



A Management Plan for the Bell Ridge Longleaf Wildlife and Environmental Area 2020 - 2030

Gilchrist County, Florida



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



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and Wildlife
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MEMORANDUM

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

FROM: Thomas Houston
Land Conservation and Planning
Division of Habitat and Species Conservation
Florida Fish and Wildlife Conservation Commission

SUBJECT: Bell Ridge Longleaf Wildlife and Environmental Area
Ten Year Management Plan Update
Acquisition and Restoration Council (ARC) Public Hearing

DATE:

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

TH/LJ

Enclosures

cc: Keith Singleton

**A Management Plan
for the
Bell Ridge Longleaf Wildlife and Environmental Area**

Gilchrist County, Florida

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



May 2020

Approved 
Kipp Frohlich, Director
Division of Habitat and Species Conservation

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

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

Common Name of Property: Bell Ridge Longleaf Wildlife and Environmental Area

Location: Gilchrist County, Florida

Acreage Total: 720 acres

Acreage Breakdown:

<u>Land Cover Classification</u>	<u>Acres</u>	<u>Percent of Total Area</u>
Sandhill	687.7	95.5%
Roads	32.3	4.5%

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

Lease/Management Agreement No.: 4595 (Appendix 12.1)

Use: Single _____

Multiple X

Management Responsibilities:

Agency FWC

Responsibilities

LEAD, SUBLESSEE (Wildlife and

Environmental Area, resource protection, law enforcement)

Designated Land Use: Wildlife and Environmental Area

Sublease (s): None

Encumbrances: None

Type Acquisition: Fish and Wildlife Habitat Program

Unique Features: Natural: Sandhill natural community

Archaeological/Historical: None documented within BRLWEA.

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

Acquisition Needs/Acreage: 3,384 acres remaining in the Bell Ridge Sandhills Unit of the Longleaf Pine Ecosystem Florida Forever Project (Figure 4); 2,654 acres remaining on FWC's Inholdings and Additions list (Appendix 12.12).

Surplus Lands/Acreage: None

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

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

ARC Approval Date _____ BTIITF Approval Date: _____

Comments: _____

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	3
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	7
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	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	5, 6, 58
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	38
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	Appendix 12.12
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	11
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)	3, 35-37
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	7-9

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	36-37
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	35-37
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	35-37
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	3, 7, 61
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	57
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	61

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)	36-38
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	36-38
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.17
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	12, 32, 65
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	36
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	56, Appendix 12.6
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	37

*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	13, 75
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)	Appendix 12.3
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)	11, Appendix 12.4
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.4
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. <i>Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.</i>	253.034(5) & 259.032(10)	Appendix 12.3, Appendix 12.4
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	45
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	N/A
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	N/A

Section D: Natural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. <i>Use brief descriptions and include USDA maps when available.</i>	18-2.021	13-15, Appendix 12.5
33	Insert FNAI based natural community maps when available.	ARC consensus	23
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	16-26

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	12-33
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	33
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	33
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	26-31
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	28, 29
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	16-25, 29, 31, Appendix 12.7
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)	45-65
42	Habitat Restoration and Improvement	259.032(10) & 253.034(5)	
42-A.	Describe management needs, problems and a desired outcome and the key management activities necessary to achieve the enhancement, protection and preservation of restored habitats and enhance the natural, historical and archeological resources and their values for which the lands were acquired.	↓	45-65
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.		66-70
42-C.	The associated measurable objectives to achieve the goals.		66-70
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>		45-70, Appendix 12.9
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.		72-74, Appendix 12.15
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)	16-25
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).		56
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		68

44-C.	Measurable objectives (see requirement for #42-C).		68
44-D.	Related activities (see requirement for #42-D).		56
44-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15
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).	↓	50-52
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		66-67
45-C.	Measurable objectives (see requirement for #42-C).		66-67
45-D.	Related activities (see requirement for #42-D).		50-52
45-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15
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)	22, 52, 53
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 12.16
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).	↓	52, 53
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67
48-C.	Measurable objectives (see requirement for #42-C).		67
48-D.	Related activities (see requirement for #42-D).		52, 53
48-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15

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	32-33

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	32-34
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	32-34
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034(5)	32-34
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).	↓	56
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		68
53-C.	Measurable objectives (see requirement for #42-C).		68
53-D.	Related activities (see requirement for #42-D).		56
53-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15

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	33
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	33
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	57
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).	↓	57
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		68
57-C.	Measurable objectives (see requirement for #42-C).		68
57-D.	Related activities (see requirement for #42-D).		57
57-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15

**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. <i>See footnote.</i>	253.034(5)	57-58
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).	↓	57-58
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		69
59-C.	Measurable objectives (see requirement for #42-C).		69
59-D.	Related activities (see requirement for #42-D).		57-58
59-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	57-58
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).	↓	53-56
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67
61-C.	Measurable objectives (see requirement for #42-C).		67
61-D.	Related activities (see requirement for #42-D).		53-56
61-E.	Budgets (see requirement for #42-E).		72-74, Appendix 12.15

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-x
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	li
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	38-44
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	66-70

66	Summary budget for the scheduled land management activities of the LMP including any potential fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitat, which fees shall be used to restore, manage, enhance, repopulate, or acquire imperiled species habitat for lands that have or are anticipated to have imperiled species or such habitat onsite. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3) which are resource management, administration, support, capital improvements, recreation visitor services, law enforcement activities.	253.034(5)	72-74, Appendix 12.15
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)	72-74, Appendix 12.15
68	A statement of gross income generated, net income and expenses.	18-2.018	72-74, Appendix 12.15

*** = 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

ARC	Acquisition and Restoration Council
ADA	Americans with Disabilities Act
BRLWEA	Bell Ridge Longleaf Wildlife and Environmental Area
BEBR	Bureau of Economic and Business Research
CAS	Conservation Action Strategy
CARL	Conservation and Recreation Lands Program
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DFC	Desired Future Condition
DSL	Division of State Lands
FWHAP	Fish and Wildlife Habitat Acquisition Program
FWRI	Fish and Wildlife Research Institute
FAC	Florida Administrative Code
FLEPPC	Florida Exotic Pest Plant Council
FWC	Florida Fish and Wildlife Conservation Commission
FFS	Florida Forest Service
GFC	Florida Game and Freshwater Fish Commission
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
GIS	Geographic Information Systems
GPS	Geographic Positioning System
GRASI	Gulf Regional Airspace Initiative
IWHRS	Integrated Wildlife Habitat Ranking System
IPCC	Intergovernmental Panel on Climate Change
IMPP	Internal Management Policies and Procedures
LMR	Land Management Review
LAP	Landowner Assistance Program
MAG	Management Advisory Group
MSL	Mean Sea Level
NWR	National Wildlife Refuge
NRCS	Natural Resources Conservation Service
OBVM	Objective-Based Vegetation Management
ORV	Off-Road Vehicle
OCPB	Optimal Conservation Planning Boundary
ORB	Optimal Resource Boundary
OFW	Outstanding Florida Waters
PASO	Public Access Services Office
SRWMD	Suwannee River Water Management District
USFWS	United States Fish and Wildlife Service
WEA	Wildlife and Environmental Area
WCPR	Wildlife Conservation Prioritization and Recovery
WMA	Wildlife Management Area

