



A Management Plan for the Little Gator Creek Wildlife & Environmental Area 2022 - 2032

Pasco County, Florida



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

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**A Management Plan
for the
Little Gator Creek Wildlife and Environmental Area**

Pasco County, Florida

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



June 2022

Approved Melissa Tucker Digitally signed by Melissa Tucker
Date: 2022.06.16 13:55:37 -04'00'
Melissa Tucker, Director
Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

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

Common LGCWEA of Property: Little Gator Creek Wildlife and Environmental Area (LGCWEA)

Location: Pasco County, Florida

Acreage Total: 566 acres

Acreage Breakdown:

<u>Land Cover Classification</u>	<u>Acres</u>	<u>Percent of Total Area</u>
Basin swamp	194.69	33.88%
Blackwater stream	1.42	0.25%
Canal/ditch	0.93	0.16%
Clearing/regeneration	5.53	0.96%
Depression marsh	5.03	0.88%
Developed	1.22	0.21%
Dome swamp	31.15	5.42%
Floodplain swamp	2.38	0.41%
Hydric hammock	46.88	8.16%
Mesic flatwoods	255.86	44.53%
Mesic hammock	25.04	4.36%
Road	4.49	0.78%

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

Lease/Management Agreement No.: 4372 (Appendix 12.1)

Use: Single X

Multiple

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: None

Type Acquisition: Conservation and Recreation Lands Program

Unique Features: Wading Bird and Wood Stork Colony Site, Basin Swamp, and Mesic Flatwoods

Archaeological/Historical: Seven sites documented within the LGCWEA.

Management Needs: Habitat restoration and improvement; public access and recreational opportunities; hydrological preservation and restoration; invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.

Acquisition Needs/Acreage: 2,442 acres FWC Additions and Inholdings list (Figure 11); 160,797 acres remaining in the Green Swamp Florida Forever Project

Surplus Lands/Acreage: None

Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.3)

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 LGCWEA 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	9
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	ii; 1; 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	2-4, 7
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	32
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	65-68
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	29
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	5-7

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	30-32
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	28-29
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	30-32
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	9-10; 46-71
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	61
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	62-69
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)	29-32

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	29-32; 58-60
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	
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	32; 46-71
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	46
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	Appendix 12.14
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	31-32

*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	9; Appendix 12.2 and 12.3
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)	9
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)	9; Appendix 12.2 and 12.3
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.3

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)	46
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	46
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	46
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	46

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	10-13; Appendix 12.6
33	Insert FNAI based natural community maps when available.	ARC consensus	14-16
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	10-26
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	14-20; 26
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	25
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	26
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	23-25
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	23-25
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	24-25
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)	46-71
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
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.	↓	46-71
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.	↓	71-77
42-C.	The associated measurable objectives to achieve the goals.	↓	71-77
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>	↓	71-77; Appendix 12.11
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.		79-82; Appendix 12.17
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)	60-61; Appendix 12.14
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).	↓	46-71
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
44-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
44-D.	Related activities (see requirement for #42-D).	↓	46-71
44-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17
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).	↓	46-71
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
45-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
45-D.	Related activities (see requirement for #42-D).	↓	46-71
45-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17
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)	23-25; 55-58
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	Appendix 12.18
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).	↓	46-71
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
48-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
48-D.	Related activities (see requirement for #42-D).	↓	46-71

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
48-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17

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	1; 25
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	25-27; 60
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	25-27; 60
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034(5)	25-27; 60
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).	↓	46-71
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
53-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
53-D.	Related activities (see requirement for #42-D).	↓	46-71
53-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17

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	26; 61
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	26; 61
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	61; Appendix 12.15
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).	↓	46-71
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
57-C.	Measurable objectives (see requirement for #42-C).	↓	71-77

57-D.	Related activities (see requirement for #42-D).	↓	46-71
57-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17

**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 footnote.	253.034(5)	58-60; 74-75
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).	↓	46-71
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
59-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
59-D.	Related activities (see requirement for #42-D).	↓	46-71
59-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	58-60; 74-75
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).	↓	46-71
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	↓	71-77
61-C.	Measurable objectives (see requirement for #42-C).	↓	71-77
61-D.	Related activities (see requirement for #42-D).	↓	46-71
61-E.	Budgets (see requirement for #42-E).		79-82; Appendix 12.17

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	32-46
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	46-71
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	253.034(5)	79-82; Appendix 12.17

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
	lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.		
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)	79-82; Appendix 12.17
68	A statement of gross income generated, net income and expenses.	18-2.018	79-82; Appendix 12.17

*** = 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
Board of Trustees	Board of Trustees of the Internal Improvement Trust Fund
CAS	Conservation Action Strategy
DEP	Department of Environmental Protection
DHR	Department of State Division of Historical Resources
DSL	Department of Environmental Protection Division of State Lands
FAC	Florida Administrative Code
FFS	Florida Forest Service
FISC	Florida Invasive Species Council
FLAM	Florida Landscape Assessment Model
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FTA	Florida Trail Association
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information Systems
GPS	Global Positioning System
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
LAP	Landowner Assistance Program
LATF	Land Acquisition Trust Fund
LGCWEA	Little Gator Creek Wildlife and Environmental Area
LMR	Land Management Review
MAG	Management Advisory Group
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NRCS	Natural Resources Conservation Service
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
SWFWMD	Southwest Florida Water Management District
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area

1 Introduction and General Information

Nestled within a large rural mosaic of public and private conservation lands in a landscape of cypress swamps, pine forests, and pastures in Pasco County, Florida, the Little Gator Creek Wildlife and Environmental Area's (LGCWEA) swamps and forested wetlands provide vital habitat important for imperiled species that occur on the site, including the wood stork (*Mycteria americana*) and other rare wading birds. Wood storks have been nesting intermittently on the area for at least the past 70 years. For the protection of the wood stork and other wading birds, public access to the LGCWEA is limited and only permitted from September 1st through January 31st or by special-use permit. However, the area provides valuable opportunities for research and environmental education on the ecology of imperiled species, and other wildlife-based public outdoor recreation opportunities such as hiking.

This Management Plan serves as the basic statement of policy and direction for the management of the LGCWEA (Figures 1 and 2) and has been developed to guide each aspect of the LGCWEA's resource and operational management for the ten-year planning period. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and cultural resources found on the LGCWEA. Furthermore, it identifies the FWC's management intent, goals and objectives, as well as challenges and potential solutions.

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the Internal Improvement Trust Fund (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 Chapters 253 and 259, Florida Statutes (F.S.), and Chapters 18-2 and 18-4, Florida Administrative Code (F.A.C.). 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 conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1 Location

The LGCWEA consists of 566 acres and is in Pasco County, lying in Section 24; Township 25 South; and Range 22 East (Figure 3). The LGCWEA is located approximately 60 miles southwest of Orlando, 40 miles northeast of Tampa, 20 miles northwest of Lakeland, 6 miles northeast of Zephyrhills, and 3 miles north of State Road 98. Other municipalities near the LGCWEA include Brooksville, Dade City, and Wesley Chapel. The LGCWEA is accessed from FL-471 and is primarily surrounded by publicly owned forested uplands and wetlands and privately owned lands used for agricultural purposes. The LGCWEA is not located within a designated Area of Critical State Concern.

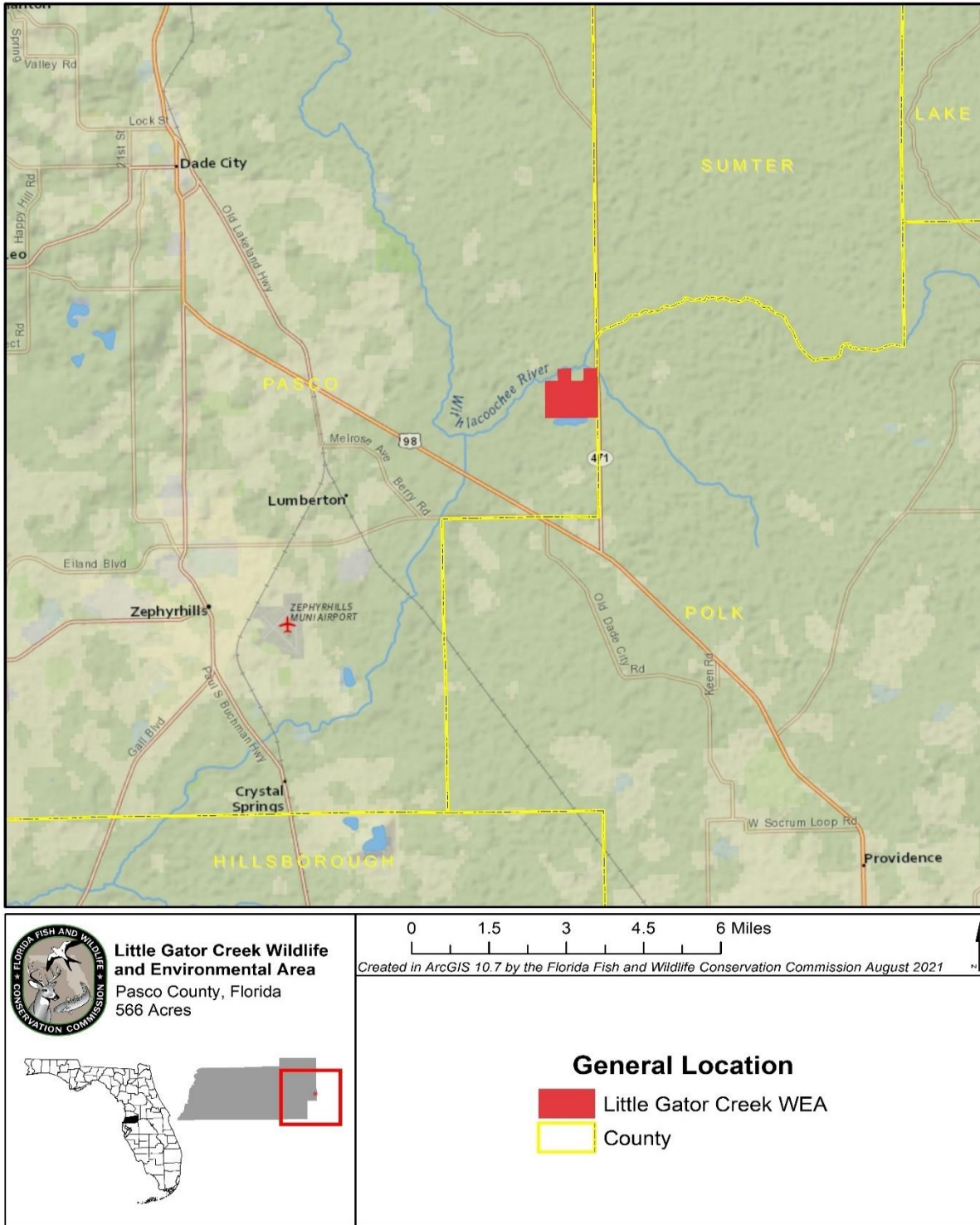


Figure 1. General Location of the LGCWEA

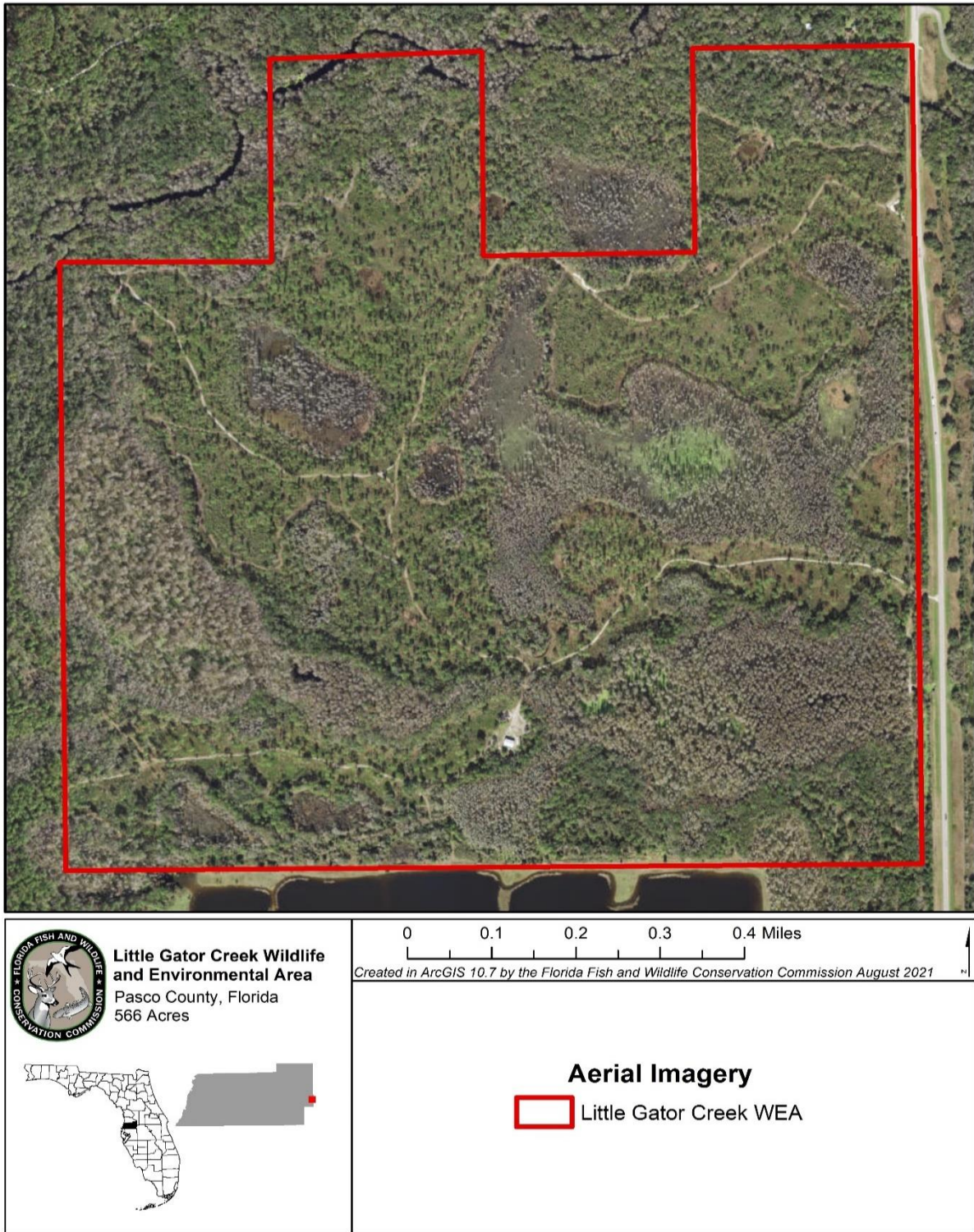


Figure 2. Aerial Imagery of the LGCWEA

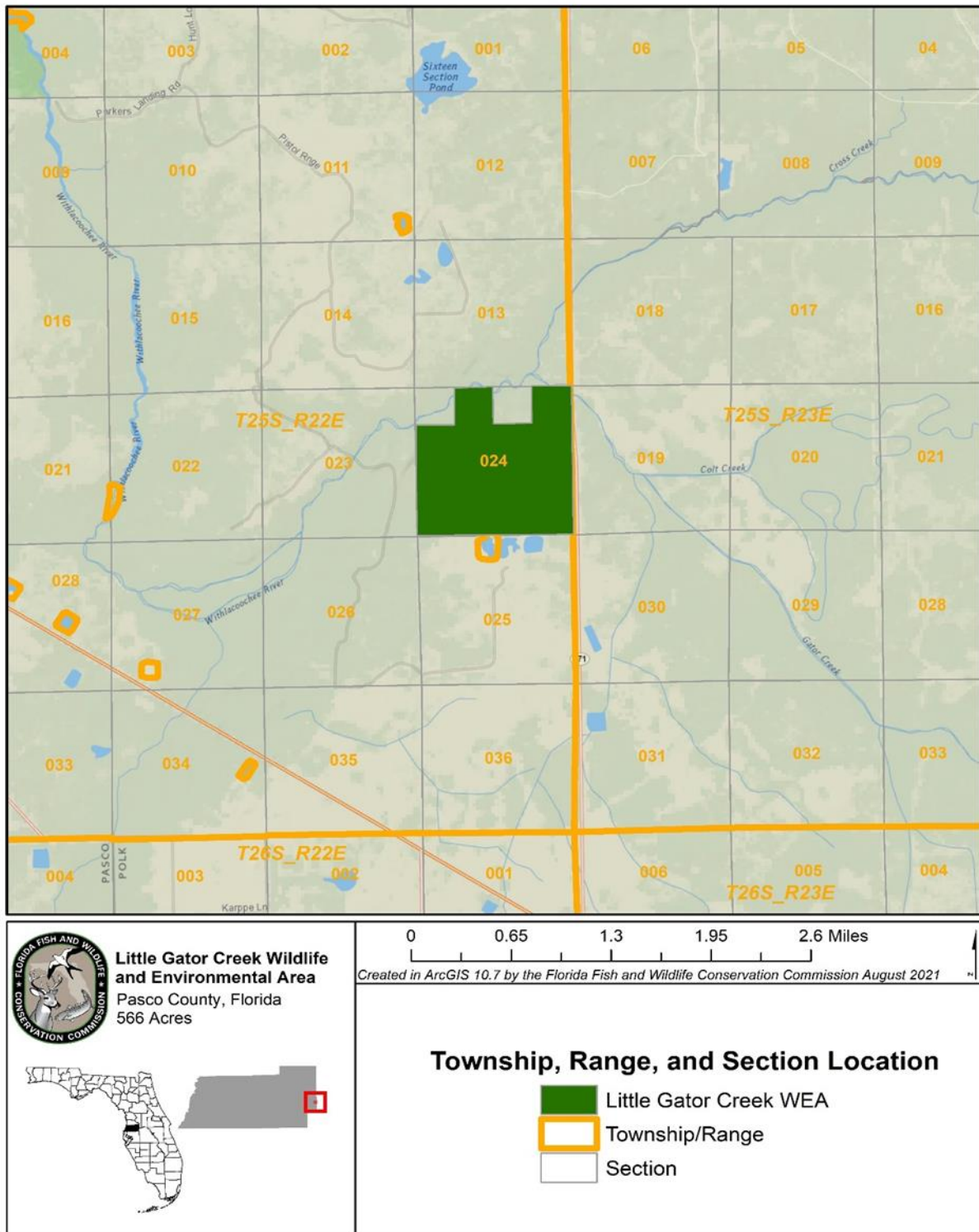


Figure 3. Township, Range, and Section Location of the LGCWEA

1.1.1 Proximity to other Public Conservation Lands

The LGCWEA is in the vicinity of an extensive network of conservation lands, including lands managed by the Southwest Florida Water Management District (SWFWMD) and the DEP (Figure 4). One Florida Forever project is also located in a 10-mile vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 10-mile radius of the LGCWEA, 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 10-mile Vicinity

Project Name	GIS Acres
Green Swamp	160,797

Table 2. Conservation Lands within a 10-mile Vicinity

State of Florida	Managing Agency
Clark Cattle & Citrus Agricultural and Conservation Easement	FFS
Colt Creek State Park	DEP-DRP
Green Swamp Conservation Easements	DEP-DSL
Green Swamp Land Authority Land Protection Agreements	DEP-DSL
Green Swamp/Bass Conservation Easement	DEP-DSL
Withlacoochee State Forest	FFS
Water Management District	Managing Agency
Green Swamp	SWFWMD
Hillsborough River Corridor	SWFWMD
Green Swamp Conservation Easements	SWFWMD
Upper Hillsborough	SWFWMD
Upper Hillsborough Conservation Easement	SWFWMD
County/City	Managing Agency
Gator Creek Reserve	Polk County
Hidden River	Pasco County
Lower Green Swamp Nature Preserve	Hillsborough County
The Villages of Pasadena Hills Park	Pasco County
Withlacoochee River Park	Pasco County
Private/Public Conservation Organization	Managing Agency
Two Rivers Ranch Mitigation Bank	Mitigation Development Services, LLC

Acronym Key	Agency Name
DEP-DRP	Florida Department of Environmental Protection – Division of Recreation and Parks
DEP-DSL	Florida Department of Environmental Protection – Division of State Lands
FFS	Florida Forest Service
SWFWMD	Southwest Florida Water Management District

1.2 Acquisition

1.2.1 Acquisition History

The LGCWEA was acquired in 1982 from Mr. C. M. Overstreet, a local cattleman and rancher under the Conservation and Recreation Lands (CARL) acquisition program. The CARL Trust Fund was approved in 1979 and relies on funds generated principally from the documentary stamp tax and severance taxes on phosphate rock. The CARL program was established for the purpose of purchasing environmentally endangered lands and those which have potential for public recreation. After the purchase of the property, the Land Acquisition Advisory Council recommended the FWC as the lead managing agency for the area. In November 1983, the Board of Trustees entered into Lease Agreement 3291 designating the FWC as lead manager over the area. The agreement was for a period of 20 years with one ten-year renewal option. In August 2017, Lease Agreement 3291 was then replaced with Lease Agreement 4723.

1.2.2 Purpose for Acquisition of the Property

The area was acquired as a single-use property under the CARL program, for the preservation and proper management of a significant wading bird colony containing a large number of nests of the endangered wood stork and other wading bird species. As a condition of the acquisition, Mr. Overstreet, the former owner, agreed to provide the equipment and structures needed to regulate the water flow and levels within the wood stork colony for a period of five years after state acquisition. The LGCWEA is managed by the FWC for the purpose of operating a Wildlife and Environmental Area, 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.



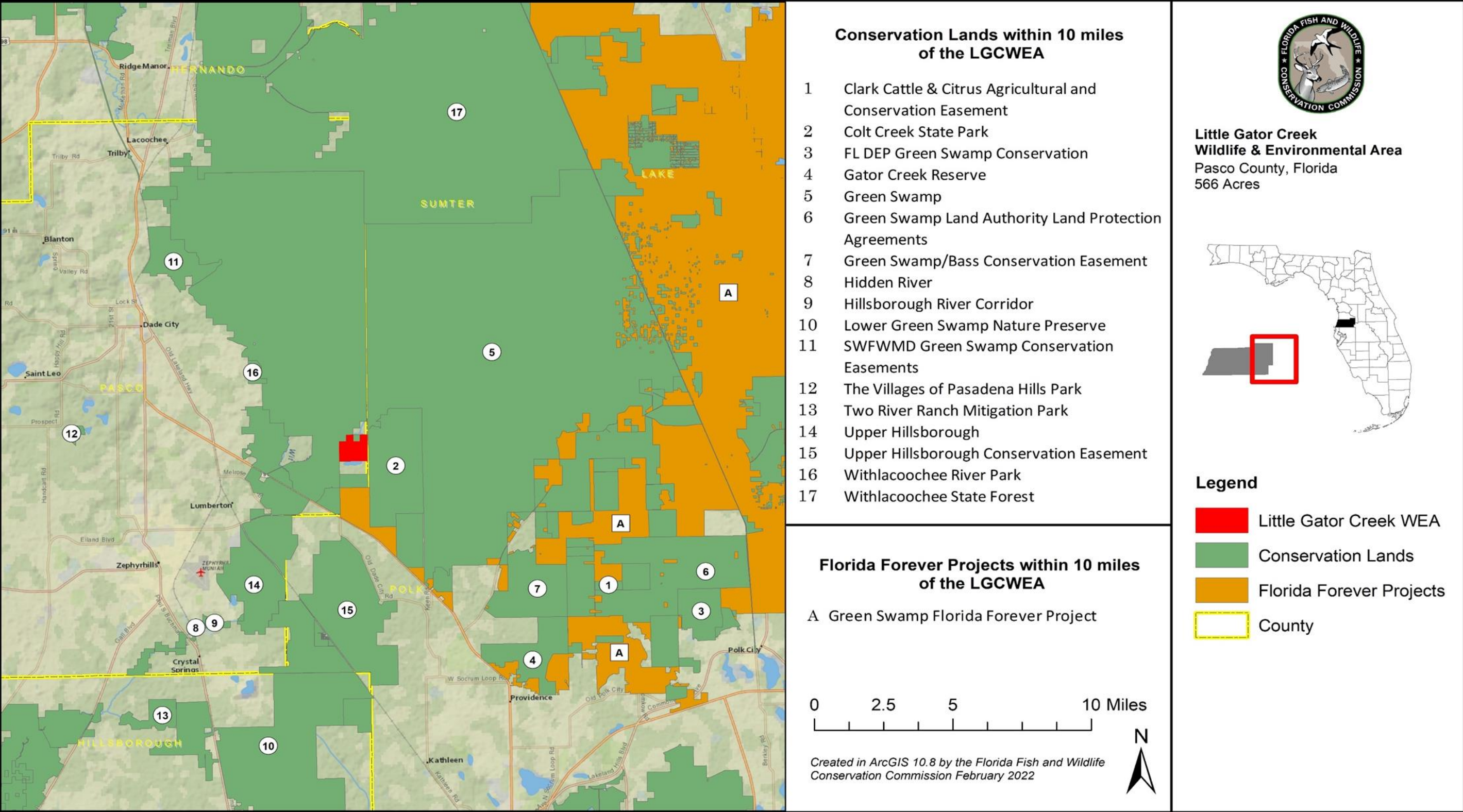


Figure 4. Nearby Conservation Lands and Florida Forever Projects

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1.3 Title Interest and Management Authority

As State-owned lands, title to the LGCWEA is vested in the Board of Trustees. In 1982, the DSL, as staff to the Board of Trustees, entered into a 20-year lease agreement (Lease Agreement Number 3291) granting the FWC management authority for the LGCWEA. In 2017, Lease Agreement 3291 was replaced with Lease Agreement 4723. 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.

The Board of Trustees' Lease Agreement Number 4723 with the FWC also 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), F.A.C., which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises."

1.3.1 Encumbrances

There are no known encumbrances to the property.

1.4 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting via Microsoft Teams on September 22, 2021, to obtain input from both public and private stakeholders regarding management of the LGCWEA. 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 12.3.1. Further, a public hearing, as required by Chapter 259.032(10), F.S., was held in Pasco County on November 17, 2021, to solicit input and comments from the general public regarding this Management Plan. A Management Prospectus was made available to the public 30 days prior to the hearing. The report of that hearing is also contained in Appendix 12.3.2. A website was also maintained for receipt of public input at <https://myfwc.com/conservation/management-plans/develop-mps/>. Further testimony and input were 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.

1.5 Planning Philosophy

The FWC's planning philosophy focuses on producing conservation outcomes that align with the needs of an ever-changing world. The FWC emphasizes consensus-building from the beginning of the planning process in order to engage, understand, and incorporate the ideas of the various interests, user groups, and communities that it serves. To achieve this holistic management approach, the FWC convenes a MAG meeting which engages stakeholders from

various user groups at the beginning of FWC’s planning process, and a public hearing in which the public can provide formal testimony. The FWC also engages field staff, as well as other FWC staff expertise and other agency experts, in developing this Management Plan, thereby facilitating development of meaningful management intent language. Further management planning input is also received through Land Management Reviews (LMR) conducted every five years on areas over 1,000 acres. LMRs include both a review of the current management plan and a field review of the area conducted by a diverse team of land management auditors. However, title to the LGCWEA is under 1,000 acres, therefore, no LMR is expected to be completed for the area.

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of the Management Plan by following a “living document” concept which links each plan with the previous plan by reporting on the objectives, management activities, and projects accomplished over the last planning timeframe (previous ten years; see Section 4).¹ This Management Plan serves as the guiding framework to implement an adaptive management process and content will be evaluated throughout the planning period to achieve comprehensive conservation goals (Section 5.2). As needed, amendments to this Management Plan will be presented to the DSL and ARC for review and consideration.

2 Natural and Cultural Resources

2.1 Physiography

2.1.1 Topography and Geologic Formations

Florida has a storied geological history. The State of Florida is a part of the Florida platform that extends into the Atlantic Ocean and extends over 100 miles into the Gulf of Mexico. During the Paleozoic and Mesozoic ages, volcanic and sedimentary rock formed to create the base layer of what is now Florida. Due to rifting and tectonic shift, North America broke away from Pangea and during this time the panhandle of Florida was underwater. Due to the waterway separating Florida from the rest of the United States, sediments eroding from the Appalachian Mountains kept Florida waters clear. This also created a limestone layer that, due to karstification, created the intricate aquifer and cave system in Florida. The final stage that brought Florida into the geologic condition represented today was the northern movement of the continent and receding water levels. This event also created the panhandle of Florida which is characterized by siliciclastic sediments created by the erosion of previously deposited rocks. Through these changes, Florida has a mosaic of geologic formations and soil types.

Florida is part of the Coastal Plain physiographic province which stretches from Cape Cod to the Mexican border. The Coastal Plain is divided into six physiographic sections, and Florida lies between two of these sections, the Floridian section which encompasses most of peninsular Florida and the East Gulf Plain section which encompasses the panhandle of Florida. The LGCWEA, is primarily located in a region that contains Ocala Limestone. These formations occur within the Western Valley physiographic division that is characterized by shallow elevations that range from sea level to 100 feet above mean sea level. Specifically, on the

LGCWEA the maximum elevation is 90 feet above mean sea level which is characterized by the karstic topography.

2.1.2 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the LGCWEA's soil series and soil depth to water table (Figures 5 and 6). The map units described in the soil survey of the LGCWEA are distributed as shown in Figure 5. Analyses of depth to water table for map units occurring within the LGCWEA 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 survey²." Soil map units may contain multiple soil components, which are given names that are unique identifiers. Appendix 12.6 lists the LGCWEA's official map unit descriptions of areas delineated on the detailed soil maps as determined by the NRCS. Analysis of depth to water table for map units occurring within the LGCWEA are also provided in Appendix 12.6.

Soils found within the LGCWEA are generally associated with sandy and loamy deposits. Chobee soils makes approximately half of the LGCWEA with Paisley fine sand making up nearly 42%. Various other fine sands that each make up less than 10% of the area include Pits-Dumps complex, Wabasso fine sand, and Zephyr muck.



2.1.3 Climate

The climate of Pasco County, like most of peninsular Florida, is humid and subtropical, with long, warm, and humid summers and mild, dry winters. In the summer, temperature tends to remain relatively constant from day to day, with high temperatures being tempered by clouds and frequent afternoon rain showers. In the winter, on the other hand, temperatures tend to vary considerably due to dry, cold air coming in the form of cold fronts from the north. Annual mean high and low temperatures are 84- and 64.5-degrees Fahrenheit (F), respectively. July and August are the hottest months with mean temperatures of 83.6 degrees F, while January is typically the coolest month with a mean temperature of 64 degrees F. Mean annual rainfall is about 56.51 inches with June-September being the period of highest precipitation.³ Rainfall also contributes to supporting various plant species found both in the wetlands and more inland since many of these species require high water levels to maintain anaerobic conditions that these species have adapted to.

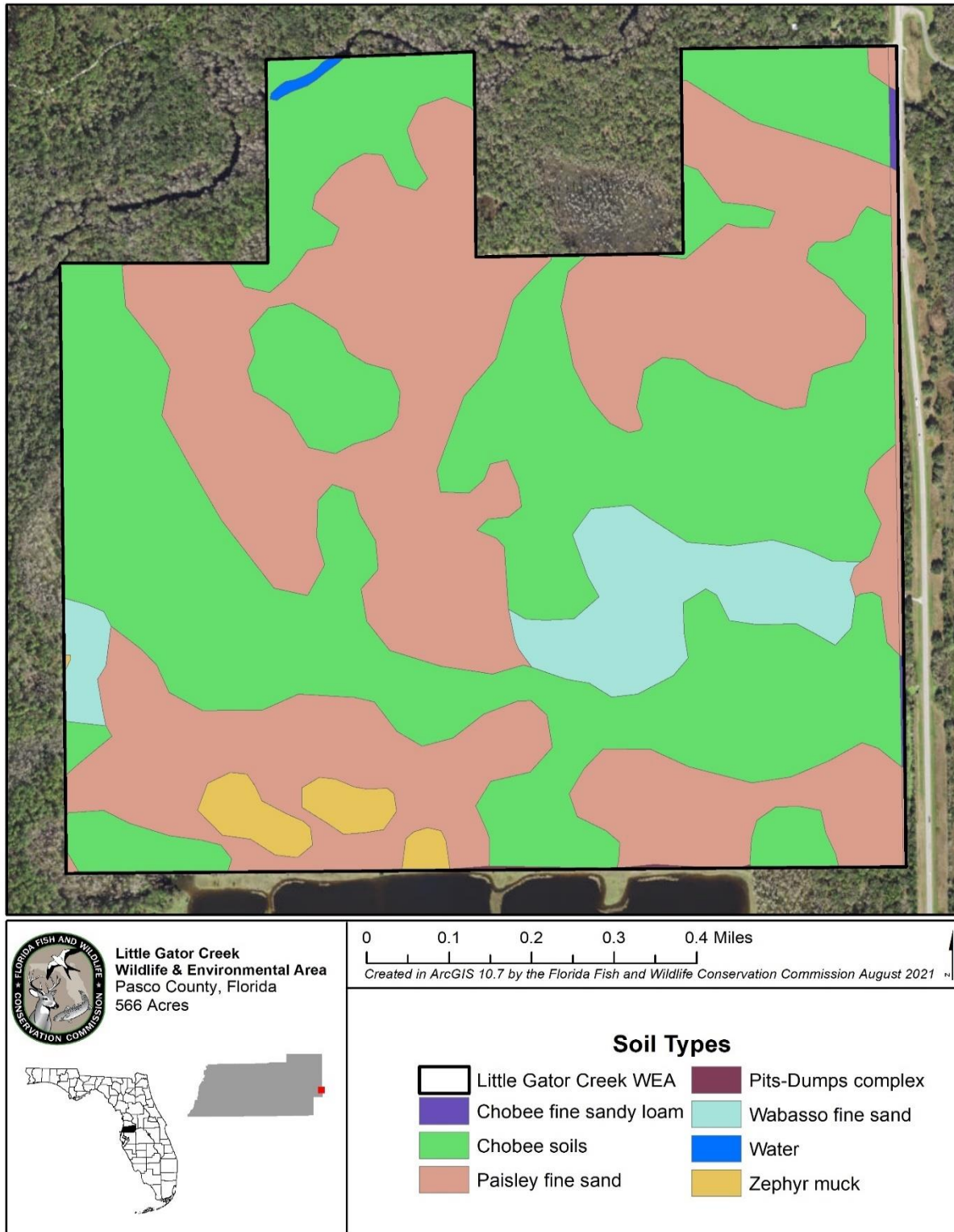


Figure 5. Soil Types found on the LGCWEA

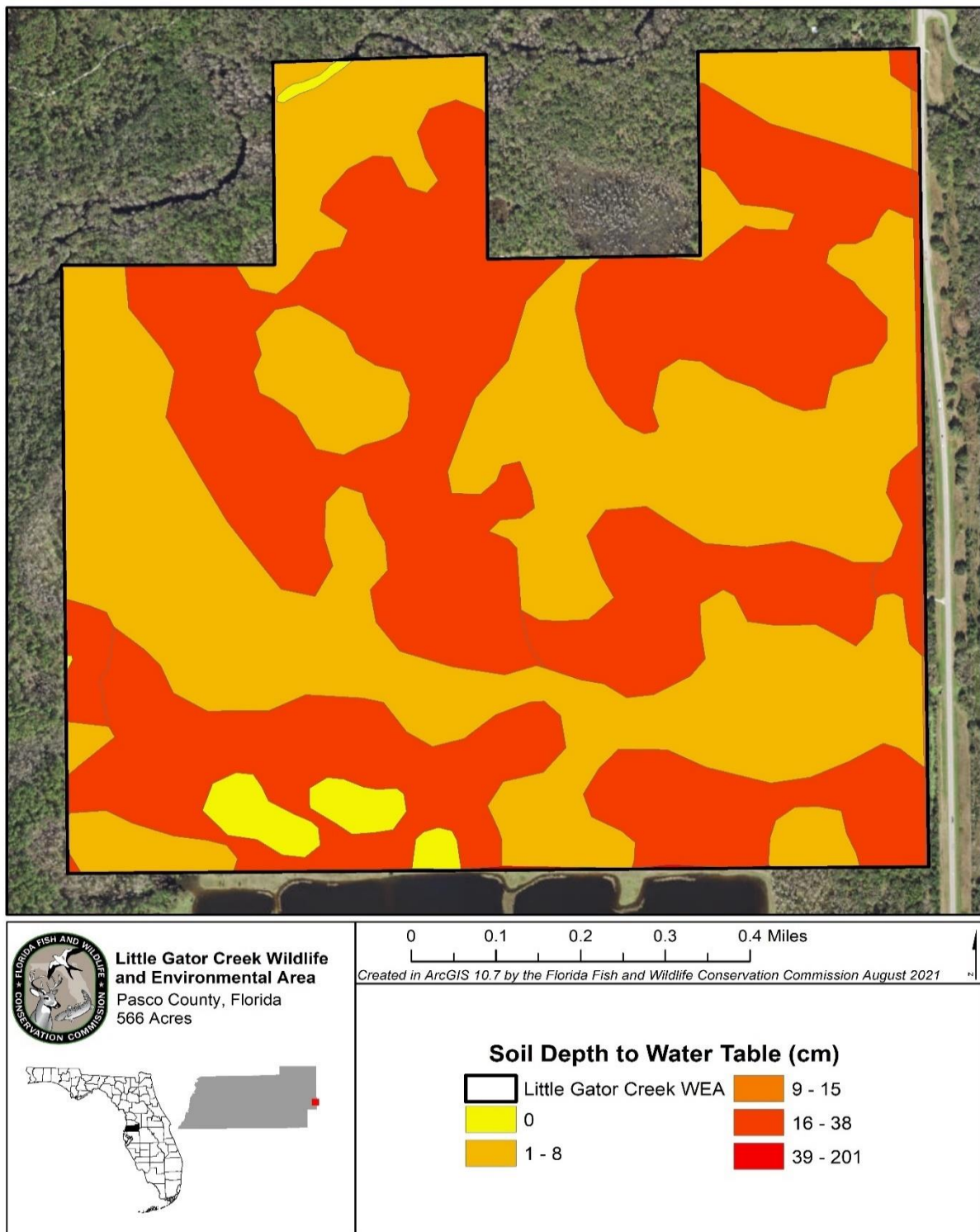


Figure 6. Soil Depth to Water Table (cm)

2.2 Vegetation

The FWC manages the lands in the WMA 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 communities' structure and function. Land management that has a positive influence on natural community conditions benefits species occurring in these habitats.

Through the services of the Florida Natural Areas Inventory (FNAI), the FWC has mapped the current natural and altered communities of the LGCWEA and documented 12 natural and altered community types existing on the LGCWEA (Table 3 and Figure 7).

Additionally, plant species found on the LGCWEA have been documented and recorded by either FWC staff or contractors (Appendix 12.4). Currently, ten rare plant species have been documented as occurring on the area (Table 4) and five non-native and invasive plant species (Table 5) (Sections 2.2.3 and 2.2.4).

Table 3. Natural and Altered Community Types on the LGCWEA*

Community Type	GIS Acres	Percentage
Basin swamp	194.69	33.88%
Blackwater stream	1.42	0.25%
Canal/ditch	0.93	0.16%
Clearing/regeneration	5.53	0.96%
Depression marsh	5.03	0.88%
Developed	1.22	0.21%
Dome swamp	31.15	5.42%
Floodplain swamp	2.38	0.41%
Hydric hammock	46.88	8.16%
Mesic flatwoods	255.86	44.53%
Mesic hammock	25.04	4.36%
Road	4.49	0.78%

**Acreages were provided from FNAI data*

2.2.1 FNAI Natural Community Descriptions

The primary natural communities found within the LGCWEA are mesic flatwoods and basin swamp. The Withlacoochee River flows along the north side of the LGCWEA and contributes a great deal to the prominent natural communities and resources in the area. The FNAI natural and altered community descriptions for the LGCWEA are as follows:

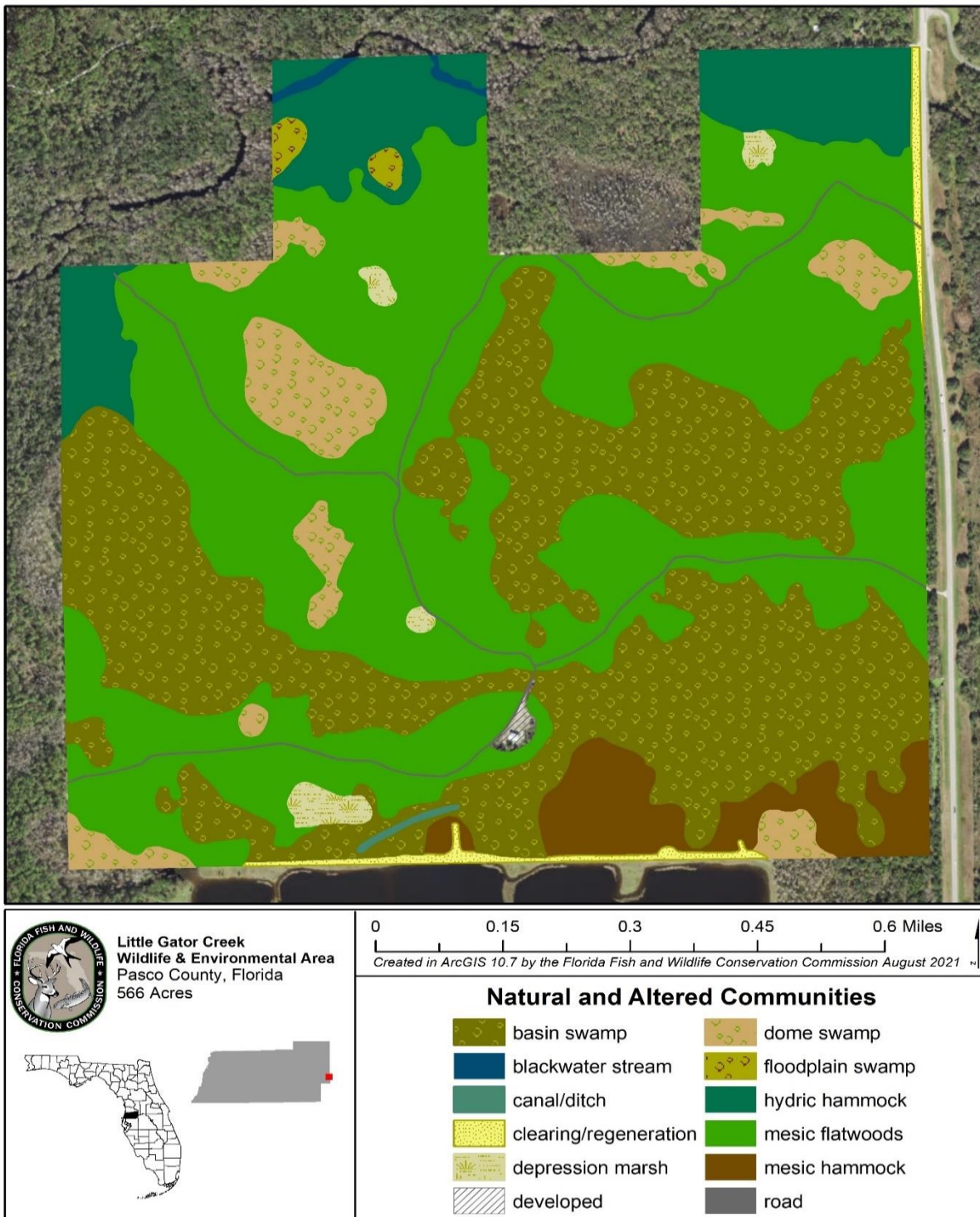


Figure 7. Natural and Altered Communities found on the LGCWEA

Basin Swamp (194.69 acres)

Large, irregularly shaped wetland occupying a shallow, closed basin and dominated by a mix of conifer and hardwood species. Two basin swamps (approximately 112 acres and 60 acres, respectively) occur on the LGCWEA, occupying depressions that were probably once oxbows or swales within the Withlacoochee River floodplain. Both were inundated at the time of FNAI's survey. The canopy and subcanopy are dominated by pond cypress (*Taxodium distichum*), red maple (*Acer rubrum*), and swamp laurel oak (*Quercus laurifolia*). According to the LGCWEA Conceptual Management Plan (FWC 2001), cypress trees were harvested from the site in 1949 and 1955, suggesting that the canopy trees in the basin swamp are approximately 50 years old. The shrub layer is fairly open, with scattered cabbage palm (*Sabal palmetto*), wax myrtle (*Myrica cerifera*), and blueberry (*Vaccinium* sp.). Herbs are generally sparse in basin swamps due to high water levels and low light; on the LGCWEA, the most common herbs are maidencane (*Panicum hemitomom*) and Virginia chain fern (*Woodwardia virginica*).

