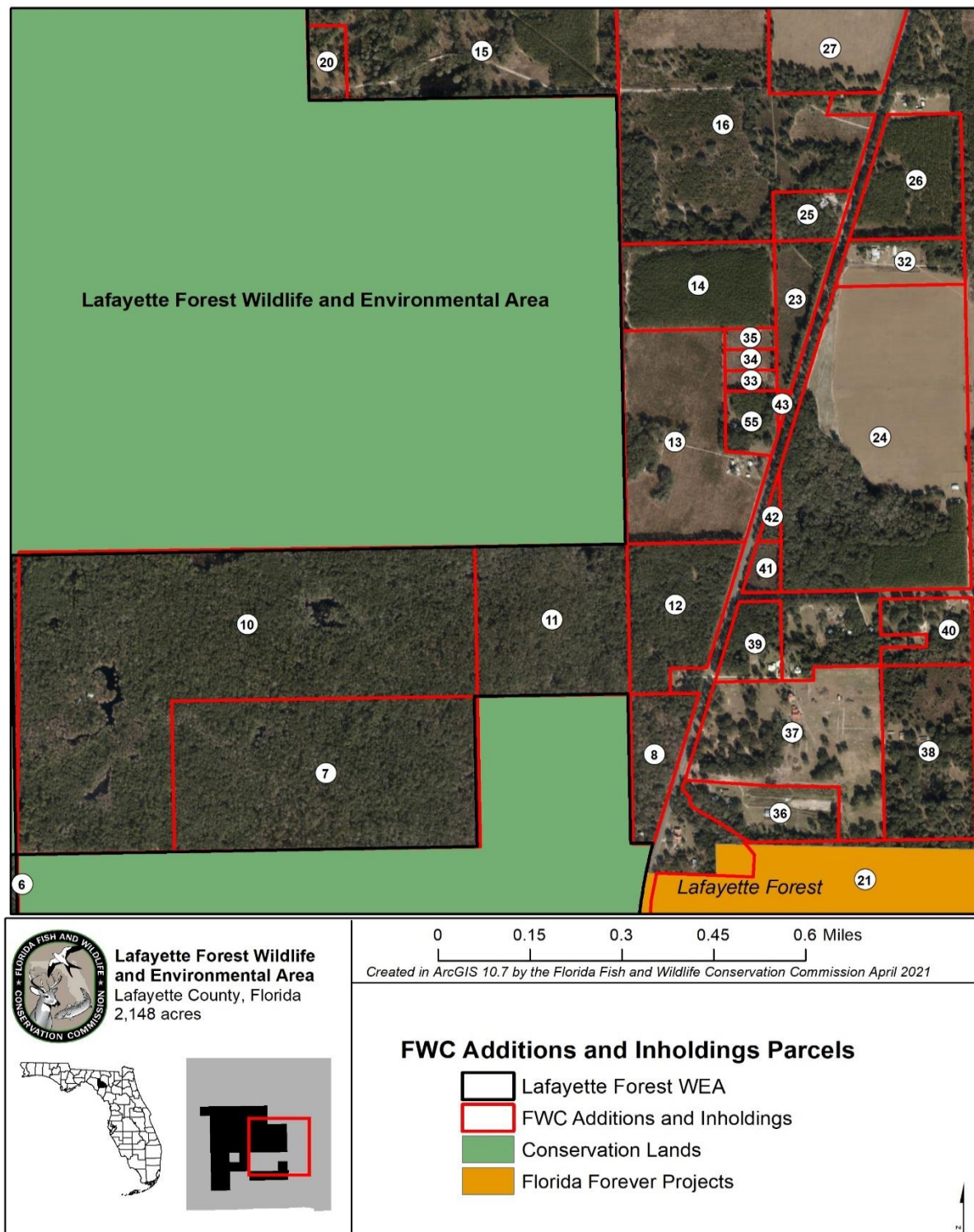


Figure 17. FWC Additions and Inholdings - Zoom In (East)