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1 Introduction and General Information

Longleaf pine sandhills are one of Florida's most distinctive and endangered natural communities. This forest type has significantly declined in the last few decades due to an increase in land conversion, urbanization, and disruption of pre-historical and historical fire regimes. The Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) is one of the highest quality longleaf pine sandhill forest tracts in the state of Florida.

Perched among the ancient sandhills of North Central Florida in rural Gilchrist County, the BRLWEA is an intact sandhill natural community consisting of second-growth longleaf pine, turkey oak, and wiregrass. Open canopy and understory conditions are present throughout most of the site, and a diverse herbaceous ground-cover exists in nearly all areas.

The BRLWEA is a benchmark model of a longleaf-pine sandhill forest ecosystem. Florida Natural Areas Inventory (FNAI) has designated a portion of the BRLWEA as a reference area for sandhill natural communities. The BRLWEA is a multiple use area that allows for outdoor fish and wildlife-based public recreational opportunities that include hiking and wildlife viewing.

The relatively sparse tree density of these longleaf pine stands allows for high levels of sunlight to penetrate the canopy. Control of woody broadleaf species, typically with routine fire, allows much of that light to reach the forest floor, encouraging the species-rich understory. Intact and properly managed sandhills are key in the survival of several rare fauna and flora species. Some of the species documented on site include sandhill spiny pod, gopher tortoise, southern fox squirrel, eastern indigo snake, and southeastern American kestrel.

1.1 Management Plan Purpose

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

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 Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4595 (Appendix 12.1) and pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of the DSL. Terms (Appendix 12.2) used in this

Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1.1 FWC Planning Philosophy

The FWC’s planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group and solicits additional input from user groups and the general public at a public hearing (Appendix 12.3 and 12.4). The FWC also engages area, district, and regional agency staff, as well as other FWC staff expertise, in developing this Management Plan, thereby facilitating area biologist and manager “ownership” of the Management Plan, and thus the development of meaningful management intent language, goals with associated measurable objectives, timelines for completion, and the identification of challenges and solution strategies for inclusion in the BRLWEA Management Plan (Sections 5 – 7).



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

1.2 Location

The 720 acre BRLWEA is located in Gilchrist County, lying within parts of Sections 34 and 35, Range 16 East, Township 8 South. The BRLWEA is located approximately 23 miles northwest of Gainesville, 30 miles south of Lake City, and 21.5 miles northeast of Chiefland. Other municipalities near the BRLWEA include Trenton (12 miles southwest) and Bell (10 miles west) in Gilchrist County; Fanning Springs (17 miles southwest) in Gilchrist and Levy counties; High Springs (7.5 miles northeast) and Newberry (7.5 miles

southeast) in Alachua County; Bronson (21 miles south) in Levy County; and Mayo (39 miles northwest) in Lafayette County as shown in Figures 1, 2, and 3.

The BRLWEA is bordered on the north primarily by privately owned agricultural lands mixed with improved pasture, pinelands, and shrub and brush land. The northern half of the eastern boundary borders County Road (CR) 337. Immediately across CR 337 are privately owned lands that appear to have extant sandhill habitat. The southern half of the eastern boundary borders privately owned agricultural land. Surrounding privately owned lands, including along the southern boundary and western boundary, appear to have small amounts of sandhill habitat. Lands within the Bell Ridge Unit of the Longleaf Pine Ecosystem Florida Forever Project adjoin the western boundary (Figure 4).

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

The FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, FS, which establishes the Fish and Wildlife Habitat Acquisition Program (FWHAP) for the purpose of acquiring, assisting other agencies or local governments in acquiring or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife. The BRLWEA is managed by the FWC as a Wildlife and Environmental Area, providing ecological diversity, managed habitat for both common and imperiled wildlife, and for fish and wildlife-oriented outdoor recreational opportunities for the citizens of and visitors to the State of Florida.

1.3.2 Acquisition History

The BRLWEA is owned by the citizens of the State of Florida. Title is held by the Board of Trustees. The initial acquisition of all 720 acres of the BRLWEA was made in 1991 by the Nature Conservancy. The Board of Trustees approved the purchase of the BRLWEA in March 2008 and closed on the property on July 15, 2008 using FWC's FWHAP funds.

1.4 Management Authority

The FWC is the designated lead managing agency for the BRLWEA under the authority granted by Lease Number 4595 from the Board of Trustees agent, the DSL. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870, and of the Florida Statutes. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