Fire intervals are variable and depend on such factors as dominant vegetation, fire exposure, and drought. The interior of basin swamps may go without fire for decades or even centuries while the exposed outer edges can be more susceptible to frequent fire. Basin swamps that are situated within the matrix of a pyrogenic community, such as mesic flatwoods, will likely burn more frequently than basin swamps positioned within a matrix of mesic or hydric hammock. Without fire, bays and hardwoods increase in density and peat accumulates more rapidly. Cypress and pines are tolerant of light surface fires, but muck fires burning into the peat can kill the trees, lower the ground surface, and transform a swamp into a pond, lake, marsh, or shrub bog. Natural ecotones between basin swamps and flatwoods are usually open, species-rich, grassy zones which may support rare plant species.

Blackwater Stream (1.42 acres)

Perennial stream originating in sandy lowlands, and deeply colored with tannins and other organic compounds. The Withlacoochee River crosses the LGCWEA twice on the northwestern side of the WEA, for a total of approximately 0.2 mile; Gator Creek crosses the northeastern corner of the site for 0.1 mile. Both are dark, tannin-stained streams bordered by floodplain forest and swamp.

Depression Marsh (5.03 acres)

Shallow, rounded depressions in sandy soils dominated by herb and, occasionally, shrub species that often occur in distinct concentric bands. Four small depression marshes occur on the LGCWEA, one smaller than one acre, another approximately two acres in size. The smaller of the marshes is surrounded by mesic flatwoods with slash pine (*Pinus elliottii*) growing in the edge of the marsh. Concentric zones of maidencane and rush (*Juncus* sp.) surround the deeper center of arrowhead (*Sagittaria* sp.).

The larger marsh resembles a dome swamp around the edges, with an encircling band of pond cypress, sweetgum (*Liquidambar styraciflua*), red maple, water oak (*Quercus nigra*), shrubs, and vines such as muscadine (*Vitis rotundifolia*). The center is open and herbaceous, dominated by sedges (*Carex* sp.) and grasses (*Paspalum* sp.).

Fire is essential to the maintenance of depression marshes, discouraging shrub invasion and promoting the dominance of grasses and sedges. Prescribed fire in the surrounding flatwoods on the LGCWEA should be encouraged to burn across the depression marshes. If firebreaks have been plowed around the marshes, they should be allowed to re-vegetate and burn frequently.

Dome Swamp (31.15 acres)

Shallow, usually more or less circular isolated wetlands, forested with a mix of conifers and hardwoods that are typically taller toward the center of the swamp, creating a domed profile. Eight dome swamps, ranging in size from one to ten acres, occur on the LGCWEA. Most are dominated by pond cypress (*Taxodium ascendens*) with a large hardwood component of red maple and swamp laurel oak. According to the LGCWEA Conceptual Management Plan (FWC 2001), cypress were harvested from the site in 1949 and 1955, suggesting that the cypress trees in the dome swamps are approximately 50 years old. One dome swamp completely lacks cypress, although numerous cypress stumps are present, and is dominated entirely by hardwoods. No cypress seedlings or saplings were observed in the understory so it appears that this community is not returning to its pre-logging condition. Wax myrtle and persimmon (*Diospyros kaki*) occur in the understories. Due to high water levels and low light, the herb layer in dome swamps is usually sparse, which is the case on the LGCWEA, with maidencane, sedges, and duckweed (*Lemna* sp.) being the most common herbs. Sawgrass (*Cladium jamaicense*) forms the herb layer in one small dome swamp on the edge of the Withlacoochee River floodplain forest.

Fire is essential for maintaining the structure and the species composition of a dome swamp community. Without periodic fires cypress may become less dominant as hardwood or bay canopy species increase and peat accumulates. Cypress have fairly thick, fire-resistant bark and are tolerant of light surface fires, but catastrophic fires burning into the peat can kill cypress trees, especially when fire has long been absent. The consumption of muck fuels from such a catastrophic wildfire can lower the ground surface and transform a dome swamp into a pond, wet prairie, or shrub bog. Fire frequency is generally greatest at the periphery of the dome and least in the interior, where long hydroperiods and deeper peat, and/or water, maintain high moisture levels. The normal fire cycle might be as short as two to five years along the outer edge and as long as 100 to 150 years towards the center. The domed profile of these swamps may be partly attributable to this frequent, peripheral fire regime. Fire in a long-unburned dome swamp may result in higher cypress mortality in the center of the dome where fire burns through a deeper layer of accumulated peat and kills the cypress roots. Emergent marshes can develop in the center of such dome swamps. In most areas of Florida, dome swamps are surrounded by old firebreaks; since this is the case on the LGCWEA, the firebreaks should be allowed to re-vegetate and then burned frequently. The natural ecotones between dome swamps and flatwoods are usually a species-rich, grassy zone which may support rare plant species.

Floodplain Swamp (2.38 acres)

Floodplain swamp is a closed-canopy forest of hydrophytic trees occurring on frequently or permanently flooded hydric soils adjacent to stream and river channels and in depressions and

oxbows within floodplains. The LGCWEA is located in the confluence of Gator Creek and the Withlacoochee River, and floodplain swamp is found in the floodplains of both. The canopy and subcanopy of these forests are dominated by swamp laurel oak, live oak (*Quercus virginiana*), water oak, red maple, tupelo gum (*Nyssa sylvatica*), and cabbage palm. Common shrubs include cabbage palm and yaupon (*Ilex vomitoria*). Due to inundation and low light levels, the herb layer is sparse, but usually includes beaksedges (*Rhychospora* sp.) and crabgrass (*Digitaria* sp.).

Hydric Hammock (46.88 acres)

Hydric hammocks are forested wetlands with a mixed canopy of deciduous and evergreen hardwoods occurring in the ecotone between floodplain swamp and upland communities. Hydric hammock is extensive along sections of the Withlacoochee River floodplain.

The diverse, closed canopy consists of swamp laurel oak, sweetbay (*Magnolia virginiana*), red maple, cabbage palm, and sweetgum, plus occasional bald cypress (*Taxodium discitichum*). The subcanopy is usually dominated by cabbage palm, American hornbeam (*Carpinus caroliniana*), swamp bay (*Persia palustris*), dahoon holly (*Ilex cassine*), and American elm (*Ulmus americana*). The sparse tall shrub layer consists of sapling cabbage palms and wax myrtle. Seedling cabbage palm and blue palm (*Sabal minor*) often dominate the short shrub layer. Composition of the herb layer is also variable, with millet beaksedge (*Rhynchospora miliacea*) being a common component.

Mesic Flatwoods (255.86 acres)

Fire-maintained forest of widely spaced pines on a flat, moderately to poorly drained soils, usually with species-rich shrub and herb layers. At approximately 256 acres, mesic flatwoods are the most extensive natural community on the LGCWEA, forming a matrix with the numerous wetland inclusions on site. Scattered, mature longleaf pine (*Pinus palustris*) and occasional slash pines form the canopy throughout most of the area. According to the Conceptual Management Plan (FWC 2001), a turpentine operation was operated at the site from 1928 to 1934. Virgin longleaf pine were harvested in 1903-04, and a second tree harvest took place in 1939, suggesting that most of the pines on site are younger than 60 years old. Saw palmetto (*Serenoa repens*) is the most common shrub although other shrubs such as dwarf live oak (*Quercus minima*), staggerbush (*Lyonia fruticosa*), and dwarf blueberry (*Vaccinium myrsinites*) are also common. Wiregrass (*Aristida stricta*) is the dominant species in the ground cover, but a variety of other herbs and vines are also present.

Mesic flatwoods must be burned regularly, every one to three years, to maintain the open, grassy character of the ground layer. The Conceptual Management Plan states that regular burning was conducted on site until 1970 in support of cattle grazing operations. FWC staff have burned frequently, which undoubtedly contributed to the high quality of most of the flatwoods on the LGCWEA.

Cogongrass (*Imperata cylindrica*) was found at five locations in mesic flatwoods. Efforts to eradicate and prevent the spread of this species will continue to be undertaken.

A population of approximately 50 plants of celestial lily (*Nemastylis floridana*) was observed in mesic flatwoods in the central portion of the LGCWEA. Celestial lily was also collected in mesic flatwoods in the northeastern portion of the site in 1991 but was not observed during the most recent survey. This fall-flowering Florida endemic is ranked as imperiled by FNAI. It is dependent on frequent fire to promote flowering and limit competition from woody species.

Mesic Hammock (25.04 acres)

Mesic hammock is an upland forest community of evergreen broadleaved trees occurring in naturally fire-protected areas. At the LGCWEA, this community occurs at the edges of the basin swamp and has typically replaced mesic flatwoods due to fire exclusion history. This area lacks the characteristic mesic hammock canopy of live oak, and instead supports an oak- and pine-dominated canopy of water oak, swamp laurel oak, and slash pine. It has a subcanopy of cabbage palm. The predominance of saw palmetto in the shrub layer suggests that this area was historically mesic flatwoods that was invaded by oaks as a result of human rather than natural fire suppression. The abundance of other weedy species, such as broomsedge (*Andropogon virginicus*) and muscadine, also supports this interpretation. However, the advanced age and density of the oak canopy probably precludes restoration of the site to mesic flatwoods.

2.2.2 FNAI Altered Community Descriptions

Canal/ Ditch (0.93 acres)

Canal/ditch are artificial linear drainage ways.

Clearing/Regeneration (5.53 acres)

Clearing/regeneration areas are dove fields, wildlife food plots, old home sites, or recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community.

Developed (1.22 acres)

Developed areas include buildings, maintained lawns, recreational, and industrial areas.

Road (4.49 acres)

Roads are areas that are paved or unpaved and intended for vehicular traffic.

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 Service (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 F.A.C.) that is maintained by DACS.

FNAI conducted a rare plant survey in 2020 on the LGCWEA and identified ten imperiled plant species, of which four are State Endangered and two are State Threatened (Table 6). The protections afforded plants that occur on conservations lands, in conjunction with management

actions that include invasive 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 LGCWEA.

In addition to the imperiled plants, four plants listed by the State as commercially exploited, are known to occur on the LGCWEA (Table 4). The FWC will continue to monitor the known occurrences of these species and report any illegal collection to the appropriate authorities.

Table 4. Imperiled Plants Species Known to Occur at the LGCWEA

Common Name	Scientific Name	Status
<i>Andropogon arctatus</i>	Pine-woods bluestem	ST
<i>Encyclia tampensis</i>	Butterfly orchid	CE
<i>Epidendrum conopseum</i>	Green-fly orchid	CE
<i>Matelea gonocarpos</i>	Angle pod	ST
<i>Nemastylis floridana</i>	Celestial lily	SE
<i>Osmunda cinnamomea</i>	Cinnamon fern	CE
<i>Osmunda regalis</i>	Royal fern	CE
<i>Polypodium plumula</i>	Plume polypody	SE
<i>Polypodium ptilodon</i>	Swamp plume polypody	SE
<i>Tillandsia utriculata</i>	Giant wild-pine	SE

Acronym Key	Status
CE	Commercially Exploited
SE	State Endangered
ST	State Threatened

It is possible other imperiled species occur on the LGCWEA, 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.

Angle Pod (*Matelea gonocarpos*) - 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 fire (≤ 3 years), 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.

Butterfly Orchid (*Encyclia tampensis*) - Butterfly orchid is epiphytic on many different trees, and prefers moist to wet areas in depression marshes, glades marshes, rockland hammocks, sloughs, strand swamps, tidal swamps, and wet flatwoods. 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 negatively affects this species; therefore, staff will protect known occurrences and make sure not to negatively influence areas with known occurrences. While plants are identifiable all year by their well-developed pseudobulbs, surveys for flowers can occur during peak flowering, which occurs May to September, and surveys for fruits can occur throughout the year.

Celestial Lily (*Nemastylis floridana*) - Celestial lily prefers low open sunny areas in mesic flatwoods, wet flatwoods, and wet prairies. This species also occurs in hydric hammocks, and along the edges of basin marshes and dome swamps. Celestial lily needs a fire regime that includes frequent (≤ 3 years) growing season fires that reduce the encroachment of woody species. This species blooms in large numbers in the season following a fire. Fire suppression and hydrologic disturbances negatively affect this species; therefore, avoid constructing fire breaks in ecotones, maintain and restore the natural hydrology, and apply natural community specific fire regimes. Flowering, which occurs from August to October, is the best time for conducting surveys or verifying species identity and due to flowers opening in late afternoon, surveys should occur between 4:30-6:00 pm.

Cinnamon Fern and Royal Fern - These ferns, state commercially exploited, 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, the FWC will make efforts to protect them 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, staff will protect areas with known occurrences, and staff should maintain and restore the natural hydrology where practicable. As fronds are present year-round, these species can be identified throughout the year.

Giant Wild-pine (*Tillandsia utriculate*) – Airplants occur in many natural communities in Florida, both wet and dry. Most airplants are primarily epiphytes (plants that grow harmlessly upon

another plant and derive their moisture and nutrients from the air, rain, and sometimes from debris accumulating around it) that grow on stumps, tree trunks, and branches. However, large individuals may fall to the ground and successfully continue to live. While many airplants grow in communities that the FWC typically does not actively manage, if conducting management activities near known occurrences, the FWC will make efforts to protect the plant and host plant from fire, chemicals, and mechanical treatments. When an individual plant occurs in a fire-maintained habitat, prior to conducting a prescribed fire, to the extent practicable, staff will take appropriate actions to protect known occurrences. Airplants, including giant wild-pine are experiencing massive population losses due to the Mexican bromeliad weevil (*Metamasius callizona*), an exotic pest, making the protection and management of these plants from other threats all the more critical. Flowering, which occurs throughout the year (majority of flowering occurs from early spring to early fall), is the best time for conducting surveys or verifying species identity.

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 these species; therefore, protection will occur in areas with known occurrences, and staff will 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.

Pine-Woods Bluestem (*Andropogon arctatus*) - Pine-woods bluestem, state threatened, prefers mesic to wet flatwoods, wet prairies, and seepage bogs with open, wiregrass-dominated areas with widely spaced pines. This species needs a fire regime that includes frequent (≤ 3 year) growing season fires that reduce the encroachment of woody species and creates open areas allowing sunlight to reach the ground. Pine-woods bluestem also requires fire for flower production, and it will produce flowers for up to 1-2 years after a fire. However, without fire this species will remain in a vegetative state. Soil and hydrologic disturbance negatively affect this species; therefore, maintain and restore the natural hydrology, and limit the use of heavy machinery in this species' habitats. Flowering, which occurs primarily from September to November, is the best time for conducting surveys or verifying species identity, and since the best flowering is after a fire, staff should conduct surveys within a year of fire.

Plume Polypody (*Polypodium plumula*) and Swamp Plume Polypody (*Polypodium ptilodon*) - Plume polypody is usually an epiphytic fern growing on tree branches, usually live oaks, in bottomland forests, floodplain swamps, hydric hammocks, mesic hammocks, and sinkholes. While swamp plume polypody is usually a terrestrial fern growing primarily around tree bases in basin swamps, hydric hammocks, rockland hammocks, and strand swamps. However, both species may occasionally grow on tree stumps and rocks within their preferred habitats. These

species are sensitive to fire, and some of their preferred habitats occasionally burn during periods of drought. Hydrological disturbances negatively affect this species; therefore, staff will maintain and restore the natural hydrology where practicable. Surveys or species identification may occur throughout the year for these species.

2.2.4 Invasive and Non-native Plants

FWC biologists and contractors have documented five non-native and invasive plant species (Table 5) on the LGCWEA. Species that are considered invasive are species that (a) are nonnative to a specified geographic area; (b) were introduced by humans (intentionally or unintentionally); and (c) do or can cause environmental, economic, or human harm. The FWC relies on the Florida Invasive Species Council (FISC) for the categorization of invasive plant species.

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

Scientific Name	Common Name	FISC Category
<i>Imperata cylindrica</i>	Cogongrass	I
<i>Lygodium microphyllum</i>	Old world climbing fern	I
<i>Pistia stratiotes</i>	Water-lettuce	I
<i>Nephrolepis cordifolia</i>	Narrow swordfern	I
<i>Urena lobata</i>	Caesarweed	I

2.3 Fish and Wildlife Resources

As described above, the LGCWEA has a variety of natural communities and habitat types that support a wide array of imperiled and more common wildlife species. Active wildlife management practices make the LGCWEA an excellent place to view wildlife. The LGCWEA's upland mesic flatwoods, basin swamp, and other natural communities provide critical habitat for resident and migratory wildlife. The FWC maintains an inventory of fauna occurring on the LGCWEA listed in Appendix 12.5, including mammals, birds, reptiles, and amphibians.

2.3.1 Imperiled Fish and Wildlife

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 USFWS. This designation is also commonly known as "listed species." Table 6 outlines all imperiled fish and wildlife that have been observed on the LGCWEA.

Table 6. Imperiled Wildlife Species found on the LGCWEA

Common Name	Scientific Name	Status
American alligator	<i>Alligator mississippiensis</i>	FT (S/A)
Gopher tortoise	<i>Gopherus polyphemus</i>	ST
Little blue heron	<i>Egretta caerulea</i>	ST
Wood stork	<i>Mycteria americana</i>	FT

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

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 F.A.C.) have come into effect since the Imperiled Species Management Plan was approved and those changes have been incorporated into this Management Plan. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (<https://myfwc.com/media/1945/threatened-endangered-species.pdf>) as Federally Endangered or Federally Threatened. Species that are not federally listed, but which have been identified by the FWC as being at some level of risk of extinction, are listed as State 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 Threatened.

2.3.2 Invasive and Non-Native Wildlife Species

In addition to the species listed in Appendix 12.5, two invasive and non-native wildlife species have been documented on the LGCWEA (Table 7). The FWC will continue to document any occurrences of invasive and non-native species found on the LGCWEA. More information on monitoring and management of invasive and non-native wildlife can be found in Section 5.5 and Section 6.4.

Table 7. Invasive and Non-native Species found on the LGCWEA

Common Name	Scientific Name
Cuban brown anole	<i>Anolis sagrei</i>
Island apple snail	<i>Pomacea maculata</i>
Wild hog	<i>Sus scrofa</i>

2.3.3 FNAI Element Occurrences

A diversity of wildlife species is found on the LGCWEA. The FNAI element occurrence records include nine element occurrences in the vicinity of the LGCWEA. The FWC uses the FNAI Element Occurrences database to assist in identifying and recording resources on FWC managed areas. This database also aided staff in the development of the species tables found in Appendix 12.5. As defined by 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 an area of land and/or water in which a

species or natural community is, or was, present. FNAI assigns a rank to each “element” occurrence. This ranking system was developed by NatureServe and the Natural Heritage Program Network which assigns a 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: https://www.fnai.org/PDFs/Rank_and_Status_Explanation.pdf. Appendix 12.8 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of identifying known plant and animal resources.

2.4 Water Resources

The LGCWEA is primarily affected by two waterways: Gator Creek and the Withlacoochee River. The northern boundary of the LGCWEA encompasses two short segments of the Withlacoochee River and Gator Creek also flows through the northeast corner of the property. Additionally, Little Gator Creek, from which the property derives its name, is proximate to the southeast corner of the LGCWEA and runs north into Gator Creek and the Withlacoochee River. The Withlacoochee watershed is classified as an Outstanding Florida Water (OFW) and over 13% of the LGCWEA falls within the Withlacoochee River System (Figure 8). Additionally, National Wetlands Inventory data indicates that wetlands are present on nearly 46% of the LGCWEA.

Surface drainage on the LGCWEA and surrounding areas is poorly developed. Pasco County is drained primarily by underground seepage. This drainage is interrupted by prolonged above-normal rainfall which raises the ground-water level so that sinkholes that normally act as surface drains become springs and add to the excessive surface water. Water levels in the wood stork colony are regulated through a well and an electric pump to provide optimum depths at various stages of the wood stork’s reproductive cycle. If there is not enough rainfall, then the electric pump is turned on to increase the water level. The water at the colony serves as a protective mechanism: alligators limit the number of raccoons and snakes that are able to reach the eggs and nestlings. Yearly drawdowns at the end of the breeding season in July are required to maintain healthy cypress for nesting.

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 F.A.C. The surface waters of the LGCWEA are designated as Class III and classified for fish consumption, recreation, and propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Additionally, it is the policy of the DEP to afford the highest protection to OFW and Outstanding National Resource Waters (Chapter 62-302.700 F.A.C.). No degradation of water quality, other than that allowed in subsections Chapter 62-4.242(2) and (3) F.A.C., is permitted in these OFW, notwithstanding any other DEP rules that may allow water quality lowering.

2.5 Beaches and Dunes

There are no beaches or dunes within the LGCWEA.

2.6 Mineral Resources

The LGCWEA contains extensive deposits of commercial grade lime rock.

2.7 Cultural Resources

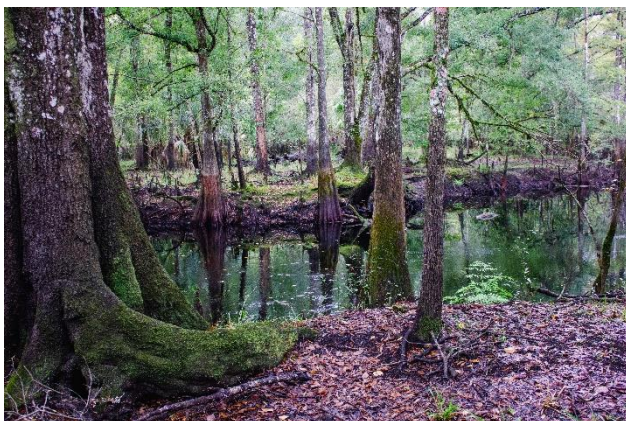
The Florida Master Site File (FMSF), maintained by the Florida Department of State's Division of Historical Resources (DHR), is the State of Florida's official inventory of cultural resources, archaeological and historical survey reports, and other manuscripts relevant to historic preservation in Florida. Categories of resources recorded at the FMSF include archaeological sites, historical structures, historical cemeteries, historical bridges, and historical resource groups (comprised of historic districts, landscapes, and linear features).

To date, the FMSF indicates that one previous cultural resource survey has been conducted on the LGCWEA. Additionally, seven archaeological sites have been recorded on the LGCWEA (Table 8). The FWC will consult with the DHR to determine the necessary actions for resource inventory and preservation. All identification, assessment, and preservation strategies will be developed in consultation with the DHR.

Table 8. Cultural Resources on the LGCWEA

FMSF No.	Resource Category	Resource Title	Acres
8Pa58	Archaeological site	McNeil	2.0
8Pa59	Archaeological site	N/A	3.0
8Pa60	Archaeological site	N/A	2.0
8Pa61	Archaeological site	N/A	8.0
8Pa62	Archaeological site	N/A	2.0
8Pa63	Archaeological site	N/A	0.5
8Pa64	Archaeological site	N/A	0.5

2.8 Scenic Resources



The Withlacoochee River and Gator Creek run along the northern border of the LGCWEA and provide valuable scenic resources for the area. Additional scenic resources include flatwoods, floodplain forest, basin swamp, and dome swamp, among others. Complete descriptions of the natural communities found on the LGCWEA can be found in Section 2.2.1 of this Management Plan.

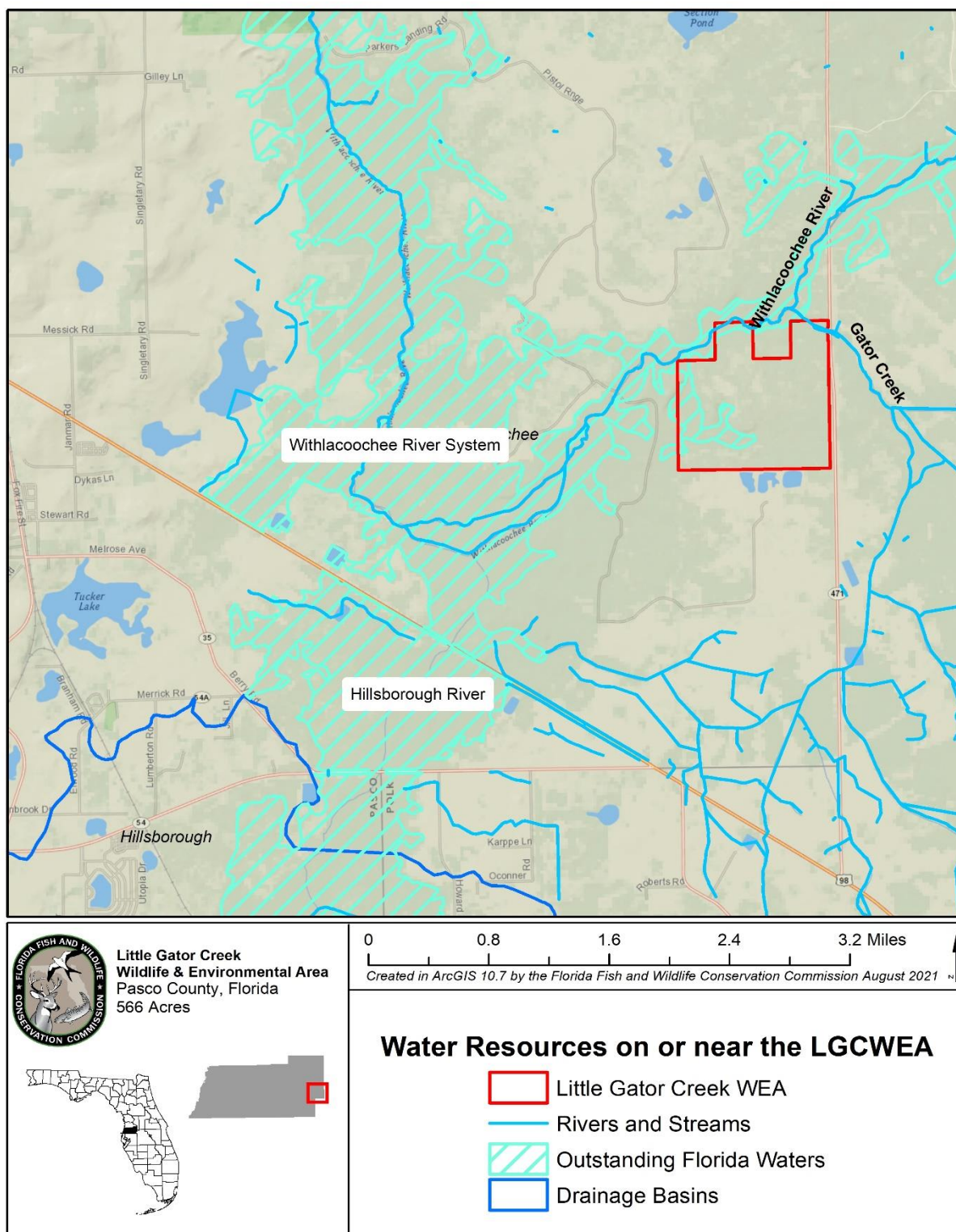


Figure 8. Water Resources near the LGCWEA

3 Uses of the Property

3.1 Previous Use and Development

The first Paleoindian inhabitants of Florida arrived at least 13,000 years ago. While these and subsequent native inhabitants of Florida were largely fisher-gatherer-hunters, subsequent cultures began to produce domesticated crops, such as maize, beans, squash, and other crops for a growing and increasingly sedentary population. For thousands of years before Europeans arrived, Native peoples thrived in South Florida by hunting, fishing, and gathering of wild plants and shellfish. The decimation of these cultures began shortly after the arrival of Europeans, either by the introduction of disease—to which the Native Americans had no resistance—or through outright conflict. In modern day Florida, the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida are federally recognized tribes, the Muscogee Nation of Florida is state recognized, and the Muscogee, along with several other tribes, have active petitions for federal recognition.

By the time Europeans arrived, the landscape of Florida had been shaped and modified by Native Americans for thousands of years. Along with novel agricultural practices, the Spanish, and later, the British and other settlers, brought cattle, hogs, horses, and other livestock to Florida. Social programs such as British agricultural land grants led to the proliferation of intensive agriculture throughout the state.

Agricultural practices such as rangeland cattle grazing quickly became crucial to the economy of the state, and Central Florida in particular, from the 16th through the 20th century. The influx of settlers and resulting intensification of agricultural practices led to additional landscape alteration, continuing a trend that had been occurring for centuries. This alteration was quickly outpaced by Florida's boom-and-bust economies of the 19th and 20th centuries. The ensuing widespread environmental modification and commercial and residential development would permanently transform the cultural and ecological landscape of the state.

More recently, in the 20th century, pine timber production, cypress harvesting, and cattle grazing had been the two primary uses of the land and natural resources on the area. Records indicate that old growth longleaf pine and slash pine were harvested from the tract in 1903 and 1904. No old growth timber remains on the property. During the period from 1928 to 1934, a naval stores operation was established and maintained. Many of the turpentine faces can still be seen on the trunks of the trees that have remained since that time. A second tree harvest took place in 1939. In 1949 and 1955, bald cypress was harvested on the area.

Until 1970, when the practice of cattle grazing was discontinued, prescribed burning was conducted on a regular two-year cycle. Burning has been conducted irregularly since that time. In 1980, a wildfire burned part of the tract, resulting in some loss of second-growth pine.

A previous lime rock mining operation adjacent to the property controlled both the quantity and quality of water entering the area. A water control levee and an 11-inch casing were installed to direct water to the cypress swamp containing the wood stork colony. Prior to acquisition of the

land by the State, the wood stork colony was monitored by the National Audubon Society and the FWC.

3.2 Current Use of the Property

Currently, the LGCWEA 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 LGCWEA each year including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive species maintenance and control; road repairs and maintenance; imperiled species management, monitoring and protection; facilities and infrastructure maintenance and repair; conservation acquisition and stewardship activities; cultural resources monitoring and protection; and research related activities.

The LGCWEA is being managed as a single-use conservation land. 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 LGCWEA. 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, and sightseeing. Due to the proximity of population centers in Pasco County, public use can be expected to increase as public awareness of opportunities increases.

3.3 Adjacent Land Uses

The LGCWEA is in eastern Pasco County, zoned as Agricultural, and located northeast of the City of Zephyrhills. Over the last 50 years, the economy of this area has been based primarily on cattle and timber. The urban areas of Lakeland, Winter Haven, Tampa, and Orlando have been growing, which will likely influence future development in the area.

The 2020 U.S. Census estimates that there are 542,638 people living in Pasco 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 635,700 people living in Pasco County. The BEBR population projections for the counties surrounding Pasco County for the year 2030 are as follows: Hernando County – 218,200; Hillsborough – 1,723,500; Pinellas County – 1,031,400; Polk – 840,200; and Sumter – 190,000. Lands immediately adjacent to the LGCWEA within Pasco County are classified as agricultural district, and within Polk County classified as residential and rural.

3.4 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 LGCWEA and contribute to the overall economy for this region of Florida. The FWC does not currently have an estimate of the number of people who visit the LGCWEA. However, if the current maximum visitation level of 20 visitors per day were achieved, a total of 3,060 visitors per year could be expected. If the

area were at carrying capacity, the FWC economic analysis estimates indicate that the LGCWEA generated an estimated annual economic impact of \$597,893 for the State and the Southwest Florida region. This estimated annual economic impact would aid in the support or creation of an estimated six jobs*.

Further revenue generating potential of the LGCWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the LGCWEA might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term value of ecosystem services, including the protection of air and water quality functions, are considered to be significant to local and regional land and water resources, as well as human health.

**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 adjust if needed.*

3.5 Single- or Multiple-use Management

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



3.5.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the single-use concept as possible uses to be allowed on the LGCWEA. 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		✓	
Cattle grazing		✓	
Citrus or other agriculture			✓
Ecosystem services and maintenance	✓		
Ecotourism		✓	
Environmental Education		✓	
First-responder training		✓	
Fishing			✓
Geocaching		✓	
Hiking		✓	
Horseback riding			✓
Hunting			✓
Linear facilities			✓
Military training		✓	
Preservation of cultural resources	✓		
Primitive camping			✓
Protection of imperiled species	✓		
Off-road vehicle use			✓
Shooting sports park			✓
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation		✓	

3.5.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on the LGCWEA 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, the ARC,

and the Board of Trustees prior to any incompatible use or linear facility being authorized on the LGCWEA.

3.5.3 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 with associated objectives, identified challenges, and solution strategies have been developed for the LGCWEA (Sections 5 -7). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and cultural resources was an integral part of the development of the management activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.

3.6 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 LGCWEA 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 LGCWEA is recommended for potential surplus review.

4 Accomplished Objectives from the LGCWEA Management Plan 2014 - 2024

This section is dedicated to reporting the extent to which the Objectives described in the LGCWEA Management Plan 2014 – 2024 were successfully completed. Accomplishments for the LGCWEA 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 2022 – 2032 planning period are outlined in **Section 6 Resource Management Goals and Objectives**.

The following resource management goals and objectives from the 2014 - 2024 LGCWEA Management Plan describe the planned activities for the LGCWEA during the 2014 - 2024 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.

Goals and Objectives	Percent Accomplished
Habitat Restoration and Improvement	
Goal 1: Improve extant habitat and restore disturbed areas.	
Short-Term (December 2014 - December 2016)	
Objective 1: Prescribe burn approximately 105 acres of fire-adapted natural communities per year. <i>Comment: During the short-term planning period, FWC staff burned approximately 240 acres of fire adapted communities.</i>	100%
Objective 2: Maintain 315 acres (100%) of fire-adapted natural communities per year within a 2 – 5-year target fire return interval. <i>Comment: During the short-term planning period, FWC staff burned approximately 240 acres of fire adapted communities.</i>	76%
Objective 3: Update and implement a prescribed fire plan for the area. <i>Comment: FWC staff continues to update and implement the prescribed fire plan.</i>	100%
Objective 4: Conduct habitat/natural community improvement on approximately 3 acres per year including mid-story tree removal within the wood stork and wading bird colony. <i>Comment: Due to high water levels, the habitat community improvement plans could not be completed during this short-term planning period.</i>	0%
Objective 5: Continue to implement OBVM <i>Comment: FWC staff continue to implement Objective Based Vegetation Monitoring (OBVM).</i>	100%
Long Term (December 2014 – December 2024)	
Objective 6: Continue to prescribe burn approximately 105 acres of fire adapted natural communities per year. <i>Comment: FWC staff burned an average of 44 acres each year.</i>	42%
Objective 7: Continue to maintain 315 acres (100%) of fire-adapted natural communities per year within a 2 – 5-year target fire return interval. <i>Comment: FWC staff maintained 136 acres within the target fire return interval.</i>	43%
Objective 8: Continue to implement OBVM. <i>Comment: FWC staff continues to implement OBVM.</i>	100%
Objective 9: Conduct habitat/natural community improvement on approximately 3 acres per year including mid-story tree removal within the wood stork and wading bird colony site.	100%

<i>Comment: FWC staff continues to conduct habitat improvement on the wading bird colony site.</i>	
Objective 10: As appropriate, and in consultation with the FFS, hand-plant approximately 49 acres to longleaf pine within the mesic flatwoods to enhance the current longleaf pine density. <i>Comment: FWC staff determined hand planting was not needed for the area.</i>	0%
Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration	
Goal 2: Maintain, improve, or restore imperiled species populations and habitats.	
Short Term (December 2014 – December 2016)	
Objective 1: Utilizing the water pump system, continue to provide an appropriate water level (approximately two feet) in the wood stork and wading bird colony during pre-nest and nesting season. <i>Comment: FWC staff continues to utilize the water pump system to provide an appropriate water level for the wood stork and wading bird colony.</i>	100%
Objective 2: Implement the recommended actions outlined in the WCPR Strategy. <i>Comment: FWC staff continues to implement the Wildlife Conservation Prioritization, and Recovery (WCPR) Strategy recommendations.</i>	100%
Objective 3: Continue to implement the monitoring protocol to annually assess the wood stork and wading bird colony for nesting activity. <i>Comment: FWC staff continues to monitor the wood stork and wading bird colony site.</i>	100%
Objective 4: Continue to conduct opportunistic monitoring to document focal and imperiled species occurrence data for gopher frog, eastern indigo snake, gopher tortoise, American swallow-tailed kite, Bachman's sparrow, brown-headed nuthatch, Cooper's hawk, Florida mottled duck, Florida sandhill crane, limpkin, southeastern American kestrel, southern bald eagle, Florida black bear, and Sherman's fox squirrel. <i>Comment: FWC staff continues to conduct opportunistic monitoring for all locally important species.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 5: Continue to implement the WCPR Strategy by managing identified habitats and monitoring identified species. <i>Comment: FWC staff continues to implement the WCPR Strategy.</i>	100%

Objective 6: Utilizing the pump system, continue to provide an appropriate water level (approximately two feet) in the wood stork and wading bird colony during pre-nest and nesting season. <i>Comment: FWC staff continues to utilize the water pump system to provide an appropriate water level for the wood stork and wading bird colony.</i>	100%
Objective 7: Continue to implement the monitoring protocol to annually assess the wood stork and wading bird colony for nesting activity. <i>Comment: FWC staff continues to monitor the wood stork and wading bird colony site.</i>	100%
Objective 8: Continue to conduct opportunistic monitoring to document focal and imperiled species occurrence data for gopher frog, eastern indigo snake, gopher tortoise, American swallow-tailed kite, Bachman's sparrow, brown-headed nuthatch, Cooper's hawk, Florida mottled duck, Florida sandhill crane, limpkin, southeastern American kestrel, southern bald eagle, Florida black bear, and Sherman's fox squirrel. <i>Comment: FWC staff continues to conduct opportunistic monitoring for all locally important species.</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.	
Short Term (December 2014 – December 2016)	
Objective 1: Collect opportunistic wildlife species occurrence data. <i>Comment: FWC staff continues to collect opportunistic wildlife species occurrence data.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 2: Continue to collect opportunistic wildlife species occurrence data. <i>Comment: FWC staff continues to collect opportunistic wildlife species occurrence data.</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 (December 2014 – December 2016)	

Objective 1: Annually treat at least seven (7) acres of FLEPPC Category I and Category II invasive exotic plant species, or as needed. <i>Comment: FWC staff continues to monitor and treat the area for invasive and non-native plant species.</i>	100%
Objective 2: As necessary, implement control measures on one (1) exotic and nuisance animal species (feral hog). <i>Comment: FWC staff continues to assess opportunities for hog control on the area, however, due to area restrictions, no feasible options have been determined during this planning period.</i>	0%
Long Term (December 2014 – December 2024)	
Objective 3: Continue to annually treat at least seven (7) acres of EPPC Category I and Category II invasive exotic plant species. <i>Comment: FWC staff continues to monitor and treat the area for invasive and non-native plant species.</i>	100%
Objective 4: Continue to implement control measures on one (1) exotic and nuisance animal species (feral hog). <i>Comment: FWC staff continues to assess opportunities for hog control on the area, however, due to area restrictions, no feasible options have been determined during this planning period.</i>	0%
Objective 5: Opportunistically monitor other exotic animal species that may potentially occur on the area (brown anole, greenhouse frog, nine-banded armadillo, and island applesnail). <i>Comment: FWC staff continues to monitor for invasive and non-native species on the LGCWEA.</i>	100%
Public Access and Recreational Opportunities	
Goal 5: Provide public access and recreational opportunities.	
Short Term (December 2014 – December 2016)	
Objective 1: Develop and implement a Recreation Master Plan. <i>Comment: FWC staff continues to implement the Recreation Master Plan, developed in 2014.</i>	100%
Objective 2: Excluding sensitive periods within the wood stork and wading bird colony (January - August), evaluate the efficacy of developing public access and recreational opportunities to allow for a recreational carrying capacity of 20 visitors per day. <i>Comment: FWC staff added a trail on the area which increased the current carrying capacity of the LGCWEA to 20 visitors per day.</i>	100%

Objective 3: Excluding the wood stork and wading bird colony sensitive periods (January - August), evaluate the need and feasibility for developing and periodically providing limited entry or other special hunt (youth and mobility impaired) hunting opportunities for deer and feral hogs. <i>Comment: FWC staff continues to assess recreational opportunities, however, due to area restrictions, hunting has been determined to not be feasible during this planning period.</i>	100%
Objective 4: Monitor trails annually for visitor impacts if trails are developed on the area. <i>Comment: FWC staff continues to monitor trails for visitor impacts.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 5: As determined by the Recreational Master Plan to be feasible and appropriate, develop additional public access and recreational opportunities to allow for a carrying capacity of 40 visitors per day. <i>Comment: FWC staff evaluated potential expansions to increase carrying capacity and determined the planned parking area was not feasible at this time.</i>	0%
Objective 6: Evaluate the need and feasibility to develop and install a parking area and a one-panel kiosk at the northeast entrance. <i>Comment: FWC staff evaluated the addition of a parking area and one-panel kiosk during the previous planning period and determined both were not feasible during this planning period.</i>	0%
Objective 7: As determined feasible and appropriate, design, develop and maintain up to 3.0 miles of trails. <i>Comment: FWC staff evaluated potential expansions to trails on the LGCWEA and determined the option not feasible during this planning period.</i>	0%
Objective 8: For interpretation and education, continue to maintain FWC web-site interpretive information, a trail map, and a bird list. <i>Comment: FWC staff continues to maintain FWC website; however, a trail map and bird list are not available for the LGCWEA.</i>	33%
Objective 9: Maintain FWC web-site interpretive information and the parking area and a one-panel kiosk at the northeast entrance. <i>Comment: FWC staff continues to maintain FWC website; however, the parking area and kiosk were determined not feasible during this planning period.</i>	33%

Objective 10: Continue to monitor trails annually for visitor impacts if trails are developed on the area.	100%
<i>Comment: FWC staff continues to monitor trails for visitor impacts.</i>	
Objective 11: Reassess recreational opportunities every three years.	100%
<i>Comment: FWC staff continues to reassess recreational opportunities.</i>	
Objective 12: If approved, continue to provide limited entry or other special hunt (youth and mobility impaired) hunting opportunities for deer and feral hogs.	0%
<i>Comment: Hunting continues to not be permitted on the LGCWEA.</i>	
Objective 13: 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.	0%
<i>Comment: Due to limited entry and restrictions on the LGCWEA, trails cannot be connected to neighboring conservation areas.</i>	
Objective 14: Continue to identify partnerships that could provide for environmental educational programs and outreach.	100%
<i>Comment: FWC staff continue to identify possible partnerships.</i>	
Hydrological Preservation and Restoration	
Goal 6: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.	
Short Term (December 2014 – December 2016)	
Objective 1: As feasible and appropriate, initiate implementation of the 2012 hydrology assessment and conceptual restoration plan.	100%
<i>Comment: FWC staff continues to implement the hydrology assessment.</i>	
Objective 2: Cooperate with the SWFWMD and the DEP to monitor surface and ground water quality.	100%
<i>Comment: FWC staff continues to cooperate with the SWFWMD and the DEP.</i>	
Long Term (December 2014 – December 2024)	
Objective 3: To enhance natural hydrological functions, and pursuant to the results of the hydrological assessment, continue to install or replace culverts as necessary and appropriate.	100%
<i>Comment: FWC staff continues to work to enhance natural hydrological functions as needed and appropriate.</i>	