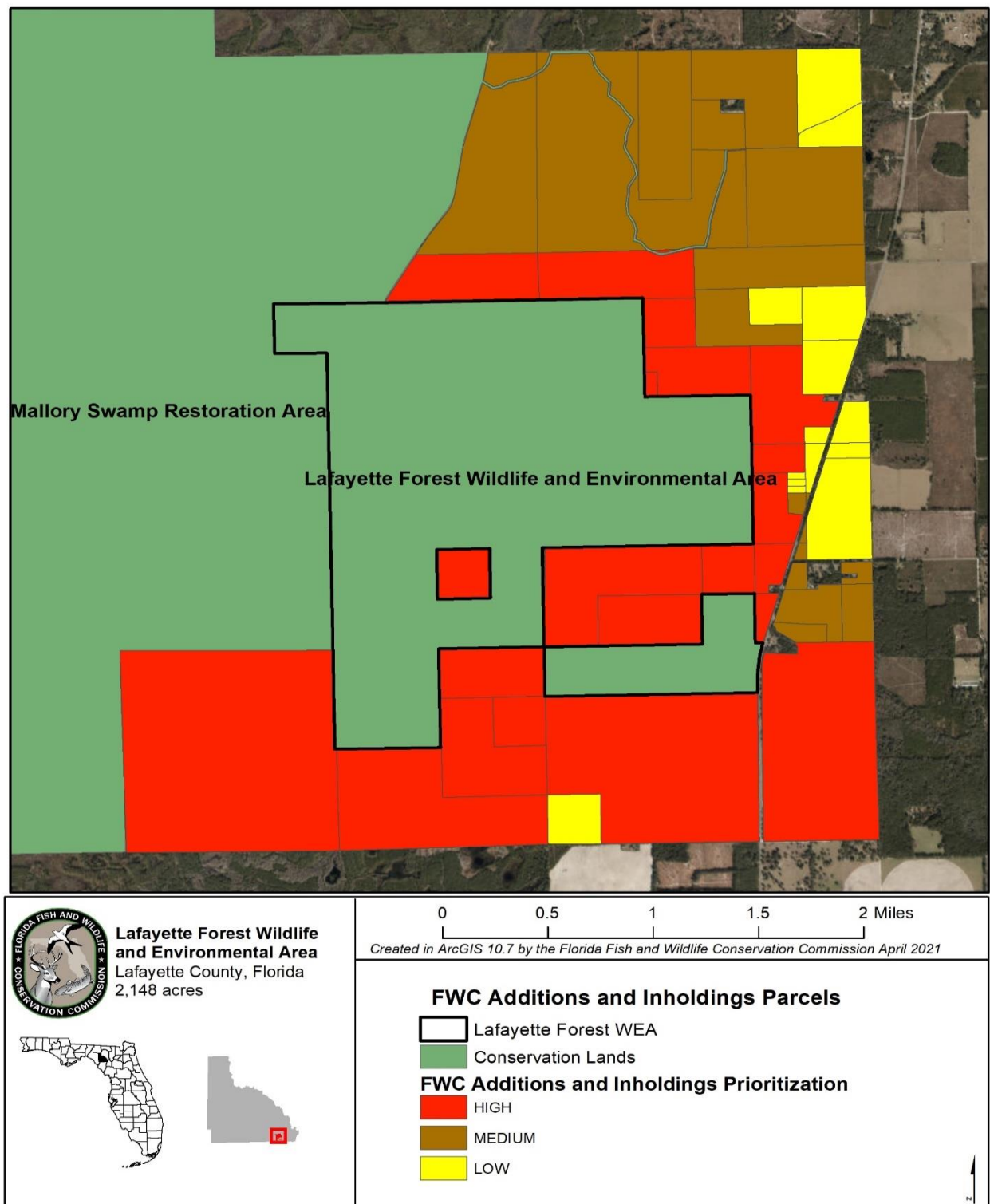


Figure 6. FWC Additions and Inholdings Prioritization

Table 13. FWC Additions and Inholdings List for the LFWEA

<u>Label</u>	<u>Parcel ID</u>	<u>Priority</u>	<u>Acres</u>
1	3507130000000000301	HIGH	241.43
2	3507130000000000200	HIGH	120.50
3	3507130000000000500	HIGH	40.14
4	3607130000000000101	HIGH	445.07
5	3407130000000000100	HIGH	662.29
6	3507130000000000100	HIGH	80.58
7	2507130000000000800	HIGH	80.89
8	25071300000000001400	HIGH	11.77
9	2607130000000000200	HIGH	40.86
10	2507130000000000700	HIGH	162.26
11	2507130000000000900	HIGH	40.30
12	25071300000000002000	HIGH	23.32
13	2507130000000000500	HIGH	42.90
14	2507130000000000300	HIGH	23.45
15	2407130000000000701	HIGH	75.67
16	2407130000000000801	HIGH	94.11
17	2407130000000000600	HIGH	39.83
18	2307130000000000100	HIGH	104.59
19	2407130000000000400	HIGH	115.64
20	2407130000000000702	HIGH	5.00
21	3607130000000000100	HIGH	342.84
22	3607130000000000200	LOW	40.43
23	2507130000000000200	LOW	10.10
24	2507130000000000104	LOW	92.02
25	2407130000000000800	LOW	6.11
26	2407130000000000500	LOW	20.61
27	2407130000000000100	LOW	39.61
28	2407130000000000101	LOW	30.17
29	2407130000000000102	LOW	51.96
30	1307130000000000105	LOW	28.13
31	1307130000000000101	LOW	69.40
32	2507130000000000100	LOW	10.03
33	2507130000000000401	LOW	1.90
34	2507130000000000402	LOW	1.90
35	2507130000000000403	LOW	1.90
36	25071300000000001203	MEDIUM	13.17
37	25071300000000001201	MEDIUM	39.47
38	25071300000000001200	MEDIUM	28.03

39	25071300000000001000	MEDIUM	7.65
40	25071300000000000101	MEDIUM	9.71
41	25071300000000001002	MEDIUM	2.77
42	25071300000000000500	MEDIUM	1.46
43	25071300000000000100	MEDIUM	0.50