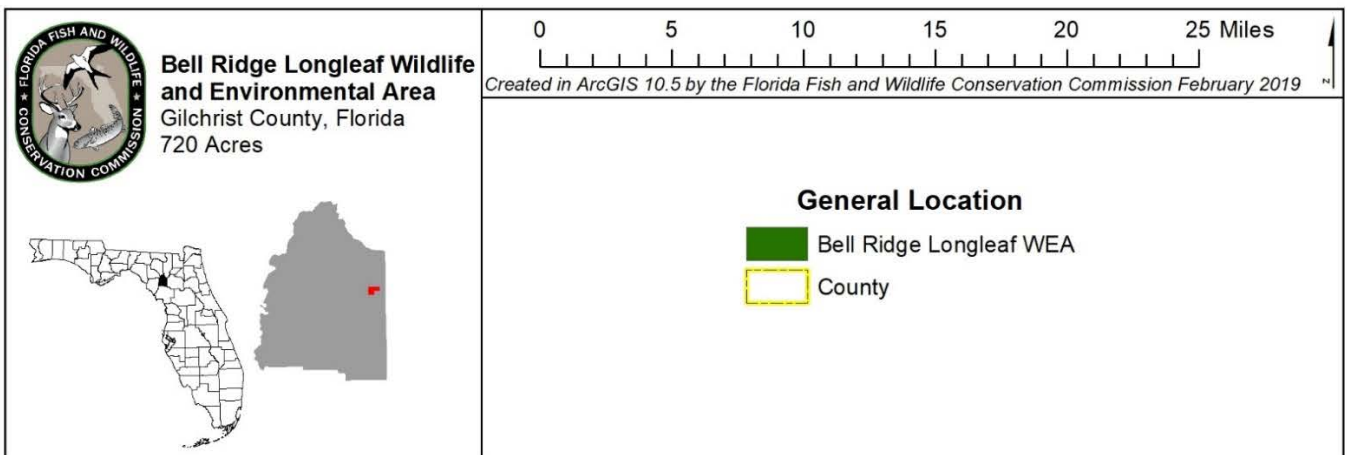
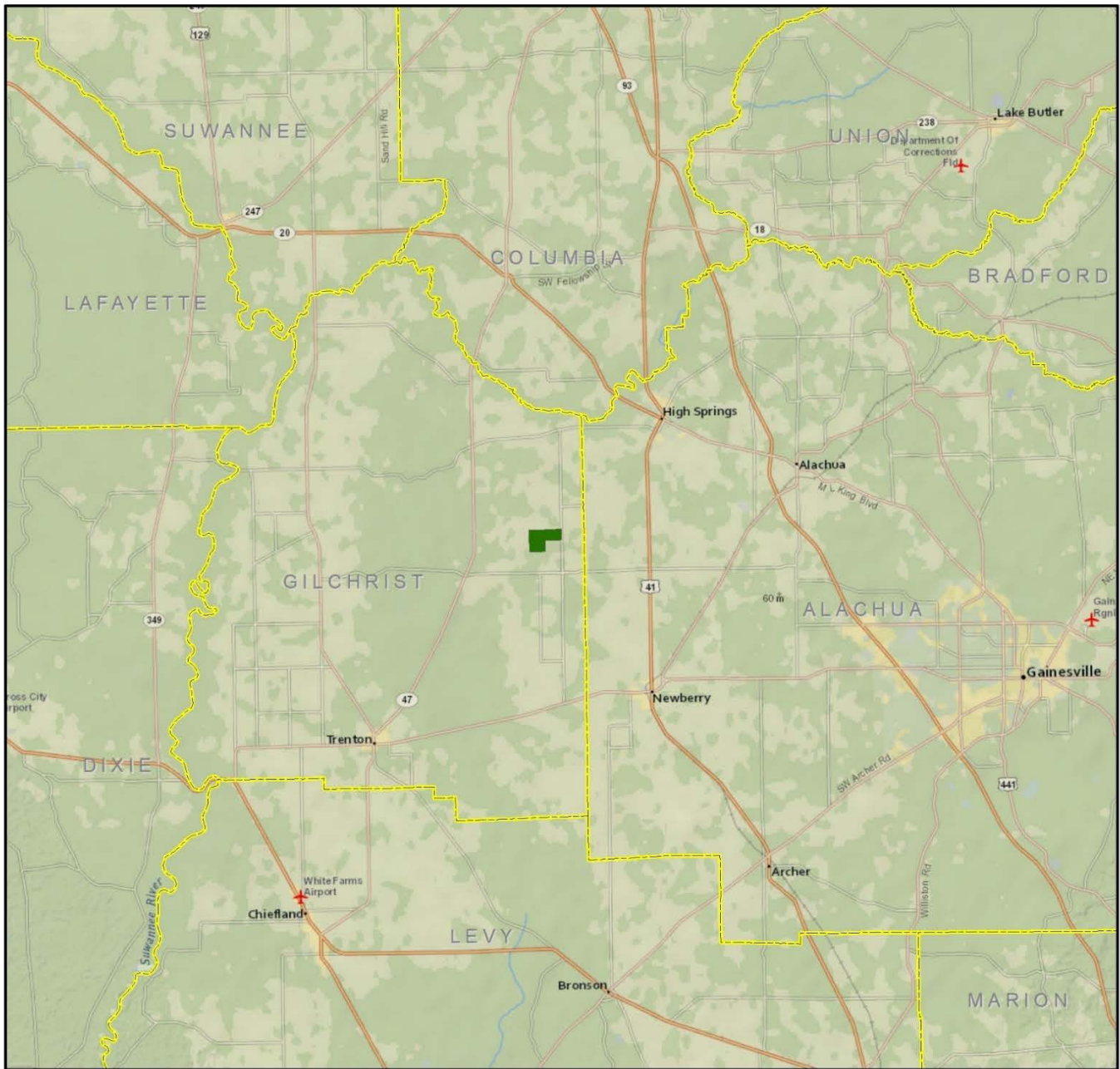