Objective 4: As feasible and appropriate, continue to implement the hydrological restoration plan. <i>Comment: FWC staff continues to implement the hydrological restoration plan as feasible and appropriate.</i>	100%
Objective 5: Continue to cooperate with the SWFWMD and the DEP to monitor surface and ground water quality. <i>Comment: FWC staff continues to cooperate with the SWFWMD and the DEP.</i>	100%
Forest Resource Management	
Goal 7: Manage timber resources to improve or restore natural communities for the benefit of wildlife.	
Short Term (December 2014 – December 2016)	
Objective 1: Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate. <i>Comment: FWC staff continues to work with the FFS or professional forestry consultant for forest management activities.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 2: Continue to consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate. <i>Comment: FWC staff continues to work with the FFS or professional forestry consultant for forest management activities.</i>	100%
Cultural and Historical Resources	
Goal 8: Protect, preserve and maintain cultural and historic resources.	
Short Term (December 2014 – December 2016)	
Objective 1: Ensure all known sites are recorded in the DHR Master Site file. <i>Comment: FWC staff continues to ensure all known historical sites are recorded in the DHR Master Site file.</i>	100%
Objective 2: As recommended by the DHR, continue to monitor, protect, and preserve as necessary up to seven (7) identified sites. <i>Comment: FWC staff continues to monitor, protect, and preserve seven identified sites.</i>	100%
Objective 3: As necessary, monitor, protect, and preserve any future identified sites. <i>Comment: No additional sites were discovered during this planning period; however, FWC staff will monitor, protect, and preserve any future identified sites.</i>	100%

Objective 4: If determined to be necessary by the DHR, contract for a cultural and archaeological resources survey. <i>Comment: The DHR has conducted a cultural resource and assessment survey on the area.</i>	100%
Objective 5: Ensure management staff has completed the DHR Archaeological Resources Monitoring training. <i>Comment: FWC staff continues to ensure all staff has completed the DHR Archaeological Resources Monitoring training.</i>	100%
Objective 6: Follow the 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. <i>Comment: FWC staff continues to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 7: 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 8: Continue to monitor, protect, and preserve as necessary seven (7) identified sites. <i>Comment: FWC staff continues to monitor, protect, and preserve seven identified sites.</i>	100%
Objective 9: As necessary, continue to monitor, protect, and preserve any future identified sites. <i>Comment: No additional sites were discovered during this planning period; however, FWC staff will monitor, protect, and preserve any future identified sites.</i>	100%
Objective 10: As needed, continue to coordinate with the DHR for cultural resource management training of FWC staff. <i>Comment: FWC staff continues to complete the DHR Archaeological Resources Monitoring training as needed.</i>	100%
Objective 11: Continue to follow the 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. <i>Comment: FWC staff continues to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties.</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 (December 2014 – December 2016)	
Objective 1: Continue to maintain four (4) facilities (equipment pole barn, wood stork and wading bird colony water pump, intake water control structure, outflow water control structure). <i>Comment: FWC staff continues to maintain all facilities on the LGCWEA.</i>	100%
Objective 2: Using lime rock gravel, improve and stabilize one (1) mile of existing service road. <i>Comment: FWC staff improved and stabilized roads in 2016.</i>	100%
Objective 3: Maintain 2.4 miles of existing service roads. <i>Comment: FWC staff continue to maintain all roads on the area.</i>	100%
Objective 4: As necessary, replace up to two (2) gates. <i>Comment: FWC staff determined replacing gates on the LGCWEA was not necessary during the short-term period of this plan.</i>	100%
Objective 5: Maintain 3.0 miles of perimeter fence and boundary signs. <i>Comment: FWC staff continue to maintain all fences and signage on the LGCWEA.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 6: As appropriate and feasible, construct one (1) facility (parking area and one-panel kiosk). <i>Comment: FWC staff evaluated the addition of a parking area and kiosk but determined this option not feasible during this planning period.</i>	0%
Objective 7: Monitor trails and infrastructure biannually for visitor impacts. <i>Comment: FWC staff continue to monitor all trails and infrastructure on the LGCWEA.</i>	100%
Objective 8: Continue to maintain four (4) facilities (equipment pole barn, wood stork and wading bird colony water pump, intake water control structure, outflow water control structure). <i>Comment: FWC staff continue to maintain all facilities on the LGCWEA.</i>	100%
Objective 9: Continue to maintain 2.4 miles of roads. <i>Comment: FWC staff continues to maintain all roads on the LGCWEA.</i>	100%

Objective 10: If trail development is feasible and implemented, continue to maintain up to 3.0 miles of trails. <i>Comment: FWC staff evaluated potential expansions to trails on the LGCWEA and delayed the implementation until this current planning period.</i>	100%
Objective 11: As necessary, continue to replace up to two (2) gates. <i>Comment: During the long-term planning period, FWC staff replaced the north entrance gate.</i>	100%
Objective 12: Continue to maintain 3.0 miles of perimeter fence and boundary signs. <i>Comment: FWC staff continues to maintain all fences and signage on the LGCWEA.</i>	100%
Land Conservation and Stewardship Partnerships	
Goal 10: Enhance fish and wildlife conservation, resource, and operational management through development of an optimal boundary.	
Short Term (December 2014 – December 2016)	
Objective 1: Identify potential important wildlife habitat, landscape-scale linkages, wildlife corridors for operational/resource management. <i>Comment: During the development of the LGCWEA Management Plan, the FWC identified potential acquisitions to facilitate wildlife habitat.</i>	100%
Objective 2: Continue to identify and pursue acquisition needs and conservation stewardship partnerships. <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 3: Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB for FWC's LAP and Land Acquisition Programs. <i>Comment: The FWC continues to maintain a GIS shapefile and geodatabase to further assist acquisition program needs and potential partnership programs.</i>	100%
Objective 4: Develop a Conservation Action Strategy. <i>Comment: FWC staff have updated the management plan process and discontinued the Conservation Action Strategy.</i>	0%

Objective 5: Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships. <i>Comment: FWC staff regularly discusses the voluntary Landowner's Assistance Program with multiple adjoining landowners.</i>	100%
Objective 6: Determine which parcels should be nominated for addition to the FWC acquisition list. <i>Comment: The FWC has identified nominations to the FWC Additions and Inholdings list and they are included in this management plan.</i>	100%
Objective 7: 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%
Long Term (December 2014 – December 2024)	
Objective 8: To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal conservation planning boundary for WEA as deemed necessary. <i>Comment: During the development of the LGCWEA Management Plan, the FWC identified potential acquisitions to facilitate habitat connectivity.</i>	100%
Objective 9: Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal conservation planning boundary for the FWC Landowner Assistance Program and for the FWC Land Acquisition Program. <i>Comment: The FWC continues to maintain a GIS shapefile and geodatabase to further assist acquisition program needs and potential partnership programs.</i>	100%
Objective 10: Continue to determine which nominated parcels should be added to the FWC acquisition list. <i>Comment: The FWC has identified nominations to the FWC Additions and Inholdings list.</i>	100%
Objective 11: Propose nominations of selected properties as additions to the FWC acquisition list. Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. <i>Comment: The FWC has identified nominations to the FWC Additions and Inholdings list and continues to work to identify and pursue any potential conservation acquisition needs.</i>	100%

Objective 12: 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 parcels.</i>	100%
Objective 13: 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 interacts with multiple adjoining landowners and talk with them about the voluntary Landowners Assistance Program. However, due to changes in the management plan process the Conservation Action Strategy was discontinued.</i>	100%
Objective 14: Continue to coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate. <i>Comment: The FWC assessed the need and feasibility of a landowner's assistance/conservation stewardship partnership workshop and determined it unnecessary at this time.</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 LGCWEA.	
Long Term (December 2014 – December 2024)	
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 LGCWEA. <i>Comment: FWC staff continues to coordinate with Fish and Wildlife Research Institute (FWRI) to monitor potential impacts of climate change on the LGCWEA.</i>	100%
Objective 2: Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the LGCWEA. <i>Comment: FWC staff continues to assess the need for updating monitoring protocols and management strategies in the OBVM program for the LGCWEA.</i>	100%
Objective 3: Incorporate appropriate climate change adaptation strategies into the WCPR for the LGCWEA. <i>Comment: FWC staff continues to assess the need for incorporating climate change strategies into the WCPR program for the LGCWEA.</i>	100%

Objective 4: As appropriate, update the LGCWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of the LGCWEA's fire-adapted habitats. <i>Comment: FWC staff continues to assess the need for incorporating climate change strategies into the Prescribed Fire Plan for the LGCWEA.</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 will continue to assess the need to include and distribute additional information in public education about the effects of climate change on the LGCWEA.</i>	100%
Research Opportunities Goal 12: Explore and pursue cooperative research opportunities.	
Short Term (December 2014 – December 2016)	
Objective 1: Assess the need for and pursue research and conservation education partnership opportunities as appropriate. <i>Comment: The FWC continues to evaluate the need to pursue further partnerships in order to enhance the management of the area.</i>	100%
Objective 2: Explore and pursue cooperative research opportunities through universities, the FWC Fish and Wildlife Research Institute, or others. <i>Comment: FWC staff continues to explore cooperative research opportunities with universities and other research entities.</i>	100%
Objective 3: Cooperate with researchers, universities, and others as appropriate. <i>Comment: The FWC continues to cooperate and evaluate all potential researchers and organizations that may want to utilize the area, as appropriate.</i>	100%
Long Term (December 2014 – December 2024)	
Objective 4: Continue to assess the need for and pursue research and conservation education partnership opportunities as appropriate. <i>Comment: The FWC continues to evaluate the need to pursue further partnerships in order to enhance the management of the area.</i>	100%

Objective 5: Continue to explore and pursue cooperative research opportunities through universities, the FWC Fish and Wildlife Research Institute, or others. <i>Comment: FWC staff continues to explore cooperative research opportunities with universities and other research entities.</i>	100%
Objective 6: Continue to cooperate with researchers, universities, and others as appropriate. <i>Comment: The FWC continues to cooperate and evaluate all potential researchers and organizations that may want to access the area, 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 cultural resources. In general, the FWC management intent for the LGCWEA 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-based public outdoor recreational opportunities on the LGCWEA. 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." Because the LGCWEA is smaller than 1,000 acres, a land management review has not been conducted on the area.

5.2 Adaptive Management



Adaptive management is "learning by doing";⁴ 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.^{4, 5} 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.^{4, 5} 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.^{4, 5}

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 cultural resources of the LGCWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of the LGCWEA. 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 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. 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). Cultural 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 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. The 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. The 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. The FLAM ranks habitat from 0-10; a rank of 10 being of greatest value. The FLAM (2020) indicates that the LGCWEA has a very high mean wildlife value of 8.9 (Figure 9).

5.2.4 Implementation

The LGCWEA 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 LGCWEA 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.

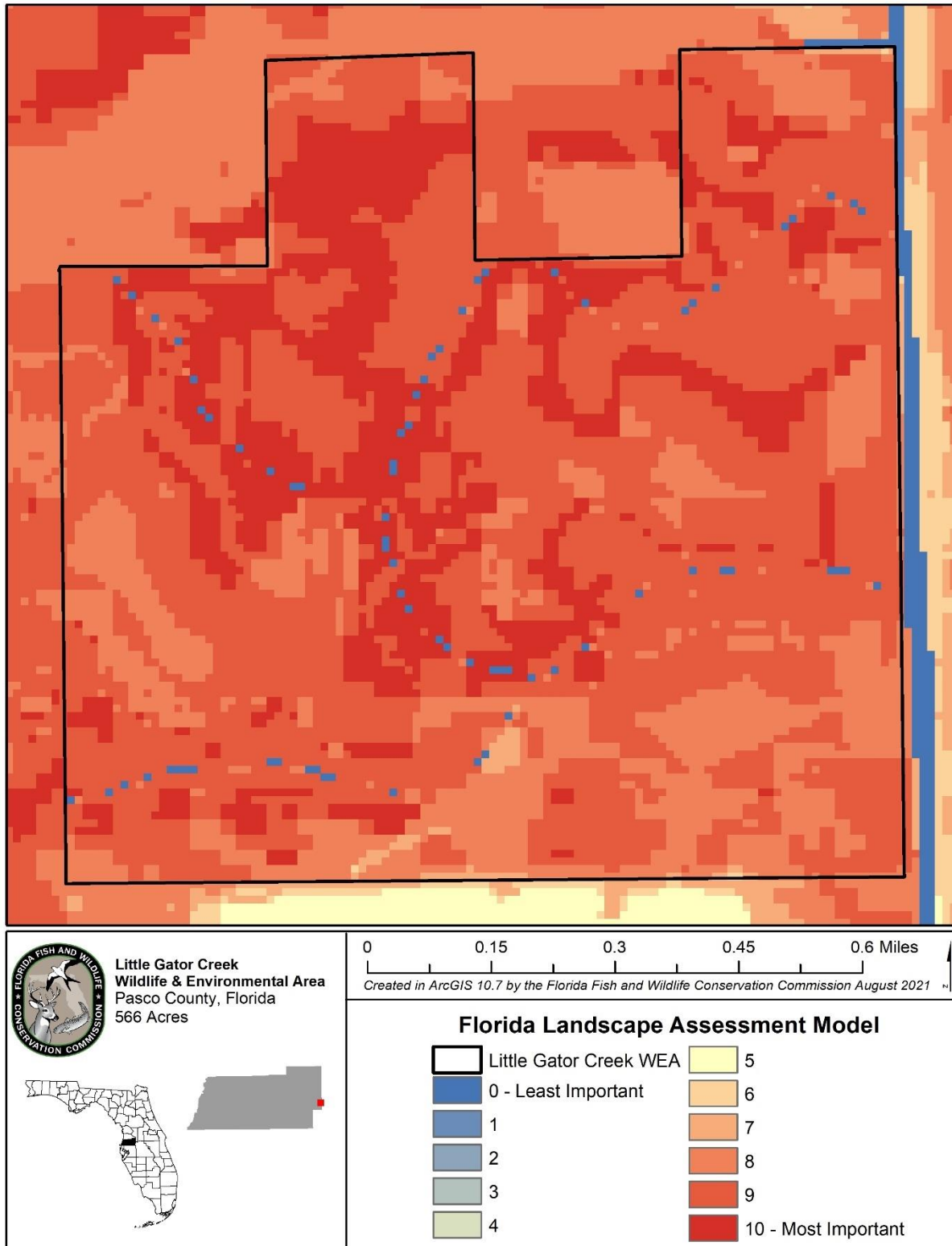


Figure 9. Florida Landscape Assessment Model

5.3 Habitat Restoration and Improvement

On the LGCWEA, the FWC will focus on managing for native habitat diversity, emphasizing maintenance of natural communities, and restoration of disturbed areas. The LGCWEA has functioning natural communities including mesic flatwoods and basin swamp that the FWC will continue to manage and protect. On any disturbed upland sites, the FWC intends to continue natural community restoration. 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.

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to improving FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of the FWC's management philosophy. OBVM is a monitoring tool used by the FWC to monitor how specific vegetative attributes are responding to 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. 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. The FWC contracts with FNAI to provide these mapping services and plans to have natural community maps recertified for most areas on a five-year basis.

FNAI has conducted surveys and mapped the current natural communities on the LGCWEA. New acquisitions that may occur on the area will be mapped for current natural and altered communities during this planning period as needed.

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 specific vegetation attributes that provide insight about natural community conditions. This information will be used to guide and prioritize management efforts on the area. Because the FWC is interested in the overall effect of management on the natural communities, OBVM data is analyzed area wide, at the natural community level, and not the management unit level.

Vegetation monitoring samples the 12 OBVM core attributes, with the results being compared to the desired future conditions (DFCs). Measurable habitat management objectives, referred to as DFCs, have been established by FNAI for each actively managed natural community. DFCs 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 (<https://www.fnai.org/species-communities/reference-communities>). FWC staff generally use reference site attribute values when setting DFCs for actively managed natural communities.

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 towards meeting management objectives for DFCs. Measured changes in vegetation conditions are intended to be used to inform future land management actions.

Overall, natural community mapping, OBVM structural sampling, and plant species lists provide FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the monitoring results to desired future conditions provides important information on the structural condition and composition of a natural community at a given point in time. OBVM sampling is repeated every 5-years and comparisons with past OBVM monitoring data allows changes over time to be detected. Using this information, managers can evaluate, adjust, and modify their management practices to better natural community condition. 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.

Fire exclusions and timber management practices, including harvesting, site preparation for planting, and drainage, have altered the plant species composition of the area likely resulting in a loss of fuel and complicating the return to the desired "natural" fire management regime. Site-specific combinations of prescribed fire, mechanical and chemical vegetation control, reforestation, and control (or manipulation) of water regimes needed to maintain wading bird rookeries, are likely actions that will be needed to restore the area to historic natural communities or maintain the altered communities essential to protected wildlife.

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 LGCWEA in accordance with natural community management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher fine fuel loads typically burn more evenly and with greater intensity. Areas with lower fuel loads or wetland areas typically will not carry fire as evenly, and usually burn at a lower intensity. 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. When extensive, this condition creates unsuitable habitat for many wildlife species. Used in conjunction with prescribed fire, mechanical control of brush by roller chopping, mowing, shredding, or incidentally by equipment during timber thinning operations, can reduce shading and encourage the grasses and forbs that best sustain prescribed fire. Mowing and roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily impacted by dense woody vegetation. However, used inappropriately, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, the FWC will work to limit its use to situations where burning can only be 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. 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 natural community types are known as ecotones. With the exception of wildfire suppression, mechanical soil disturbance in wetland ecotones will be avoided in order to protect habitats for important rare species that often occur between upland and wetland margins. Creation of firebreaks will be avoided in wetland margins unless necessary to defend the boundary of a managed area. When safe, fires are allowed to burn into the edges of marshes, swamps, and other wetlands in order to maintain these habitats. With some exceptions, such as scrub, most fire managed natural communities are best maintained, or improved, with fire returns of two to three years, preferably during the spring and early summer months when appropriate.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan has been developed and implemented for the LGCWEA. 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 have been treated with prescribed fire. Currently, approximately 43% of the fire-adapted communities are maintained within the recommended fire return intervals. As further outlined in the area's Prescribed Burn Plan, the FWC plans to continue to conduct prescribed burning on the area's fire adapted communities, with a goal to bring 100% of the area being maintained within the recommended fire return intervals during this planning period. Some of the challenges that impact the implementation of 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 LGCWEA, are discussed in more detail below.

5.3.3 Habitat Restoration and Improvement Activities

Significant habitat management activities have taken place within many of the natural communities of the LGCWEA over the course of the previous management period beginning in 2014. As stated previously, all management units with fire-adapted natural communities will continue to be treated with prescribed fires, most on a repeated basis as established within the Prescribed Burn Plan. This has aided in the improvement of native ground cover and wildlife habitat throughout the LGCWEA. In addition to conducting prescribed burning, 247 acres of mechanical treatments have also occurred on the area including shredding. Within mesic flatwoods, oaks and other native nuisance species were cut to set back the successional stage of the habitat, in order to further improve community conditions. Midstory removal in the basin swamp community is being conducted to improve the habitat for wood storks and other wading bird colonies. This will open the canopy to encourage the nesting of the wading bird populations.

Continuing habitat management activities on the LGCWEA will focus on enhancing natural communities, maintaining recommended fire return intervals for fire adapted communities, treating and removing invasive plant species, and controlling vegetation through mowing and shredding as needed. Chemical and mechanical treatments may also be implemented in some natural or altered communities, like mesic flatwoods, in order to restore these areas to an earlier successional condition. Invasive species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for the LGCWEA are described in Section 6 below.

5.4 Fish and Wildlife Management, Enhancement, and Population Restoration

5.4.1 Fish and Wildlife

Across the LGCWEA, the size and diversity of natural communities create a mosaic that supports a wide variety of fish and wildlife species, including imperiled, game, and non-game species. The FWC uses the term “locally important species” to encompass imperiled species, as well as a select group of common species, that occur on the area and can help guide management activities. By managing the area’s natural communities for locally important species, the area will benefit a host of other species that use these natural communities. To support this goal, the FWC emphasizes conservation, protection, and management of natural communities in order to protect and enhance populations of fish and wildlife found on the LGCWEA. Natural communities vital to locally important species on the LGCWEA include mesic flatwoods and basin swamp.

To guide species management on FWC-managed lands, the FWC takes a proactive, science-based approach in conjunction with input from species experts and individuals with knowledge of the area. Management practices are designed to restore, enhance, or maintain natural communities with an emphasis on the needs of locally important species. Locally important species (resident and migratory) will be managed for optimum richness, diversity, and

abundance. 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 further address locally important species' requirements and habitat needs.

For locally important species population monitoring, the FWC takes a tiered approach. Using taxa inventory monitoring and opportunistic observations, staff identify which species occur on the LGCWEA and track diversity through time. In addition, when appropriate, staff monitor specific species to track population status. Wildlife experts help to identify the best monitoring approach for the area to inform how management is influencing the populations. Using this tiered monitoring approach, the FWC will gather information about the species using the area, and how select species are responding to management. Section 5.4.2 and Appendix 12.12 provide further information on FWC's comprehensive species management strategy for all locally important wildlife and their respective habitats.

5.4.2 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 maintain FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses the OBVM to monitor how specific vegetative parameters are responding to management and uses the WCPR program to ensure management is having the desired effect on wildlife.

The WCPR program helps assess locally important wildlife species' needs and opportunities, prioritize what the FWC does for locally important species, prescribe management actions to aid in species recovery, prescribe monitoring to allow evaluation of the species' response to management, and ensure the information is shared with others. To determine specific management and monitoring actions needed for each species, the FWC considers the species' status on the area; the current condition of the area's natural communities; the amount and spatial arrangement of the species' potential habitat on the area and adjacent lands; the species' response to management; and any local overriding factors (e.g., status of species in the region, local declines, or extirpations). Staff then combine these assessments with area-specific management considerations to develop a Wildlife Management Strategy for the area (Appendix 12.12). Each area-specific Strategy prescribes management actions to achieve and identifies monitoring to verify progress towards meeting desired outcomes. By providing the FWC managers with information on actions they should undertake, the FWC intends for the Strategy to assure the presence and persistence of Florida's native wildlife.

During the previous planning period, the FWC conducted opportunistic monitoring activities for the locally important wading bird colony, including wood storks. FWC staff noted wood stork nesting in 2015, 2019, and 2022. These locally important species projects, along with other

ongoing locally important species management activities, will continue to be implemented in accordance with the LGCWEA WCPR Strategy.



Through the actions of this program, the FWC facilitates fulfilling the needs of locally important wildlife species on the LGCWEA. In the long-term, by implementing the WCPR 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 locally important species and preventing the future imperilment of declining wildlife species.

5.4.3 Nuisance Animal Species

The FWC also works to address nuisance animal impacts on the LGCWEA, such as wild hogs. The FWC will continue to monitor impacts of nuisance animal behavior on the area and implement mitigation strategies as needed and appropriate.

5.5 Invasive and Non-native Species Maintenance and Control

With non-native and invasive species populations continuing to grow in Florida, the FWC takes a proactive and comprehensive approach to the monitoring and management of invasive and non-native plants and animals, as well as pests and pathogens, on FWC managed areas. Non-native species are those species that do not originate from Florida. These species are often introduced as a result of deliberate or accidental human activities and are closely monitored by the FWC for potential future impacts. If a non-native species is found to cause or is likely to cause environmental or economic harm to humans, it is then classified as an invasive. On the LGCWEA, the FWC has established a variety of control measures for the management of any found non-native or invasive plant and animal species as further outlined in Section 5.5.1 and 5.5.2 of this Management Plan.

5.5.1 Invasive Plant Species

The FWC will continue efforts to control the establishment and spread of Florida Invasive Species Council (FISC) Category I or II plants on the LGCWEA while using the most current control technologies (CCT) which may include mechanical, herbicide, and biological control. Treatments utilizing herbicides will comply with instructions found on the herbicide label and employ the Best Management Practices and CCT for their application. More information regarding herbicides used on FWC's lead managed areas can be found here:

<https://edis.ifas.ufl.edu/pdf%5C%5CWG%5CWG20900.pdf>.

Invasive plant species known to occur on the LGCWEA include: Caesarweed, cogongrass, narrow swordfern, old world climbing fern, and water-lettuce. During the previous planning

period, 688 acres have been treated and an estimated 315 acres have been placed into maintenance rotation. Currently, approximately 56% of the LGCWEA is considered as having achieved maintenance rotation, and an estimated 44% of the LGCWEA remains to be surveyed, monitored, and treated as appropriate and as guided by the FWC's Invasive Plant Management Section.

Maintenance rotation is defined as having a given area/acreage with invasive species infestations reduced to a level where no ecological harm will occur by skipping any treatment for a period of one to several years, depending on the species. Maintenance rotation is not necessarily synonymous with eradication, which is usually impractical to achieve.

Maintenance rotation intervals for invasive plants vary greatly by species. Generally, woody species that form canopies will need a thorough initial treatment and a follow-up treatment the next growing season. Thereafter, the maintenance rotation treatment will need to follow seed germination and seedling/sapling regrowth patterns, with subsequent treatments being necessary every two to ten years, depending on initial infestation level, seed bank presence, and likely new dispersal into the area from neighboring populations of these species. Woody species that dominate the midstory will need a treatment regimen similar to those that form canopies, except the subsequent retreatment rotation would be every two to five years.

Herbaceous species that can affect the midstory and canopy, including vines, weak lianas, and climbing ferns need to be detected and treated as early as possible. These need to have an aggressive initial treatment, followed by yearly treatments, until the populations no longer affect the midstory. At this point, a two- to three-year rotation, with treatment as necessary, will keep these infestations in maintenance rotation.

Herbaceous and weakly woody species that only dominate the groundcover can be particularly challenging. This group is diverse and includes species such as Caesarweed and cogongrass. The rotation intervals can vary from treatments once every two to three years, to annual treatments, to as many as four treatments in a growing season depending on the species. For this reason, rotation intervals for these species should be developed in coordination with the FWC's Invasive Plant Management Section. Infestations requiring multiple treatments in a growing season should also be mapped individually, because their treatment plans may differ from the rest of the invasive plants in any given unit.

The FWC will continue to focus control and maintenance activities on areas identified as having invasive plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring activities. Natural disasters such as hurricanes, flooding, wildfire, and drought can both negatively and positively impact maintenance rotation of an area and affected acreage should be re-surveyed following any of these events to reassess the maintenance state of the area.

The degree of maintenance effort for invasive plant occurrences often varies substantially by species, level of disturbance, environmental conditions, other land management activities such

as timber harvesting, groundcover restoration, etc., and can also be affected by the status of ongoing eradication and control efforts. FWC staff will take special effort to treat invasive species in coordination with mechanical treatments and prescribed fire so optimal results are achieved. Treatment strategies for invasive plants will be adjusted over time as conditions change on the LGCWEA. Changes may include hydrological restoration, wildfire, and reintroduction of endangered plant/animal species. Ongoing invasive plant species objectives and challenges for the LGCWEA are further detailed in Sections 6 - 7 below.

Additionally, the FWC will continue efforts to control the introduction of invasive species, as well as pests and pathogens, on the LGCWEA by requiring all personnel, both contracted and the FWC, to follow the FWC Decontamination Protocol. The LGCWEA has a designated site which can be used for decontamination of both equipment and personnel to allow for a proactive approach to controlling new introductions.

FWC area staff will continue to work closely with FWC's Invasive Plant Management Section for guidance and assistance on treatments and management of invasive species on the area. For areas on the LGCWEA that require treatments for aquatic based invasive species, FWC area staff will work closely with both FWC's Invasive Plant Management Section and FWC's Aquatic Habitat Conservation and Restoration Section for assistance and guidance on aquatic plant control.

5.5.2 Invasive and Non-native Fish and Wildlife Species

The FWC continues to work towards minimizing the adverse impacts of non-native and invasive fish and wildlife species in Florida. This task is accomplished through prevention, early detection, rapid response, control and management, and education and outreach. Early detection and rapid response are a critical defense against the establishment of invasive fish and wildlife. The FWC monitors and removes non-native species, responds to new invasions, and continues to assess the risk of species not yet present in our state. Rule 68-5, F.A.C., Federal Lacey Act, and certain F.S. govern the importation, possession, and use of non-native fish and wildlife. Rule 68-5, F.A.C., identifies Conditional and Prohibited non-native species in Florida. More information on these regulations can be found here:

<https://www.fws.gov/injuriouswildlife/> and

<https://www.flrules.org/gateway/chapterhome.asp?chapter=68-5>. Conditional species (formerly referred to as restricted species) and Prohibited species are considered to be dangerous to Florida's native species and habitats or could pose threats to health and welfare of the people of Florida. The FWC relies on monitoring efforts and current science including risk determination, supplemental documentation, and research to identify possible invasive species. To further assist the FWC's effort on invasive fish and wildlife identification and removal, the FWC encourages the public to utilize the FWC's Exotic Species Hotline at 888-Ive-Got1 (483-4681) or to visit www.IveGot1.org to report observations of non-native species. More information on these public reporting options and other components of the Wildlife Impact Management Section's Nonnative Fish and Wildlife Program can be found here:

<https://myfwc.com/wildlifehabitats/nonnatives/>.

To address the presence of non-native and invasive fish and wildlife on the LGCWEA, FWC area staff will continue to work closely with FWC's Wildlife Impact Management Section for guidance and assistance. The FWC also relies on public assistance and participation in the control of invasive fish and wildlife species. Executive order 17-11 authorizes the lethal take of non-native reptiles on 25 FWC-managed lands. Trappers and nuisance wildlife control operators can also apply for an eradication and control permit to assist in the capture of Prohibited non-native species on private and public lands including WMAs. More information on this permit process can be found here: <https://myfwc.com/wildlifehabitats/nonnatives/rule-development/trappers/>. Due to the growing concern related to the impacts of several non-native species, the FWC and partners take a proactive and coordinated approach towards the removal of non-native species.

An invasive animal species of concern throughout the state and on the LGCWEA 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 may also be managed by trapping, as necessary, to aid in minimizing the negative impacts caused by wild hog populations on the area.

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 and signage. 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 LGCWEA Recreation Master Plan, developed in 2014.

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 (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 ADA⁷ 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-based public outdoor recreational opportunities for the LGCWEA. To accomplish this, the FWC has worked with recreational stakeholders and the general public to develop a Recreation Master Plan for the LGCWEA in 2014 that has been used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. This Recreation Master Plan 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 the FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting the carrying capacities as necessary. The carrying capacities generated through this process are used as a tool to help plan and develop public access, wildlife viewing, and fish and wildlife-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 LGCWEA can currently support 20 visitors per day. However, an objective to increase the public access carrying capacity to 33 visitors per day has been proposed in Section 6.5 of this Management Plan. 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 cultural resources on the LGCWEA 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 LGCWEA is home to a variety of resident wildlife found within its mesic flatwoods and hammocks, various marshes, and other natural communities. The LGCWEA’s size and variety of habitat types create outstanding wildlife viewing opportunities. Wildlife viewing opportunities are projected to increase upon the completion of planned improvements for public access and wildlife viewing outlined in Section 6.5.

5.6.5 Hiking and Trails

FWC staff are currently developing and marking approximately two miles of trails for hiking, which will bring the total number to approximately five miles of trails.

5.6.6 Bicycling

Bicycling is allowed on the trails on the LGCWEA.

5.6.7 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 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/> .

5.6.8 Environmental Education

No formal structured environmental education program exists on the LGCWEA. However, environmental education is an approved activity. The FWC will continue to assess the need for, and encourage, environmental education partnership opportunities as appropriate.

5.7 Hydrological Preservation and Restoration

A hydrological assessment for the LGCWEA was completed in December 2012. Pursuant to the recommendations of the hydrological assessment, the FWC will implement hydrological restoration as feasible and appropriate.

The Hydrology Assessment and Conceptual Restoration Plan for the LGCWEA recommends replacing several culverts, upgrading to hardened low water crossings, extending the water pump outfall for the wading bird colony, and evaluating the inflow and outflow volumes of the wading bird colony. The FWC has extended the outflow of the current water pump system closer to the swamp basin of the colony and will utilize the results of the hydrological assessment to implement management activities as feasible and appropriate.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of the LGCWEA was completed by the Florida Forest Service in 2012. The management of timber resources will be considered in the context of the Timber Assessment and the overall land management goals and activities.

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 if appropriate and needed. 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.

5.9 Cultural Resources

A review of the FMSF indicates that seven cultural resources have been recorded on the LGCWEA. Additionally, one cultural resource survey has been conducted within the area. In cooperation with the DHR, the FWC will continue to monitor and report on all recorded sites annually.

The FWC will consult with the DHR to determine the procedures necessary to identify, assess, and preserve any unrecorded or unevaluated cultural resources that may be present within the LGCWEA. In addition, the FWC will ensure area management staff has the latest DHR Archaeological Resource Management (ARM) training. The FWC will follow the DHR's *Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties*, and, in accordance with Sections 267.061(2)(a,b), F.S., the FWC will consult with and allow the DHR a reasonable opportunity to comment prior to any undertaking that may impact historic properties. Furthermore, should any previously unidentified resources be located on the LGCWEA, the FWC will prepare and submit all necessary documentation to the FMSF.

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 LGCWEA include 2.9 miles of roads, which includes approximately two miles that allow public access for recreational use, specifically hiking. The FWC is currently developing and marking 2.18 miles of trails on the LGCWEA which will bring the total number of trails to 5.33 miles. Current capital facilities include:

- Primary entrance sign
- Secondary entrance sign
- Two water control structures
- One pump station
- One work compound



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

5.11 Land Conservation and Stewardship Partnerships

Landscape conservation is an approach that brings people together across geographies, sectors, and cultures to collaborate on connecting and conserving our diverse landscapes at a large scale – across public and private lands and regardless of political and jurisdictional boundaries. The goals of conservation at the landscape scale are to **conserve** ecosystems, habitats, and species on a large scale and across all borders. Landscape conservation can only be fully achieved by pooling together resources and **connecting** staff, partners, and stakeholders to **collaborate** on conservation at the larger landscape scale.

The end goal is a resilient and adaptive landscape and economy that can support future generations of Florida. Thriving landscapes and habitats produce a range of benefits such as protecting our water and air, mitigating for climate change, and providing habitat for fish, wildlife, and plants. In addition, productive landscapes power local and regional economies by supporting sustainable activities including fishing, farming, ranching, forestry, recreation, and tourism. Maintaining these benefits as Florida is facing ever-increasing significant land and water issues is paramount. Population growth, habitat loss and fragmentation, land use changes, invasive species, water crises, and climate change can threaten Florida's future. To successfully manage these challenges for the long term, there is a growing need for conservation work to be done at a larger scale and with multiple partners that can pool their resources and incorporate best scientific practices.

5.11.1 FWC's Landscape Conservation Strategic Initiative

The FWC and its partners have a legacy of excellent conservation work, much of which has been done at a landscape scale. To ensure Florida's natural resources are conserved for future generations, the FWC has launched the Landscape Conservation Strategic Initiative (LCSI) to serve as a catalyst for implementing further forward-looking and strategic conservation

measures. In September 2021, the FWC adopted an official Landscape Conservation policy for the agency, defining a holistic conservation approach with supportive guidelines. The primary goal of the LCSI is to achieve conservation outcomes that are large-scale, long-lasting, and cost-effective, and to establish durable partnerships with government agencies, conservation organizations, private landowners, academic institutions, stakeholders, and other partners. This includes proactive, long-range planning that is multi-purpose and encompasses multiple stakeholders and jurisdictions. Additionally, using a variety of tools, FWC staff will prioritize actions that are within identified target conservation areas. These goals will be achieved through the development and monitoring of clear, specific, and measurable indicators and targets that allow FWC staff to track conservation actions and assess landscape conservation outcomes.

5.11.2 Decision Support Tools

Florida Conservation Blueprint

The Florida Conservation Blueprint (Blueprint) is a spatial plan that identifies shared conservation priorities across Florida. The Blueprint was developed by the Peninsular Florida Landscape Conservation Cooperative (PFLCC) for incorporating strategies from a suite of partners. The Blueprint supports spatial conservation planning to inform conservation actions and investment. The Blueprint provides planners and managers across organizations the opportunity to align their efforts to protect fish and wildlife habitat, improve quality of life for people, and develop strong economies. The Florida Conservation Blueprint can be accessed from the [Florida Conservation Planning Atlas](#). The FWC uses the Blueprint to help guide and prioritize landscape conservation actions and acquisition opportunities (Figure 10).

Other Decision Support Tools

There are additional data and tools that have been developed as decision support tools for identifying and prioritizing areas for conservation action as well as to guide resource (i.e., time, staff, and funding) allocation. These tools include, but are not limited to, FLAM (Section 5.2.3), Critical Lands and Water Identification Project (CLIP), Florida Ecological Greenways Network (FEGN), FNAI element occurrences database, Simple Map Viewer, Fire Map Viewer, Florida Springs Dashboard, Climate Adaptation Explorer, and the Florida Ecological Report Cards. Tools and supporting data can be found at www.fnai.org or on the Florida Conservation Planning Atlas.

5.11.3 Conservation Stewardship and Partnership Opportunities

Private Lands Partnerships

The FWC recognizes the interconnected needs of protecting and enhancing private property values and rights and creating new markets and economies that support the conservation value of private working lands. Private landowners seeking assistance with habitat management will likely find it offered within the FWC Landowner Assistance Program (LAP). The FWC LAP program provides many 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. The FWC employs biologists

who are available to provide wildlife-related assistance with land use planning and habitat management. In addition, the LAP works with landowners to enroll in the NRCS conservation cost-share programs in order to assist with implementation of wildlife friendly practices. There are many forms of assistance that include technical, financial, and educational and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. At the time of the plan development, no specific land stewardship workshops had been conducted for landowners adjacent to the LGCWEA. 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 the FWC's LAP program and online habitat management tools are available online at:

<http://myfwc.com/conservation/special-initiatives/lap/>.



Landscape Conservation Partnerships

The FWC will continue to work with partners including government entities, private organizations, and academic institutions on collaborative landscape conservation efforts and acquisition opportunities. Potential partners for the LGCWEA and surrounding areas include the SWFWMD, the FFS, the USFWS, Pasco County, the DEP, and other organizations and potential grant program opportunities. The FWC will continue to commit staff time and other resources to

regularly providing information to partners regarding landscape conservation science, opportunities, and progress.

The LGCWEA staff coordinate interagency burning with the SWFWMD at the Green Swamp Wildlife Management Area (WMA), the Green Swamp West WMA, the Upper Hillsborough WMA, and the Lower Hillsborough WMA, as well as, running check stations for hunters. Staff also work with the SWFWMD on a National Wild Turkey Federation cost share project to do roller chopping and mowing on the Green Swamp WMA and Green Swamp West WMA.

5.11.4 Land Acquisition

Using identified tools outlined previously, the FWC works to identify 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, or have a high resource value that would otherwise be unprotected. Preservation of these lands can be accomplished through fee-simple or less-than-fee acquisition. The FWC works to pursue these opportunities through the FWC Additions and Inholdings Acquisition program, supporting DEP/Board of Trustees acquisition and addition of lands within the Florida Forever program, and continued partnership with other agencies and private organizations on acquisition of identified lands.

Less-Than-Fee Acquisition

Less-than-fee acquisitions, also known as conservation easements, are voluntary agreements between a landowner and government agency or conservation organization that acquires certain rights to a landowner's property for long-term conservation of the land, while the landowner still retains ownership of their property. The agreement is designed for landowners to continue to manage their land to maintain a working landscape in a manner that also enhances the conservation benefits provided by their land. These voluntary agreements to conserve land, support the goals of landscape conservation. Less-than-fee acquisition is not only a means of conserving land but is also a cost-effective means for governmental and non-governmental organizations to protect land, while also providing economic and tax benefits to the landowner and local economy.

Fee-Simple Acquisition

Fee-simple acquisition is the process of acquiring complete ownership of the land. Fee-simple acquisition can be accomplished through the State's Florida Forever program or through grant programs and acquisition partnerships. The Florida Forever program is a land acquisition program with the purpose of conserving natural and cultural resources throughout the State. The DEP, as staff to the Board of Trustees, or Governor and Cabinet, oversees the program. The Florida Forever program replaced the Preservation 2000 program, and since these programs' inception, nearly three million acres have been conserved throughout the State.

FWC's Additions and Inholdings Acquisition Program

Per F.A.C. 18-2.021, the FWC identifies parcels located directly in or adjacent to the subject area which can be recommended for acquisition through the FWC Additions and Inholdings Acquisition program. Several properties, equaling approximately 2,442 acres, have been identified for recommended acquisition under the auspices of the FWC's Additions and Inholdings Acquisition program for the LGCWEA (Figure 11). 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 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 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 frequently analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time. At this time, the FWC often recommends full-fee acquisition of the lands on the FWC Additions and Inholdings Acquisition List for the LGCWEA to optimize the conservation of fish and wildlife, public access and use, and overall resource and operational management of the area. However, as mentioned previously, the FWC may also pursue less-than-fee acquisitions with adjacent landowners. Though it should be noted that landowner preference is often the key element in determining whether to pursue a full-fee or less-than-fee acquisition.

Parcels on the FWC Additions and Inholdings Acquisition List will be acquired if possible, according to their priority ranking for acquisition, as funding availability allows, and based on the landowner's willingness to sell their lands. Participation in any FWC acquisition is entirely voluntary and at the sole discretion of willing landowners. The FWC also continues to assist and support the DEP/Board of Trustees in the acquisition or recommended acquisition of the remaining lands within the Green Swamp Florida Forever project as essential to the long-term conservation of wildlife and other elements important to the ecosystem function on the LGCWEA.

Alternative Options

Along with the several land acquisition options described previously, alternative land protection methods are also available. The state accepts donations of land, life estate, and first-right-of-refusal. A life estate is an alternative that allows a landowner to reside on their property during their lifetime, however, ensures state ownership after passing. Additionally, there is also the option that a landowner could offer the state a first-right-of-refusal. After a first offer is denied by a landowner, the first-right-of-refusal option provides the state with a chance to purchase the land in the future. The state offers several alternative possibilities to obtaining the rights to and/or ownership of land for conservation purposes, which furthers conservation-based goals and objectives for Florida's future.



5.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. For the LGCWEA, the FWC will continue to assess and identify 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 LGCWEA must have prior approval by the FWC.