44	13071300000000000104	MEDIUM	43.41
45	13071300000000000600	MEDIUM	177.88
46	24071300000000000300	MEDIUM	64.64
47	24071300000000000200	MEDIUM	108.45
48	14071300000000000100	MEDIUM	211.31
49	13071300000000000100	MEDIUM	261.56
50	14071300000000000100	MEDIUM	21.84
51	13071300000000000100	MEDIUM	117.62
52	13071300000000000400	MEDIUM	122.24
53	13071300000000000102	MEDIUM	36.42
54	13071300000000000200	MEDIUM	120.96
55	25071300000000000400	MEDIUM	5.71

12.20 Lafayette County Letter of Compliance with Local Government Comprehensive Plan



LAFAYETTE COUNTY
FLORIDA

Building & Zoning Department

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lafebldg@gmail.com

June 30, 2021

Matthew Stana, Land Conservation Planner Florida Fish and Wildlife Conservation Commission/Division of Habitat and Species Conservation

Lafayette Forest Wildlife and Environmental Area Management Plan 2021-2031

Dear Mr. Stana,

I have reviewed the Lafayette Forest Wildlife and Environmental Area 2021-2031 management plan for Lafayette County Florida and found that it is in compliance with the Lafayette County Comprehensive plan. The Lafayette County Zoning Department and the Lafayette County Board of Commissioners greatly appreciate the effort and hard work put forth in this endeavor. We appreciate the opportunity to review the management plan and will continue to work with the Florida Fish and Wildlife Conservation Commission moving forward. Please feel free to contact me any time at the Lafayette County Building and Zoning Department if a need arises. Thank you very much.

Sincerely,

Garret Land, Lafayette County Building Inspector/Zoning Administrator