Figure 1: General Location of BRLWEA

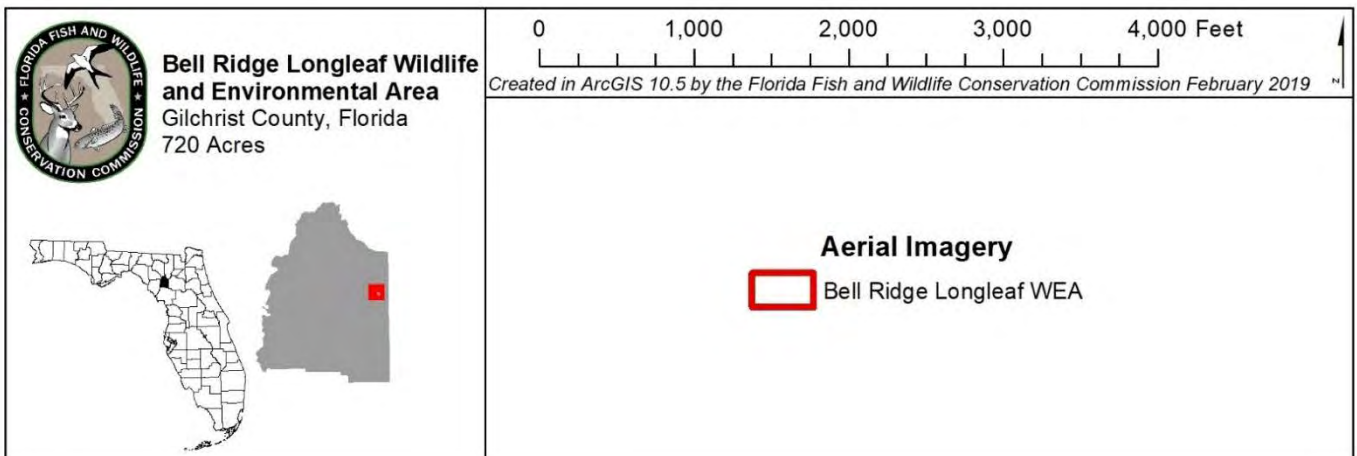
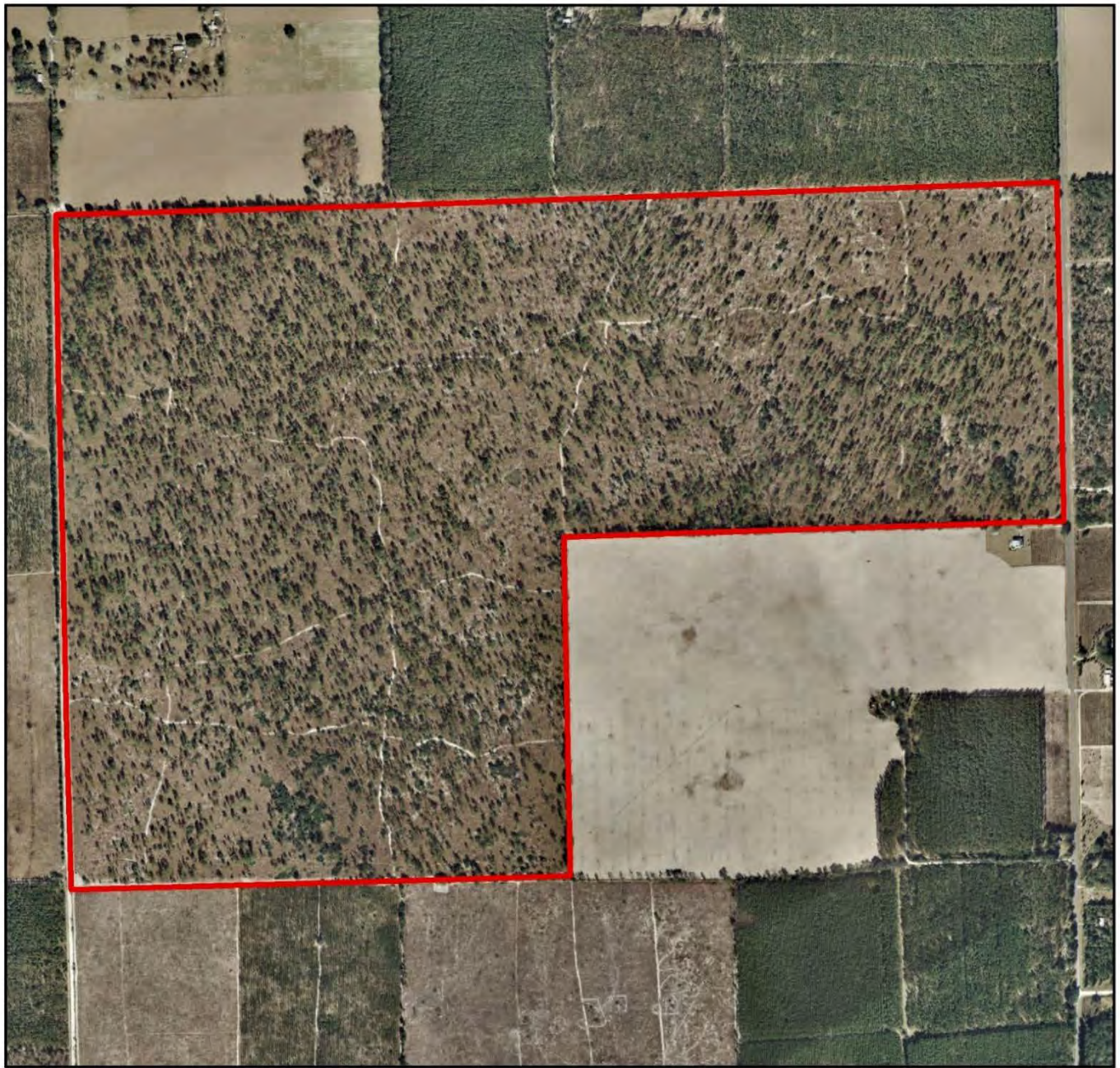


Figure 3: Boundary of BRLWEA

1.5 Management Directives

The 50-year Board of Trustees' Lease Agreement Number 4595 with the FWC directs the FWC to “manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), FS...” The lease agreement further directs the FWC to "implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises.”

1.6 Title Interest and Encumbrances

As State-owned lands, title to the BRLWEA is vested in the Board of Trustees (Governor and Cabinet). In 2008, the DSL, as staff to the Board of Trustees, entered into Lease Agreement Number 4595, a 50-year lease agreement, granting the FWC management authority for the BRLWEA. There are no known encumbrances to the property.

1.7 Proximity to Other Public Conservation Lands

The BRLWEA is located in the vicinity of a network of conservation lands, including lands managed by the Suwannee River Water Management District (SRWMD) and the Florida Forest Service (FFS). Several Florida Forever projects (Figure 4) are also located in the vicinity of the area.

Tables 1 and 2 list the Florida Forever projects and conservation lands within a 15-mile radius of the BRLWEA 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 15 Miles of the BRLWEA

Project Name	GIS Acres
Ichetucknee Trace	2,786
Longleaf Pine Ecosystem	3,384
San Felasco Conservation Corridor	376
Southeastern Bat Maternity Caves	20
Watermelon Pond	12,542

Table 2: Conservation Lands Within 15 Miles of the BRLWEA

State of Florida	Managing Agency
Dudley Farm Historic State Park	DEP
Fort White Wildlife and Environmental Area	FWC
Goethe State Forest	FFS
Ichetucknee Springs State Park	DEP
Nature Coast State Trail	DEP
O'Leno State Park	DEP
River Rise Preserve State Park	DEP
San Felasco Hammock Preserve State Park	DEP
Watermelon Pond Wildlife and Environmental Area	FWC
Water Management District	Managing Agency
Bonnet Lake Conservation Easement	SRWMD
City of Newberry Conservation Easement	SRWMD
Grady Conservation Area	SRWMD
Hatchbend Conservation Area	SRWMD
Ichetucknee Conservation Area	SRWMD
Log Landing Conservation Area	SRWMD
Loncala, Inc. Conservation Easement #1	SRWMD
Rock Bluff Conservation Area	SRWMD
Santa Fe Springs Conservation Area	SRWMD
Stuarts Landing Conservation Area	SRWMD
Upper Waccasassa Conservation Area	SRWMD
Wannee Conservation Area	SRWMD
Local Government	Managing Agency
Camp Kulaqua Conservation Easement	Alachua County
McCall Park	Alachua County
Mill Creek Nature Preserve	Alachua County
Poe Springs Park	Alachua County
Robertson Conservation Easement	Alachua County
Watermelon Pond - Ferran	Alachua County
Watermelon Pond Park	Alachua County
Private/Public Conservation Organization	Managing Agency
Ashton Biological Preserve	Ashton Biological Preserve
Blues Creek Ravine	Alachua Conservation Trust
Saarinen Preserve	Alachua Conservation Trust
Santa Fe River: Ratcliffe Tract	The Nature Conservancy
Warren Cave	National Speleological Society