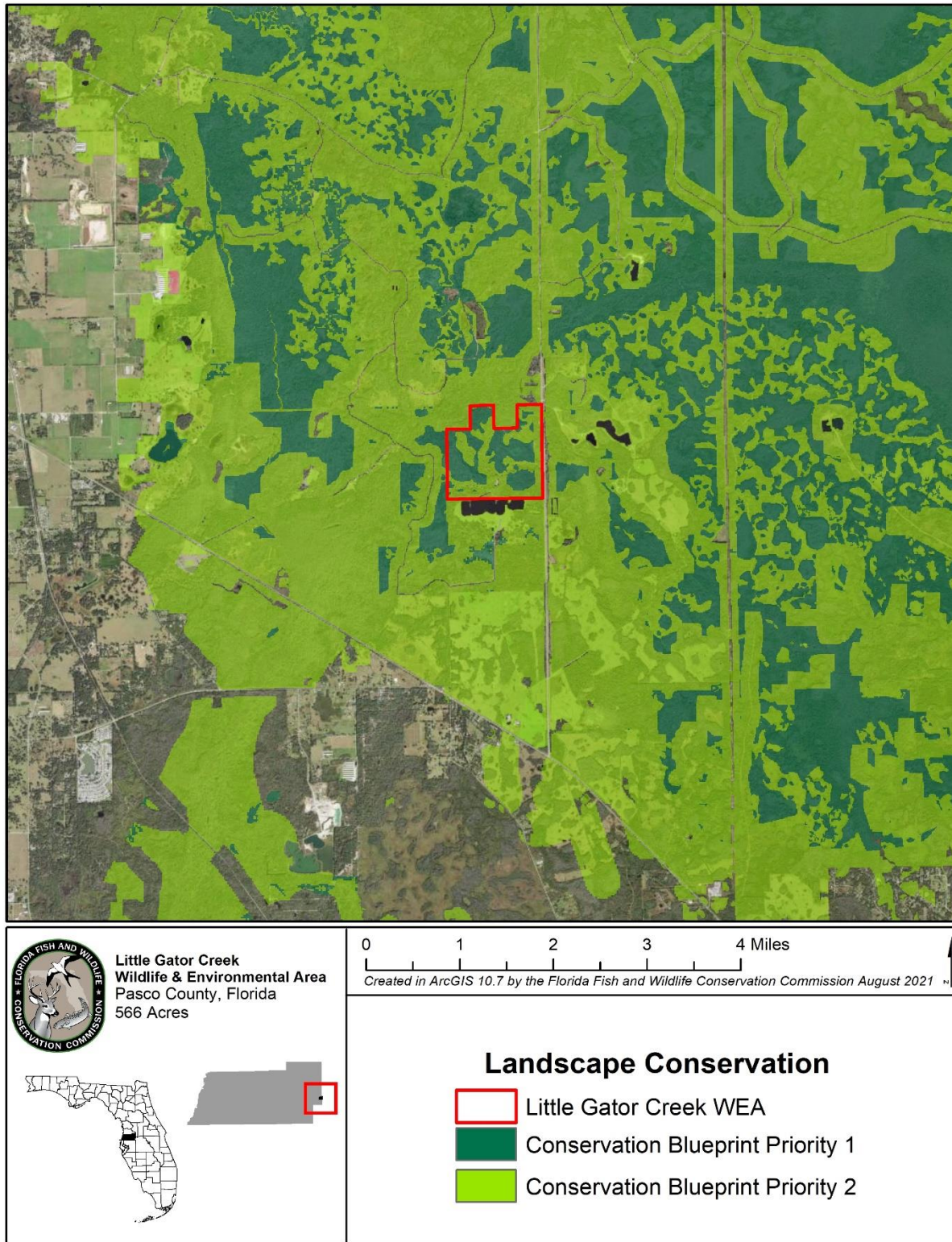


Figure 10. Landscape Conservation

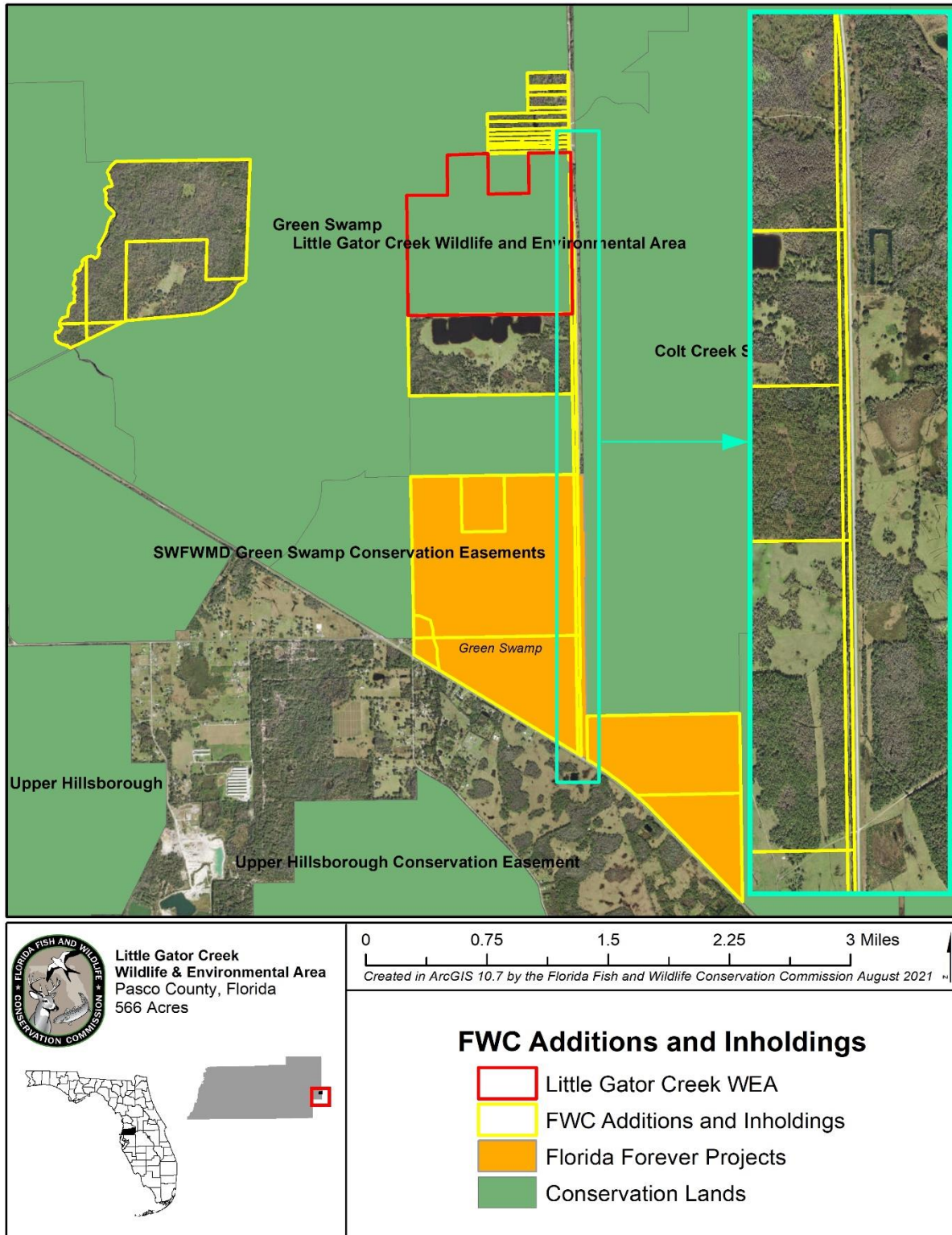


Figure 11. FWC Additions and Inholdings

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the LGCWEA as set forth in the lease agreements with the Board of Trustees. In keeping with the lease agreements, and in order 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 SWFWMD and the DEP for the monitoring and management of both ground and surface water resources and the overall management of the LGCWEA.

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 LGCWEA. 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 LGCWEA 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 LGCWEA. 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 LGCWEA. However, use of apiaries is conditionally approved for the LGCWEA, 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 LGCWEA will be guided by the FWC Apiary Policy (Appendix 12.10). The FWC Apiary Policy will be followed with regards to site location, management, and administration of apiaries.

5.14 Climate Change

Florida's unique ecology and topography make impacts from climate change particularly acute and likely to affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of climate change on wildlife and habitat is already occurring, from eroding shorelines and coral bleaching to increases in forest fires, severe weather events, and saltwater intrusion into inland freshwater wetlands.

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is 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 to accelerate. The average global temperature has increased 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.⁹

This apparent change in global climate is likely 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 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;^{10, 11, 12} more frequent invasions and outbreaks of invasive species;¹³ and loss of habitat in coastal areas due to sea level rise.¹⁴ 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. However, the highly developed Florida coastline and significant projected urban growth in the state in coming decades is likely to make it difficult or impossible for many species and habitats to shift their ranges in response to a changing climate. 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.¹⁵ A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. The FWC has a program in place to increase our understanding of the impacts of climate change on Florida's natural resources and to develop strategies to help wildlife and habitats adapt to changing conditions. While it may not be possible for natural resource managers to prevent or reverse the impacts of climate change, management actions can increase the resilience of natural systems. For example, the FWC follows a process that includes monitoring, evaluating, and determining what specific actions, if any, are recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of invasive species. Currently, the FWC is continuing its work on the development of future 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. The FWC has conducted multiple species and habitat vulnerability assessments in recent years, and these models are important tools to help managers assess the severity of climate change impacts. As impacts from climate change continue to accelerate, the FWC will consider the need for updating or conducting additional 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 LGCWEA, Goals and Objectives have been developed as a component of this Management Plan (Section 6.11). 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 LGCWEA 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 LGCWEA. 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 (less than two years) or long-term (up to ten years) timelines for completion.

6.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Short-term

- 6.1.1 Utilize OBVM monitoring to evaluate actively managed natural communities and adjust management efforts to meet desired future conditions.

Long-term

- 6.1.2 Contract for recertification of the mapping of current natural and altered communities.
- 6.1.3 Utilize OBVM monitoring to evaluate actively managed natural communities and adjust management efforts to meet desired future conditions.
- 6.1.4 Continue to implement the Prescribed Burn Plan.
- 6.1.5 Continue to conduct habitat/natural community improvement including using management techniques such as midstory removal, timber thinning, mowing, shredding/mulching, discing, native vegetation planting, prescribed fire, and other controls deemed necessary by staff.

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

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

Long-term

- 6.2.1 Update the WCPR Strategy.
- 6.2.2 Continue to implement the WCPR Strategy by managing identified habitats and monitoring imperiled and locally important species.
- 6.2.3 Continue to collect and record opportunistic wildlife species occurrence data.
- 6.2.4 As needed, contract for a rare plant survey.

6.3 Other Wildlife (Game and Nongame) Habitat Maintenance, Enhancement, Restoration, and 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 species occurrence data.

6.4 Invasive and Non-native Species Maintenance and Control

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

Long-term

6.4.1 Monitor the LGCWEA for the level of infestation of FISC Category I and Category II invasive plant species and treat as needed and appropriate.

6.4.2 Explore the feasibility of wild hog control activities.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

6.5.1 Develop additional recreational opportunities, bringing the total carrying capacity to 33 visitors/day.

6.5.2 Develop a Recreation Assessment for the LGCWEA.

Long-term

6.5.3 Continue to implement the Recreation Master Plan and update if new acquisitions or other factors warrant.

6.5.4 Construct a one panel kiosk near the entrance of the area.

6.5.5 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 33 visitors per day.

6.5.6 Continue to provide website, kiosk, and trail map for interpretation and education.

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 To enhance natural hydrological functions, continue to install and maintain low-water crossings, bridges, and culverts as appropriate.

6.6.2 Continue to implement the Hydrological Restoration Plan.

6.6.3 Continue to cooperate with the SWFWMD 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 utilize the Timber Assessment including reforestation, harvesting, and prescribed burning activities based on restoration and maintenance needs of the natural communities and other goals established for management of the LGCWEA.
- 6.7.2 Coordinate with the FFS or a professional forestry consultant to update the Timber Assessment, as needed and appropriate.
- 6.7.3 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 the capital facilities and infrastructure necessary to meet the goals and objectives of this Management Plan.

Short-term

- 6.8.1 Develop additional 2.18 miles of trails.



Long-term

- 6.8.2 Monitor infrastructure annually for visitor impacts.
- 6.8.3 Continue to maintain six facilities, fences, and signage.
- 6.8.4 Continue to maintain 2.9 miles of roads.
- 6.8.5 Establish electrical capabilities at the shop area.
- 6.8.6 Continue to monitor and maintain 5.33 miles of designated trails.

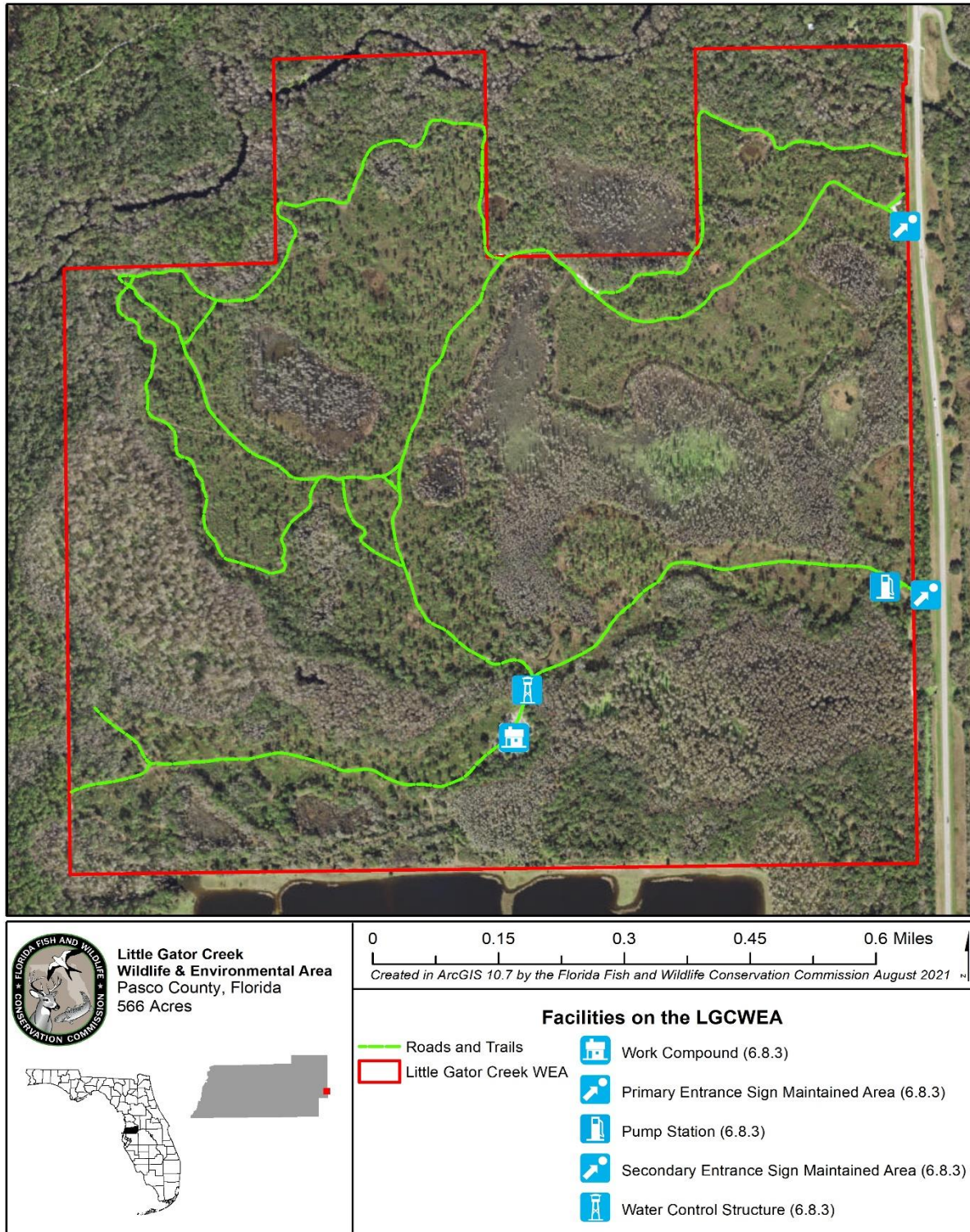


Figure 12. Facilities on the LGCWEA

6.9 Cultural Resources

Goal: Protect, preserve, and maintain cultural resources.

Long-term

- 6.9.1 Cooperate with the DHR in designing site plans for development of infrastructure.
- 6.9.2 Continue to follow the 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.
- 6.9.3 Continue to annually monitor, protect, and preserve any changes on seven recorded sites on the LGCWEA.
- 6.9.4 Ensure any newly identified sites are reported to the DHR for inclusion in the FMSF.
- 6.9.5 Coordinate with the DHR to ensure that staff have received updated Archaeological Resource Management training.

6.10 Land Conservation and Stewardship Partnerships

Goal: Enhance fish and 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 LGCWEA 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 for 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 LGCWEA 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 current and future projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the LGCWEA.

Long-term

- 6.11.1 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 LGCWEA.
- 6.11.2 As appropriate, update the LGCWEA Prescribed Fire Plan, WCPR Strategy, and Recreation Master Plan to incorporate new scientific information regarding projected climate change.
- 6.11.3 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.

6.12 Cooperative Management, Special Uses, and Research Opportunities

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

Long-term

- 6.12.1 Continue to cooperate with researchers, universities, and others to assess the need for research and environmental education partnership opportunities, 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 the LGCWEA.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the LGCWEA 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.

7.1 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.

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

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

7.3 Challenge 3: Hydrologic conditions within the core foraging area of the wood stork and wading bird colony may be impacting nesting activity and success.

Strategy: Cooperate with regional natural resource agencies, local governments, and nearby private landowners to evaluate actions that may be taken to preserve and enhance wood stork foraging habitat.

7.4 Challenge 4: There are smoke management challenges during prescribed burns due to proximity to major roadways and residential areas.

Strategy: Use available tools and resources to minimize smoke impact and increase outreach for areas of potential impact.

Strategy: Coordinate with the Florida Department of Transportation to notify them of the prescribed fire schedule and request mobile messaging signs along nearby roadways to inform the public of potential smoke in the area.

7.5 Challenge 5: Invasive plants from adjacent private lands are spreading to the LGCWEA.

Strategy: Coordinate with the FWC's LAP to work with adjacent landowners to control and manage invasive plants on adjacent properties.

Strategy: Coordinate with other governmental and private organizations to obtain resources to control and manage invasive species on adjacent properties.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the LGCWEA. 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 LGCWEA. 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 12.17.



**Little Gator Creek WEA Management
Plan Cost Estimate**

Maximum expected one-year
expenditure

<u>Resource Management</u>	<u>Expenditure</u>
Invasive Species Control	\$41,864
Prescribed Burning	\$7,042
Cultural Resource Management	\$952
Timber Management	\$296
Hydrological Management	\$8,001
Vegetation Management/Monitoring	\$9,122
Wildlife Management/Monitoring	\$7,583
<u>Subtotal</u>	\$74,860
 <u>Administration</u>	
General administration	\$2,425
 <u>Support</u>	
Land Management Planning	\$27,014
Management Reviews	\$0
Training/Staff Development	\$3,738
Vehicle Purchase	\$50,906
Vehicle Operation and Maintenance	\$7,522
Other (Technical Reports, Data Management, etc.)	\$3,546
Internal Program Review	\$1,182
Technology and Data Management	\$2,191
<u>Subtotal</u>	\$254,444
 <u>Capital Improvements</u>	
New Facility Construction	\$0
Facility Maintenance	\$4,912
<u>Subtotal</u>	\$4,912
 <u>Visitor Services/Recreation</u>	
Info./Education/Operations	\$4,390
 <u>Law Enforcement</u>	
Resource protection	\$4,950
 <u>Total</u>	\$345,982

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

**Little Gator Creek WEA Management
Plan Cost Estimate**

Ten-year projection

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	<u>Priority schedule:</u>
Invasive Species Control	\$367,823	(1)	(1) Immediate (annual)
Prescribed Burning	\$61,873	(1)	(2) <i>Intermediate (3-4 years)</i>
Cultural Resource Management	\$8,362	(1)	(3) Other (5+ years)
Timber Management	\$2,596	(1)	
Hydrological Management	\$70,301	(1)	
Vegetation Management/Monitoring	\$80,147	(1)	
Wildlife Management/Monitoring	\$66,628	(1)	
<u>Subtotal</u>	\$657,730		
<u>Administration</u>			
General administration	\$21,310	(1)	
<u>Support</u>			
Land Management Planning	\$237,345	(1)	
Management Reviews	\$0	(3)	
Training/Staff Development	\$32,842	(1)	
<i>Vehicle Purchase</i>	\$557,226	(2)	
Vehicle Operation and Maintenance	\$66,087	(1)	
Other (Technical Reports, Data Management, etc.)	\$31,156	(1)	
Internal Program Review	\$10,385	(1)	
Technology and Data Management	\$19,253	(1)	
<u>Subtotal</u>	\$954,298		
<u>Capital Improvements</u>			
<i>New Facility Construction</i>	\$37,662	(2)	
Facility Maintenance	\$43,159	(1)	
<u>Subtotal</u>	\$80,821		
<u>Visitor Services/Recreation</u>			
Info/Education/Operations	\$38,574	(1)	
<u>Law Enforcement</u>			
Resource protection	\$43,487	(1)	
<u>Total</u>	\$1,796,220	*	

*Based on the characteristics and requirements of this area, one FTE position 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:

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

10 Compliance with Federal, State, and Local Governmental Requirements

The operational functions of the 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 LGCWEA 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 12.9). 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, 373, 375, 378, 379, 403, 487, 597, and 870 F.S.

The FWC has developed and utilizes an Arthropod Control Plan for the LGCWEA in compliance with Chapter 388.4111 F.S. (Appendix 12.18). This plan was developed in cooperation with the local Pasco County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Pasco County, Florida, (Appendix 12.19).

11 Endnotes

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- ¹⁴ 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.

- ¹⁵ 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.
- ¹⁶ Emanuel, K.A. 1987. The Dependence of Hurricane Intensity on Climate. *Nature* 326: 483-485.
- ¹⁷ Emanuel, K.A. 2005. Increasing Destructiveness of Tropical Cyclones Over the Past 30 Years.
- ¹⁸ Webster et al. 2005; Webster, P. J., et al. 2005. Changes in Tropical Cyclone Number, Duration, and Intensity, in a Warming Environment. *Science* 309: 1844–1846.
- ¹⁹ Mann, M.E. and K.A. Emanuel. 2006. Atlantic Hurricane Trends Linked to Climate Change. *Eos Trans. AGU* 87: 233-244.
- ²⁰ Stanton, E.A. and F. Ackerman. 2007. Florida and Climate Change: The Costs of Inaction. Tufts University Global Development and Environment Institute and Stockholm Environment Institute—US Center, Tufts University, Medford, MA.
- ²¹ Clough, J.S. 2008. Application of the Sea-Level Affecting Marshes Model (SLAMM 5.0) to Crystal River NWR. Warren Pinnacle Consulting, Inc. for U.S. Fish and Wildlife Service. 46 pp.

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12 Appendices

12.1 Lease Agreement

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

LEASE AGREEMENT

FOR

LITTLE GATOR CREEK BIRD ROOKERY

No. 3291

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 which may properly use and possess them for the benefit of the State;

NOW, THEREFORE, this agreement made between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, as LESSOR, and the STATE OF FLORIDA GAME AND FRESH WATER FISH COMMISSION, as LESSEE

WITNESSETH:

The parties, for and in consideration of mutual covenants and agreements hereinafter contained, hereby covenant and agree as follows:

1. The Lessor does hereby lease to the Lessee the following described area in the County of Pasco, State of Florida, together with the improvements thereon, as applicable, and subject to all existing encumbrances, viz:

(Exhibit A - Attached)

TO HAVE AND TO HOLD the above described land for a period of twenty (20) years, with one ten (10) year renewal option, to provide for the following environmental protection and compatible recreation purposes in accordance with Chapter 259, Florida Statutes:

Protect and manage the wood stork rookery and associated endangered species. In addition, preserve the existing fresh-water wetlands which, together with the rookery identify this parcel as a unique and outstanding natural area.

2. It is understood and agreed that the Lessee will prepare a management plan for the area in accordance with the environmental protection and recreation purposes described in paragraph 1 and Section 253.034, Florida Statutes. The management plan will be prepared and presented to the Lessor for approval within twelve (12) months of the date of this lease.

3. Lessee shall not clear, plant, build or alter the property or engage in any activity except as provided for in the approved management plan without the advance written approval of the Executive Director of the Department of Natural Resources as agent for the Lessor.

4. It is understood and agreed that the Lessee shall have responsibility for the protection of the property, and shall through its agents and employees take all reasonable measures to provide security against damage, property degradation and unauthorized uses.

5. The Lessee shall have the right to enter upon said land for all purposes necessary to the full enjoyment by said Lessee of the rights herein conveyed to it.

6. This lease shall terminate at the sole option of the Lessor, when and if said premises, including lands and improvements, shall cease to be used for the environmental protection and compatible recreation purposes described in paragraph 1, and the Lessee shall upon termination surrender up the premises to the Lessor. Any costs arising out of the enforcement of the terms of this lease agreement shall be the exclusive obligation of the Lessee, payable upon demand of the Lessor.

7. The Lessor warrants that it has the right to lease the hereinabove described property, however this lease does not convey a fee simple title.

8. The Lessor or its duly authorized agents shall have the right at any time to inspect the said land and the works and operations thereon of the Lessee in any matter pertaining to this agreement.

9. The managing agency agrees to assist in the investigation of injury or damage claims either for or against the State or the Board pertaining to its respective area of responsibility, or arising out of its respective management programs and activities, and to contact the Board regarding whatever legal action it deems appropriate to remedy same.

10. The Lessee is hereby authorized to grant utility easements which will be necessary to service authorized facilities located within the leased premises. Copies of any such easements granted shall be filed timely with the Lessor.

11. This agreement is for the purposes specified herein, and subleases of any nature, excepting utility easements incident to authorized facilities, (Provision 10), are prohibited, unless previously authorized by the Lessor.

12. The lease may be terminated by mutual agreement of the Lessor and Lessee.

13. Upon termination of lease or cessation of occupation of said property, the Lessee agrees to leave all fixed improvements for the use of the Lessor and to put no claim upon said fixed improvements or at the option of the Lessor, the Lessee agrees to remove any or all improvements on the property at the Lessee's expense.

14. Execution of the agreement in no way affects the Lessee's obligation pursuant to Chapter 267, Florida Statutes.

15. Any inequities that may subsequently arise as a result of this lease shall be subject to negotiation upon written request of either party hereto, and the parties agree to negotiate in good faith. In case of failure by the respective staffs to resolve conflict(s), the matter shall be referred to the Lessor for final resolution.

IN TESTIMONY WHEREOF, the legally designated agent of the Board of Trustees of the Internal Improvement Trust Fund has hereunto subscribed his name and has caused the official seal of the Board of Trustees of the Internal Improvement Trust Fund to be hereunto affixed, in the City of Tallahassee, Florida, on this the 21st day of November, A.D. 19 83.

(SEAL)
BOARD OF TRUSTEES OF THE
INTERNAL IMPROVEMENT
TRUST FUND

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

BY *J. Mark H. Kead*
Division Director, Department of
Natural Resources, Agent for the
Board of Trustees of the Internal
Improvement Trust Fund authorized
to execute this instrument for
and on its behalf pursuant to
Section 253.431, Florida Statutes,
and resolution recorded in its
minutes of April 15, 1980.

State of Florida Game and Fresh
Water Fish Commission

BY *Robert M. Brantly*

APPROVED AS TO
FORM AND LEGAL SUFFICIENCY
[Signature]
Commission Attorney

APPROVED AS FISCALLY
AND BUDGETARILY SOUND
William C. Sumner
DIRECTOR
DIVISION OF ADMINISTRATION AND RECORDS

APPROVED AS TO
FORM AND LEGAL SUFFICIENCY
[Signature]
DEPARTMENT ATTORNEY

No. 3291

EXHIBIT "A"

✓ ✓ ✓
All Section 24, Township 25 South, Range 22 East,
except NW $\frac{1}{4}$ of the ~~Q17~~ and the NW $\frac{1}{4}$ of the ~~Q18~~, all
in Pasco County, encompassing ~~560~~ ⁵⁶⁶ acres, more or
less.

NE $\frac{1}{4}$

NW $\frac{1}{4}$

thereof and less and except that portion
lying within the right of way of SR 471.

This Instrument was prepared by:
Derek W. Helms
Bureau of Public Land Administration
Division of State Lands
Department of Environmental Protection, MS 130
3900 Commonwealth Boulevard,
Tallahassee, Florida 32399-3000
AID# 20941

SAL2
[566.02 (+/-) acres]

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

LEASE AGREEMENT

LITTLE GATOR CREEK WILDLIFE ENVIRONMENTAL AREA

Lease Number 4723

This lease is made and entered into this 15th day of August, 2017, between the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA**, hereinafter referred to as "LESSOR", and the **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 Pasco, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter called the "leased premises".

3. **TERM:** The term of this lease shall be for a period of Fifty (50) years, commencing on August 1, 2017 and ending on July 31, 2067, 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.
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 easement 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. LESSEE is responsible for all personal injury and property damage attributable to the negligent acts or omissions of LESSEE, and its officers, employees, and agents. Nothing herein shall be construed as an indemnity or a waiver of sovereign immunity enjoyed by any party hereto, as provided in Section 768.28, Florida Statutes, as amended from time to time, or any other law providing limitations on 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 of any nature including, but not limited to, utility easements are required to be granted by LESSOR. LESSEE is not authorized to grant any easements of any nature and any easement granted by LESSEE 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. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental

Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon expiration or termination of this lease, all permanent improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the leased premises and improvements located thereon do not meet all conditions set forth in paragraphs 17 and 20 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

15. **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.

16. **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.

17. **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.

18. **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.

19. **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 unless allowed by the approved management plan. Removable equipment placed on the leased premises by LESSEE which do not become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

20. **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.

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

22. **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.

23. **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.

24. **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.

25. **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.

26. **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: State of Florida Department of
Environmental Protection
Division of State Lands
Bureau of Public Land Administration, MS 130
3800 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

LESSEE: Florida Fish and Wildlife Conservation Commission
Wildlife and Habitat Management Section
Division of Habitat and Species Conservation
620 South Meridian Street, Room 321
Tallahassee, FL, 32399-1600

27. **DAMAGE TO THE PREMISES**: (a) LESSEE shall not do, or suffer to be done, in, on or upon the leased premises or as affecting said leased premises or adjacent properties, any act which may result in damage or depreciation of value to the leased premises or adjacent properties, or any part thereof. (b) LESSEE shall not generate, store, produce, place, treat, release or discharge any contaminants, pollutants or pollution, including, but not limited to, hazardous or toxic substances, chemicals or other agents on, into, or from the leased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this lease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state or local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply

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

28. 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.

29. 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.

30. 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.

31. **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.
32. **TIME**: Time is expressly declared to be of the essence of this lease.
33. **GOVERNING LAW**: This lease shall be governed by and interpreted according to the laws of the State of Florida.
34. **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.
35. **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.
36. **RIGHT OF TERMINATION**: Anything contained in this lease to the contrary notwithstanding, LESSOR shall have the right and option to terminate this lease, at will, for any reason whatsoever, by giving the LESSEE written notice of such election to terminate at least six (6) months prior to the effective date of such termination. LESSEE shall continue to honor its obligations under the lease until the effective date of the termination, including LESSEE's obligations concerning surrender of the leased premises.

[Remainder of page intentionally left blank; Signature page follows]

EXHIBIT "A"

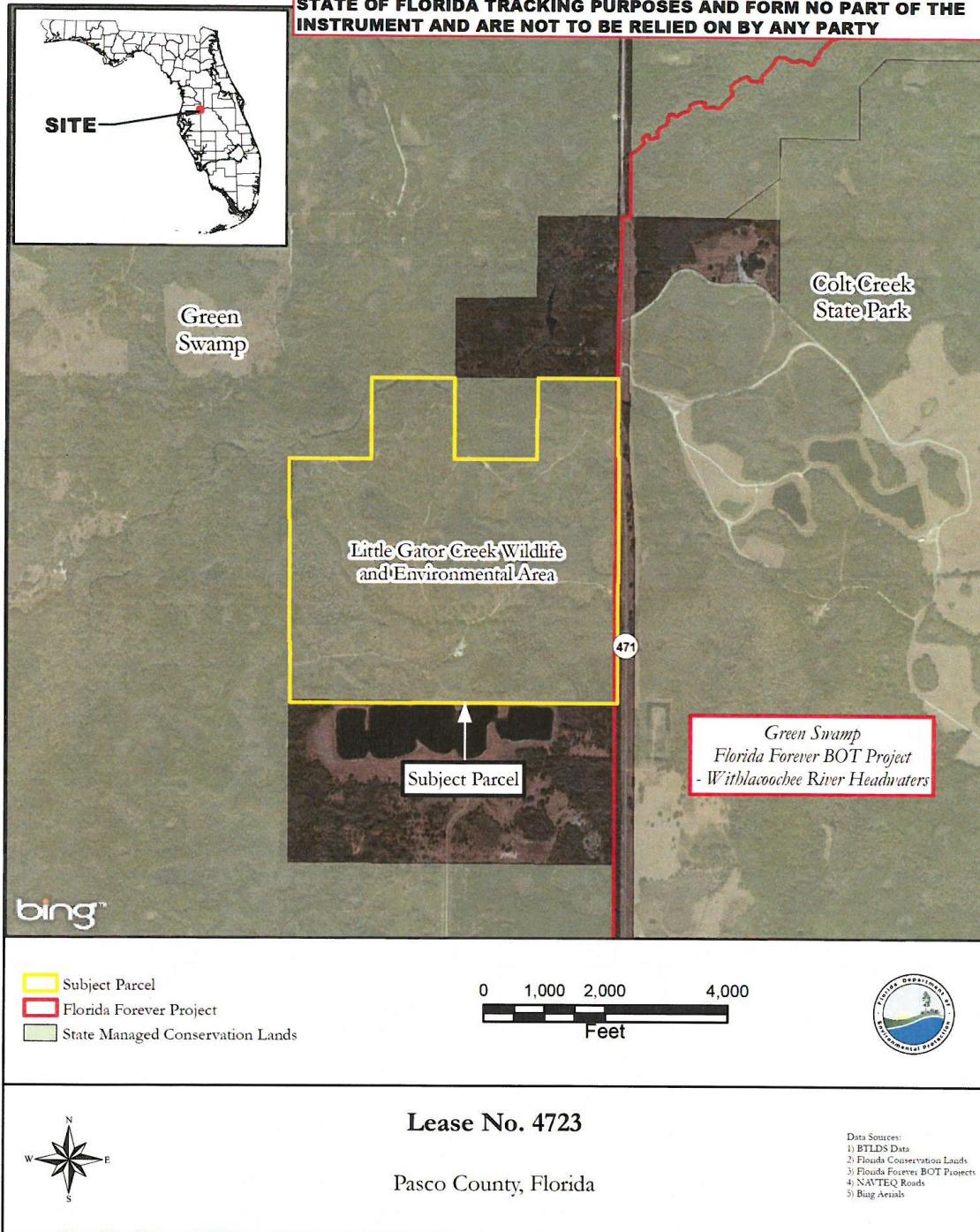
All of Section 24, Township 25 South, Range 22 East, EXCEPT the Northwest $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ and the Northwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$, thereof, all in Pasco County.

11 11

2 1
2

BSM
BY SK
Date: 4.03.2017

**THIS PAGE AND ANY FOLLOWING PAGES ARE ATTACHED ONLY FOR
STATE OF FLORIDA TRACKING PURPOSES AND FORM NO PART OF THE
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File Location: \\FLDEPI\vech_cad\Comms_GIS\Pasco\Lease_3291_to_Lease_4723\Lease_3291_to_Lease_4723.mxd
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Map Created By: G.W. Stetler

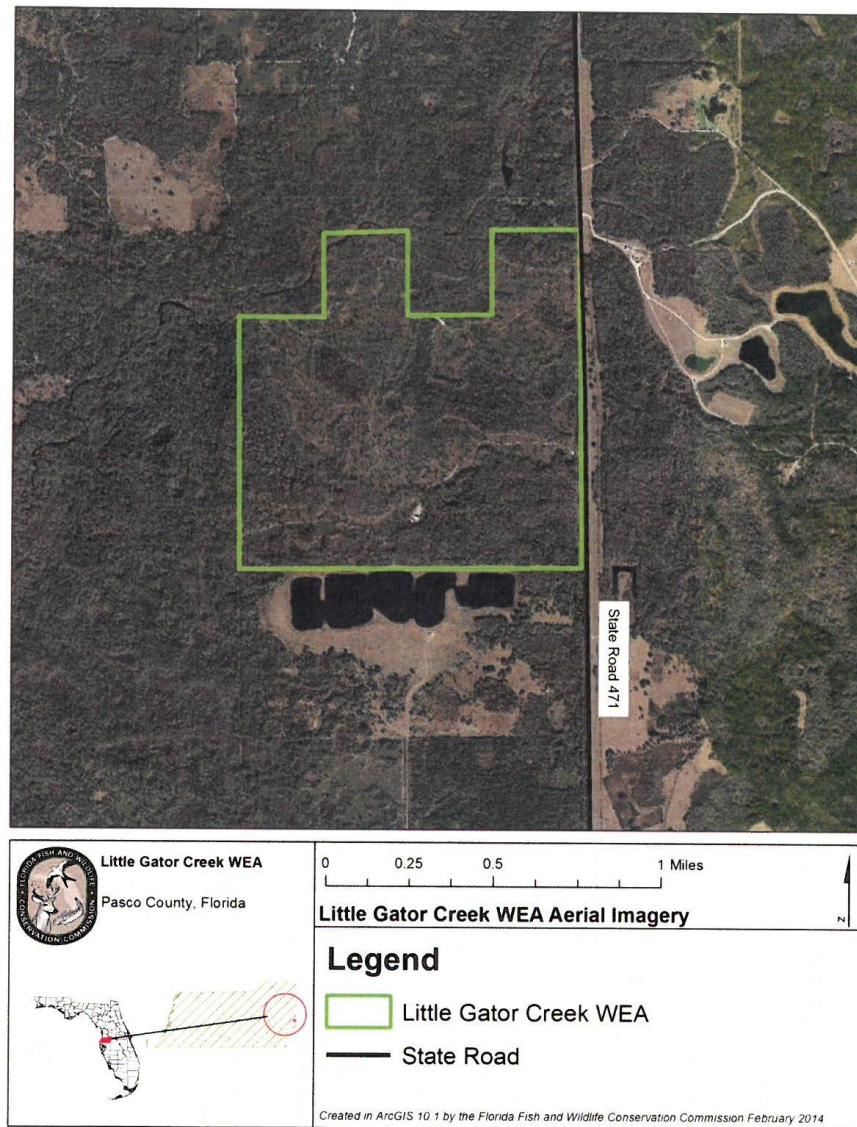


Figure 2: Aerial Imagery of LGCWEA

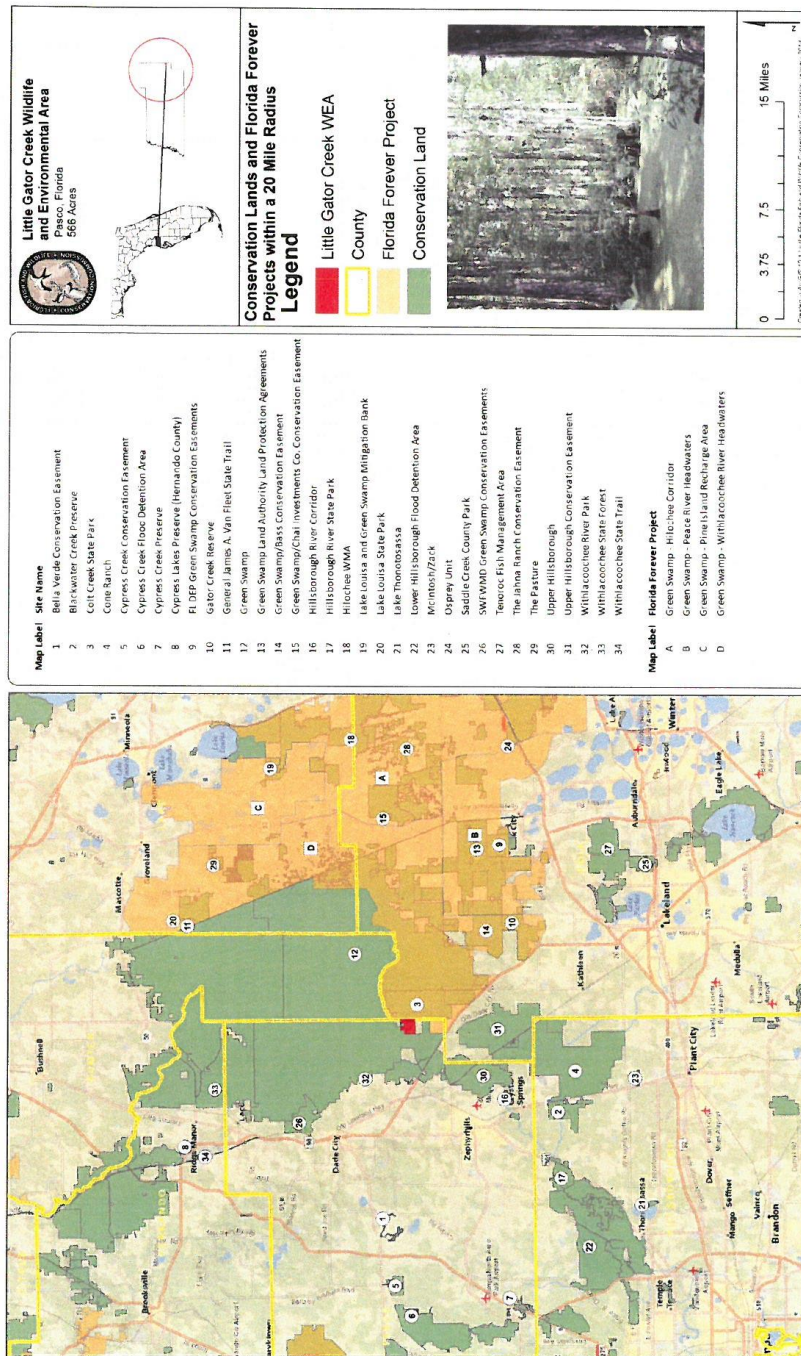


Figure 3: Conservation Lands and Florida Forever Project

12.2 Public Hearing Notice, Advertisements, and Press Release

12.2.1 Public Hearing Notice

NOTICE

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

PUBLIC HEARING for the Little Gator Creek Wildlife and Environmental Area Management Plan

Pasco County, Florida

7:00 P.M. Wednesday, November 17th, 2021

Alice Hall
38116 5th Ave
Zephyrhills, Florida 33542

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Little Gator Creek Wildlife and Environmental Area (WEA). This hearing is being held **EXCLUSIVELY** for discussion of the **DRAFT** Little Gator Creek 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 Little Gator Creek WEA is available upon request. For a copy, please contact Hannah Klein, Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9767. Email: Hannah.Klein@myFWC.com

12.2.2 Internal FWC Press Release

Help plan the future of the Little Gator Creek Wildlife and Environmental Area

The Florida Fish and Wildlife Conservation Commission (FWC) will present a draft 10-year management plan for the Little Gator Creek Wildlife and Environmental Area at a public hearing in Pasco County on November 17th, 2021.

The public hearing will be held at 7 p.m. at the Alice Hall at 38116 5th Ave, in Zephyrhills, Florida. The public is encouraged to attend and will have the opportunity to comment and ask questions regarding the management plan for the FWC-managed WEA.

The Little Gator Creek WEA encompasses approximately 566 acres in Pasco County. With a boundary surrounded by conservation lands, the Little Gator Creek WEA was acquired for the purpose of protecting wood stork and wading bird colonies. Due to purpose of acquisition, the Little Gator Creek WEA is only open to visitors September 1st through January 31st for hiking, biking and wildlife viewing.

“The Little Gator Creek WEA was purchased to ensure the preservation of wildlife and other natural and cultural resources for future generations, and to provide wildlife-based outdoor recreation opportunities to the public,” said Hannah Klein, FWC land conservation planner. “This draft management plan will specify how we intend to accomplish that goal.”

For more information on this [upcoming public hearing](#), go to [MyFWC.com/Conservation](https://myfwc.com/Conservation) and select “Terrestrial Programs” then “Management Plans.” Hunting and fishing regulations are not included in this plan or meeting; they are

addressed through a separate public process. Please visit

MyFWC.com/hunting/regulations or MyFWC.com/fishing/freshwater/regulations to learn more about hunting and fishing regulations.

Pursuant to Chapters 253 and 259, Florida Statutes, all lands purchased with public funds must have a management plan that ensures the property will be managed in a manner that is consistent with the intended purposes of the purchase. For more information and background on management plans and their goals, visit MyFWC.com/conservation/management-plans/terrestrial.

To obtain a copy of the land management prospectus for the Little Gator Creek WEA, call Hannah Klein at 850-487-9767 or via email at Hannah.Klein@myFWC.com. To learn more about the Little Gator Creek WEA go to MyFWC.com and select “Wildlife Viewing” then “Wildlife Management Areas.”

12.2.3 Newspaper

Ad Number	Ad Type	Production Method	Production Notes						
0003402868-01	SA Legal Liner	AdBooker							
External Ad Number	Ad Attributes	Ad Released	Pick Up						
	No								
Ad Size	Color								
1 X 4.50"									
WYSIWYG Content									
The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the proposed management plan for the Guana River Wildlife Management Area located in St. Johns County, Florida. 7:00 P.M. Wednesday, March 9th, 2022 500 San Sebastian Street Commission Chambers St. Augustine, FL 32084 FWC invites the public to comment regarding considerations for FWC's 10-year Management Plan for the FWC Lead Managed Portions of Guana River Wildlife Management Area (LMA). This hearing is being held EXCLUSIVELY for discussion of the DRAFT Guana River WMA Management Plan. This meeting is a closed public hearing. More information on the process for rule-making and regulation development is available upon request from Hannah Klein at the Florida Fish and Wildlife Conservation Commission, 620 South Washington Avenue, Tallahassee, FL 32399-1600. Telephone: (850) 487-9767 or by e-mail at Hannah.Klein@myfwc.com. A Management Prospectus for Guana River WMA is available upon request from Hannah Klein at the Florida Fish and Wildlife Conservation Commission, 620 South Washington Avenue, Tallahassee, FL 32399-1600. Telephone: (850) 487-9767 or by e-mail at Hannah.Klein@myfwc.com. This program reviews Federal laws and regulations that affect Fish and Wildlife Service. Under Title VI of the 1964 Civil Rights Act, Section 304 of the Rehabilitation Act of 1973, Title I of the Americans with Disabilities Act of 1975, and Title IX of the Education Amendments of 1972, the U.S. Department of the Interior is required to provide information on the basis of race, color, national origin, age, sex, or disability. If you believe that you have been discriminated against on the basis of race, color, or disability, or if you need more information, please write to: Office of Diversity, Inclusion, and Civil Rights, U.S. Department of the Interior, 1445 C Street, NW Washington, D.C. 2024									
0003402868	February 20, 2022								
Run Date	Product	Placement	Rate	Sched Cst	Disc/Prem	Color	Pickup	Tax	Subtotal
02/20/2022	SA St Augustine Record	SA Legals	\$8.98 per Inch	\$40.41	\$0.00	\$0.00	\$0.00	\$0.00	\$40.41
02/20/2022	SA St Aug Record Online	SA Legals	\$8.97 per Inch	\$40.37	\$0.00	\$0.00	\$0.00	\$0.00	\$40.37

12.2.4 Florida Administrative Register Ad

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: November 17, 2021, 7:00 p.m.

PLACE: Alice Hall, 38116 5th Ave, Zephyrhills, Florida 33542

GENERAL SUBJECT MATTER TO BE CONSIDERED: The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the FWC Lead Managed Portions of the Little Gator Creek Wildlife and Environmental Area located in Pasco County, Florida.

7:00 p.m. Wednesday, November 17, 2021

Alice Hall, 38116 5th Ave, Zephyrhills, Florida 33542

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of the Little Gator Creek Wildlife and Environmental Area (LGCWEA).

This hearing is being held EXCLUSIVELY for discussion of the DRAFT LGCWEA 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 <https://myfwc.com/about/rules-regulations/proposed-rule-changes/>.

A Management Prospectus for the LGCWEA and copy of the agenda is available upon request from Hannah Klein at the Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850)487-9767 or by e-mail at Hannah.Klein@myFWC.com.

A copy of the agenda may be obtained by contacting: Hannah Klein at (850)487-9767 or hannah.klein@myfwc.com

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 14 days before the workshop/meeting by contacting: 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).

12.3 Public Input

12.3.1 Management Advisory Group Meeting Results

Little Gator Creek Wildlife and Environmental Area (LGCWEA)

Management Advisory Group (MAG)

Consensus Meeting Results

September 22nd, 2021

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

The MAG consensus meeting was held on the morning of *September 22nd, 2021* via Microsoft Teams. The ideas found below were provided by stakeholders for consideration in the 2022 - 2032 Management Plan (MP) with priority determined by vote. These ideas represent a valuable source of information to be used by biologists, planners, administrators, and others during the development of the MP. Upon approval by FWC, the Acquisition and Restoration Council (ARC), and the 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.

Idea

1. **Promote prescribed fire.** Maintain fire regime to maintain and create diversity within mesic flatwoods. It is important to maintain burn cycles to keep diversity of mesic flatwoods species and create succession of encroachment of hardwoods. To make sure all communities are in rotation, shorter fire return intervals as well as springtime burning could be utilized. Currently it is 2-5 years and would like to see the time period shortened. Ideally every 2 years, but real life gets in the way so, we'd like to see an aggressive fire interval to maintain fuels with every second fire cycle during the growing season.
2. **Public access signage.** Would like to see more clear signage, closed most of the year because of wood stork rookery. Current signage doesn't say when it is closed and whatnot, and would be easier to enforce when people know they aren't supposed to be there.
5. **Plan for climate change.** As we move forward and see evidence of extremes, we need to prepare for wider fluctuations in precipitation patterns. Specifically prepare for flood events and extended drop events.
7. **Employ best management practices to protect water resources.** Avoid placing fire breaks along wetland edges and any installations of low water crossings or culverts that are needed to prevent erosion.
9. **Conduct forestry inventory, if needed.** Plant pine seedlings in areas which have been logged or too few trees per acre and conduct survey if needed. There has been some historical logging of pine trees so if overstory density needs to be restored, supplemental planting of long leaf pines could work.
10. **Control of invasive plants and animals.** There are a lot of invasive species, such as feral hog population, not sure if there is an issue there, but need to control the population. Need to reduce populations of cogongrass, caesars weed, and lygodium which is in basin swamps and dome swamps. Especially cogongrass so, as long as we work together to keep this as bay because it is so invasive, I think it will work out.
11. **Annual inspection of water control structures.** Culverts, pumps, etc. have been involved in a lot of ecologic restoration programs throughout the state. A lot of the work is just unclogging culverts, restoring the integrity of burns, looking at maintenance of pumps. That's the type of activity we need.

Idea

12. **Imperiled species monitoring.** Imperiled species monitoring needs to be developed better, especially in flatwoods. Most listed species would be in hammock. It helps with management of land versus the wishes of what may possibly be there. Having a geodatabase/comprehensive list of what's there helps.
13. **Monitoring of wading bird colony site.** Continue active monitoring of wood storks and any other nesting birds out there. Typically nest from February-April.
14. **Continue to coordinate with neighboring landowners.** Regarding land management activities such as, prescribed burns, notifications/requests for assistance, and any management activities that could affect nearby landowners.
15. **Wildlife corridor recognition.** The site is located right in the middle of the Florida Wildlife Corridor. The importance of this site to that corridor should be recognized.
16. **Maintain single-use status.** Designated as a single-use entity, would like to see it maintained. A lot easier to manage for natural resources when there is a single goal in time. In the greater scheme of things, dealing with different problems, this helps manage natural resources. Keep it basically the way it is so more users are not necessarily utilizing it and damaging the conservation area from use.
17. **Continue to implement WCPR.** We would like to have biological monitoring using opportunistic species data in any upcoming species as well.
19. **Continue wood stork population data collection.** Important site for wood stork nesting. Would be nice to describe trends in active nests, nesting success over time such as, what are the trends? is it increasing, decreasing, or staying the same? Not only collect this data, but publish this data. If you need assistance, Hernando Florida Audubon would be happy to help.
20. **Comprehensive gopher tortoise survey.** Known presence of gopher tortoises along roads. Good to know where they are on track of land you're managing and that drives good management decisions.
21. **Continue vegetative monitoring through OBVM.** Continue vegetative monitoring to provide us with quantitative data about the active plant communities and how to actively manage it.

Idea

22. **Promote treatment of encroaching hardwoods in mesic flatwoods.** We probably need chemical and mechanical treatments to reduce hardwoods before implementing prescribed fire on some burn units.
23. **Promote midstory removal in wood stork colony site.** Has been encroaching a bit more than what it should be and would like to remove some midstory to promote more wood stork nesting.

Written comments received by invited, but unable to attend, stakeholders:

Mike Edwards – Florida Forest Service

Below are my comments/suggestions in regards to the new Little Gator Creek WEA management plan.

- Restore the altered communities and maintain the natural communities through the use of prescribed fire, chemical control and mechanical methods of LGCWEA.
- Restore and maintain the natural hydrological functions of LGCWEA.
- Manage for threatened/ endangered nesting and wading birds like the wood stork at LGCWEA.
- ID, preserve and protect the archeological and historical resources of LGCWEA.
- Promote, appropriate public access and recreation activities on LGCWEA.
- Control and protect invasive/ exotic plants, animals, pests and pathogens on LGCWEA.

Little Gator Creek Wildlife and Environmental Area
MAG Meeting Participants

Name

Affiliation

Active Participants

Shawn Kelly	FWC Area Biologist
Lieutenant Dan Parisoe	FWC Law Enforcement
Anne Blanchard	Southwest Florida Water Management District
Melissa Charbonneau	Pasco County Division of Parks, Recreation, and Natural Resources
Matthew Hodge	Department of Environmental Protection, Division of State Lands
Freddy Jenkins	Adjacent Landowner
Tom St. Clair	Hernando County Audubon Society

Supportive Participants

Cully Lord	FWC Habitat and Species Conservation (HSC), Regional Biologist
Josh Agee	FWC HSC, District Biologist
Ethan Noel	FWC HSC, Conservation Biologist
Luis Gonzales	FWC HSC, Landowner Assistance Program
Katherine Burke	FWC Office of Public Access and Services Office (PASO)
Tom M. Matthews	FWC PASO
Ben Rangel	FWC PASO
Mark Schulz	FWC Division of Hunting and Game Management
Jake FitzRoy	Florida Youth Conservation Centers Network
Jimmy Conner	FWC WHM Section Leader
Tina Hannon	FWC WHM Section Leader

Invited but Unable to Attend

Jason O'Donoughue	Division of Historical Resources
Dan Hipes	Florida Natural Areas Inventory
Mike Edwards	Florida Forest Service
Chelsie Miller	NRCS
Molly Hays	Florida Native Plant Society
Nectarious Pittos	Pasco County Planning Department

FWC Planning Personnel

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

12.3.2 Public Hearing Report

PUBLIC HEARING REPORT

FOR

**LITTLE GATOR CREEK WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT PLAN**

HELD BY THE

**LITTLE GATOR CREEK WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT ADVISORY GROUP**

AND THE

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

NOVEMBER 17, 2021 – PASCO COUNTY, FLORIDA

The following report documents the public input that was received at the Little Gator Creek Wildlife and Environmental Area (LGCWEA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for LGCWEA that was held at 7:00-9:00 PM, on November 17, 2021, at the Alice Hall Community Center in Zephyrhills, Florida.

LGCWEA Management Advisory Group Introduction:

The meeting was introduced by Tom St. Clair, a LGCWEA Management Advisory Group participant, who represented the LGCWEA MAG. Tom St. Clair indicated that he was one of seven stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated LGCWEA MAG meeting held on September 22, 2021. Tom St. Clair stated that elements of the Draft Management Plan were being presented tonight by FWC staff, and that hardcopies of the LGCWEA Overview, Management Prospectus, and the LGCWEA MAG meeting report were available at the front door for the public's review. Tom St. Clair thanked everyone for attending and then introduced Hannah Klein, Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of the LGCWEA, FWC's planning process, and the draft components of the LGCWEA Management Plan.

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

Hannah Klein welcomed everyone and thanked the public for their attendance. Hannah Klein then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the elements of the Draft Management Plan for the LGCWEA, and not hunting and fishing regulations, indicating there is a separate public input process for FWC rule and regulation development. Hannah Klein then described the materials that were available at the door for public review, including the LGCWEA Overview, Management Prospectus, and the MAG Meeting Report. Hannah Klein then presented the agenda for the public hearing and facilitated the introduction of all FWC staff in attendance to the audience. Hannah Klein then presented an overview and orientation of the LGCWEA, including a description of the natural communities, data about the LGCWEA 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. She 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 LGCWEA Overview and FWC's Planning Process:

Hannah Klein 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. Hannah Klein again emphasized that the exclusive purpose for the public hearing was to collect public input regarding the elements of the Draft Management Plan for the LGCWEA, 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.

Public Question #1: An unidentified member of the audience provided the following comments and questions:

One of the issues raised during our meeting on the 22nd of September was signage. There was an issue that was raised by another stakeholder, not myself, that the signage didn't really indicate about when the area is opened and closed. I was just curious if you've done anything to rectify that situation?

FWC Response: Shawn Kelly, Area Biologist, responded:

Yeah, we don't have anything right now but that is something we are looking to do, to have a sign posted saying when the area is open or closed.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

That's rather awkward. I'm just thinking that is a valid comment that was made.

FWC Response: Hannah Klein, Land Conservation Planner, responded:

Absolutely, I will get to it, but I can mention it now as well. There is a specific goal that will be going into this plan regarding constructing a kiosk that will have clear signage that will go up when the area is closed and then be taken down when the area is open.

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

Presentation of the LGCWEA Draft Management Plan:

At this point, Hannah Klein, began the presentation of the LGCWEA Draft Management Plan. Hannah Klein then completed and concluded the presentation of the LGCWEA Draft Management Plan.

Questions and Comments on the LGCWEA Draft Management Plan Presentation:

Hannah Klein asked if there were any comments or questions from the public regarding the elements of the Draft Management Plan and encouraged everyone to fill out a speaker card for public testimony. She informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

Public Question #1: An unidentified member of the audience provided the following comments and questions:

The orange (pointing to map), where does that indicate?

FWC Response: Hannah Klein, Land Conservation Planner, responded:

The orange is Florida Forever Projects. We have projects around the state that different conservation agencies evaluate for potential acquisition.

Public Question #2: An unidentified member of the audience provided the following comments and questions:

I don't know what you're aware of, but there's a Project Development and Environment (PD&E) study going on right now to white and you can navigate. Right on both sides, of course, everything white and eventually carried up into Dade city.

FWC Response: Dylan Haase, Senior Conservation Planner, responded:

So, and we've already been commenting with the Department of Transportation (DOT) about wildlife crossings, and they have decided that's something to be aware of is there, there'll be a public hearing, next spring, PD&E is underway right now with just district one is dedicated FWC staff that are involved in the transportation, transportation planning aspects that affect our areas, we actually have a specific person who has been involved in those meetings and those conversations. Okay, we are definitely in the loop on it.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

The district one, district seven?

FWC Response: Dylan Haase, Senior Conservation Planner, responded:

Yes.

Public Question #4: An unidentified member of the audience provided the following comments and questions:

The first question I have is, could you walk us through how the water levels are fluctuated or maintained?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

We actually have a pump on the property. We pump water in there as needed, starting in January, typically. We want to maintain at least two to five foot of water in the colony site area. So that allows for the alligators to move through the area and provides some assistance for the nesting of wading birds. The alligators predate the bees and the mammals that are out there. That typically occurs from January until like June, July-ish.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

What's the source of the water? Is it just groundwater?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

I saw something, that you have some concerns about this, these water levels, foraging areas, what were those concerns?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

So that's for the surrounding areas. The core foraging areas, which is basically feeding areas for the wood storks. So, maintaining water levels on adjacent land, so that way there is feeding areas for them.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Can you comment? Is the wood stork nesting population increasing, declining, or stable?

Public Response: Another unidentified member of the audience continued this line of comments and questions:

So unfortunately, over the past few years, it's definitely been decreasing compared to what it used to be previously. Today over these past few years, it's very intermittent when they are nesting there. So, like, last year, we didn't have any wood storks nesting in there. But they've been moving north, I mean, there's been nesting going on.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Do you have any other wading birds nesting there?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yep, Little Blue Herons, Great Blue Herons. So, we do have other wading birds that are in there as well. This year when I was out there, I know I saw some great blue herons that are nesting out there.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Is that while you were out on the site?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes.

No (further) questions or comments were received at this stage of the LGCWEA public hearing meeting.

Questions and Comments on the LGCWEA Draft Management Plan Presentation:

Hannah Klein asked if there were any comments or questions from the public regarding the elements of the Draft Management Plan and encouraged everyone to fill out a speaker card for public testimony. She informed them that all comments, questions, and public testimony will be duly considered equally by FWC.

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

Public Testimony on the LGCWEA Draft Management Plan:

One member of the public audience submitted speaker card(s) indicating their intention to provide formal public testimony. Hannah Klein again emphasized that the public hearing was for taking input regarding the LGCWEA Draft Management Plan and called the first speaker to the podium.

Public Testimony #1: Tom Palmer provided the following public testimony:

One thing be talking about having current capacity of 40 people a day, you probably need more parking. The parking status is fairly minimal and you got to go down this steep embankment get in and out then so that's an engineering question, but right now there's not much parking for many people right now. There's not many people coming so it's not an issue but in order to facilitate visitors, should have to make accommodations for that. As they get a little housekeeping out there, I didn't see it last time, but often I've seen a big pile of wood duck nest boxes and poles to stuck in the bushes upstream. I didn't see it but it may have been overgrown or have been removed. It was also some drainage work and some leftover corrugated pipe from over that part is just lying out there. It probably ought to go to the shop just for aesthetics, this sort of stuff shouldn't be lying around like that. Just didn't give me a good impression so that's basics. It has a bunch of rocks I guess are trying to improve the fire lanes or something.

FWC Response: Hannah Klein, Land Conservation Planner, responded:

Shawn is actively working to improve those firebreaks.

Public Response: Tom Palmer continued this line of comments and questions:

It might be difficult to get down to firebreak, assuming that's what that was for. What area is a low area that might want to pipe out water, on the aerial but yeah, as you're turning to go south or the side trail and it goes down and it is a water hazard to get to the rest of property. Okay, so you might want to know that's a spot for water to be piped out.

(Then walked to the map to show which spot he was referring to.)

Adjournment:

Hannah Klein asked if there were any other members of the public that wished to give public testimony.

No other speakers offered further testimony however further questions were posed.

Public Question #1: An unidentified member of the audience provided the following comments and questions:

Have you documented any gopher tortoises?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes, we do opportunistic observation.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Are you trying to maintain any habitat?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

We are doing prescribed fire on the property, as well as, doing mechanical treatments to help improve the mesic flatwoods out there that they do utilize.

Public Question #6: An unidentified member of the audience provided the following comments and questions:

Can you comment a little bit? How this single use designation, like for this study, how do you manage for that versus other resource to needs? I'm just curious how that influences a area, you just have this sort of single use designation. I'm just curious how you manage that, how you balance that with other needs and so forth.

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yeah, so we are managing for the wood stork colony site. But on top of that we're doing the habitat management out there as well to in the basin swamp and also in the mesic flatwoods. That is our main priorities. So, in the basin swamp, we're managing the water levels. We're managing the hydrology that's in there. We're managing for invasive species. In the uplands, we're implementing prescribed fire, mechanical treatments, and chemical treatments. But we also have it open for public access during specific times of year as well.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Can you do public access from September?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Public access is from September 1st to January 31st.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

That's when it is 40 individuals per day.

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

The rest of the time, there is no access.

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes, that's correct.

Public Response: The same unidentified member of the audience continued this line of comments and questions:

Except for special use permit.

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

Yes, that's correct.

Public Response: The same unidentified member of the audience continued this line of comments and questions

If a birding group wanted to come, is that a special use permit?

FWC Response: Shawn Kelly, Area Biologist for the LGCWEA, responded:

It depends on the time of year, so if you're looking to go from September 1 through January 31, you guys would be okay going out there during the day. But if you're looking to go out there from February 1 until August 31, then it has to be a special use permit.

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

Then Hannah Klein declared the public hearing adjourned.

12.4 Native Plant Species List

Native Plant Species found on the LGCWEA

Scientific Name	Common Name
<i>Acer rubrum</i>	Red maple
<i>Ampelopsis arborea</i>	Peppervine
<i>Andropogon sp.</i>	Bluestem
<i>Andropogon virginicus</i>	Broomsedge bluestem
<i>Aristida stricta</i> var. <i>beyrichiana</i>	Wiregrass
<i>Blechnum sp.</i>	Fern
<i>Callicarpa americana</i>	American beautyberry
<i>Carex sp.</i>	Sedge
<i>Carphephorus pseudoliatris</i>	Bristleleaf chaffhead
<i>Cephalanthus occidentalis</i>	Common buttonbush
<i>Chamaecrista nictitans</i>	Sensitive pea
<i>Chaptalia tomentosa</i>	Pineland daisy
<i>Chasmanthium sp.</i>	Woodoats
<i>Chrysopsis mariana</i>	Maryland golden-aster
<i>Cirsium sp.</i>	Thistle
<i>Cladium jamaicense</i>	Jamaica swamo sawgrass
<i>Cladium sp.</i>	Swamp sawgrass
<i>Clitoria mariana</i>	Atlantic pigeon-wing
<i>Coleataenia anceps</i>	Beaked panicum
<i>Cornus florida</i>	Flowering dogwood
<i>Crotalaria rotundifolia</i>	Rabbitbells
<i>Cyperus sp.</i>	Flatsedge
<i>Dalea carnea</i>	Whitetassels
<i>Dalea pinnata</i>	Summer farewell
<i>Dalea sp.</i>	Prairie clover
<i>Desmodium sp.</i>	Tick-trefoil
<i>Dichantherium sp.</i>	Witchgrass
<i>Dichanthium sp.</i>	Bluestem
<i>Digitaria sp.</i>	Crabgrass
<i>Diospyros virginiana</i>	Common persimmon
<i>Eleocharis baldwinii</i>	Baldwin's spikerush
<i>Eleocharis sp.</i>	Spikerush
<i>Elephantopus elatus</i>	Tall elephantsfoot
<i>Eragrostis sp.</i>	Lovegrass

<i>Erechtites hieraciifolius</i>	Fireweed
<i>Erigeron vernus</i>	Early whitetop fleabane
<i>Eriocaulon decangulare</i>	Tenangle pipewort
<i>Eupatorium album</i>	White thoroughwort
<i>Eupatorium capillifolium</i>	Dogfennel
<i>Eupatorium compositifolium</i>	Yankeeweed
<i>Eupatorium rotundifolium</i>	Roundleaf thoroughwort
<i>Eupatorium sp.</i>	Thoroughwort
<i>Euthamia caroliniana</i>	Slender flattop goldenrod
<i>Fraxinus caroliniana</i>	Carolina ash
<i>Fuirena breviseta</i>	Saltmarsh umbrellasedge
<i>Galactia elliotii</i>	Elliott's milkpea
<i>Galactia regularis</i>	Eastern milkpea
<i>Galactia sp.</i>	Milkpea
<i>Galium sp.</i>	Bedstraw
<i>Gaylussacia dumosa</i>	Dwarf huckleberry
<i>Gaylussacia frondosa var. tomentosa</i>	Blue huckleberry
<i>Gelsemium sempervirens</i>	Yellow jessamine
<i>Geobalanus oblongifolius</i>	Gopher apple
<i>Gratiola hispida</i>	Rough hedgehyssop
<i>Gratiola pilosa</i>	Shaggy hedgehyssop
<i>Gratiola ramosa</i>	Branched hedgehyssop
<i>Gratiola sp.</i>	Hedgehyssop
<i>Habenaria quinqueseta</i>	Longhorn false rein orchid
<i>Helianthus angustifolius</i>	Narrowleaf sunflower
<i>Helianthus radula</i>	Stiff sunflower
<i>Helianthus sp.</i>	Sunflower
<i>Hieracium sp.</i>	Hawkweed
<i>Houstonia procumbens</i>	Roundleaf bluet
<i>Houstonia sp.</i>	Bluet
<i>Hypericum fasciculatum</i>	Peelbark St. John's wort
<i>Hypericum hypericoides</i>	St. andrew's cross
<i>Hypericum microsepalum</i>	Flatwoods St. John's wort
<i>Hypericum myrtifolium</i>	Myrtleleaf St. John's wort
<i>Hypericum sp.</i>	St. John's wort
<i>Hypericum tetrapetalum</i>	Fourpetal St. John's wort
<i>Hyptis alata</i>	Clustered bushmint
<i>Ilex cassine</i>	Dahoon
<i>Ilex glabra</i>	Gallberry

<i>Ilex vomitoria</i>	Yaupon
<i>Iris hexagona</i>	Prairie iris
<i>Itea virginica</i>	Virginia willow
<i>Juncus sp.</i>	Rush
<i>Lachnanthes caroliana</i>	Carolina redroot
<i>Lachnocaulon anceps</i>	Whitehead bogbutton
<i>Lachnocaulon sp.</i>	Bogbutton
<i>Lechea sp.</i>	Pinweed
<i>Lemna sp.</i>	Duckweed
<i>Liatris elegantula</i>	Grassleaf gayfeather
<i>Liatris sp.</i>	Blazing star
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Ludwigia alternifolia</i>	Seedbox
<i>Ludwigia sp.</i>	Primrosewillow
<i>Lycopus sp.</i>	Waterhorehound
<i>Lyonia ferruginea</i>	Rusty staggerbush
<i>Lyonia fruticosa</i>	Coastalplain staggerbush
<i>Lyonia lucida</i>	Fetterbush
<i>Mecardonia acuminata</i>	Axilflower
<i>Melothria pendula</i>	Creeping cucumber
<i>Mikania scandens</i>	Climbing hempvine
<i>Mitchella repens</i>	Partridgeberry
<i>Mitreola sessilifolia</i>	Swamp hornpod
<i>Morella cerifera</i>	Wax myrtle
<i>Muhlenbergia capillaris</i>	Hairawn muhly
<i>Nuphar advena ssp. advena</i>	Yellow pondlily
<i>Nuphar sp.</i>	Pondlily
<i>Nyssa sp.</i>	Tupelo
<i>Nyssa sylvatica var. biflora</i>	Swamp tupelo
<i>Oldenlandia uniflora</i>	Clustered mille graines
<i>Osmunda sp.</i>	Osmunda
<i>Oxalis sp.</i>	Woodsorrel
<i>Panicum hemitomom</i>	Maidencane
<i>Panicum hemitomom</i>	Mountain panic
<i>Panicum sp.</i>	Panic grass
<i>Panicum verrucosum</i>	Warty panicgrass
<i>Panicum virgatum</i>	Switchgrass
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Paspalum sp.</i>	Crowngrass

<i>Persea palustris</i>	Swamp bay
<i>Phyllanthus sp.</i>	Leaf-flower
<i>Pinus elliotii</i>	Slash pine
<i>Pinus palustris</i>	Longleaf pine
<i>Pinus taeda</i>	Loblolly pine
<i>Pityopsis graminifolia</i>	Narrowleaf silkgrass
<i>Pleopeltis michauxiana</i>	Resurrection fern
<i>Pluchea baccharis</i>	Rosy camphorweed
<i>Polygala lutea</i>	Orange milkwort
<i>Polygala sp.</i>	Milkwort
<i>Polypremum procumbens</i>	Rustweed
<i>Pontederia cordata</i>	Pickerelweed
<i>Psilotum sp.</i>	Whisk-fern
<i>Pteridium sp.</i>	Bracken fern
<i>Pterocaulon pycnostachyum</i>	Blackroot
<i>Quercus falcata</i>	Southern red oak
<i>Quercus hemisphaerica</i>	Laurel oak
<i>Quercus laurifolia</i>	Swamp laurel oak
<i>Quercus minima</i>	Dwarf live oak
<i>Quercus nigra</i>	Water oak
<i>Quercus pumila</i>	Runner oak
<i>Quercus sp.</i>	Oak
<i>Quercus virginiana</i>	Live oak
<i>Rhexia mariana</i>	Pale meadowbeauty
<i>Rhexia nuttallii</i>	Nuttall's meadowbeauty
<i>Rhexia petiolata</i>	Fringed meadowbeauty
<i>Rhexia sp.</i>	Meadowbeauty
<i>Rhus copallinum</i>	Winged sumac
<i>Rhynchospora decurrens</i>	Swampforest beaksedge
<i>Rhynchospora fascicularis</i>	Fascicled beaksedge
<i>Rhynchospora sp.</i>	Beaksedge
<i>Rosa palustris</i>	Swamp rose
<i>Rubus cuneifolius</i>	Sand blackberry
<i>Rubus pensilvanicus</i>	Sawtooth blackberry
<i>Rubus sp.</i>	Blackberry
<i>Rubus trivialis</i>	Southern dewberry
<i>Sabal minor</i>	Bluestem palmetto
<i>Sabal palmetto</i>	Cabbage palm
<i>Sabatia brevifolia</i>	Shortleaf rosegentian

<i>Sabatia sp.</i>	Rosegentian
<i>Saccharum giganteum</i>	Sugarcane plumegrass
<i>Sagittaria sp.</i>	Arrowhead
<i>Saururus cernuus</i>	Lizard's tail
<i>Schizachyrium scoparium</i>	Little bluestem
<i>Scleria ciliata</i>	Curtiss' nutrush
<i>Scleria sp.</i>	Nutrush
<i>Scleria triglomerata</i>	Whip nutrush
<i>Scoparia dulcis</i>	Licoriceweed
<i>Serenoa repens</i>	Saw palmetto
<i>Sideroxylon foetidissimum</i>	False mastic
<i>Smilax auriculata</i>	Earleaf greenbrier
<i>Smilax bona-nox</i>	Saw greenbrier
<i>Smilax glauca</i>	Cat greenbrier
<i>Smilax sp.</i>	Greenbrier
<i>Solidago fistulosa</i>	Pinebarren goldenrod
<i>Solidago odora</i>	Sweet goldenrod
<i>Solidago sp.</i>	Goldenrod
<i>Sorghastrum secundum</i>	Lopsided Indiangrass
<i>Spermacoce assurgens</i>	Woodland false buttonweed
<i>Stillingia sylvatica</i>	Queen's delight
<i>Symphyotrichum adnatum</i>	Scaleleaf aster
<i>Symphyotrichum carolinianum</i>	Climbing aster
<i>Symphyotrichum dumosum</i>	Rice button aster
<i>Symphyotrichum sp.</i>	Aster
<i>Symplocos sp.</i>	Sweetleaf
<i>Symplocos tinctoria</i>	Horse sugar
<i>Syngonanthus flavidulus</i>	Yellow hatpins
<i>Taxodium ascendens</i>	Pond cypress
<i>Taxodium distichum</i>	Bald cypress
<i>Tephrosia sp.</i>	Hoary-pea
<i>Tephrosia spicata</i>	Spiked hoary-pea
<i>Thalia geniculata</i>	Alligatorflag
<i>Thelypteris sp.</i>	Maiden fern
<i>Tillandsia usneoides</i>	Spanish moss
<i>Toxicodendron radicans</i>	Eastern poison ivy
<i>Trichostema dichotomum</i>	Forked bluecurls
<i>Ulmus americana</i>	American elm
<i>Utricularia sp.</i>	Bladderwort

<i>Vaccinium arboreum</i>	Sparkleberry
<i>Vaccinium corymbosum</i>	Highbush blueberry
<i>Vaccinium myrsinites</i>	Shiny blueberry
<i>Vaccinium sp.</i>	Blueberry
<i>Vaccinium stamineum</i>	Deerberry
<i>Viburnum obovatum</i>	Walter's viburnum
<i>Viola sp.</i>	Violet
<i>Vitis rotundifolia</i>	Muscadine
<i>Vitis shuttleworthii</i>	Calloose grape
<i>Vitis vulpina</i>	Frost grape
<i>Woodwardia virginica</i>	Virginia chain fern
<i>Xyris caroliniana</i>	Carolina yellow-eyed grass
<i>Xyris platylepis</i>	Tall yellow-eyed grass
<i>Xyris sp.</i>	Yellow-eyed grass

12.5 Native Wildlife Species List

Amphibian Species Found on the LGCWEA

Common Name	Scientific Name
Bullfrog	<i>Lithobates catesbeianus</i>
Green tree frog	<i>Hyla cinerea</i>

Bird Species Found on the LGCWEA

Common Name	Scientific Name
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>
Black-crowned night-heron	<i>Nycticorax nycticorax</i>
Brown-headed nuthatch	<i>Sitta pusilla</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Glossy ibis	<i>Plegadis falcinellus</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Limpkin	<i>Aramus guarauna</i>
Mourning dove	<i>Zenaida macroura</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Osceola turkey	<i>Meleagris gallapavo osceola</i>
Osprey	<i>Pandion haliaetus</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Short-tailed hawk	<i>Buteo brachyurus</i>
Snowy egret	<i>Egretta thula</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>
White ibis	<i>Eudocimus albus</i>
White-eyed vireo	<i>Vireo griseus</i>
Wilson's snipe	<i>Gallinago delicata</i>
Wood duck	<i>Aix sponsa</i>

Mammal Species Found on the LGCWEA

Common Name	Scientific Name
Bobcat	<i>Lynx rufus</i>
Cotton rat	<i>Sigmodon sp.</i>
Coyote	<i>Canis latrans</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
North American river otter	<i>Lontra canadensis</i>
Raccoon	<i>Procyon lotor</i>
Southeastern fox squirrel	<i>Sciurus niger shermani</i>
White-tailed deer	<i>Odocoileus virginianus</i>

Reptile Species found on the LGCWEA

Common Name	Scientific Name
American alligator	<i>Alligator mississippiensis</i>
Banded water snake	<i>Nerodia fasciata</i>
Black racer	<i>Coluber constrictor</i>
Box turtle	<i>Terrapene carolina</i>
Coral snake	<i>Micrurus fulvius</i>
Florida cooter	<i>Pseudemys floridana</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Green anole	<i>Anolis carolinensis</i>
Mud turtle	<i>Kinosternon subrubrum</i>
Pygmy rattlesnake	<i>Sistrurus miliarius</i>
Ribbon snake	<i>Thamnophis sauritus</i>
Snapping turtle	<i>Chelydra serpentina</i>
Water moccasin	<i>Agkistrodon piscivorus</i>

12.6 Soil Series Descriptions

Map Unit Description

Pasco County, Florida

[Minor map unit components are excluded from this report]

Map unit: 10 - Wabasso-Wabasso, wet, fine sand, 0 to 2 percent slopes

Component: Wabasso (70%)

The Wabasso component makes up 70 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 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 (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, September, October, November. 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 maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Wabasso, wet (15%)

The Wabasso, wet component makes up 15 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 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 (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during July, August, September, October. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 16 - Zephyr muck

Component: Zephyr (80%)

The Zephyr component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of organic material over 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 low. Available water to a depth of 60 inches (or restricted depth) 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 June, July, August, September, October, November. Organic matter content in the surface horizon is about 55 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 maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 39 - Chobee soils, frequently flooded

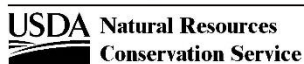
Component: Chobee (75%)

The Chobee component makes up 75 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 loamy alluvium. 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 very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 40 - Paisley fine sand, 0 to 1 percent slopes

Component: Paisley, non-hydric (60%)

The Paisley, non-hydric component makes up 60 percent of the map unit. Slopes are 0 to 1 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, abrupt textural change, is 10 to 15 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not



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Map Unit Description

Pasco County, Florida

Map unit: 40 - Paisley fine sand, 0 to 1 percent slopes

Component: Paisley, non-hydric (60%)

flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during June, July, August, September, October. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Paisley, hydric (25%)

The Paisley, hydric component makes up 25 percent of the map unit. Slopes are 0 to 1 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, abrupt textural change, is 10 to 15 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 3 inches during June, July, August, September, October, November. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 41 - Pits-Dumps complex

Component: Pits (46%)

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

Component: Dumps (44%)

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

Map unit: 99 - Water

Component: Water (fresh) (100%)

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

Map Unit Description

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

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

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

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

12.7 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, clearcut 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

November 15, 2021

Dylan Hasse, Senior Conservation Planner
Land Conservation and Planning Subsection
Florida Fish and Wildlife Conservation Commission
Tallahassee, FL

Dear Dylan,

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 Map Package to FWC on a quarterly basis
- The FNAI GIS data will be available to FWC staff for reference and incorporation as required in management plan review and preparation with the following restrictions.
- FWC will limit spatial reference to Element Occurrence locations in public documents to the Management Area level (i.e., EOs will not be displayed on public maps to protect sensitive resources, habitats, and data sources)
- For Management Areas less than 160 acres in size, FWC will not list occurrences of resources (i.e., species and natural communities) coded as Data Sensitive. If desired, these sensitive resources can be included in a table as a count of occurrences and resource (e.g., three additional occurrences of two species/resources are coded as sensitive)
- When possible, FWC should use the FNAI provided Element Occurrence polygons, and consider the Representational Accuracy and Locational Uncertainty of each record, when determining which species occur on a Management Area

The FNAI Data Manager currently provides this update to FWC staff on a quarterly basis. Current FWC contacts are Rene Baumstark, Christi Santi, Steven Nicholl, Kristal Walsh, Kristen Sella, and yourself. We are pleased to continue this beneficial collaboration with the Florida Fish and Wildlife Conservation Commission.



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Sincerely,

Frank Price
Assistant Director
Florida Natural Areas Inventory

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.

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

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.

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

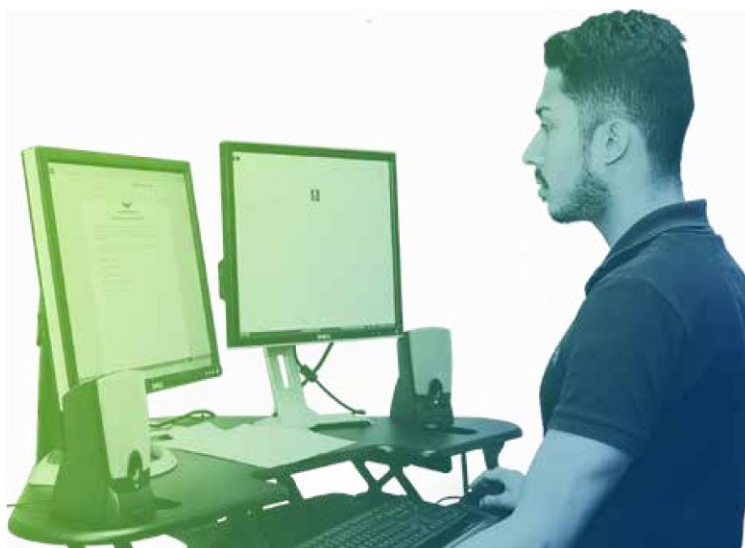
Accountability We set challenging goals for our achievement and hold ourselves accountable for the results

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 planning

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.

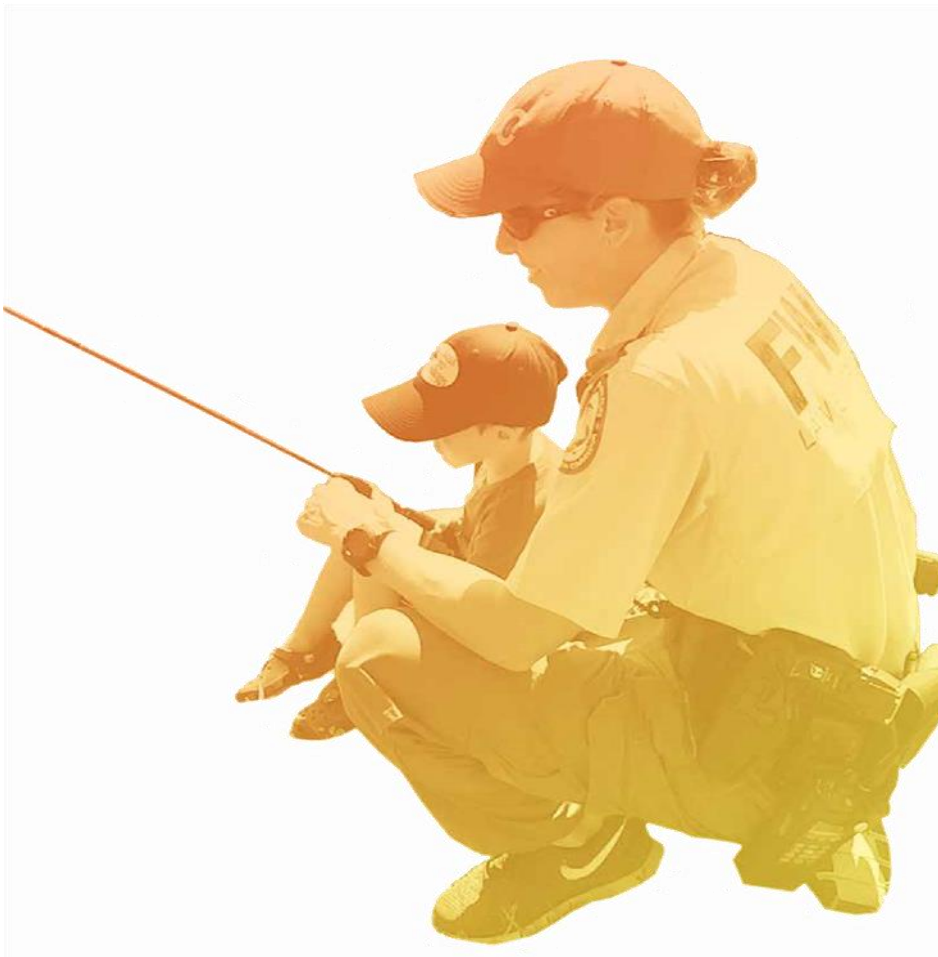
Expanding Participation in Conservation: Expand partnerships and FWC programs to encourage diverse youth and families to be more involved in the future of conservation.

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.

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 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



Strategic Landscape

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.

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.

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.

- ◆ 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 service. 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 .



HGM

Hunting and Game Management

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.



LE

Law Enforcement

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.