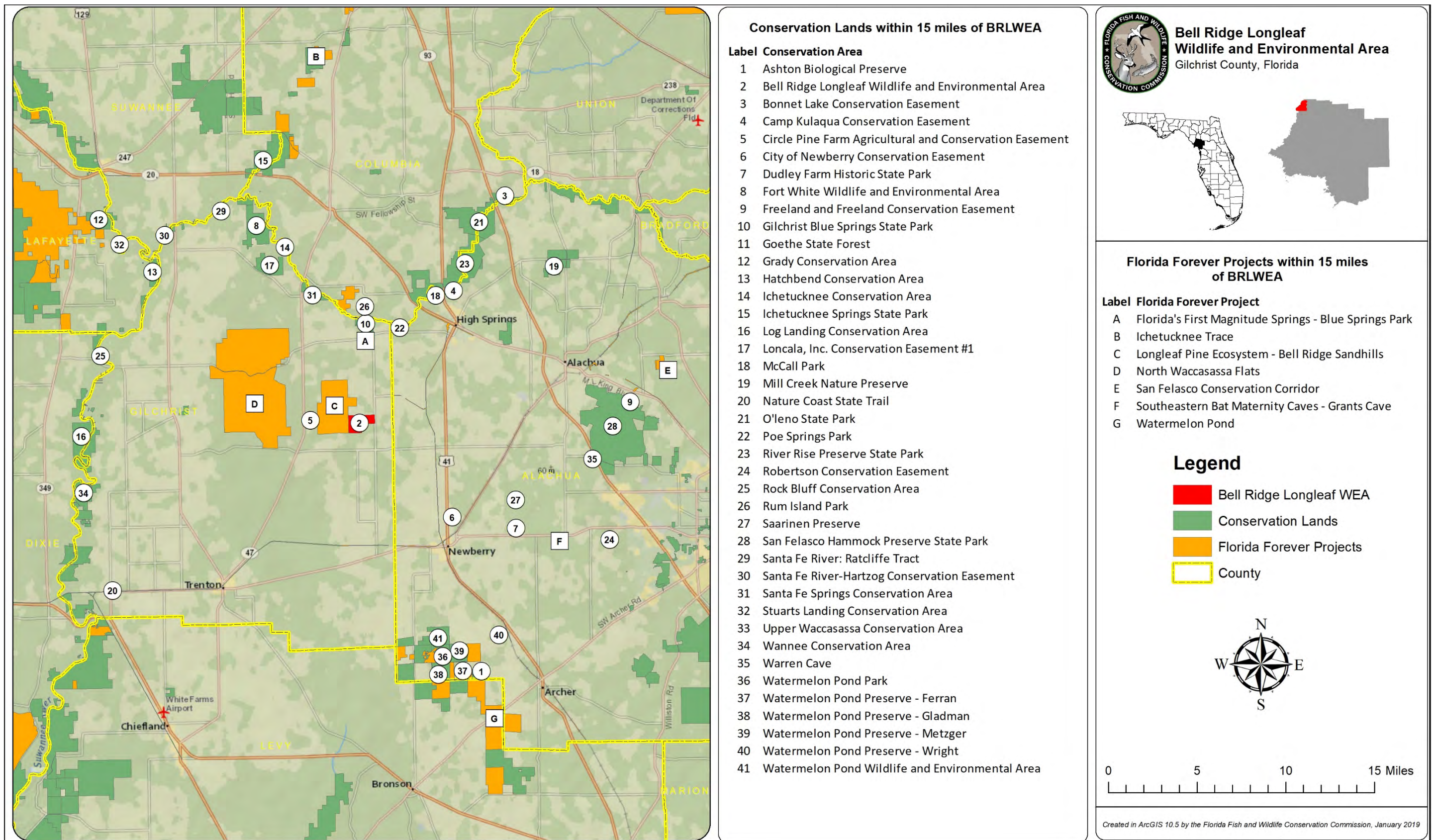


Figure 4: Nearby Conservation Lands and Florida Forever Projects

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1.8 Adjacent Land Uses

The BRLWEA is located in northeastern Gilchrist County, northeast of the City of Trenton. The BRLWEA is surrounded by rural lands with low population density. These lands primarily contain small home sites, and pine plantations that are managed as timberlands. The land in the area surrounding the BRLWEA is currently zoned for Agriculture (A-2). This designation allows for agriculture and silviculture uses and related industries, natural resource conservation/preservation and agriculture. Residential uses are allowed with a maximum density of one dwelling unit per five acres.

Currently, the BRLWEA and adjacent lands have a future land use designation of Agriculture. This designation is similar to the current A-2 zoning designation and indicates a maximum residential density of one dwelling unit per five acres.

The 2018 U.S. Census estimates that there are 17,424 people living in Gilchrist 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 19,100 people living in Gilchrist County. The BEBR population projections for the counties surrounding Gilchrist county for the year 2030 are as follows: Alachua – 289,900; Columbia – 75,000; Dixie – 17,700; Lafayette – 8,900; Levy – 44,400; Suwannee – 48,400.

1.9 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Newberry, Florida on March 13, 2019 to obtain input from both public and private stakeholders regarding management of the BRLWEA. Results of this meeting were used by the FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.4.1. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Trenton on April 11, 2019, to solicit input and comment from the general public regarding this Management Plan. The report of that hearing is also contained in Appendix 12.4.2. A website is also maintained for receipt of public input at <http://myfwc.com/conservation/terrestrial/management-plans/develop-mps/>. Further testimony and input are received at a public hearing held by the ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.

2 Natural and Historical Resources

2.1 Physiography

2.1.1 Climate

The climate of Gilchrist County, like most of Florida, is humid and subtropical. However, locally within Florida climate differs from one place to another as influenced by latitude, land and water distribution, prevailing winds, storms, pressure systems and ocean currents. North Florida tends to exhibit colder temperatures because the warming effects of Atlantic and Gulf of Mexico waters exert less influence than on the peninsula when cold fronts move through. Altitude may have important effects on susceptibility to frost and freezing during the winter.

The highest average maximum temperature for the City of High Springs during the period 1981 to 2010 was 91.9°F for the month of July. The lowest average minimum temperature during the same period was 39.4°F for the month of January. Like in most of Florida, Summer is the wettest season. Almost half of the 52.8 inches of rain the region sees in an average year falls in June, July, and August.

2.1.2 Topography

The land elevation of the BRLWEA ranges from approximately 70 to 105 feet above Mean Sea Level (ft MSL). All of the BRLWEA has variable topography of hills and depressions, with ridges exceeding point elevations estimated to be over 100 ft MSL. Upland depressions may dip below 70 ft MSL.

Florida is divided into three major physiographic divisions or zones. Gilchrist County lies at the northernmost extent of the Central or Mid-peninsula Zone, near the Northern or Proximal Zone. The BRLWEA occupies a location within two such features that include the northernmost extent of the Brooksville Ridge in the southern part of the BRLWEA and the Northern Gulf Coastal Lowlands in the northern part of the BRLWEA.

The Brooksville Ridge is a topographic highland extending from eastern Gilchrist County southeastward into Pasco County. It is the most massive of Florida's ridges and at 110 miles long is approximately equal in length to the Lake Wales Ridge. The BRLWEA is located at the northern terminus of the Brooksville Ridge approximately two miles east of the Waccasassa Flats, which are within the Northern Gulf Coastal Lowlands. The Brooksville Ridge consists of sands and clay deposited during the Pleistocene and Miocene Epochs (approximately 25 million to 10,000 years ago) on older karstic limestone of the Eocene Epoch (formed approximately 38 million years ago).

When moving northward or westward from sandhill elevations exceeding 100 ft MSL on the BRLWEA, one descends an escarpment representing slopes of the Brooksville Ridge, into lowlands extending towards the Santa Fe River to the north, or to lower elevations and more frequent wetlands of the Waccasassa Flats to the west. Elevations of the Waccasassa Flats west of the BRLWEA are approximately 75 ft. This escarpment was formed by

marine geological processes that occurred during the Pleistocene Epoch. However, topographies at these lower elevations are still variable, with sandhills distributed throughout. The Bell Ridge is a separate geomorphic feature lying west of the Brooksville Ridge, from which it is separated by the Waccasassa Flats.

2.1.3 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the BRLWEA soil types and soil depth to water table. The map units described in the soil survey of the BRLWEA are distributed as shown in Figure 5. Analyses of depth to water table for map units occurring within the BRLWEA 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 survey.” Soil map units may contain multiple soil components, which are given names that are unique identifiers. Appendix 12.5 lists the names and official map unit descriptions of areas delineated on the detailed soil maps in a soil survey or by miscellaneous areas in the survey area as determined by NRCS. Analysis of depth to water table for map units occurring within the BRLWEA are also provided in Appendix 12.5. Penney fine sand is the most common soil type found at the BRLWEA. This sand makes up approximately two-thirds of the area.

2.1.4 Geologic Conditions

The geologic units found at the BRLWEA are listed, in order of increasing age and depth: the undifferentiated Hawthorn Group, the Ocala Limestone and the Avon Park Formation. The undifferentiated Hawthorn Group formations are a stratigraphic unit of Miocene age exposed or close to the surface. It consists of poorly to moderately consolidated clayey sands to silty clays and relatively pure clays with little to no phosphate which vary from light olive gray to blue gray in unweathered sections to reddish brown in deeply weathered sections. The Ocala Limestone is an Upper Eocene stratigraphic unit consisting of nearly pure limestone and occasional dolostones. The Avon Park Formation is a Middle Eocene stratigraphic unit consisting of variably fossiliferous limestone and vuggy dolostones including fossils of ancient marine macro invertebrates, foraminifera, algae and other plants.

The major mineral resources of Gilchrist County which have been, or potentially could be, economically important are limestone and sand. A sand mine is located northeast of the BRLWEA in the northeast corner of Gilchrist County. Limestone, sand and associated gravel are mined for use in construction and various other industrial purposes.