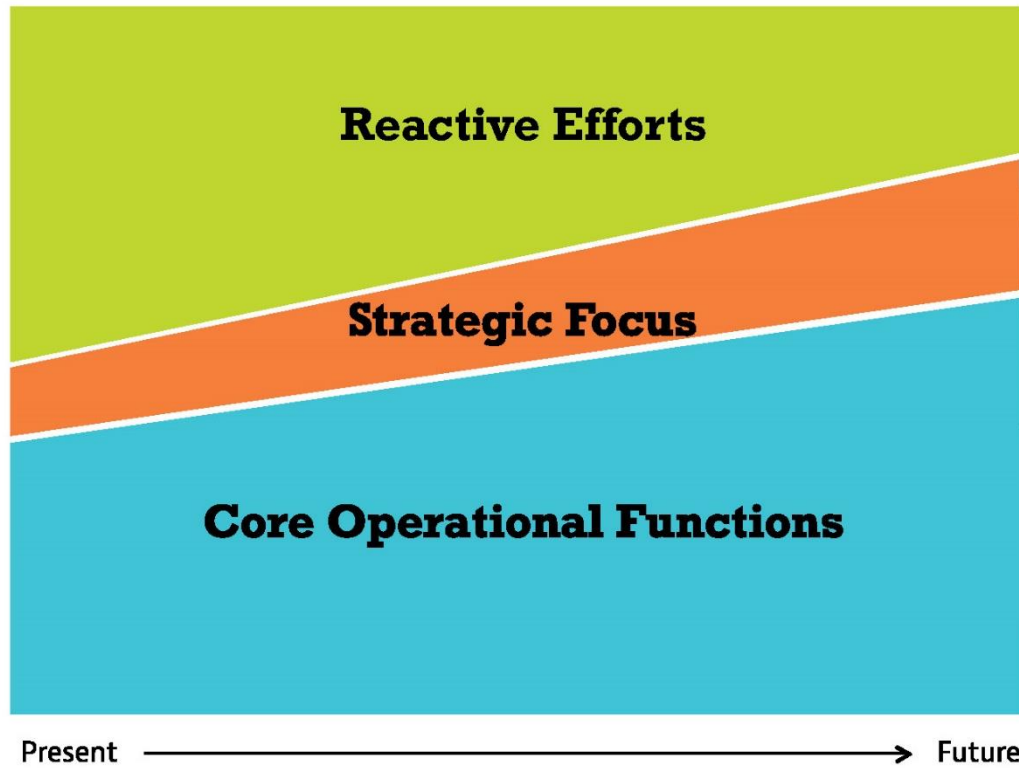


Figure 1. Currently, a significant portion of our effort is spent reacting to urgent issues. With a shift to a more proactive, forward-focused approach, through time we can reduce the overall amount of reactive efforts by using approaches that address future challenges.



21

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

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.

priorities. A cross-divisional strategic planning team will compile input, identify common themes across the agency, and evaluate 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.

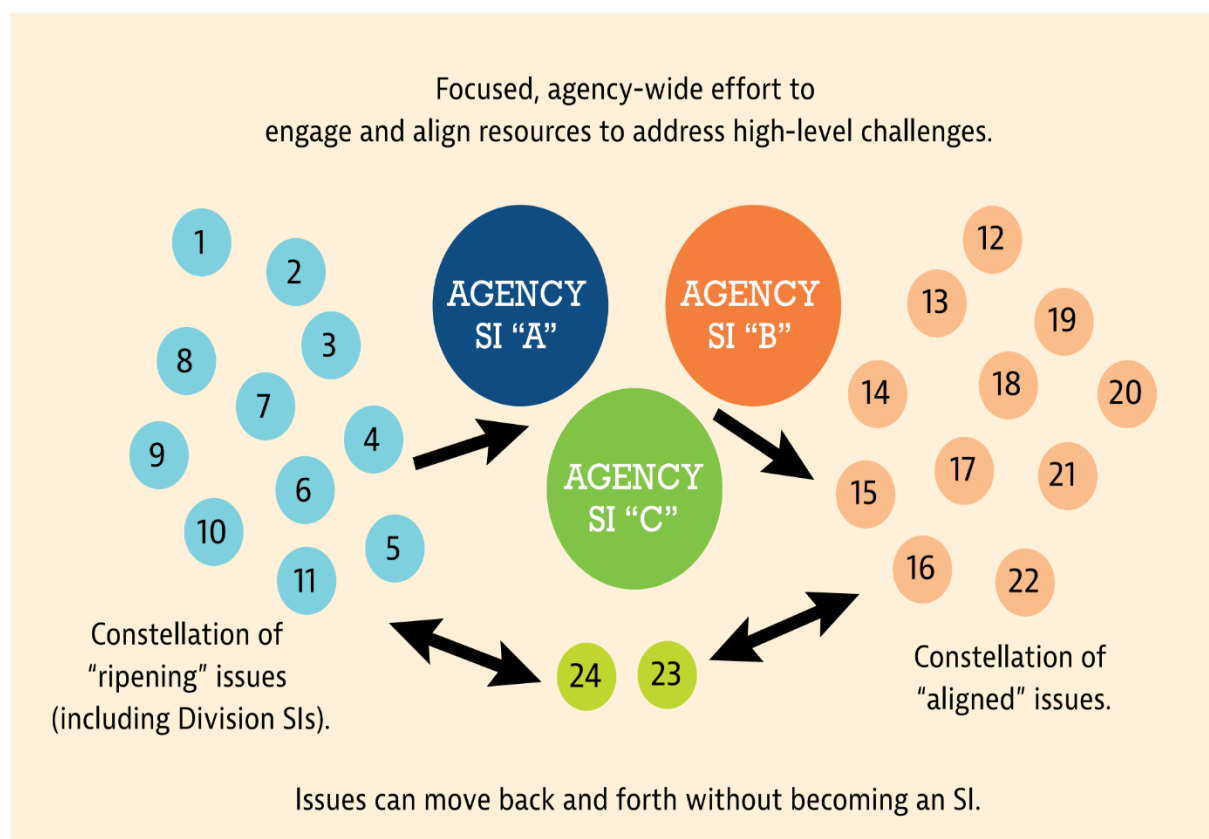


Figure 2. Dynamic Strategic Initiatives for 2020-2024

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).

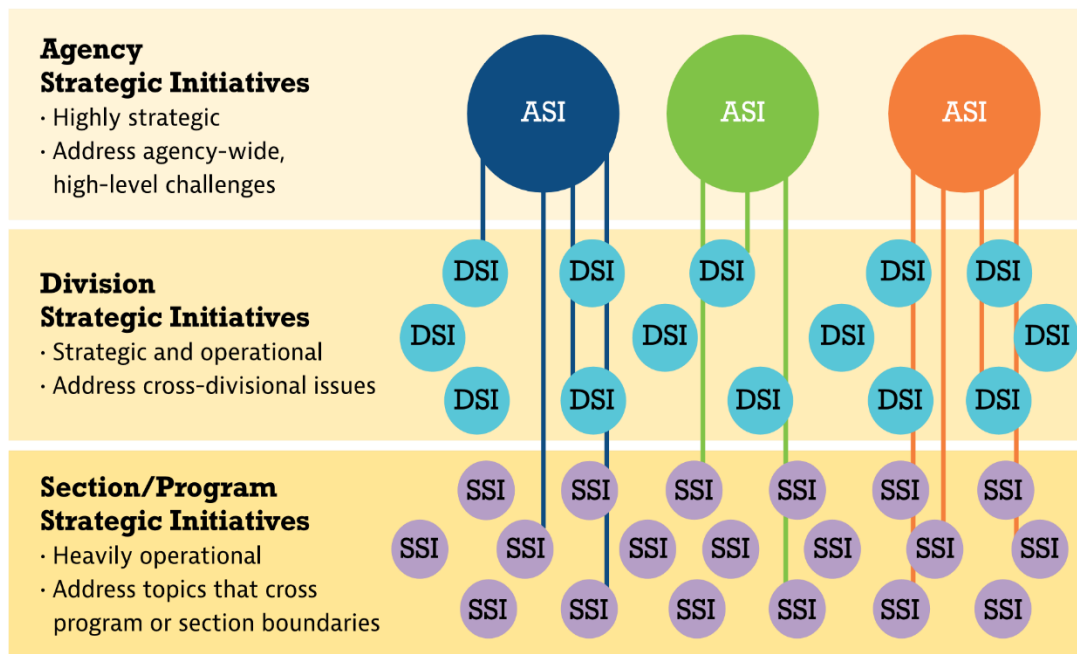


Figure 3. Strategic initiatives at the agency, division, and section or program levels. Vertical alignment of effort and coordination supports progress toward initiatives at multiple levels within the agency.

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

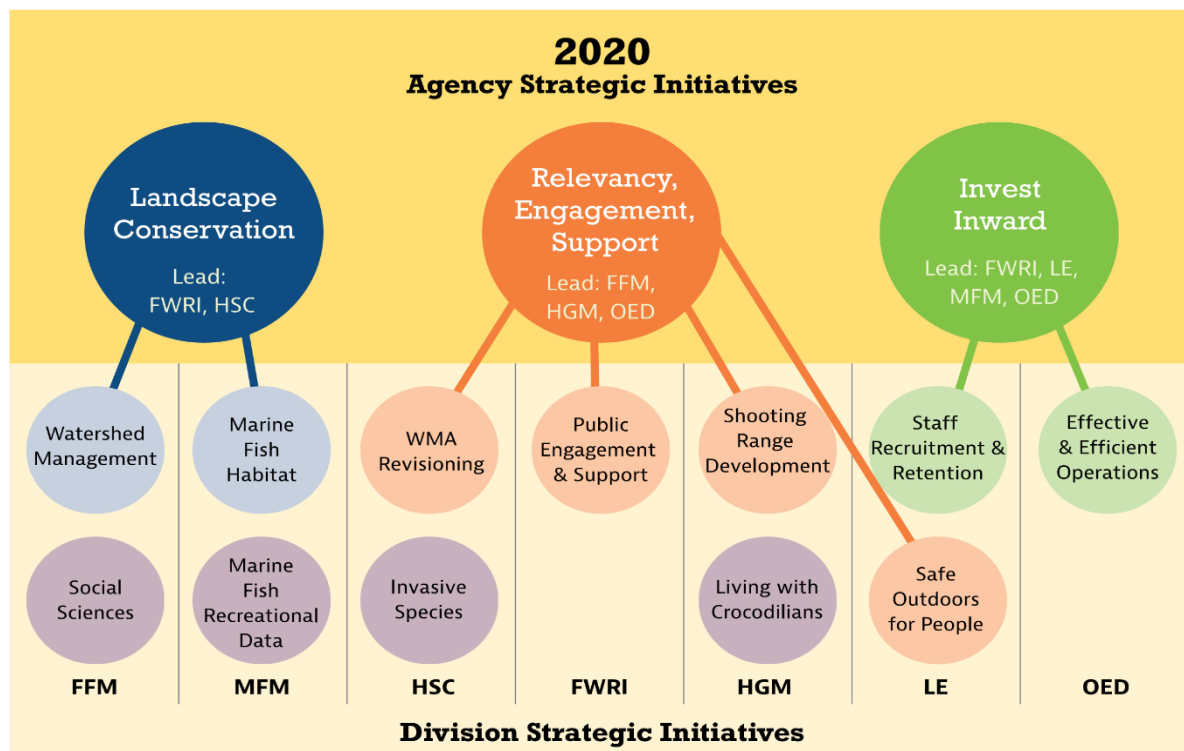


Figure 4. Vertical alignment between the agency and division initiatives shows multiple tiers of support for the broad initiative topics.

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 construction - Wildlife conflict	- Implement R3 plan - Shooting range - 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 33261-1416) 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.

This Area Intentionally Left Blank

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

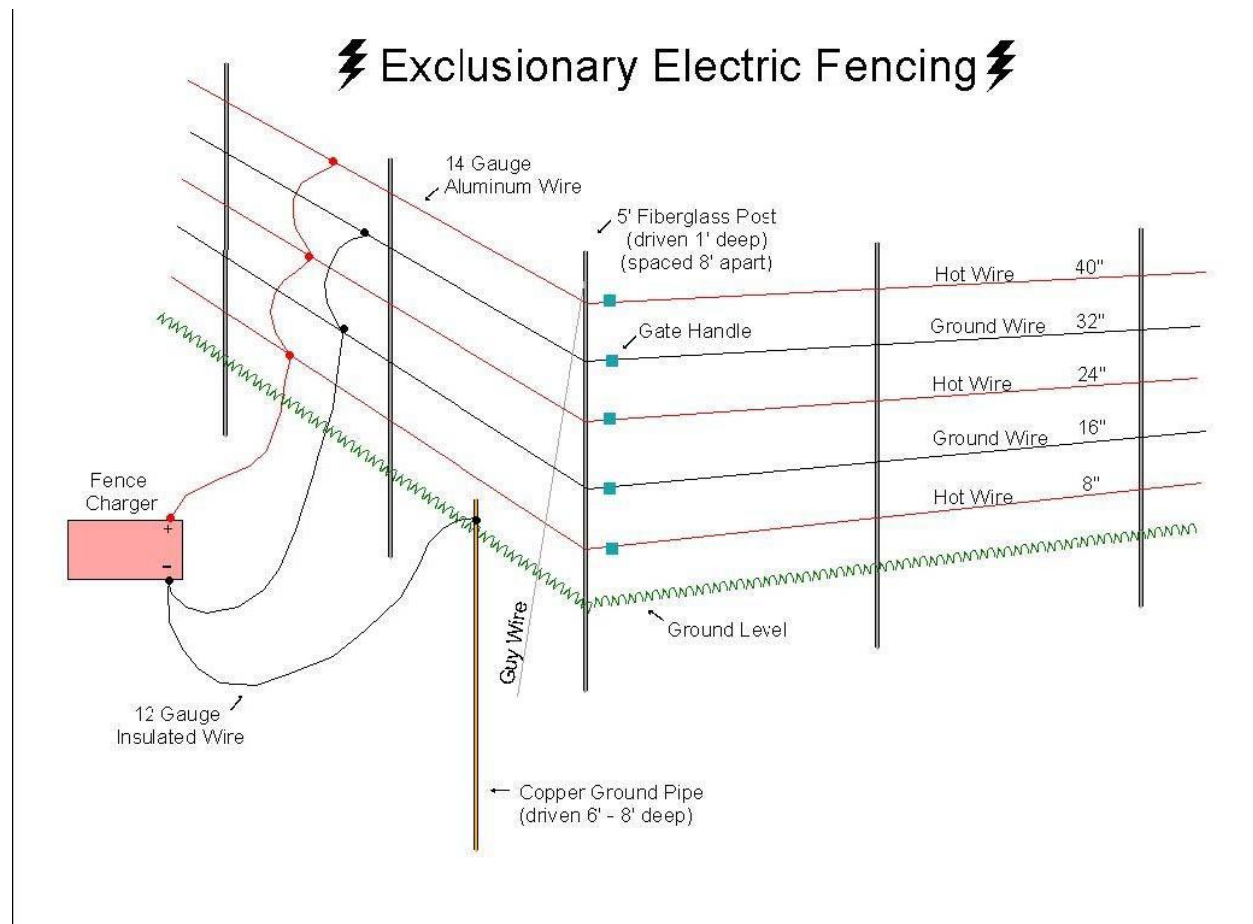
should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.

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

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



12.11 Prescribed Burn Plan

Little Gator Creek Wildlife and Environmental Area

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 fire-dependent plant communities in the southeast for millennia. Exclusion of fire reduces nutrient cycling and changes the vegetative community from an open canopy system to a closed one. The growth of dense brush shades out plants that require sunlight, including listed species, and has an adverse effect on wildlife that are adapted to and require frequent fire, such as the gopher tortoise (*Gopherus polyphemus*). Fire exclusion allows plant community successional stages to progress to a climax hardwood community. These fire excluded areas become covered by dense brush, lose much of their value for wildlife and result in heavy fuel accumulations which increases 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 and maintenance. It is a recommended tool for management of such game animals as white-tailed deer (*Odocoileus virginianus*), northern 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, is well documented (Givens 1962, Miller 1963, Stoddard 1963). Prescribed fire benefits wildlife by reducing underbrush density and improving access, promoting the growth of succulent vegetation, and lowering browse to the 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).

BURN OBJECTIVES

The Florida Fish and Wildlife Conservation Commission (FWC) will use prescribed fire on the Little Gator Creek Wildlife and Environmental Area (LGCWEA) as a habitat management tool exclusively, or in conjunction with, other management techniques to accomplish a variety of objectives. The primary objective for using prescribed fire on the LGCWEA is to restore and/or maintain fire-dependent native habitat communities. This will result in preserving and maintaining native plant communities while simultaneously improving wildlife habitat. Secondary objectives for the use of prescribed fire include the maintenance of early successional habitats, timber management, and hazardous fuel reduction. Early successional habitats are important for many species of wildlife found on the LGCWEA.

The derived benefits from prescribed burning on the LGCWEA include not only long-term preservation of native plant communities and improved wildlife habitat, but numerous others as well:

1. Reduction of fuel loads, which will help to prevent or mitigate effects of wildfires.
2. Enhancement of the area's aesthetics by reducing vegetation height and triggering flowering response of native plants.
3. Control of exotic plant species.
4. Improved public access.
5. Increased success of longleaf regeneration.

DESCRIPTION OF AREA

LGCWEA is owned by the Board of Trustees of the Internal Improvement Trust Fund and managed by FWC. The area is 574 acres in size and is located in the southeast corner of Pasco County, 3 miles north of the U.S. Highway 98 / State Road 471 intersection or 1.5 miles south of the Withlacoochee River on State Road 471. The WEA is located in Section 24 Township 25 South Range 22 East and is bordered by conservation lands, cattle ranches, and small, privately-owned parcels with low-density residential dwellings. The WEA was purchased in 1982 under the Conservation and Recreation Lands program. The area was purchased under the single use concept; that being the preservation of a significant wading bird rookery containing a large number of nests of the endangered wood stork.

LGCWEA is comprised of eight natural community types as mapped by the Florida Natural Areas Inventory (FNAI) (Figure 1) with the majority being mesic flatwoods (45%) and basin swamp (34%). Less common land cover types include hydric hammock, depression marsh, dome swamp, ruderal, and floodplain swamp. LGCWEA contains one river and two smaller creeks. The Withlacoochee River and Gator Creek run through portions of the northern end of the property, while the Little Gator Creek runs into the southeastern end of the property and flows north and northwest into the Withlacoochee River. Table 1 contains a list of community types within LGCWEA and their associated acreages. Brief descriptions of the FNAI identified natural communities, including the recommended frequency of fire for fire-maintained communities (FNAI 2010), are found in Appendix A.

PRESCRIBED BURNING PROGRAM

A. FIREBREAKS

Existing features (e.g., roads), natural fire breaks (water in swamp, rivers, etc.) as well as perimeter firebreaks will be utilized as fire lines to safely contain prescribed fires. Some existing firebreaks occur along ecotones and will be allowed to succeed to natural conditions and not be re-disked. The existing natural features are evenly spaced throughout the property and assist in delineating four

burn blocks of modest and manageable size. Perimeter firebreaks are 8-12 feet in width and require maintenance through disking, mowing, and/or wet lines. Disked firebreaks are to be cut to expose mineral soil prior to actual burning. Adjacent vegetation may be mowed or shredded ahead of time to reduce fire intensity along existing firebreaks. Trees or snags along firebreaks may also be removed to improve conditions for prescribed fire.

The additional installation of new firebreaks or the widening/improving of existing firebreaks will be evaluated by area and regional staff and will be constructed/improved as deemed necessary to facilitate prescribed burning activities.

B. SIZE AND ARRANGEMENT OF BURN UNITS

LGCWEA is divided into four burn units for prescribed fire purposes (Figure 2). The burn zones are irregular in shape (based on natural community features) and average 79 acres in size, with the largest unit at 137 acres and the smallest at 44 acres. 260 acres are currently classified as fire-maintained communities.

All burn units are composed mainly of mesic flatwoods habitat. The forest canopy is dominated by longleaf pine (*Pinus palustris*) with some large live oaks (*Quercus virginiana*) and slash pine (*Pinus elliottii*) scattered throughout the property. The average basal area of the flatwoods is approximately 35 ft²/acre. Hardwoods, such as sweetgum (*Liquidambar styraciflua*) and oaks (*Quercus* spp.), are encroaching in the midstory layer on portions of the burn units and will be treated as appropriate. The groundcover is dominated by saw palmetto (*Serenoa repens*), broom sedge (*Andropogon virginicus*), and wiregrass (*Aristida stricta*), but contains a diverse array of native mesic flatwoods species. The groundcover is dense enough to effectively carry fire across each burn zone with moderate weather conditions at the time of ignition.

The current conditions and desired future conditions of the communities in a particular burn unit will be one of the main factors in determining burn rotation. It is recommended that units are burned on an alternating basis to allow for a mosaic of habitat stages. Units 1 and 2 are smaller units that should be burned the same year. Burns should be conducted at one-to-three-year intervals with a two-year rotation being optimal.

C. BURN PRESCRIPTION

A standardized FWC prescription form (Appendix B) will be used to prepare the prescription for each burn. Prescription content will be specific for each burn and will include, among other things, the burn unit(s) location and description, firing methods, contingencies, desired weather parameters, personnel and equipment, safety measures, smoke management, and measurable objectives of the burn.

D. TYPE OF BURN

Most burns will begin with a backfire along the downwind side of the unit. The rest of the unit will be burned with spot, flank, or head fires, depending on fuel loads and desired fire intensity. Burns will be ignited using hand lighting and ATV ignition. Drone use for aerial ignition may be used in the future per the established FWC policy.

E. SEASON AND TIME OF DAY

Prescribed burns will be conducted in the growing season (April through September) whenever possible to mimic the effects of natural, lightning-caused fires. Burns may also be conducted in the dormant season (October through March) if growing season weather conditions are unsuitable for prescribed fire or if there are resource limitations that prevent fire from occurring. Additionally, exceptions will be made with respect to the desired vegetation response. For example, a management unit that is normally burned in the growing season to promote herbaceous vegetation may instead be burned in the dormant season to promote longleaf pine regeneration. Burning will be conducted during daylight hours and begun as early as possible. Starting a burn in the early to mid-morning will allow staff to safely establish a downwind black line with minimal control issues due to higher relative humidity, residual moisture on vegetation, and lower wind speeds.

F. OPTIMAL WEATHER CONDITIONS

Winds out of the east or southeast are most favorable for burning at LGCWEA. East and southeast winds will push fire and smoke away from State Road 471. Burns will begin as early as possible in the day to utilize higher relative humidity and mitigate for wind shifts and potential afternoon thunderstorms, especially during the spring and summer. Burn units that are close to State Road 471 and residences will also require a good dispersion during the day and the following night.

Other parameters will be considered, and all carry an acceptable range of values. Days since last rain (0-30 days), minimum relative humidity (30%), surface wind speed (5-20 mph), and KBDI (<600) will be prescribed based on burn objectives for the unit(s) and containment concerns. LVORI ranges of 1-10 will be deemed acceptable depending on other factors such as the unit's distance from the roadway and the chance of forecasted fog. We will not burn on days that are deemed too volatile or days in which we do not anticipate being able to meet our objectives. Burn units that have natural firebreaks (i.e., basin swamps, dome swamps) on their boundaries should have enough moisture to not carry fire outside of the burn unit.

G. SMOKE MANAGEMENT

There is considerable flexibility when burning at LGCWEA due to the absence of smoke sensitive areas in the immediate vicinity. State Road 471 is the eastern boundary of LGCWEA and will be well posted with caution signs to warn of any smoke on the road. Efforts will be made to limit smoke on the roadway as well as the few residences to the north of the area.

To minimize smoke issues, burning should be conducted with a mixing height minimum of 1,700 feet, with transport winds of >8 mph, and a slightly unstable atmosphere. Additionally, the use of backfires, as prescribed, will produce less smoke and consume fuel more completely than head firing (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Special care will also be taken to minimize the smoke in and around the wood stork colony site.

Smoke management is difficult during night burns because smoke often stays close to the ground and smoke drift is difficult to predict. Smoke tends to seek lower areas (along streams and creeks) and may drift across surrounding highways. Night burning is unlikely to be used in the LGCWEA area for the above reasons. However, night burns can be highly effective for burning units with high fuel loads, facilitating intensity control, and, if allowed and conditions are favorable for a safe night burn, the burn will be approached with caution and in close association with the Florida Forest Service (FFS) to avoid threats to public safety.

Mop-up standards will be applied to boundary and interior units. All units will have burning and smoking snags (higher than four feet) within a certain distance of the control line monitored and extinguished or felled as determined necessary by the burn manager. All smoking debris and 1000-hour fuels within the control line buffer will also be monitored and extinguished as deemed appropriate by the burn manager.

Units that receive fire will be monitored daily after the initial burn until no smoke or glowing combustion is observed, and the fire can be declared out.

H. PERSONNEL

Burning can be conducted safely and effectively with a minimum of 3 crew members depending on burn unit size, weather forecasts, and on-the-ground conditions. A typical crew consists of one to two ignition personnel, one to two suppression crew members, and a burn boss. Commission personnel who are FFS-certified prescribed burn managers and meet all other FWC requirements will boss the burns. Personnel from other agencies (e.g., SWFWMD, FFS, and DEP) will be used as additional crew members if they are available and needed. Any person participating on a FWC prescribed burn will meet the minimum training and experience requirements as described in the FWC's Division

of Habitat and Species Conservation (HSC) Prescribed Burning and Wildfire Suppression Standards (Appendix C).

I. EQUIPMENT

All members of the fire crew will wear, at a minimum, the personal protective equipment required by FWC's HSC Prescribed Burning and Wildfire Suppression Standards (Appendix C). Type V and VI engines, tractor-plows, farm tractors, ATVs, UTVs, hand tools, and other equipment may be used as conditions require. ATV drip torches, handheld drip torches, flares, and/or a pyroshot dragon egg launcher will be used for ignition depending on burn unit conditions and fire intensity needs. Smoke caution signs for nearby roads will be deployed as necessary.

J. PERMITS AND NOTIFICATIONS

A permit will be obtained from the FFS on the afternoon before or the morning of the burn in accordance with FS 590.125. Notification will be given to:

1. Pasco County Sheriff's Office and Fire Department (phone call)
2. Landowners and agencies of surrounding areas that request notification (phone call)
3. FWC Law Enforcement (email)
4. Southwest Regional Staff (email)
5. FWC's Statewide Call Center (email)
6. Florida Highway Patrol dispatch (phone call)

K. EVALUATION OF BURN

Burns will be evaluated informally during and shortly after each burn by comparing burn objectives with burn effects. During the burn, rate of spread, flame height, fire intensity, and general fire behavior will be evaluated. Post-burn evaluations will include fuel consumption amounts, pine tree crown scorch, pine tree mortality, and hardwood topkill. Objective Based Vegetation Management (OBVM) data will be collected on a 5-year cycle and used to determine if the fire frequency and intensity is maintaining the desired vegetative composition and structure or moving the composition and structure towards desired future conditions for the major fire-maintained communities.

L. SPECIAL CONSIDERATIONS

Special attention will be given to ensure our burns do not adversely affect adjacent landowners and nearby roads. We will minimize smoke impacts on nearby roads and residents by utilizing a smoke screening map, the FFS smoke screening tool, and responding to changing weather conditions during the burn. Smoke signs will be placed on roadways near the burn if there is a chance smoke will affect those roadways either during the burn or during the night(s) following the burn. Burn bosses will coordinate with law enforcement agencies (Florida Highway Patrol (FHP), local Sheriff's Department, and/or FWC Law

Enforcement) to help monitor smoke and visibility on roadways following burns when needed.

Units along the WEA boundary will be evaluated in advance of a burn to assess where and to what extent mechanical treatments are needed prior to the burn to reduce the risk of a spot-over outside the WEA boundary

Sensitive wildlife resources will be depicted on burn maps and protected. Infrastructure within the burn unit will be depicted on burn maps and protected as well.

Basin swamp, dome swamp, and depression marshes are other natural communities occurring on LGCWEA that benefit from fire. Seasonality and weather conditions under which prescribed burns are conducted will be variable to ensure these communities, or at least the ecotones surrounding them, receive occasional fire.

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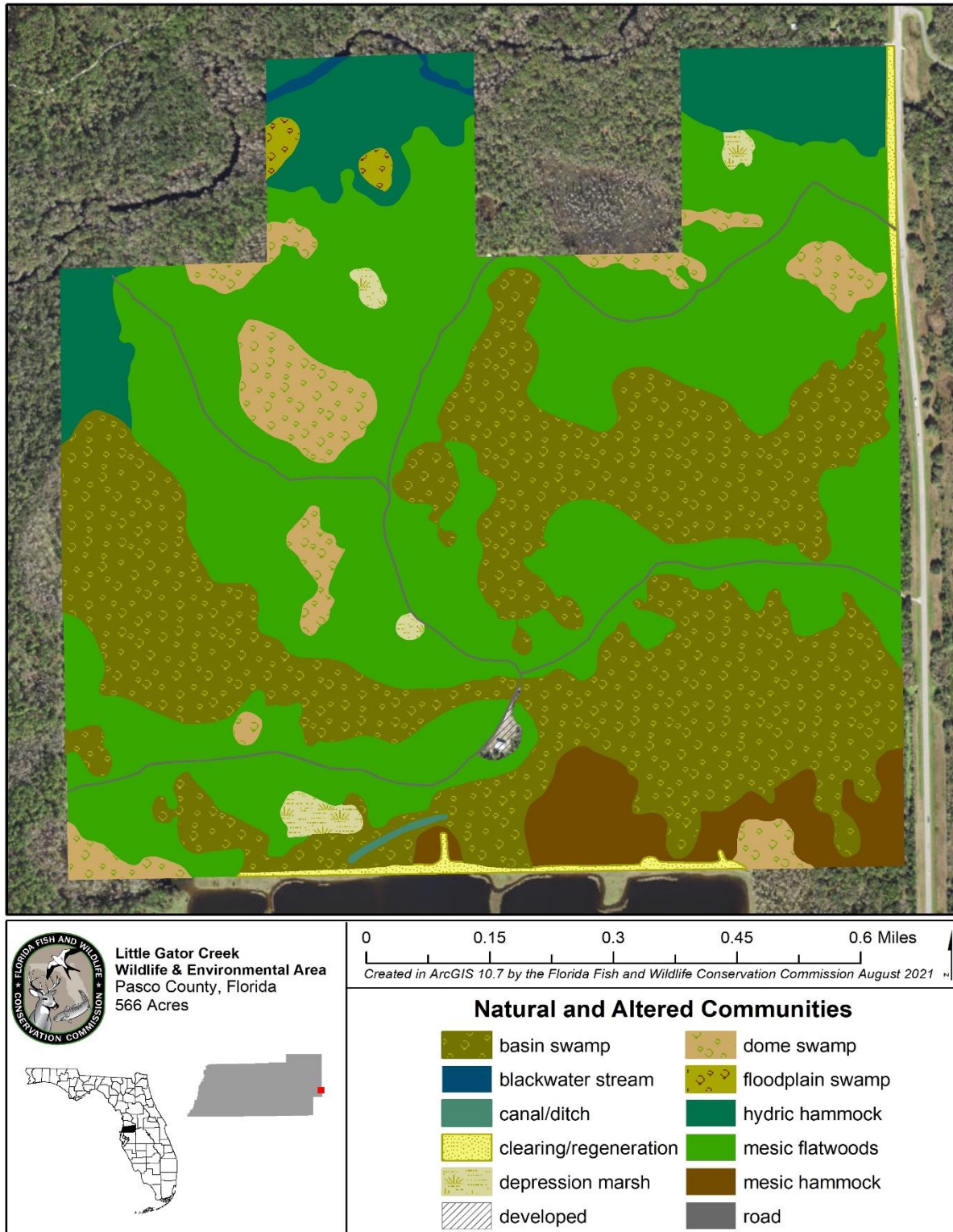
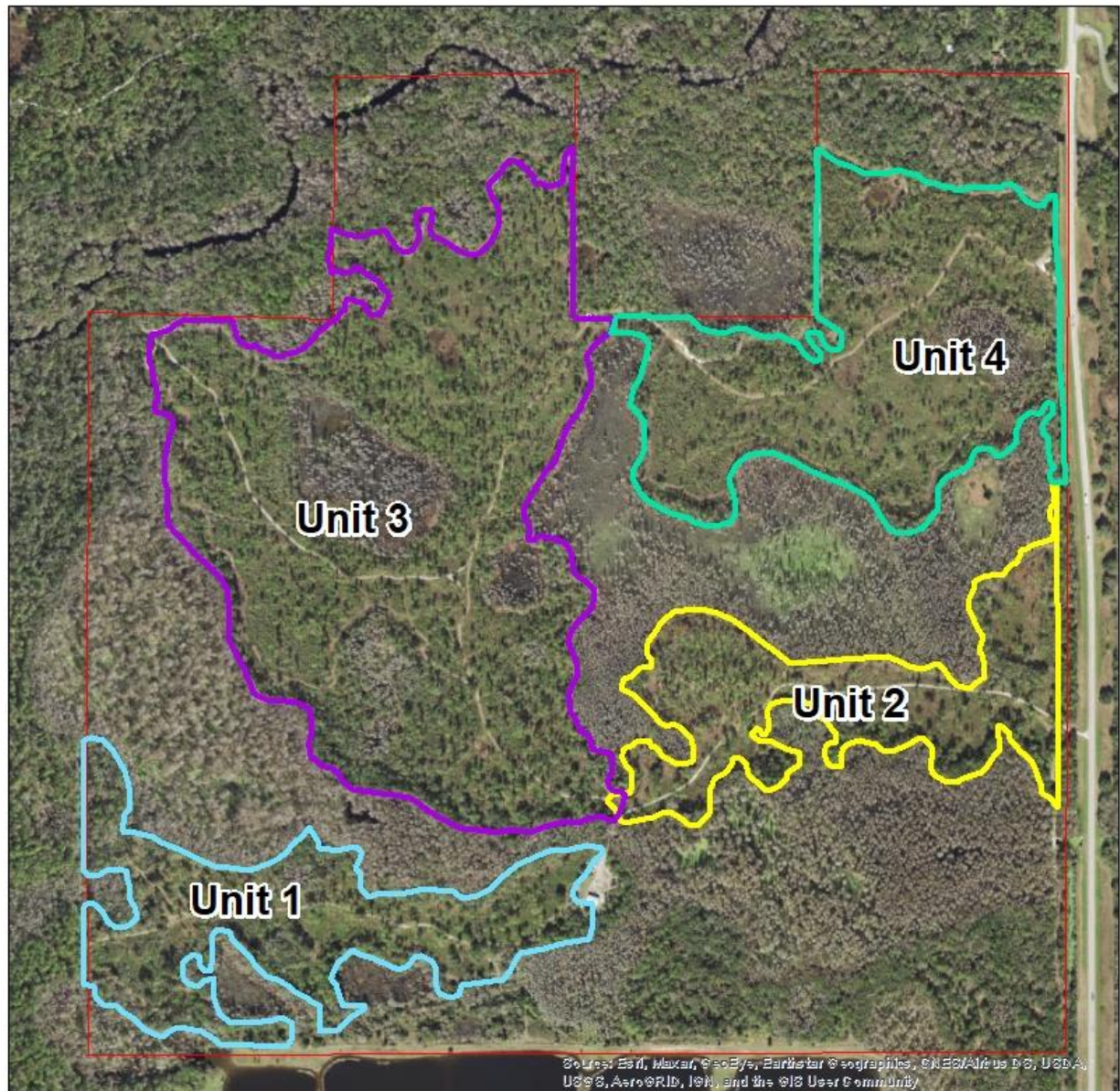


Figure 1. Little Gator Creek WEA Natural Communities

Table 1. Little Gator Creek WEA Community Types and Acreages.

#	Natural Community Type	Fire Maintained Community? (Interval)	Acres
1	Basin Swamp	No	194.69
2	Blackwater Stream	No	1.42
3	Canal/ditch	No	0.93
4	Clearing	No	5.53
5	Depression Marsh	Yes (2-5 years)	5.03
6	Developed	No	1.22
7	Dome Swamp	No	31.15
8	Floodplain Swamp	No	2.38
9	Hydric Hammock	No	46.88
10	Mesic Flatwoods	Yes (1-3 years)	255.86
11	Road	No	4.49
12	Mesic Hammock	No	25.04

Little Gator Creek WEA Burn Units



Legend

Little Gator Creek WEA Boundary

LGCWEA Burn Unit Boundary

Unit 1

Unit 2

Unit 3

Unit 4

0 0.1 0.2 0.4 0.6 0.8 Miles



Figure 2. Little Gator Creek WEA burn units.

APPENDIX A

FIRE-MAINTAINED NATURAL COMMUNITY SHORT DESCRIPTIONS

- **Depression Marsh (2-5 years)**- Shallow, rounded depressions in sandy soils dominated by herb and, occasionally, shrub species that often occur in distinct concentric bands. Four small depression marshes occur on the LGCWEA. The three smaller marshes are surrounded by mesic flatwoods with slash pine growing in the edge of the marsh. Concentric zones of maidencane (*Panicum hemitomon*) and rush (*Juncus* sp.) surround the deeper center of arrowhead (*Sagittaria* sp.). The larger marsh resembles a dome swamp around the edges, with an encircling band of pond cypress (*Taxodium distichum*), sweetgum, red maple (*Acer rubrum*), water oaks (*Quercus nigra*), shrubs, and vines such as wax myrtle (*Myrica cerifera*) and muscadine (*Vitis rotundifolia*). The center is open and herbaceous, dominated by sedges (*Carex* sp.) and grasses (*Paspalum* sp.). Fire is essential to the maintenance of depression marshes, discouraging shrub invasion and promoting the dominance of grasses and sedges. Prescribed fire in the surrounding flatwoods on the LGCWEA should be encouraged to burn across the depression marshes. If firebreaks have been plowed around the marshes, they will be re-vegetated and frequently burned.
- **Mesic Flatwoods (1-3 years)**- Fire-maintained forest of widely spaced pines on flat, moderately to poorly drained soils, usually with species-rich shrub and herb layers. At approximately 255 acres, mesic flatwoods are the most extensive natural community on the LGCWEA, forming a matrix to the numerous wetland inclusions on site. Scattered, mature longleaf pine and occasional slash pines form the canopy throughout most of the area. A turpentine operation was operated at the site from 1928 to 1934. Virgin longleaf pine were harvested in 1903-04, and a second tree harvest took place in 1939, suggesting that most of the pines on site are younger than 60 years old. Saw palmetto is the most common shrub although other shrubs such as dwarf live oak (*Quercus minima*), staggerbush (*Lyonia fruticosa*), and dwarf blueberry (*Vaccinium myrsinites*) are also common. Wiregrass is the dominant species in the ground cover, but a variety of other herbs and vines are also present. Mesic flatwoods must be burned regularly, every 1-3 years, to maintain the open, grassy character of the ground layer and promote wiregrass flowering.

ALTERED AND NON-FIRE-MAINTAINED NATURAL COMMUNITY SHORT DESCRIPTIONS

- **Basin Swamp**- Large, irregularly shaped wetland occupying a shallow, closed basin and dominated by a mix of conifer and hardwood species. Two main basin swamps (approximately 112 acres and 60 acres, respectively) occur on the LGCWEA, occupying depressions that were probably once oxbows or swales within the Withlacoochee River floodplain. The canopy and subcanopy are dominated by pond cypress, red maple, and swamp laurel oak (*Quercus laurifolia*). Cypress trees were harvested from the site in 1949 and 1955, suggesting that the canopy trees in the basin swamp are approximately 50 years old. The shrub layer is fairly open, with scattered cabbage palm (*Sabal palmetto*), wax myrtle, and blueberry (*Vaccinium* sp.). Herbs are generally sparse in basin swamps due to high water levels and low light; on the LGCWEA, the most common herbs are maidencane and Virginia chain fern (*Woodwardia virginica*). Fire is beneficial to the maintenance of basin swamps; without fire, hardwood invasion will convert the typically cypress-dominated community to a hardwood forest with a deep litter or peat layer. The co-dominance of red maple and swamp laurel oak in these basin swamps indicates that this process is well underway. Fire will not be prevented from entering basin swamps but will be allowed to burn up to the edges to minimize fire shadows and woody encroachment. If the basin

swamps are surrounded by old firebreaks, they will be allowed to re-vegetate and to burn frequently. Natural ecotones between basin swamps and flatwoods are usually open, species-rich, grassy zones which may support rare plant species.

- **Canal/ Ditch-** Canal/ditch are artificial linear drainage ways.
- **Clearing-** Clearing areas are recent or historic clearings that have significantly altered the groundcover and/or overstory of the original natural community. On LGCWEA, this area is found along the southern boundary and is not maintained with fire.
- **Developed-** Developed areas include buildings and shop compound grounds.
- **Dome Swamp-** Shallow, usually more or less circular isolated wetlands, forested with a mix of conifers and hardwoods that are typically taller toward the center of the swamp, creating a domed profile. Eight dome swamps, ranging in size from one to ten acres, occur on the LGCWEA. Most are dominated by pond cypress (*Taxodium ascendens*) with a large hardwood component of red maple and swamp laurel oak. Cypress were harvested from the site in 1949 and 1955, suggesting that the cypress trees in the dome swamps are approximately 50 years old. One dome swamp completely lacks cypress, although numerous cypress stumps are present, and is dominated entirely by hardwoods. No cypress seedlings or saplings were observed in the understory, so it appears that this community is not returning to its pre-logging condition.) Wax myrtle and persimmon (*Diospyros kaki*) occur in the understory. Due to high water levels and low light, the herb layer in dome swamps is usually sparse, which is the case on the LGCWEA, with maidencane, sedges, and duckweed (*Lemna* sp.) being the most common herbs. Sawgrass (*Cladium jamaicense*) forms the herb layer in one small dome swamp on the edge of the Withlacoochee River floodplain forest. Fire is beneficial to the maintenance of dome swamps; without fire, hardwood invasion will convert the typically cypress-dominated community to a hardwood forest with a deep litter or peat layer. The co-dominance of red maple and sweetgum in most of the dome swamps on the LGCWEA indicates that this process is well underway. Fire will not be prevented from entering dome swamps but will be allowed to burn up to the edges to minimize fire shadows and woody encroachment. In most areas of Florida, dome swamps are surrounded by old firebreaks; if this is the case on the LGCWEA, the firebreaks will be allowed to re-vegetate and then burned frequently. The natural ecotones between dome swamps and flatwoods are usually a species-rich, grassy zone which may support rare plant species.
- **Road-** Areas that are unpaved, managed by FWC area staff, and intended for vehicular traffic.
- **Blackwater Stream-** Perennial stream originating in sandy lowlands, and deeply colored with tannins and other organic compounds. The Withlacoochee River crosses the LGCWEA twice on the northwestern side of the WEA, for a total of approximately 0.2 mile; Gator Creek crosses the northeastern corner of the site for 0.1 mile. Both are dark, tannin-stained streams bordered by floodplain forest and swamp.
- **Floodplain Swamp-** Floodplain swamp is a closed-canopy forest of hydrophytic trees occurring on frequently or permanently flooded hydric soils adjacent to stream and river channels and in depressions and oxbows within floodplains. The LGCWEA is located in the confluence of Gator Creek and the Withlacoochee River, and floodplain swamp is found in the floodplains of both. The canopy and subcanopy of these forests are dominated by swamp laurel oak, live oak, water oak, red maple, tupelo gum (*Nyssa sylvatica*), and cabbage palm. Common shrubs include cabbage palm and yaupon (*Ilex vomitoria*). Due to inundation and low light levels, the herb layer is sparse, but usually includes beaksedges (*Rhychospora* sp.) and crabgrass (*Digitaria* sp.).
- **Hydric Hammock-** Hydric hammocks are forested wetlands with a mixed canopy of deciduous and evergreen hardwoods occurring in the ecotone between floodplain swamp and upland communities. Hydric hammock is extensive along sections of the Withlacoochee River floodplain. The diverse, closed canopy consists of swamp laurel oak, sweetbay (*Magnolia*

virginiana), red maple, cabbage palm, and sweetgum, plus occasional bald cypress. The subcanopy is usually dominated by cabbage palm, American hornbeam (*Carpinus caroliniana*), swamp bay (*Persia palustris*), dahoon holly (*Ilex cassine*), and American elm (*Ulmus americana*). The sparse tall shrub layer consists of sapling cabbage palms and wax myrtle. Seedling cabbage palm and blue palm (*Sabal minor*) often dominate the short shrub layer. Composition of the herb layer is also variable, with millet beaksedge (*Rhynchospora miliacea*).

- **Mesic Hammock-** Mesic hammock is an upland forest community of evergreen broadleaved trees occurring in naturally fire-protected areas. At the LGCWEA, this community occurs at the edges of the basin swamp and has typically replaced mesic flatwoods due to fire exclusion history. This area lacks the characteristic mesic hammock canopy of live oak, and instead supports an oak- and pine-dominated canopy of water oak, swamp laurel oak, and slash pine. It has a subcanopy of cabbage palm. The predominance of saw palmetto in the shrub layer suggests that this area was historically mesic flatwoods that was invaded by oaks as a result of human rather than natural fire suppression. The abundance of other weedy species, such as broomsedge and muscadine, also supports this interpretation. However, the advanced age and density of the oak canopy probably precludes restoration of the site to mesic flatwoods.

APPENDIX B

Prescribed Burning Prescription Florida Fish and Wildlife Conservation Commission					
WMA/WEA: Click here to enter managed area			Management Lease/Agreement Number: Enter number		
Burn Manager: Burn manager name			Customer Number: Number		
Burn Manager Certification Number: Number			County of Burn: County		
FFS Certified Burn Authorization Number:			Date of Burn: Date of burn		
Authorization Date and Time Period:					
Burn Unit Names/Numbers	Acres	Section(s)	Township	Range	Last Burn Date
Unit name/number	Acres	Section	Township	Range	Date
Unit name/number	Acres	Section	Township	Range	Date
Unit name/number	Acres	Section	Township	Range	Date
Unit name/number	Acres	Section	Township	Range	Date
Total	Total Acres				
Latitude/Longitude or Road Intersection to Assist with Emergency Locate: Enter Lat/Long and/or intersection					
Nearest Helicopter Landing Zone and Coordinates: Click here to enter. LZ should be in open grassy or asphalt/concrete area; not sandy.					
Unit Description and Habitat Composition - Attach Maps of Area to be Burned					
Overstory Description and Basal Area if Applicable: Click here to enter description					
Understory Description: Click here to enter description					
Fuel Loading – May Vary for Different Areas of the Burn Unit (Very Heavy, Heavy, Moderate, Light, Very Light): Click here to enter fuel loading					
Known Duff or Muck Locations: Click here to enter duff or muck locations					
Hazards, Infrastructure and Wildlife Features to Protect: Click here to enter along with locations					

Description and Condition of Fire Breaks: Click here to enter description and make sure firebreaks (internal and external) are shown on map	
Other Important Stand Parameters if Applicable: Click here to enter parameters	
Restoration Burn ☐ Maintenance Burn ☐	
Burn History and Vegetative Description of Surrounding Units (and/or attach map): Click here to enter surrounding unit information	
Emergency Contacts (can be attachment)	
FFS Dispatch: Click here to enter number	
FFS Forest Area Supervisor(s): Click here to enter contact info	
Local Fire Departments: Click here to enter number	
Local Hospitals or Emergency Care Centers: Click here to enter number	
FHP: Click here to enter number	DOT: Click here to enter number
FWC Dispatch: Click here to enter number	
Other: Click here to enter	
Notifications (e-mail group, adjacent landowners, schools, airports, media, etc): Click here to enter notifications or include attachment with notifications	
Minimum Number of Personnel to be Used on the Burn: Enter minimum number of personnel	
Personnel Names and Crew Assignments: Click here to enter personnel/assignments	
Equipment and Suppression Tools to be Used on Burn: Click here to enter equipment/tools	

Purpose of Burn: Click here to enter purpose
Measurable Burn Objectives: Click here to enter objectives
Season and Time of Day to Meet Objectives: Click here to enter season/time of day for fire to meet your objectives
Firing Plan and Ignition Method/Pattern: Click here to enter plan/pattern
Intensity Desired to Meet Purpose and Objective: Click here to enter intensity
Contingencies (includes safety zones, escape routes, secondary control lines, escape response procedures): Click here to enter contingencies
Mop-up and Monitoring Standards: Click here to enter standards
Declaring the Fire Out Standards: Click here to enter standards

Smoke Management
Smoke Sensitive Areas Identified Using “A Guide for Prescribed Fire in Southern Forests” Smoke Screening Tool? ☐ Yes ☐ No
Any Critical Smoke Sensitive Areas Identified? ☐ Yes ☐ No If “Yes”, Do Not Burn Under Current Prescription, or Provide Additional Smoke Monitoring and Mitigation Procedures in the Smoke Management Plan. Work with Florida Forest Service on Approval to Burn When Identifying Critical Smoke Sensitive Areas That May Be Impacted.
Downwind/Downdrainage Smoke Sensitive Areas and Distance from Burn: Click here to enter areas
Other Smoke Sensitive Areas and Distance from Burn: Click here to enter areas
Smoke Management Plan (attach smoke management screening maps): Click here to enter smoke management plan
Is There Potential for Smoke to Impact a Public Roadway? ☐ Yes ☐ No If yes, you need to erect smoke warning signs. Contact FHP if smoke will impact a federal or state roadway (not including WMA roads). Contact local LE agencies as needed to inform them of potential smoke impacts.
Plan for Monitoring Smoke During and After the Burn to Assess Visibility Issues if Applicable: Click here to enter smoke monitoring plan

WEATHER PARAMETERS	Desired Parameters	Forecast Conditions – Attach Fire Weather Forecast and Spot Weather Forecast. Use Separate Form for Actual Weather Readings
Surface (20') Wind Direction	Desired wind directions	Located on Forecast.
Surface (20') Wind Speed	Desired wind speeds	Located on Forecast
Transport Wind Direction	Desired wind directions	Located on Forecast
Transport Wind Speed	Desired wind speeds	Located on Forecast
Minimum Mixing Height	Minimum mixing height	Located on Forecast
Dispersion Index (DAY)	Desired dispersion range	Located on Forecast
Dispersion Index (NIGHT)	Desired minimum dispersion	Located on Forecast
Maximum Temperature	Desired max temperature	Located on Forecast
Minimum Relative Humidity	Desired minimum humidity	Located on Forecast
Minimum Fine Fuel Moisture	Desired minimum fuel moisture	Estimated Fine Fuel Moisture.
KBDI	Desired max KBDI	KBDI
LVORI	Desired max night LVORI	Located on Forecast
Fire Danger Index	Do Not Populate	FDI
Days since ½" Rain	Desired days since ½" rain	Actual
Additional Field	Additional Field Parameter	
Additional Field	Additional Field Parameter	
FIRE BEHAVIOR		
Rate of Spread	Desired rate of spread	Pertinent Observations on Evaluation
Starting Time	Desired starting time	Actual Starting Time Below
Flame Length	Desired flame length	Pertinent Observations on Evaluation

PRE-BURN CHECKLIST – Check off as completed prior to burn.
BURN MANAGER: Check each item to indicate compliance. ☐ All prescription requisites met. ☐ Authorization obtained. ☐ All equipment required on scene and fully operational. ☐ Each crew member has required personal gear and clothing. ☐ Appropriate steps have been taken to ensure crew and public safety including signs for visitors and motorists

CREW BRIEFING – Check off as discussed prior to burn.
☐ Objectives of burn. ☐ Exact area of burn including unit size and boundaries (ensure crew members have maps). ☐ Hazards discussed (volatile fuels, spotting potential, weak points in perimeter lines, terrain features, fences, ditches, etc.). ☐ Predicted weather and anticipated fire behavior/smoke dispersal discussed. ☐ Crew assignments made. ☐ Weather monitoring assignment made. ☐ Ignition technique and pattern. Holding method(s). ☐ Location of extra equipment, fuel, water, vehicle keys. ☐ Authority and communications; conduct radio check. ☐ Contingencies covered including escape routes or procedures. ☐ Sources of nearest assistance. Nearest phone and emergency numbers. ☐ Special instructions regarding smoke management, contact with the public and others. ☐ Safety briefing. Any EMTs on burn crew? ☐ Mop-up standards discussed. ☐ Arrange next day inspection and mop-up assignments. ☐ Questions? ☐ Crewmembers given opportunity to decline participation (is there anything that is going to prevent full physical performance?). ☐ Conduct test burn.

Prescription Prepared by: Name	Date/Time Prescription Prepared/Updated:
Burn Manager Signature/Date/Time:	
Start Time:	Completed Time:
Time Crew Released:	Time Burn Manager Left Burn Unit:
Date Fire Declared Out:	Evaluated Objectives, Recorded Pertinent Burn Notes, and Entered into LMIS ☐

Evaluation Notes

Additional Pages

APPENDIX C

**Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Policies and Procedures
Updated March 2022**

Subject: Prescribed Burning and Wildland Fire Suppression Standards

Policy:

The following policy shall apply to all Division of Habitat and Species Conservation (DHSC) employees, volunteers and contractors engaged in prescribed burning or wildland fire suppression activities. Unless otherwise stated, the policy also applies to all other Florida Fish and Wildlife Conservation Commission (FWC) employees and volunteers engaged in prescribed burning or wildland fire suppression activities conducted through the DHSC. Prescribed burning or wildland fire suppression efforts that DHSC funds through grants, cost-share agreements, or other methods not conducted on DHSC-managed lands are outside the scope of this policy; however, DHSC staff physically participating in these burns are required to comply with the policy and this policy should be used to guide minimum standards regarding training and experience when developing DHSC-funded agreements or contracts. This policy will be reviewed at least once every three years.

Background and General Guidelines:

Wildland fire has been a major force shaping Florida landscapes for thousands of years. Florida's plant communities are the result of surface water conditions and frequent lightning ignitions across its vast landscape. Many plant communities experienced fire every few years and wildlife species adapted to these fire-maintained habitats. Floridians have consistently used fire as a land management tool and the Florida legislature recognizes the importance of prescribed burning per Chapter 590.125 F.S.

Likewise, DHSC recognizes the importance of prescribed fire for Florida's diverse wildlife and the habitats that sustain them. As Florida continues to lose natural wildlife habitat, prescribed fire is more important than ever in maintaining and enhancing our remaining natural areas. As FWC is the lead managing agency on more than 1.5 million acres of the Wildlife Management Area (WMA) system, DHSC regularly conducts burns on these lands, and others, for wildlife management, hazardous fuel reduction, and ecological purposes. DHSC also provides financial support and technical assistance for conducting prescribed burns outside of the WMA system.

In addition to conducting prescribed burning, DHSC employees are periodically asked to assist the Florida Forest Service (FFS) with wildland fire suppression efforts, particularly during declared wildfire emergencies. Working on prescribed fires or wildfires is an inherently dangerous and risky activity that can result in significant property damage, personal injury, or loss of life. Therefore, it is necessary to establish standards for training and certification to ensure DHSC employees, volunteers and contractors have the appropriate skills and knowledge

to perform these activities safely and effectively. Employees are encouraged to obtain higher levels of training and certification as warranted and approved through supervisory channels.

The majority of DHSC wildland fire activities occur within the Wildlife and Habitat Management Section (WHM). However, other Sections within DHSC have employees that participate in wildland fire activities. To ensure efforts are not duplicated, this policy designates specific WHM staff positions as the point of contact or lead on coordination for prescribed fire and wildland fire suppression activities conducted through DHSC.

Employees are responsible for acquiring (with agency funds and supervisor approval) and maintaining all required personal protection equipment. Immediate supervisors are responsible for ensuring that direct reports have all the required training to participate in wildland fire activities. WHM Regional Wildlife Biologists will be responsible for coordinating applicable wildland fire training and incident reviews through the WHM Section Leader or their designee.

All prescribed burns shall be conducted in compliance with all laws regulating the use of prescribed fire; specifically Chapter 590.125(3), Florida Statutes and Chapter 5I-2, Florida Administrative Code. When a DHSC employee, volunteer or private contractor is the burn manager, burn prescriptions shall be prepared using the FWC Prescribed Burning Prescription form and contain all the required elements per Chapter 5I-2.006 Florida Administrative Code, as well as all other applicable information requested on the prescription form. Prescriptions shall be prepared with employee and public safety as the highest priority. All prescribed burns shall be conducted as a certified prescribed burn within prescription, and managed by a Certified Prescribed Burn Manager.

All prescribed fires conducted on FWC lead WMAs shall be documented within the WHM Land Management Information System according to the procedures and schedules determined by the WHM Section Leader.

Chapter 1 Prescribed Burning

Prescribed Burn Participation: This section establishes the training, certification, and experience standards required for members of a prescribed burn team. These standards apply to all DHSC burn crew members, regardless of the location of the burn, and for all non-DHSC crew members on burns managed by DHSC staff and/or conducted on DHSC-managed land unless otherwise noted.

- A. Crew Member Trainee: Those who do not meet the requirements for Crew Member shall be classified as a Crew Member Trainee. A Crew Member Trainee may participate in prescribed burning activities provided that they are under the direct supervision of a Crew Member. A Crew Member may supervise no more than one Crew Member Trainee. No more than 40% of the burn crew shall be Crew Member Trainees*. They shall have successfully completed the following level of training:

- 1) Successful completion of fire shelter or fire shelter refresher training within the past 13 months;

**For prescribed burns conducted during a DHSC-coordinated training course, Crew Members may supervise more than one Crew Member Trainee, and more than 40% of the burn crew may be Crew Member Trainees.*

- B. **Crew Member:** Crew members may participate independently in prescribed burning activities. They shall have successfully completed the following National Wildfire Coordinating Group (NWCG) courses and other training and testing requirements:

- 1) Introduction to the Incident Command System (I-100 or ICS-100);
- 2) Basic Wildland Firefighter Training (S-130);
- 3) Introduction to Wildland Fire Behavior (S-190);
- 4) Successfully completed fire shelter or fire shelter refresher training within the past 13 months;
- 5) At least once every 36 months, all **DHSC employees** shall successfully complete an agency-approved wildland fire refresher training course;
- 6) At least once every 36 months, all **DHSC employees and volunteers** shall successfully complete the DHSC [Physical Abilities Test \(PAT\)](#).*

**New DHSC employees may participate on prescribed burns during their first year of employment without taking the PAT, provided they meet all other requirements.*

- C. **Prescribed Burn Manager Mentee:** Prescribed burn manager mentees may serve as burn manager to fulfill the responsibilities of acquiring DHSC and Florida Certified Prescribed Burn Manager status. Mentee must be under the direct supervision of a DHSC Certified Prescribed Burn Manager on prescribed burns that will be used to qualify them for DHSC Certified Prescribed Burn Manager status. They shall have successfully completed the following level of training and have the specified level of experience:

- 1) Qualified at or above Crew Member level for prescribed burning;
- 2) The FFS Florida Certified Prescribed Burn Manager Training Course;
- 3) Participated on at least five prescribed burns;
- 4) Enrolled in or completed the [DHSC Prescribed Burn Manager Mentoring Program](#).

- D. **Certified Prescribed Burn Manager:** A DHSC Certified Prescribed Burn Manager may request prescribed burn authorizations and serve as burn manager for acreage burns. They shall have successfully completed the following level of training and have the specified certification and level of experience:

- 1) Qualified at or above Crew Member level for prescribed burning;

- 2) FFS Prescribed Burn Manager Certification (per section 590.125, Florida Statutes and 5I-2, Florida Administrative Code);
- 3) Participated on at least ten prescribed burns;
- 4) DHSC employees and volunteers must successfully complete the [DHSC Certified Prescribed Burn Manager Mentoring Program](#) to become a burn manager. Burn managers certified prior to the implementation of the mentoring program may be required to complete all or part of the mentoring program at the discretion of the WHM Regional Biologist, or DHSC Division Director or designee for all non-WHM employees;
- 5) Complete the [FFS requirements to maintain Florida Certified Prescribed Burn Manager status per 5I-2.006](#).

Note: Any employee aspiring to become a Certified Prescribed Burn Manager must obtain certification within three years of completing the Florida Certified Prescribed Burn Manager Training Course. Otherwise they must re-take the full course to become certified. If the certification lapses, the employee may re-certify by successfully completing the FFS Distance Learning course if they served as a burn manager on five or more burns. Otherwise they must re-take the full course to regain certification.

- E. Certified Pile Burner: A Certified Pile Burner may request pile burn authorizations. They shall have successfully completed the following level of training and have the specified certification and level of experience:
 - 1) Qualified as a Certified Prescribed Burn Manager;
 - 2) FFS Certified Pile Burner.
- F. Prescribed Burn Engine (Pumper Unit/Brush Truck) Operator: To independently operate a water-delivery engine in support of prescribed burns, crew members shall have successfully completed the following level of NWCG training and have the specified level of experience:
 - 1) Qualified at or above Crew Member level for prescribed burning;
 - 2) Demonstrated proficiency in operation of water-delivery engines to supervisor; **or** successful completion of Southern Area Engine Academy (S-211 and SA-214) or Engine Operator (PMS 419);
 - 3) Participated on at least five prescribed burns.
- G. Prescribed Burn Bulldozer Plow Unit Operator: To independently operate a dozer plow unit during prescribed burns, crew members shall have successfully completed the following level of training and have the specified level of experience:
 - 1) Qualified at or above Crew Member level for prescribed burning;
 - 2) The wildland fire portion of FFS Basic Fire Control Training (or equivalent training);
 - 3) Participated on at least five prescribed burns;

- 4) Experience and demonstrated proficiency to supervisor operating a dozer plow unit.
- H. Prescribed Burn Aerial Plastic Sphere Dispenser (PSD) Operator: To independently operate a PSD from an aircraft during a prescribed burn, crew members shall have successfully completed the following level of training and have the specified level of experience:
- 1) Qualified at or above Crew Member level for prescribed burning;
 - 2) Completed an aerial PSD training course;
 - 3) Participated on at least five prescribed burns;
 - 4) Complete aerial PSD refresher training once every three years.

Chapter 2 Wildland Fire Suppression

Wildland Fire Suppression Participation: The leadership of FFS, or other entity, may request assistance from FWC during a wildland fire suppression incident. This request will usually be for a wildland fire strike team to conduct mop-up operations. A wildland fire strike team consists of one wildland fire strike team leader, and two wildland fire strike team members per Type V or VI engine. Occasionally there will be a request for a bulldozer operator to facilitate mop-up operations. Standards for strike team members and leaders are outlined below. In addition, requests may be made for personnel to fill positions on a suppression incident that are not covered by the following standards. The decision to assist, and the level of assistance provided, on fire suppression incidents will be made by the DHSC Division Director or their designee. Coordination of all requests will be handled by the WHM Section Leader or their designee.

- A. Wildland Fire Strike Team Member: To participate on wildland fire strike teams in support of suppression efforts, strike team members shall have successfully completed the following level of training and have the specified level of experience:
- 1) Qualified at or above Crew Member level for prescribed burning;
 - 2) Southern Area Engine Academy or PMS 419*;
 - 3) Participated on at least ten prescribed burns and/or wildland fire suppression incidents.

**Employees who have not yet completed Southern Area Engine Academy or PMS 419 can be approved by the WHM Section Leader or their designee to serve on a wildland fire strike team. Exceptions can be granted when available strike team personnel are not sufficient to meet the requested need. Training and experience levels should be considered when approving exceptions.*

- B. Wildland Fire Strike Team Leader: To serve as team leader for wildland fire strike teams in support of suppression efforts, strike team members shall have completed the following level of training and have the specified level of experience:

- 1) Qualified at or above Wildland Fire Strike Team Member;
 - 2) Basic Incident Command System (I-200 or ICS-200);
 - 3) Experience as a Certified Prescribed Burn Manager on at least ten prescribed burns and experience as a Wildland Fire Strike Team Member on at least one incident.
- C. Wildland Fire Bulldozer Plow Unit Operator: To independently operate dozer fire-plow units in support of suppression efforts, strike team members shall have completed the following level of training and have the specified level of experience:
- 1) Qualified at or above Crew Member level for prescribed burning;
 - 2) Dozer Operations on Florida Prescribed Burns, the wildland fire portion of FFS Basic Fire Control Training, or an equivalent course as approved by the HSC Division Director;
 - 3) Participated on at least ten prescribed burns or wildland fire suppression incidents;
 - 4) Experience and demonstrated proficiency to supervisor operating a dozer plow unit.

Chapter 3 Safety

3.1 Personal Protective Equipment (PPE): Required Personal Protective Equipment for all wildland fire activities includes*:

- A. Flame Resistant Shirt and Pants, or Jumpsuit
- B. Wildland Fire Hard Hat
- C. Leather Gloves
- D. Leather Boots – ≥8" Lace-up
- E. Eye Protection
- F. Hand-held Radio
- G. Fire Shelter

**Safety considerations and/or vegetation types may dictate that crew members wear additional equipment or deviate from the above required equipment. The burn manager/strike team leader shall determine what PPE will be worn by their crew to maximize safety, and shall document any deviations on their burn prescription or wildfire crew briefing report.*

3.2 Physical Standards: Prescribed burning and fire suppression are physically demanding activities. In addition to successfully completing the PAT, each prescribed burn crew/strike team member shall maintain a fitness level that will allow full participation in these activities. It is the burn crew/strike team member's responsibility to make the burn manager/strike team leader aware of any limitations that may restrict or prevent full participation.

3.3 Mobile Equipment: The following is a list of required items for mobile equipment used during wildland fire activities. Mobile equipment includes all-terrain vehicles, utility vehicles, airboats, swamp buggies, trucks, tractors, and bulldozers.

- A. An ABC fire extinguisher that has been inspected, serviced, and maintained in accordance with the manufacturer's maintenance procedures shall be in or on all mobile equipment. Below are minimum extinguisher sizes (net extinguishing agent weights):
 - 1) All-terrain and utility vehicles – 2.5 pound
 - 2) Trucks and tractors – 5 pound
 - 3) Bulldozers and Swamp Buggies – 10 pound (could be two 5 pound extinguishers)
 - 4) Vessels – 5 pound (could be two 2.5 pound extinguishers)
- B. All-terrain vehicles, utility vehicles, swamp buggies, and trucks used in the interior of a burn unit shall have an operational winch.
- C. All mobile equipment used in the interior of a burn unit shall have an operational water delivery system with at least five gallons of water.

3.4 Public Safety: All wildland fire operations shall be conducted in a manner that protects the public and minimizes the potential adverse impacts of both smoke and fire. Prescriptions shall be prepared with public safety as the highest priority.

Chapter 4 Incident Reviews

This chapter outlines the procedure for reviewing a prescribed fire whose results include negative consequences on DHSC managed lands or from a burn managed by a DHSC burn manager. The purpose of a fire-related incident review is to gather facts regarding the incident and, if possible, recommend actions that may help minimize the chance of reoccurrence.

4.1 Fire-related Incident: A fire or smoke related incident that includes any of the following:

- A. FFS Notice of Violation;
- B. Conducting a burn outside of the prescription;
- C. Fire leaves the prescribed burn unit and resources in addition to the burn crew are utilized;
- D. Fire leaves the WMA system;
- E. Prescribed burn activities cause property damage or personal injury;
- F. Post-burn combustion poses a threat to public safety, property, or natural resources.

4.2 Reporting of Fire-related Incidents: The burn manager shall notify the appropriate WHM Regional Biologist about the incident as soon as possible, but no later than 8:30 am the day after the fire-related incident occurred. For extended post-burn combustion, the burn manager shall notify the Regional Biologist if the combustion and/or associated smoke may pose a threat to public safety, property, or natural resources. The Regional Biologist shall notify the WHM Section Leader or their designee of the incident as soon as possible. The notification should include the following:

- A. Date, time, and location of incident;
- B. Brief description of the incident and current status;
- C. Other agencies or entities assisting;
- D. Resources needed.

4.3 Fire-related Incident Review: The WHM Section Leader shall determine the need for and the scope of fire-related incident reviews. The WHM Section Leader or their designee will coordinate the incident review. Within 60 days of completing a fire-related incident review, the reviewer(s) shall submit a report to the DHSC Division Director for approval.

Approved:	 Division Director	1 March 2022 Date
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**12.12 Wildlife Conservation and Prioritization and Recovery Program
Strategy (WCPR)**

**Little Gator Creek
Wildlife and Environmental Area
Wildlife Management Strategy**

March 2022

Florida Fish and Wildlife Conservation Commission

Division of Habitat and Species Conservation

Wildlife and Habitat Management Section



Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Wildlife and Habitat Management Section (WHM) takes a proactive, science-informed approach to wildlife management on lands in the Wildlife Management Area (WMA/WEA) system. This approach uses information from statewide models, in conjunction with input from species experts and local staff, to create a Wildlife Management Strategy for the area. The FWC intends for this Strategy to provide WMA staff with information on management and monitoring actions that should be taken to promote the presence and facilitate the persistence of wildlife species on the area.

This document presents the results of a science-informed process for evaluating the needs of locally important species on Little Gator Creek Wildlife and Environmental Area (LGCWEA). The foundation for FWC's management is an understanding of Florida's natural communities, and the ecological processes that affect the richness and abundance of the plant and animal species which inhabit them. By restoring and maintaining natural communities, management will benefit the greatest suite of native species reliant upon those natural communities. Monitoring select species can indicate whether natural community management is having the desired effect on wildlife. To maximize the potential wildlife conservation benefit, staff considers the role of LGCWEA in regional and statewide conservation initiatives throughout the process.

[Section 1](#) introduces the reader to the Strategy.

[Section 2](#) describes historic and ongoing habitat management and monitoring actions on the property.

[Section 3](#) provides an assessment of the area's role in the conservation of locally important species.

This section includes management and monitoring actions identified during the Wildlife Conservation, Prioritization and Recovery Program (WCPR) workshop.

[Section 4](#) identifies coordination and "beyond the boundaries" opportunities that will assist in conserving these species.

Maintaining resources at current levels would be required to provide for most of the land management recommended in this document. Some of the monitoring recommendations may require additional resources, while FWC can accomplish others with continuation of existing resources.

Acknowledgements

The WCPR Strategy development process is intended to be a collaborative effort between multiple Divisions and Sections within the agency, and coordination with experts beyond the FWC. Without the support of these experts, we would not have successfully prioritized our management, monitoring, and coordination efforts for areas like the LGCWEA. As such, we would like to highlight the agency, local, and statewide experts that helped shape the discussion, including Luis Gonzalez, Amy Schwarzer, Becky Schneider, Bradley O'Hanlon, Craig Faulhaber, Andrew Cox, Terry Doonan, and many others. Thank you for taking the time and effort to consider our management lands within context of the conservation needs for the region, as well as the State of Florida.

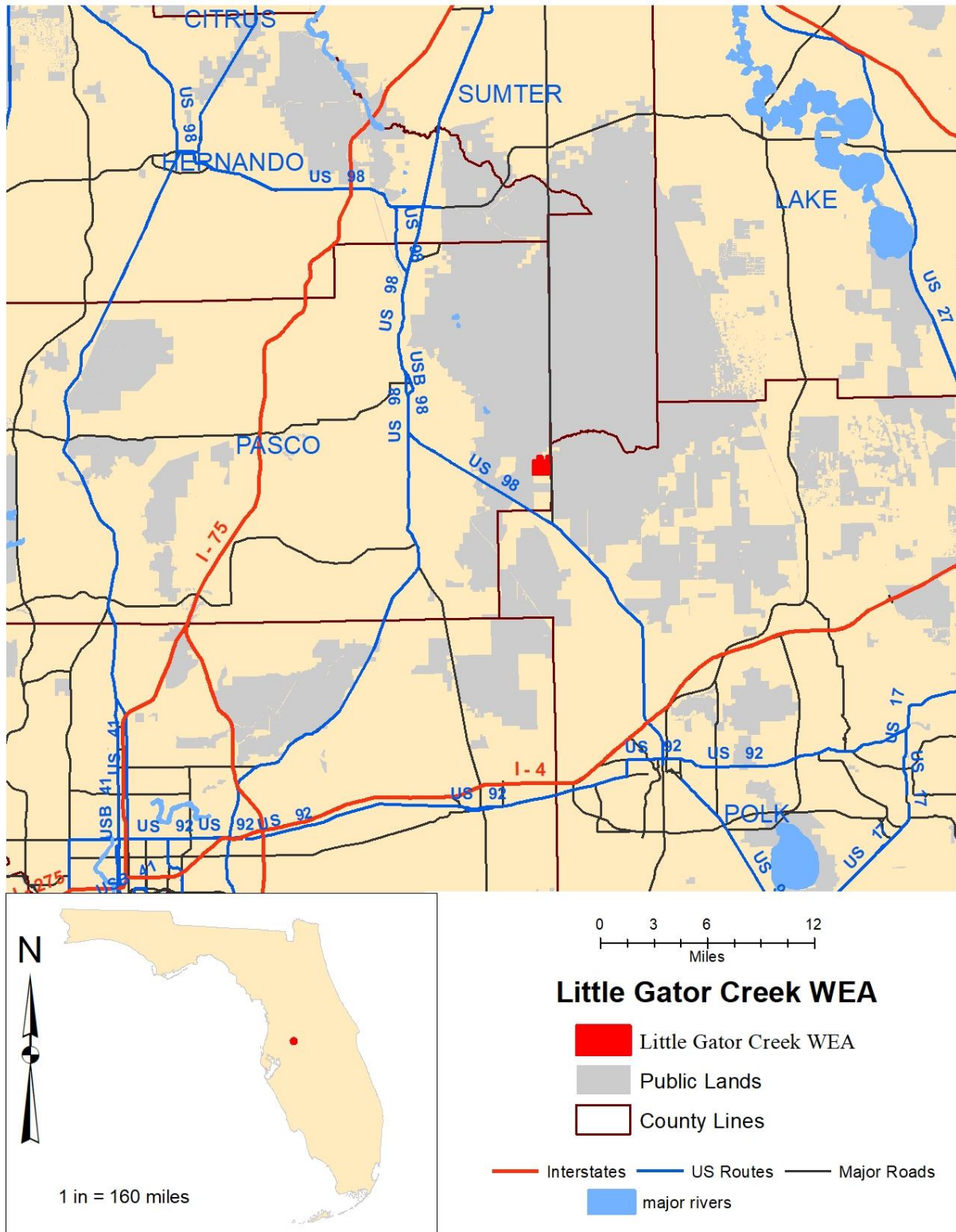
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Acronym List

CCSP	Colt Creek State Park
DFCs	Desired Future Conditions
FDEP	Florida Department of Environmental Protection
FNAI	Florida Natural Areas Inventory
FRI	Fire Return Interval
F.S.	Florida Statutes
FWC	Florida Fish and Wildlife Conservation Commission
GSWP	Green Swamp Wilderness Preserve
ISMP	Imperiled Species Management Plan
LGCWEA	Little Gator Creek Wildlife and Environmental Area
OBVM	Objective-Based Vegetation Management
SaMP	Survey and Monitoring Protocol (database)
SAP	Species Action Plan
SWFWMD	Southwest Florida Water Management District
WCPR	Wildlife Conservation Prioritization and Recovery (program)
WEA	Wildlife and Environmental Area
WHM	Wildlife and Habitat Management (section)
WMA	Wildlife Management Area

Locator Map



Section 1: Introduction

The Florida Fish and Wildlife Conservation Commission (FWC) manages the lands in the Wildlife Management Area (WMA) system using a science-informed, 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 are then managed in a way to maintain or enhance the communities' unique structure and function. Land management that has a positive influence on natural community conditions benefits the wildlife living in those habitats.

While natural community management provides benefits to a host of species reliant upon these natural communities, imperiled species sometimes require specific attention. Additionally, 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 restoration, enhancement, management, and repopulation of such habitats as a consideration in the management plan.

FWC's WCPR program created this Wildlife Management Strategy for Little Gator Creek Wildlife and Environmental Area (LGCWEA) to document the area's role in wildlife conservation, to ensure the management needs for wildlife on the WMA system are met, and to identify the appropriate species monitoring for the area. This Strategy provides WMA staff with information on management and monitoring actions that should be taken provided the necessary resources are available. By implementing the actions in this Strategy, FWC believes that management will promote the persistence of locally important species, aid in the recovery of imperiled species, and ensure staff are managing all wildlife species on the area for their long-term well-being and for the benefit of people.

Section 2: Historic, Current, and Planned Management

Florida purchased the 574-acre LGCWEA in Pasco County in 1982 using funds from the Conservation and Recreation Lands program. Purchased as a single-use property for the preservation of a wading bird colony, LGCWEA is located within a large complex of conservation lands, including several publicly owned conservation areas within the Green Swamp Florida Forever Project. Conservation areas surrounding LGCWEA include the Colt Creek State Park (CCSP) and the Green Swamp and Upper and Lower Hillsborough properties (Southwest Florida Water Management District; SWFWMD). CCSP is managed by the Florida Department of Environmental Protection (FDEP) and includes approximately 5,067 acres of predominantly pine flatwoods and cypress swamps. The Green Swamp Wilderness Preserve (GSWP) encompasses 105,961 acres of predominantly mesic flatwoods and basin swamp. The FWC has established WMAs on the SWFWMD properties for the purpose of managing hunting opportunities and providing technical assistance with wildlife and habitat management. These properties are referred to in this Strategy as the Green Swamp complex.

Prior to acquisition by the state, LGCWEA was used for cattle, timber, and turpentine operations, with some historic uses of prescribed fire for the purposes of range maintenance. With the limited use of prescribed burning or mechanical means to control vegetation, hardwood and palmetto density increased, as did pine basal area.

Staff resources on LGCWEA include 1 biologist and 1 technician; both positions also have responsibilities within the Green Swamp complex. Staff complete infrastructure maintenance and improvements, restore and maintain the mesic flatwoods, and continue to manage the wading bird colony. For the protection of the wood stork and other wading birds, public access to the LGCWEA is limited and only permitted from September 1st through January 31st or by special-use permit. More information about LGCWEA and FWC's management of the area is available in the [Little Gator Creek Wildlife and Environmental Area Management Plan](#).

2.1: Habitat Management

Mesic flatwoods (256 acres) are the only actively managed natural community on LGCWEA. The remaining acreage is comprised primarily of basin swamps, hydric hammocks, and dome swamps. Staff restore and maintain natural community structure and function within the mesic flatwoods using prescribed fire, mechanical treatments, chemical treatments, and timber harvesting. Additionally, staff manage and maintain water levels in the wading bird colony site. Water levels are adjusted using an underground well pump and water control structures. Staff will use mechanical treatments to remove excessive midstory hardwoods within the colony site to promote flyways for nesting wading birds such as the wood stork (*Mycteria americana*; federally-Threatened).

Prescribed fire is the most important tool for maintaining and restoring natural communities. Prescribed burns reduce fuel loading, enhance habitat for wildlife, control hardwoods, and promote fire-dependent species. Although mesic flatwoods should be burned at a ≤ 3 -year interval, most of the flatwoods are out of rotation, resulting in significant hardwood encroachment. Since the implementation of the [2012 Strategy](#), staff have averaged a fire return interval (FRI) of 3-5 years. Objective-Based Vegetation Management (OBVM) monitoring found that approximately 87% of the mesic flatwoods points are above the desired future conditions (DFCs) for average shrub stem density and 90% of the flatwoods are above the DFCs for average maximum shrub height. More information about the vegetation attributes at LGCWEA can be found in the [2018 OBVM Report](#).

Staff use a combination of mechanical treatments, herbicides, and fire to control excessive hardwoods and invasive non-native species. Invasive species known to occur on LGCWEA include cogongrass (*Imperata cylindrica*), old world climbing fern (*Lygodium microphyllum*), Caesar's weed (*Urena lobata*), and water lettuce (*Pistia stratiotes*). Since 2012, staff chemically treated 392 acres for invasive non-native plants and mechanically treated 237 acres. Some areas were treated multiple times to attain control.

Over the next 10 years, staff will continue to restore and enhance mesic flatwoods on LGCWEA. The actions outlined below will improve habitat for several locally important species that use mesic flatwoods, including the gopher tortoise (*Gopherus polyphemus*), eastern indigo snake (*Drymarchon couperi*; federally-Threatened), Bachman's sparrow (*Peucaea aestivalis*), and southern fox squirrel (*Sciurus niger niger*). All of these species are dependent on fire-maintained communities and therefore planned management should meet the needs of these species.

Wading Bird Colony Site Management

- Staff will maintain water levels in the wading bird colony during the nesting season.
- Staff will remove mid-story trees within the wood stork and wading bird colony site, when conditions allow and as necessary to maintain open flight paths.

Prescribed Fire

- Staff plan to attain a ≤ 3 -year fire regime on the mesic flatwoods by burning a minimum of 105 acres per year.
- Staff will prioritize growing season burns when possible.

Timber Management

- Staff will manage for mature, open pine forests to promote site-appropriate species and structure.

Mechanical Treatments

- Staff will utilize appropriate mechanical treatments to reduce height and coverage of woody species and saw palmetto (*Serenoa repens*), to favor herbaceous species. All mechanical treatments will be followed with a prescribed fire.
- Staff plan to continue mowing along firebreaks and roads to promote prescribed fire.

Chemical Treatments

- As needed, staff will use herbicide treatment to control invasive non-native vegetation (cogongrass, old world climbing fern, Caesar's weed, water lettuce, etc.).
- As needed, staff will use herbicide treatments to control encroaching hardwoods, and these treatments will be followed with prescribed fire.

2.2: Monitoring

Monitoring recommendations in the 2012 Strategy included: monitoring the wading bird colony, monitoring for Bachman's sparrows and brown-headed nuthatches, and opportunistically monitoring other species of interest. Since the 2012 Strategy, area staff documented wood storks nesting in 2013, 2015, and 2019. Staff last documented Bachman's sparrows and brown-headed nuthatches in 2014. In addition to monitoring actions outlined in Section 3 of the revised Strategy, staff monitor and maintain water levels in the wading bird colony site.

Species-Specific Monitoring

The [Area-Specific Species Assessments](#) contain more details about these monitoring actions. Species staff will continue to monitor are:

- Bachman's sparrow
- Brown-headed nuthatch
- Wading birds

Species Inventories

Conducting periodic species inventories on lands within the WMA system accomplishes several purposes: species inventories enable staff to provide an up-to-date species list for the area, enhance species lists for cryptic, fossorial, or nocturnal species, and may alert staff to potential species declines that warrant further investigation. Additionally, conducting a species inventory may be a more efficient way to document species occurrence than other methods, such as opportunistic monitoring.

During the 10-year lifetime of this Strategy, staff will conduct taxa inventory surveys as resources allow. Surveys on LGCWEA will include avian point-count surveys, drift fence survey for reptiles and amphibians, small mammal trapping, mesomammal camera trap survey, and an acoustic bat survey. For species identified as unlikely to be captured by current methods and other special cases, staff will consider modifications or enhancements to existing survey methodologies.

Document Occurrence

Staff document opportunistic observations of species as they are encountered. While staff only need enter opportunistic observations for common species on an occasional basis, there are other species for which staff should document every encounter. Collecting this information will help further our understanding of species' ranges statewide as well as the area's role in the conservation of these species. Staff record observations of these species when encountered using WHM's Opportunistic Observations for Wildlife protocol and enter the data into the Survey and Monitoring Protocol (SaMP) database so it will be available to other FWC sections and divisions, as well as cooperating agencies and organizations. It is not necessary for staff to fill out the opportunistic monitoring form if data on these species is collected as part of another monitoring effort (e.g., herp arrays).

Species identified for opportunistic monitoring are:

- Gopher frog (*Lithobates capito*)
- Eastern diamondback rattlesnake (*Crotalus adamanteus*)
- Eastern indigo snake (*Drymarchon couperi*)
- Florida kingsnake (*Lampropeltis floridana*)
- Gopher tortoise (*Gopherus polyphemus*)
- Florida sandhill crane (*Antigone canadensis pratensis*)
- Limpkin (*Aramus guarauna*; nests or dependent young)
- Southern bald eagle (*Haliaeetus leucocephalus*; nests only)
- Swallow-tailed kite (*Elanoides forficatus*; nests or nesting behavior only)
- Florida black bear (*Ursus americanus floridanus*)
- Southern fox squirrel (*Sciurus niger niger*)

Section 3: Species Assessments

Creating these assessments for locally important species on LGCWEA involved several steps. First, WCPR staff created a list of locally important species for the area ([Appendix 2](#)), starting with the listed and recently delisted species in the [Imperiled Species Management Plan](#) (ISMP) that are known to occur

or could potentially occur on the area. Staff then considered adding additional species to this list, including: species that were identified in the area's purpose for acquisition; species for which staff conduct significant monitoring or management for conservation, recreation, or public viewing purposes; candidates for federal listing; species recognized as habitat management indicators, keystone species, or umbrella species; and species for which occurrence data are lacking. Staff used references, in addition to the ISMP, which included statewide potential habitat models created by FWC's Fish and Wildlife Research Institute using Cooperative Land Cover V.3.2, agency documents such as the previous WCPR Strategy and the area's [Management Plan](#), and input from local staff and species experts.

After creating the species list, WCPR staff drafted assessments outlining proposed management actions for each species (except those for which documenting occurrence was the only action identified by experts). Staff conducted a workshop, held May 19-20th, 2021, at which area managers, species experts, and section leaders reviewed the draft species assessments and discussed LGCWEA's potential role in the conservation of locally important species. To determine management actions needed for each species, workshop participants considered: the species' status on the area; the current condition of the area's natural communities; the amount and spatial arrangement of the species' potential habitat on the area and adjacent lands; the species' response to management; and any local overriding factors (e.g., status of species in the region, local declines or extirpations). Additionally, staff considered management actions identified in FWC's [Species Action Plans](#) (SAPs), Regional Assessments, and the area's [Management Plan](#). Using the information from the workshop, staff drafted the Strategy and sent it to species experts for review. Following the review, the Strategy was finalized and implemented.

This section summarizes the assessment for each species discussed in the workshop and the actions agreed upon by workshop participants. Each assessment outlines the species' status on the area and the current condition of its habitat, planned habitat management actions, planned monitoring actions, and the area's role in conservation of the species. In addition, some assessments may identify species management recommendations, including actions such as translocation, restocking, or installing artificial cavities.

3.1: Gopher Tortoise

Current Condition: The gopher tortoise is a state-Threatened species and a candidate for federal listing, making it a high statewide priority. The gopher tortoise is a keystone species because several other species use their burrows, including the recently de-listed gopher frog and Florida mouse. Gopher tortoises are rarely observed on LGCWEA but are relatively common in parts of Green Swamp. They are occasionally seen at the adjacent CCSP. A gopher tortoise survey has never been conducted on LGCWEA.

Mesic flatwoods is the only potential habitat for gopher tortoises on the area, however it is not a priority natural community for gopher tortoises. LGCWEA's mesic flatwoods contain a rockier soil compared to mesic flatwoods in other parts of Florida, because the limestone is very close to the surface. This could make it more difficult for gopher tortoises to construct burrows and has resulted in the species being a moderate priority on the area. With more frequent fire, there is some potential to increase the quality of habitat for the gopher tortoise, but the depth to water table and rocky soil will always limit the area's potential.