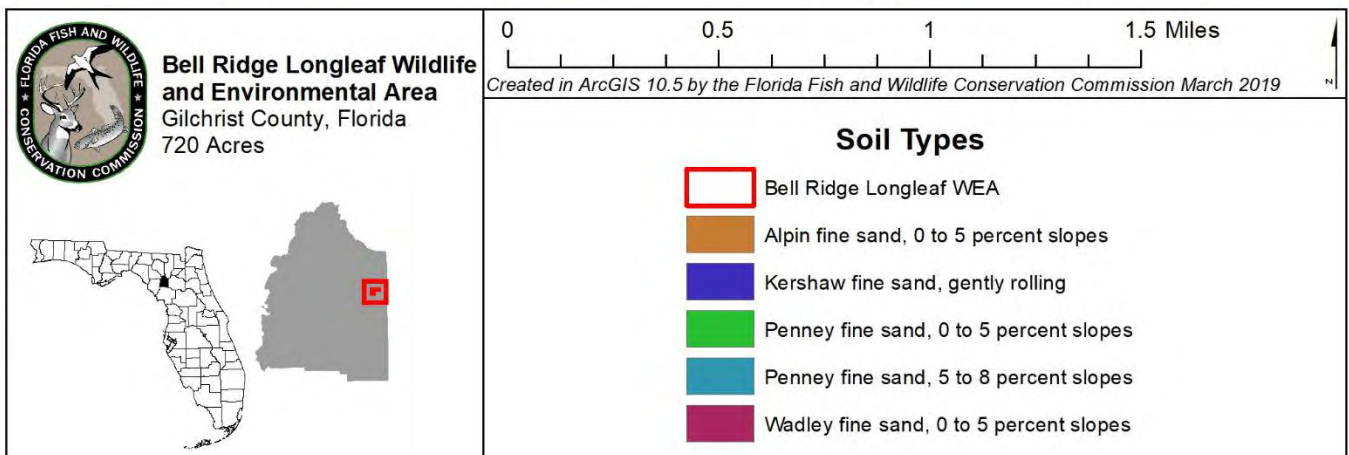
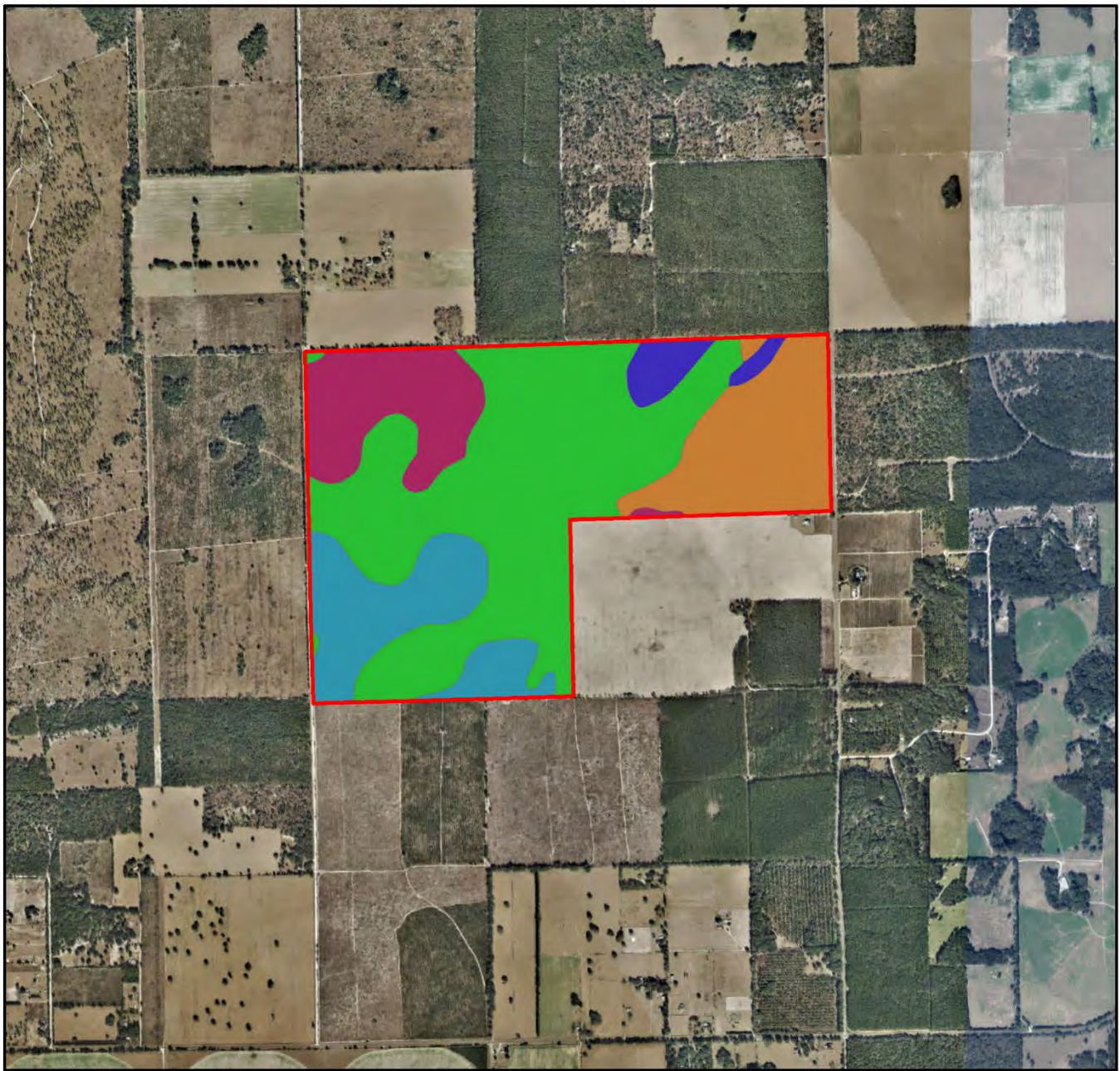