Habitat Management: The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed grassland and xeric pine communities. It prefers xeric upland communities maintained with fire that helps perpetuate the groundcover on which it feeds. FWC's [Gopher Tortoise Management Plan](#) outlines actions to improve the status of the species. The plan recommends managing potential tortoise habitat to achieve the conditions identified for Florida Natural Areas Inventory (FNAI) reference sites, primarily with prescribed fire. Frequent prescribed fire and groundcover enhancement efforts will improve the quality and quantity of habitat for gopher tortoises. Species experts recommend a fire return interval for potential gopher tortoise habitat of ≤ 3 years. Additionally, the plan recommends actions to prevent direct mortality and collapsing burrows during management activities, such as flagging burrows in advance of mechanical treatments that use heavy equipment. When using contractors to conduct mechanical treatments, FWC ensures they take precautions for tortoises and tortoise burrows by marking burrows in advance of mechanical treatment.

Monitoring: LGCWEA staff will opportunistically monitor gopher tortoises. Gopher tortoises are rare at LGCWEA and should be documented whenever encountered.

Area's Role: The role of LGCWEA is to continue to provide habitat for gopher tortoises to support the recovery of the species. By implementing efforts to restore the appropriate structure and function of habitat to better suit the gopher tortoise, the LGCWEA will fulfill the area's role in the recovery of this species.

3.2: Bachman's Sparrow

Current Condition: Bachman's sparrows were last documented on LGCWEA in 2014, when the habitat was less degraded. The habitat at LGCWEA degraded as a result of decreased management. There is a breeding population in the adjacent Green Swamp. A 2008 avian survey by FNAI in Green Swamp documented a high number of Bachman's sparrows in Green Swamp East, and a lower number in Green Swamp West. LGCWEA alone does not contain enough potential habitat to sustain a viable population but is within a matrix of conservation lands that supports a population of Bachman's sparrows.

Bachman's sparrows are recognized as 'indicator species' whose continued presence indicates well-managed pine communities. Prescribed fire is needed to restore the mesic flatwoods on LGCWEA to a more open structure with a diverse groundcover.

The Bachman's sparrow is a habitat specialist that is closely associated with natural communities containing diverse herbaceous groundcover maintained by frequent fire. The occurrence of fire is critical to sustaining this species, because use of an area by Bachman's sparrows declines rapidly beginning about 18 months post-fire, and the species may abandon habitat if fire is excluded for >3 years. The species requires open spaces between grass clumps since it spends most of its time on the ground.

Habitat Management: Frequent use of prescribed fire improves habitat quality for Bachman's sparrows and is the primary land management tool recommended to restore and maintain habitat for the species. In many areas, the optimal fire return interval necessary to achieve desired vegetative parameters for Bachman's sparrow habitat is ≤ 3 years. Staff will follow mechanical treatments with prescribed fire to promote herbaceous groundcover. Since males use small shrubs as singing perches, it is important to retain some small patches of shrubs during management treatments.

Monitoring: Since the Bachman's sparrow can serve as a habitat indicator, continued monitoring can help gauge the effectiveness of restoration efforts. Trends in distribution and relative abundance are expected to increase over time as habitat improves. Staff will informally document this species using callbacks during the breeding season and report observations using the protocol for documenting incidental observations. This informal monitoring effort entails conducting point counts on the area at least once during the breeding season. When planning the monitoring, staff should ensure that monitoring station points are distributed in every management unit that contains potential habitat for Bachman's sparrows. Should staff document the species at 20% occupancy during exploratory surveys, staff will implement the standardized [callback monitoring protocol](#) for two years at a time and take off two years between survey intervals.

Area's Role: The role for LGCWEA is to promote suitable habitat for the Bachman's sparrow that will allow individuals using the area to function as part of a regional population. Staff will fulfill this role by restoring pine communities through prescribed fire, timber harvests to thin pines as needed, and mechanical and chemical treatments to reduce hardwood midstory.

3.3: Brown-Headed Nuthatch

Current Condition: Brown-headed nuthatches were last documented by staff on LGCWEA in 2014; however, there is one eBird record from 2021. A 2008 avian survey by FNAI in Green Swamp documented a high number of brown-headed nuthatches in Green Swamp East, and a lower number in Green Swamp West. CCSP, adjacent across Hwy 471, lists brown-headed nuthatches as a resident species on the area bird list.

Like Bachman's sparrows, brown-headed nuthatches are an 'indicator species' whose presence indicates well-managed pine communities. The brown-headed nuthatch prefers open stands of mature pine interspersed with snags in which the species excavates nesting cavities. Older pine forests (>35 years for longleaf and slash pine) and stands with basal area between 35–50 ft²/acre are preferred, although nuthatches can use stands with younger trees and higher basal areas. Brown-headed nuthatches are weak excavators and occasionally use cavities excavated by other species. This species prefers old decaying oaks with a diameter at breast height of <10 inches for cavity excavation but are known to nest in snags from other species, including pine. Snag protection during management activities can maintain a supply of snags for nuthatches to excavate.

Habitat Management: Brown-headed nuthatches prefer snag-rich communities maintained by prescribed fire on a ≤3-year rotation. Staff plan to restore pine communities through prescribed fire on a 1-3-year rotation, timber harvests to thin pines as needed, and mechanical and chemical actions to reduce excess hardwood midstory, while retaining some hardwoods to provide for future snags. Ongoing efforts to restore and maintain natural community structure and function will improve habitat suitability for the brown-headed nuthatch.

Monitoring: Since the brown-headed nuthatch can serve as a habitat indicator, continued monitoring can help gauge the effectiveness of restoration efforts. Trends in distribution and relative abundance are expected to increase over time as habitat improves. As with the Bachman's sparrow, staff will attempt to document this species using a callback during the breeding season and report observations using the protocol for documenting incidental observations. This informal monitoring effort entails conducting

point counts on the area at least once during the breeding season. When planning the monitoring, staff should ensure that monitoring station points are distributed in every management unit that contains potential habitat for brown-headed nuthatches. Should staff document the species at 20% occupancy during exploratory surveys, staff will implement the standardized callback monitoring protocol for two years at a time and take off two years between survey intervals.

Area's Role: The role of LGCWEA is to provide suitable habitat for brown-headed nuthatches to contribute to the conservation of the regional population. Staff will fulfill the role by continuing to restore the pine communities favored by this species.

3.4: Wading Birds

Current Condition: LGCWEA was purchased primarily to protect a wading bird colony. Wading birds have used this colony since the late 1970s, but it has not been active every year. The FWC has protected the colony from disturbance by limiting the public's access during the nesting season. Since the last Strategy, wood storks nested in 2013, 2015, and 2019. Staff have also documented great blue herons (*Ardea herodias*) and anhingas (*Anhinga anhinga*) nesting in the colony area. Several other wading bird species documented on LGCWEA include great egret (*A. alba*), snowy egret (*Egretta thula*), little blue heron (*E. caerulea*; state-Threatened), black-crowned night-heron (*Nycticorax nycticorax*), and white ibis (*Eudocimus albus*). While the state acquired LGCWEA to protect the known colony nesting site, the area has streams, swamps, and marshes that provide foraging opportunities. Outside of LGCWEA, the large amount of potential habitat in the surrounding landscape increases the potential for this group of species to persist regionally.

Habitat Management: Within the colony area, following advice from species experts, staff periodically treat encroaching hardwoods prior to the nesting season and maintain water levels before and during the nesting season. Water levels are maintained via two water control structures and a pump that runs during the dry season when necessary (January – May). Encroaching hardwoods can only be treated when water levels are low enough for staff to safely walk into the colony area and hand remove target trees. Workshop participants agreed to a “gap year” where the use of the pump is delayed or omitted to allow for dry enough conditions for staff to safely treat encroaching hardwoods. Staff will also explore the use of chemical and/or mechanical treatments to control invasive water lettuce within the colony site. In general, staff will plan management actions that could potentially have negative impacts on wading birds to occur during the non-breeding season.

Monitoring: LGCWEA staff annually conduct weekly ground-based checks of the colony site beginning January 15th until the end of April. If no wood storks or wading bird nesting activity is detected, staff can conduct the monitoring biweekly. Currently all data are logged in SaMP as opportunistic observations. FWC species experts are developing a statewide database for wading bird data according to Action 25 of the [SAP](#). Staff will develop a local monitoring protocol to monitor the status of the wading bird colony to support this action.

Area's Role: The role of LGCWEA is to promote the presence of breeding wading birds, including wood storks, on the area. Staff will achieve this role by maintaining suitable breeding habitat while protecting nesting sites. Current and planned actions include maintaining water levels during the breeding season, maintaining flight paths by removal of encroaching hardwoods, and potential exotic plant control, all of

which are compatible with recommended management practices in the SAP. While FWC can take steps to ensure the conditions in the basin swamp are suitable for use by breeding wading birds, there may be years when the colony is inactive due to factors outside the control of area staff. Regional water levels have a large influence on wading birds, and factors affecting the regional population may limit use of the LGCWEA colony.

Section 4: Coordination and Beyond the Boundaries Considerations

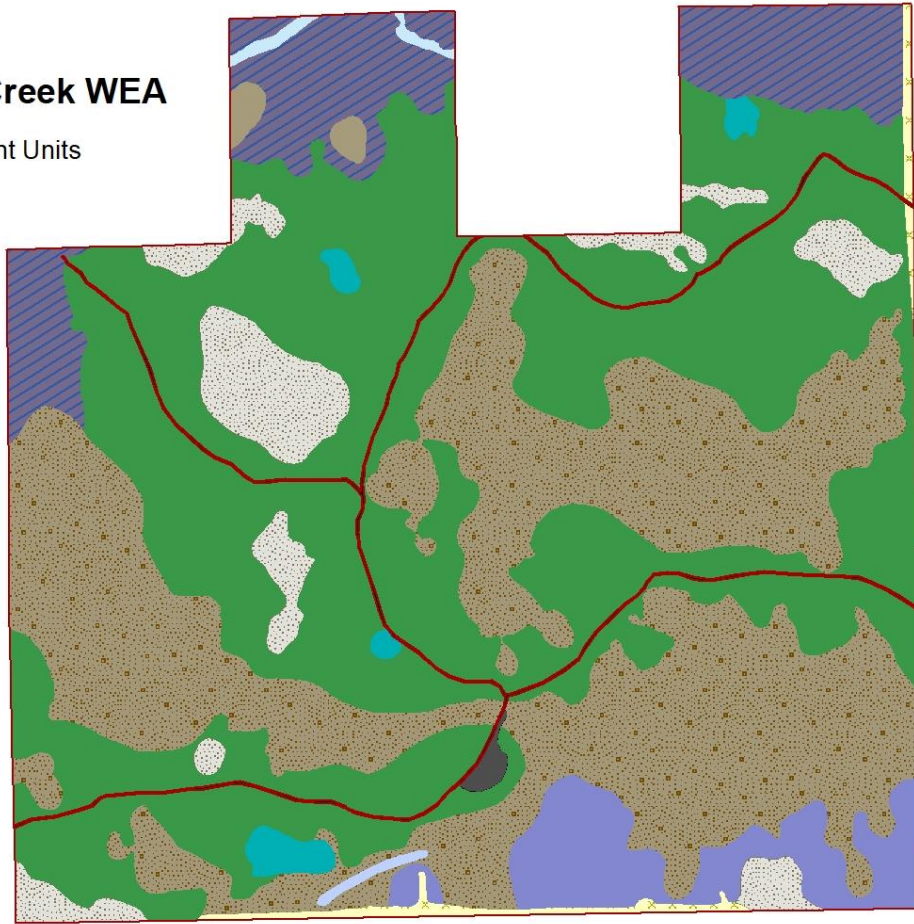
As previously stated, LGCWEA is located within the Green Swamp complex, bordered to the north and west by the western tract of the GSWP and to the east by CCSP. Both the SWFWMD and the FDEP have land management plans that guide management activities on their lands. These principles are complementary to the FWC's natural community management philosophy and are compatible with management of the species discussed in this strategy. The southern boundary of LGCWEA borders private lands currently managed primarily for grazing, although there is a large artificial pond leftover from a previous mining operation. These lands provide some value as habitat for many species and are a buffer against more developed or intensively managed lands.

Considering LGCWEA together with the current condition and management of neighboring lands provides an opportunity to further the conservation of many local and imperiled species. As noted in the assessments, several locally important species could potentially disperse between LGCWEA and neighboring conservation lands. Species that require large home ranges or depend on dispersal for maintaining a population are particularly affected by adjacent land management. The Florida black bear is an example of a species that is affected by conditions outside the LGCWEA boundary. While bears have not been documented on LGCWEA, they are known to occasionally pass through the Green Swamp complex. Bears rely on natural community management to provide the variety of forage types and cover they require. As such, the actions of adjacent landowners contribute to the persistence of bears and other wildlife species in the surrounding region. Local and regional WHM staff will continue coordinating with the Office of Conservation Planning Services to promote conservation practices across the boundary.

Appendix 1. LGCWEA 2018 natural community maps with GIS-based acreages.

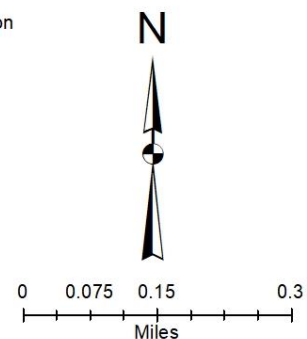
Little Gator Creek WEA

 Management Units



Current Natural Community	~ Acres
basin swamp	194.7
blackwater stream	1.4
canal/ditch	0.9
clearing/regeneration	5.5
depression marsh	5.0
developed	1.2
dome swamp	31.2
floodplain swamp	2.4
hydric hammock	46.9
mesic flatwoods	255.9
mesic hammock	25.0
road	4.5
~ Total Acres	574.6

Current Natural Communities



Appendix 2. LGCWEA Locally Important Species.

Species	Location in Document
Bachman's sparrow (<i>Peucaea aestivalis</i>)	Species Assessments
Brown-headed nuthatch (<i>Sitta pusilla</i>)	Species Assessments
Eastern diamondback rattlesnake (<i>Crotalus adamanteus</i>)	Document Occurrence
Eastern indigo snake (<i>Drymarchon couperi</i>)	Document Occurrence Assessments
Florida black bear (<i>Ursus americanus floridanus</i>)	Document Occurrence, Coordination Assessments
Florida kingsnake (<i>Lampropeltis floridana</i>)	Document Occurrence Assessments
Florida sandhill crane (<i>Antigone canadensis pratensis</i>)	Document Occurrence Assessments
Gopher frog (<i>Lithobates capito</i>)	Document Occurrence Assessments
Gopher tortoise (<i>Gopherus polyphemus</i>)	Species Assessments
Limpkin (<i>Aramus guarauna</i>)	Document Occurrence Assessments
Southern fox squirrel (<i>Sciurus niger niger</i>)	Species Assessments
Southern bald eagle (<i>Haliaeetus leucocephalus</i>)	Document Occurrence Assessments
Swallow-tailed kite (<i>Elanoides forficatus</i>)	Document Occurrence Assessments
Wading birds (multiple species)	Species Assessments

12.13 Recreation Master Plan

Recreation Plan for Little Gator Creek Wildlife and Environmental Area



Florida Fish and Wildlife Conservation Commission



Office of Public Access and
Wildlife Viewing Services

February 2014

**Little Gator Creek Wildlife Management Area
Recreation Plan**

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I. Introduction

Purpose of Plan/Planning Process

This Plan serves as a guide for providing recreational experiences focused on wildlife viewing and nature study on Little Gator Creek Wildlife and Environmental Area (Little Gator Creek). The Plan contains specific recommendations for recreational trail development and related enhancements such as trailheads and picnic facilities. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences.

Location

(Figure 1)

Little Gator Creek protects a total of 566 acres of swamps, bottomland forests, and pine flatwoods in the Southeast corner of Pasco County. State Road 471 parallels the eastern boundary of Little Gator Creek. Little Gator Creek supports a diversity of wildlife populations that provide opportunities for wildlife viewing.

II. Resource Inventory

Topography and Hydrology

Little Gator Creek is very flat, ranging between 85 and 92 feet above mean sea level (MSL). Most of the higher areas are on the western side of the WEA and associated with flatwoods and lower area grade into waterways, marshes, and swamps. The topography is suitable for easy to moderate hiking. The northern boundary of the property encompasses two short segments of the Withlacoochee River and Gator Creek flows through the northeast corner of the property. There are no paddling opportunities on the WEA but it may be possible to put in elsewhere and paddle adjacent to the area.

Natural Communities

(Figure 2)

Over half of the land cover on Little Gator Creek consists is mesic flatwoods. Another third of the area is basin swamp. Most of the remaining area is hydric hammock associated with the Withlacoochee River and Gator Creek and dome (cypress) swamps.

FNAI Natural Community	Acres*	Percent of Area
Mesic flatwoods	291.0	50.7%
Basin swamp	189.6	33.0%
Hydric hammock	47.2	8.2%
Dome swamp	30.8	5.4%
Clearing/regeneration	5.8	1.0%
Depression marsh	5.1	0.9%
Floodplain swamp	2.4	0.4%
Blackwater stream	1.4	0.2%
Canal/ditch	0.9	0.2%

Sensitive Areas

The groundcover throughout the area is sensitive to disturbance such as trampling by hikers. Soil disturbance can introduce weedy or invasive species. However, these issues are more of a concern with widespread soil disturbance. Trails will mostly be routed on existing roads and firebreaks within the WEA.

Wildlife and Plant Species

Little Gator Creek was acquired for the protection and management of the endangered wood stork and associated species. The area houses one of the largest wood stork and other wading bird nesting sites outside of south Florida. Wildlife viewing can be good at almost any spot on Little Gator Creek. The flatwoods provide open views where visitors can see white-tailed deer, pine warblers, Bachman's sparrow and common yellowthroats. Neotropical migrants such as blue grosbeak and a variety of warblers offer seasonal variety. There is not currently a bird list for Little Gator Creek but the Florida Breeding Bird Atlas lists 115 species with confirmed breeding in Pasco County. Other species of particular interest to visitors include wood storks, Sherman's fox squirrels, river otters, gopher tortoises and box turtles.

Over 100 species of butterflies have been identified in Pasco County and many may occur on the area including baracoa skipper, black swallowtail, cloudless sulphur, cofaqui giant-skipper, common sootywing, Eastern tiger swallowtail, Henry's elfin, zabulon skipper, and zebra heliconian.

Cultural Resources

The Florida Master Site File indicates seven cultural sites are located on Little Gator Creek. These sites include artifact scatters, lithic scatter sites, and isolated finds ranging from Archaic (8,500 BC to 1000 BC) to Deptford (700 BC to 300 BC).

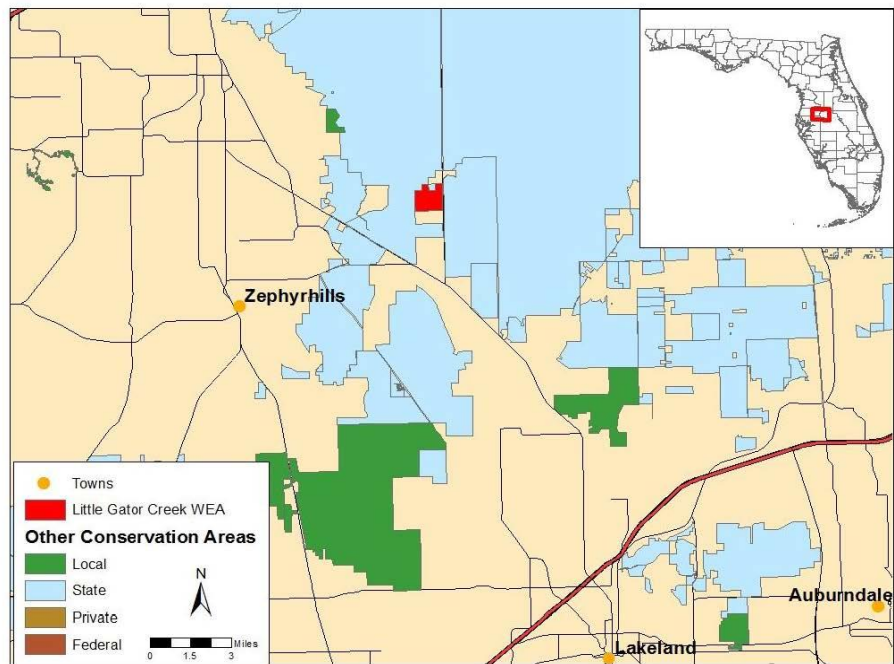


Figure 1: Little Gator Creek Location Map

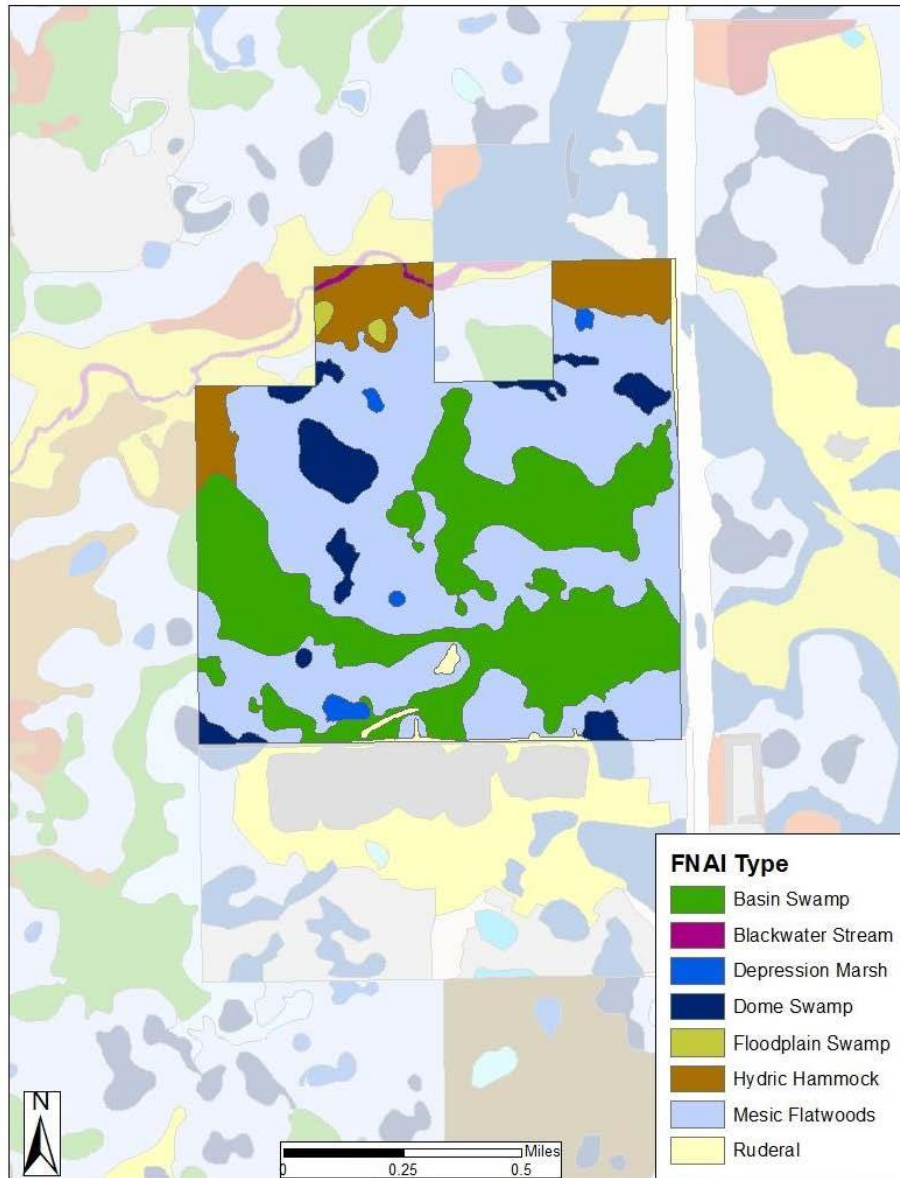


Figure 2: Little Gator Creek Natural Communities

Scenic Resources

Little Gator Creek offers a variety of scenic vistas mesic flatwoods, dome swamps, and the Withlacoochee River and Gator Creek. The hydric hammocks associated with the waterways are particularly scenic. They feature a sparse understory, abundant shade, and flowing water.

Resource Management

The FWC's resource management goals for the area include ensuring the preservation of a significant wading bird rookery. 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.

III. Recreation Planning Context

As the regional population increases, the public use pressures on the WEA will likely increase. Recreational user groups can be expected to urge connections to trails on lands outside the WEA. Little Gator Creek is within 15 miles of several other public recreation areas that offer a variety of recreation opportunities:

Area	Hiking	Biking	Camping	Paddling	Fishing	Horseback Riding	Hunting	Wildlife Viewing
Colt Creek State Park	✓	✓	✓	✓	✓	✓	✗	✓
Green Swamp	✓	✓	✓	✓	✓	✓	✓	✓
Withlacoochee State Forest	✓	✓	✓	✓	✓	✓	✓	✓
Upper Hillsborough Preserve	✓	✓	✓	✗	✓	✓	✓	✓
Hillsborough River State Park	✓	✓	✓	✓	✓	✗	✗	✓
Blackwater Creek Preserve	✓	✗	✗	✗	✗	✗	✗	✓
Gator Creek Reserve	✓	✓	✗	✗	✗	✗	✗	✓
Hilochee WMA	✓	✓	✗	✓	✓	✓	✓	✓
Teneroc Fish Management Area (FMA)	✓	✗	✗	✓	✓	✓	✗	✓
Lower Green Swamp Preserve	✓	✗	✗	✗	✗	✓	✗	✓

✓=Activity available

✗=Activity not available

IV. Recreation Assessment

Existing Recreational Use and Facilities

The purpose of this section is to identify and describe the existing recreational uses and facilities on Little Gator Creek and note their status and condition (Figure 3). This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Little Gator Creek offers opportunities for a variety of high quality, wildlife-focused recreation activities. Based on 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.

- Ecotourism (conditional)
- Environmental Education (conditional)
- Wildlife viewing (conditional)
- Hiking (conditional)
- Geocaching (conditional)

Visitation to Little Gator Creek is not being monitored at this time, and no traffic or infrared counters are installed.

Visitor Contact Points and Roads/Vehicle Access - The designated entrance for Little Gator Creek is located off of State Road 471. Currently there are no approach signs along SR 471. Currently there are no designated parking areas, use areas, kiosks or interpretive signage.

Motor vehicles are prohibited within the WEA. The 5.6 miles of roads that are within the area are mostly limerock two-tracks or firebreaks.

There is currently no wayfinding signage on interior roads and the roads are not named.

Hunting - Hunting is not an approved activity on Little Gator Creek at this time.

Fishing/Boating/Paddling - There are no fishing, paddling or boating opportunities on Little Gator Creek and these are not approved uses.

Trail Use – Currently, public access to Little Gator Creek is by special-use permit only. Hiking will be permitted on proposed designated trails.

Trail infrastructure - One designated trail is proposed for Little Gator Creek. The proposed trail will lead users from the parking area along a limerock road for approximately 0.7 miles to an approximately 1.9 mile loop. The loop travels through cypress flatwoods with views of cypress swamps and floodplain forest. The trail will total approximately 2.6 miles.

Wildlife Viewing and Nature Study - Wildlife viewing opportunities are available throughout Little Gator Creek and the area affords a wide variety of native wildlife species, both resident and seasonally migratory, that are available for visitors' enjoyment for observation and photography. The quality of habitat found on Little Gator Creek attracts a suite of species typical of these natural communities including various birds, mammalian, reptile and amphibian wildlife.

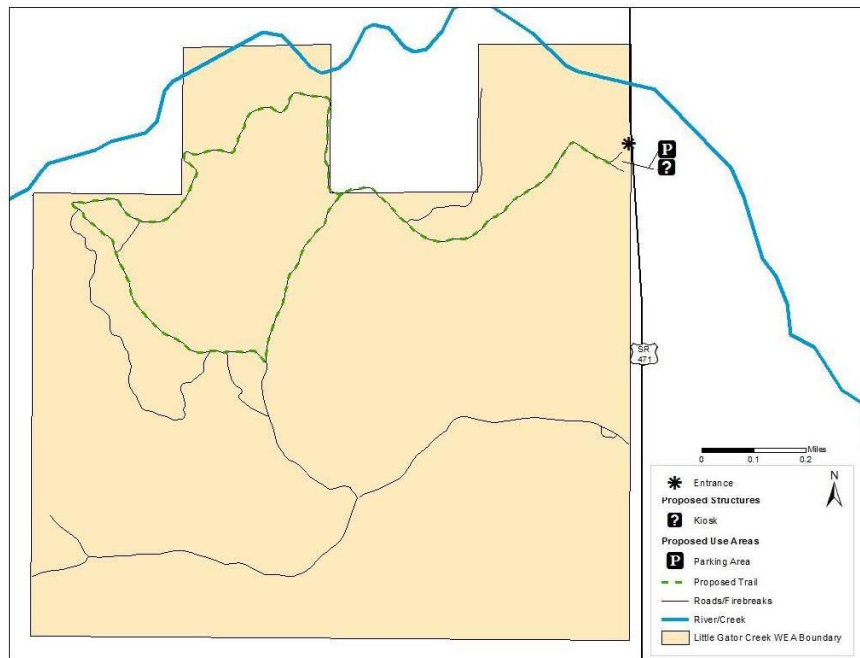
Picnicking - There are currently no picnic facilities on the WEA. A picnic table will be installed at the proposed trailhead and will be considered along the proposed hiking trail.

Camping - Camping is not an approved use on Little Gator Creek. Camping is available at Colt Creek State Park which is located across CR788 from Little Gator Creek

Geocaching - Geocaching is allowed on the area. There are no permitted geocaches at Little Gator Creek at this time. 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 no regular events at Little Gator Creek.

Staff/Volunteers - A Fisheries and Wildlife Biological Scientist III and a Fish and Wildlife Technician shared between Green Swamp WMA and Little Gator Creek.



Summary of Proposed Improvements

(Figure 3)

- An approximately 2.6 mile marked trail along existing dirt roads and firebreaks
- One kiosk at entrance
- One parking area at entrance

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 Little Gator Creek is 20 people per day. If all planned facilities are constructed, this capacity increases to 40 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 Little Gator Creek. 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. Tasks 2014-2015

- Develop up to 3 miles of hiking trail on existing roads and firebreaks
- Construct a parking/day use area/trailhead
- Construct one kiosk at the trailhead

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 Little Gator Creek 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.

References

A Management Plan for Little Gator Creek Wildlife and Environmental Area 2014 – 2024 (Draft). Florida Fish and Wildlife Conservation Commission (2014).

Office of Economic and Demographic Research. <http://www.edr.state.fl.us>. 2013

Florida Breeding Bird Atlas. Florida Fish and Wildlife Conservation Commission (2014).

Florida Statewide Comprehensive Outdoor Recreation Plan. Florida Department of Environmental Protection (2008).

National Park Service. The Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers (1997).

Pasco County Comprehensive Plan. Pasco County (2001)

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
3 ²	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.
3 ²	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
3 ²	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 Assessment

TIMBER ASSESSMENT

LITTLE GATOR CREEK

WILDLIFE & ENVIRONMENTAL AREA

PREPARED BY

BUTCH MALLETT

SENIOR FORESTER, OTHER PUBLIC LANDS REGION 4

FLORIDA FOREST SERVICE

MARCH 2012

PURPOSE

This document is intended to fulfill the timber assessment requirement for the Little Gator Creek Wildlife and Environmental Area (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

Twentieth century uses of this tract include cattle grazing and occasional timber harvests. A wildfire in the 1980's severely reduced the stocking of pines in some areas. As a result, there were not enough seed trees left to regenerate the stands.

This property was acquired from Mr. C. M. Overstreet in 1982 under the Conservation and Recreation Lands Program (CARL). The primary reason for the purchase was to protect an active wading bird rookery.

In addition to protecting the rookery, FWC personnel instituted a program to restore the upland portions of the tract to a pre-Columbian condition. Management treatments included a heavy thinning of slash pine trees that had invaded the uplands due to fire exclusion. This timber sale generated almost \$ 40,000 for agency management trust funds. Also removed were hardwoods that had encroached on these upland sites. Periodic prescribed fire has been used to reduce fuel loads and stimulate native grass restoration.

GOALS AND OBJECTIVES

The primary management goal for the Little Gator Creek WEA is to preserve the wading bird rookery and conserve fish and wildlife resources.

TIMBER MANAGEMENT

General Management Guidelines:

The following describes basic southern pine culture and timber management guidelines used to maximize stand health and growth. Basal Area per acre (BA) is the primary measurement tool in providing management recommendations for thinning of pine stands. Basal area is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (Diameter of trees measured at this height is referred to as its diameter at breast height or DBH). BA can be used to define stocking rates in determining the timing and rate of a thinning treatment. Fully-stocked pine stands have enough trees per acre of a size or sizes large enough to utilize growing space without causing over-crowding. Over-crowding can lead to an increased risk of insect and disease mortality and can shade out desirable ground cover. Longleaf and slash pine stands with 70 to 100 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than larger diameter trees to equal one square foot of BA. For example: It takes 357 evenly spaced six-inch DBH trees to equal 70 sq. ft. of BA, whereas only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. of BA.

Basal area can be roughly correlated to crown density, and therefore to needle-cast. The annual shedding of pine needles is an important component of fine fuels in fire adapted ecosystems. Generally 40 to 60 sq. ft. of BA should provide enough needle-cast to carry prescribed fire and adequate sunlight for maintenance of natural grass communities. Higher densities tend to shade out ground cover grasses. Therefore, timber thinning operations can be used to balance the number of pines for the most ecosystem benefit.

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

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

Thinning type harvests in pines help maintain the health and vigor of the stands by removing diseased, severely suppressed, and deformed trees. Creating open spaces in the canopy layer allows residual trees crowns to expand, and eventually provide sufficient seed trees for natural generation. Properly applied thinning is also useful in enhancing the development of understory and groundcover communities which can provide a diversity of habitat for a wide variety of wildlife species. Stand BA's should be reduced to approximately 40-50 sq. ft. per acre (dependent on BA before treatment) during initial treatment. As residual trees continue to grow, BA will gradually increase. Stands should be thinned again whenever BA approaches 80 to 100 sq. ft per acre.

Prescribed Burning:

Prescribed fire is an important management tool in pine ecosystems. It reduces fuel loads, thereby reducing the frequency and severity of wildfires, reduces competition and helps maintain desirable ground cover conditions. Fire return intervals of 2-3 years are needed to optimize these benefits.

Slash pine seedlings are more susceptible to mortality from fire than longleaf pine seedlings. Therefore, burning this often tends to favor more fire tolerant longleaf pine over the more prolific seeder, slash pine. In flatwoods ecosystems there will usually be a mix of the two species. But, where frequent, periodic fire is maintained, longleaf will be the dominant species.

EXISTING TIMBER RESOURCES

Present Condition:

A timber harvest in 2009 removed most of the slash pines that had seeded into the upland since the last tree harvest. As a result, the overstory on the 315 acres of uplands consists primarily of scattered, mature longleaf pine and occasional slash pines. Some areas have a sufficient number of mature longleaf pines (>20 sq. ft. BA) to insure future regeneration of the species. There are approximately 50 acres with insufficient native seed source (<20 sq. ft. BA) to regenerate future longleaf pine stands.

Recommendations:

Initiate a longleaf pine reforestation program in areas with less than 20 sq. ft. BA of healthy, mature trees. (See attached map for possible planting areas.)

Saw palmettos are the biggest impediment to successfully reestablishing longleaf pines on these sites. Pines seedlings planted too close to palmettos will either not grow due to shading or be killed by the intense heat the burning fronds generate during prescribed burns. Roller-drum chopping is usually used to reduce the palmetto dominance and facilitate planting with machinery. However, this method is impractical in such rocky terrain. Burning and hand planting will likely be the only replanting option.

Prepare to plant the longleaf seedlings by first burning the area to be planted. Try to select areas that have not been burned within the last two years. It takes approximately 3 years for enough dead fronds to accumulate at the base of a saw palmetto to insure a good prescribed burn. Burns can be accomplished up to a couple of months prior to planting. Spring to early summer fires yield the best hardwood control. In addition, summer (rainy season) planting of containerized seedlings can increase survival rates.

Normally, 600 or more longleaf seedlings would be planted per acre. However, in most areas of LGCWEA the palmettos are too thick to allow that many to be planted evenly. Instead, plant seedlings in openings between saw palmetto clumps. In small openings (5 to 6' across?) plant 2

seedlings at least 5' apart and at least 2-3' from the nearest palmetto frond if possible. Openings greater than 6' should have as many seedlings planted as will fit while maintaining about 5' spacing. These spacing recommendations assume a 50% survival rate and should result in a very natural looking stand of young longleaf.

Seed source for reforestation can be critical. If possible, it is recommended that seedlings be derived from trees native to a 50 mile radius of LGCWEA. The Florida Forest Service's Andrews Nursery has seedlings available from nearby Withlacoochee State Forest seed. NOTE: Contact the nursery well in advance (September for summer or March for winter planting) of expected planting dates to insure seedling availability.

It is a waste of money and resources to plant seedlings under existing longleaf pine trees. Only plant seedlings outside of the drip-line of existing pine trees.

When hand planting of containerized seedlings (tubelings), it is recommended to use a round dibble the same size as the seedling root mass. Also, have the planter scrape all loose soil and debris away from the planting spot prior to insertion of the dibble. This helps insure the seedling can be inserted fully into the hole and increases the chances of survival.

Once a majority of the seedlings have entered the "grass stage" of longleaf development (usually 18 to 30 months after planting and preferably in the winter), burn the stand again. This will help reduce fuel loads for subsequent fires, control hardwood competition, and stimulate height growth in the longleaf seedlings. Return to a normal periodic burn rotation of hopefully 2-4 years.

Soil survey maps indicate a site index of about 80 for slash pine (although not listed for Paisley fine sands, longleaf pine should be about 70). Total volume per acre for a fully stocked stand would be about 50 tons per acre at age 20. The planting method described will not result in a fully stocked stand in the near future. Therefore, the next commercial thinning on LGCWEA will probably not be needed until 20 to 30 years after reforestation. Timing of this harvest will depend on seedling survival and growth rates, but generally be needed once BA reaches 70 to 80 sq. ft. per acre.

SUMMARY

Environmentally responsible timber management on Little Gator Creek WEA is compatible with the primary goals for which the property was acquired. However, since the pine stands are already very thin, it may be decades before any additional thinning will be necessary or any revenue can be generated. In fact, a program of artificial reforestation should be implemented to accelerate longleaf pine reintroduction in areas where there are insufficient seed trees.

Reestablishment of a longleaf pine overstory along with careful use of prescribed fire summary will enhance uplands restoration efforts on this property. Healthy uplands also help provide a buffer and retain rainwater retention for wetlands such as the wading bird rookery.

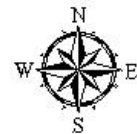


Legend

-  POTENTIAL PLANTING AREAS
-  WEA BOUNDARY



Created By: Butch Mallett
Senior Forester, OPL Reg 4
March 8, 2012



0 750 1,500 3,000
Feet

DISCLAIMER

This map is the product of the Florida Division of Forestry. No warranties are provided for data therein, its use, or its interpretation.

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 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

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
- 740 EVALUATIONS AND ASSESSMENTS

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

12.17 Operation Plan Fiscal Year 2020-2021

Activity	Description	Man Days	Salary	Fuel Cost	Other	Total
100	Administration	3	\$653.94	\$25.50	\$1,000.00	\$1,679.44
200	Resource Management	1	\$217.98	\$8.50	\$3,000.00	\$3,226.48
				\$195.5		
204	Resource planning	23	\$5,013.54	0	\$0.00	\$5,209.04
	Prescribed burning - growing					
206	season	4	\$871.92	\$34.00	\$1,500.00	\$2,405.92
					\$49,500.0	
208	Firebreaks	5	\$1,089.90	\$42.50	0	\$50,632.40
212	Exotic plant control (chemical)	2	\$435.96	\$17.00	\$0.00	\$452.96
					\$22,000.0	
218	Water level management	3	\$653.94	\$25.50	0	\$22,679.44
					\$12,214.0	
235	Vegetation and plant surveys	2	\$435.96	\$17.00	0	\$12,666.96
250	Monitoring and assessments	6	\$1,307.88	\$51.00	\$0.00	\$1,358.88
	Native vegetation management					
289	(mechanical)	3	\$653.94	\$25.50	\$0.00	\$679.44
	Native vegetation management					
290	(chemical)	2	\$435.96	\$17.00	\$2,500.00	\$2,952.96
920	FEM -- buildings/structures	3	\$653.94	\$25.50	\$1,000.00	\$1,679.44
923	FEM -- vehicles/equipment	4	\$871.92	\$34.00	\$3,000.00	\$3,905.92
926	FEM -- roads/bridges	5	\$1,089.90	\$42.50	\$0.00	\$1,132.40
928	FEM -- fences	2	\$435.96	\$17.00	\$0.00	\$452.96
			\$14,822.6	\$578.0	\$95,714.0	\$111,114.6
Total:		68	4	0	0	4

12.18 Arthropod Control Plan



Nicole 'Nikki' Fried
COMMISSIONER

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

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7995

For use in documenting an Arthropod Control Plan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land: Little Gator Creek Wildlife and Environmental Area

Is Control Work Necessary: ☐ Yes ☒ No

Location: Pasco County

Land Management Agency: Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ☐ Yes ☒ No

If "Yes", please explain:

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

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

If "Other", please explain: N/A

Arthropod Species for Which Control is Proposed:

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ☐ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☐ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☐ Bti

☐ Bs

☐ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide: N/A

Chemical or Common name: N/A

☐ Ground

☐ Aerial

Rate of application:

Method of application:

Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒ No

Ground adulticiding ☐ Yes ☒ No

Please specify the following for each adulticide:

Chemical or common name:

Rate of application:

Method of application:

Proposed Modifications for Public Health Emergency Control: In the event of a declared public health emergency, control may be performed by the arthropod control agency, as part of a larger treatment plan to safeguard public health. Land managers of the area will be notified prior to treatment.

Proposed Notification Procedure for Control Activities:

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☐ Yes ☐ No

Records Location:

How long are records maintained:

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?

None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:

None

Include proposed operational schedules for water fluctuations:

None

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

None

Proposed Modification of Aquatic Vegetation:

None

Land Manager Comments:

Arthropod Control Agency Comments:

James C Conner
III

Digitally signed by James C
Conner III
Date: 2022.05.24 09:22:24 -04'00'

Signature of Lands Manager or Representative Date



5/20/2022

Signature of Mosquito Control Director / Manager Date

12.19 Pasco County Letter of Compliance with Local Government Comprehensive



(06/20/2022) Sent via email

Hannah Klein
Land Conservation Planner
Florida Fish and Wildlife Conservation Commission
620 S. Meridian Street
Tallahassee, Florida 32399
Hannah.Klein@myFWC.com

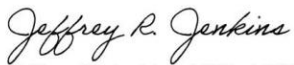
RE: Little Gator Creek Wildlife and Environmental Area (LGCWEA) Management Plan

Dear Ms. Klein,

Pasco County is pleased to provide a review of the Florida Fish and Wildlife Conservation Commission's Little Gator Creek Wildlife and Environmental Area (LGCWEA) Management Plan. Planning staff has reviewed the LGCWEA Management Plan and finds that the plan is in compliance with Pasco County's 2025 Comprehensive Plan.

Thank you for the opportunity to review the proposed management plan. If you need anything further, please contact me at jjenkins@pascocountyfl.net or 727-847-8140 x 7889.

Sincerely,


Jeffrey R. Jenkins, MPA, AICP
Long Range Planning Executive Planner

PLANNING AND DEVELOPMENT – Long Range Planning

727.847.8140 | West Pasco Government Center | 8731 Citizens Drive, Suite 360 | New Port Richey, FL 34654