Figure 5: BRLWEA Soil Types

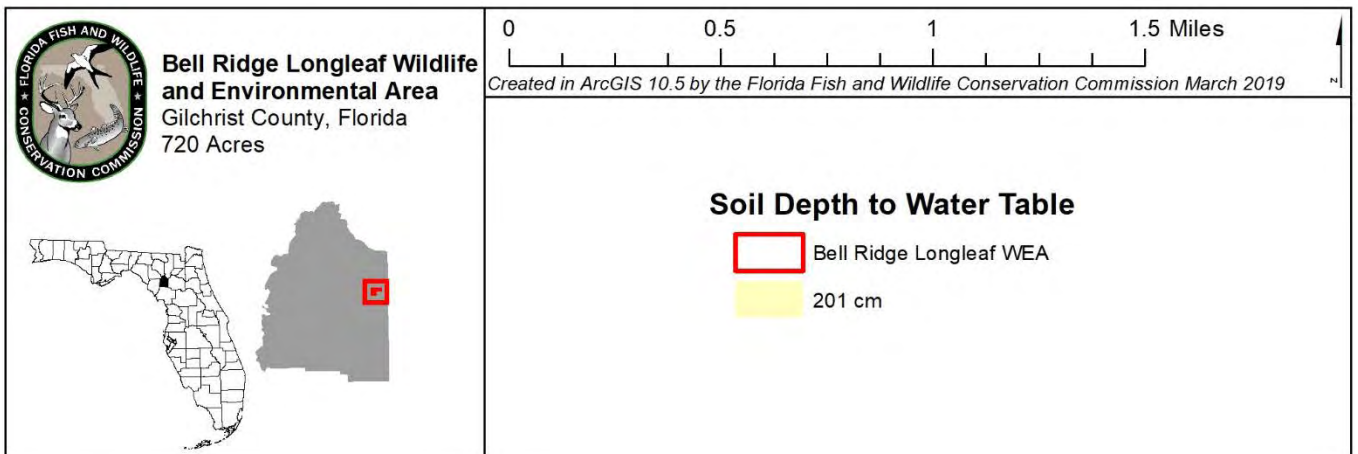
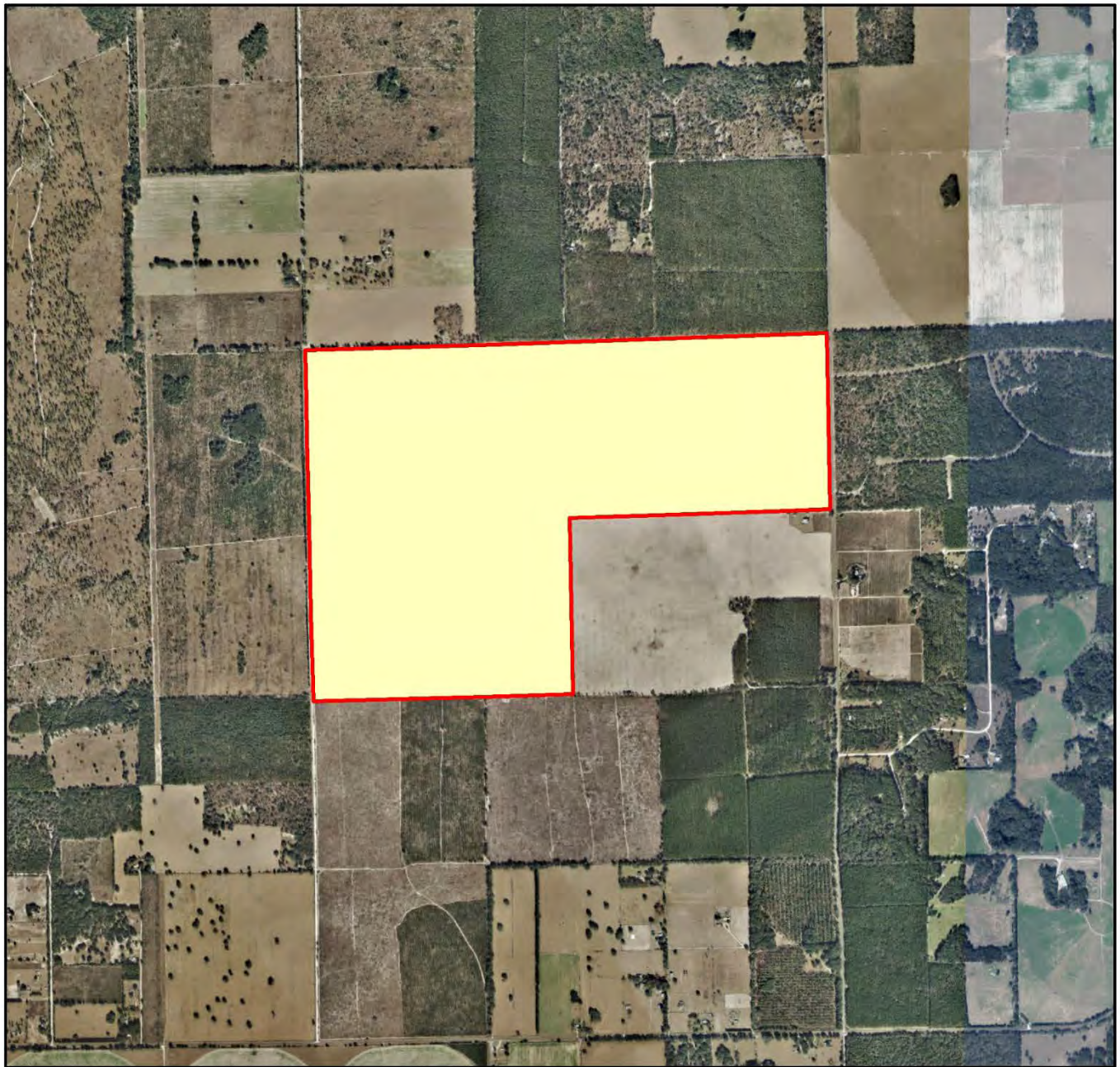


Figure 6: Soil Depth to Water Table

2.2 Vegetation

The region in with the BRLWEA is located is characterized by a vast landscape of sandhill, pine plantations, and agricultural fields. The FWC has completed natural and anthropogenic community mapping of the BRLWEA through the services of FNAI. Through this work, FNAI has identified sandhill as the sole plant community within the BRLWEA (Table 3, Figure 7). This community is described in section 2.2.1. Native and rare plant species known to occur on the BRLWEA are listed in Tables 4 and 5, respectively. Table 6 lists the exotic/invasive plant species found on the area and the Florida Exotic Pest Plant Council (FLEPPC) category for each species.

Table 3: Natural and Anthropogenic Communities found at the BRLWEA

Community Type	GIS Acres	Percentage
Sandhill	687.7	95.5%
Roads	32.3	4.5%

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Adam's needle	<i>Yucca filamentosa</i>
Arrowfeather threeawn	<i>Aristida purpurascens</i>
Azure blue sage	<i>Salvia azurea</i>
Beaksedge	<i>Rhynchospora sp.</i>
Bearded skeletongrass	<i>Gymnopogon ambiguus</i>
Beggarticks	<i>Bidens alba</i>
Bigflower pawpaw	<i>Asimina obovata</i>
Black cherry	<i>Prunus serotina</i>
Blackroot	<i>Pterocaulon pycnostachyum</i>
Blazing star	<i>Liatris sp.</i>
Bluejack oak	<i>Quercus incana</i>
Bluestem	<i>Andropogon sp.</i>
Bracken fern	<i>Pteridium sp.</i>
Bristlegass: foxtail	<i>Setaria sp.</i>
Broomsedge bluestem	<i>Andropogon virginicus</i>
Brownhair snoutbean	<i>Rhynchosia cinerea</i>
Buckroot	<i>Pedimelum canescens</i>
Butterflyweed	<i>Asclepias tuberosa</i>
Button rattlesnakemaster	<i>Eryngium yuccifolium</i>
Calloose grape	<i>Vitis shuttleworthii</i>
Camphorweed	<i>Heterotheca subaxillaris</i>
Canadian horseweed	<i>Conyza canadensis</i>
Canadian toadflax	<i>Linaria canadensis</i>
Capillary hairsedge	<i>Bulbostylis ciliatifolia</i>
Carolina false vervain	<i>Verbena carnea</i>

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Carolina frostweed	<i>Helianthemum carolinianum</i>
Carolina laurelcherry	<i>Prunus caroliniana</i>
Carolina wild petunia	<i>Ruellia caroliniensis</i>
Ciliate wild petunia	<i>Ruellia ciliosa</i>
Clasping milkweed	<i>Asclepias amplexicaulis</i>
Coastal bedstraw	<i>Galium hispidulum</i>
Coastal sand spurge	<i>Euphorbia exserta</i>
Coastalplain chaffhead	<i>Carphephorus corymbosus</i>
Coastalplain dawnflower	<i>Stylisma patens</i>
Coastalplain golden-aster	<i>Chrysopsis scabrella</i>
Coastalplain hawkweed	<i>Hieracium megacephalon</i>
Coastalplain honeycomb-head	<i>Balduina angustifolia</i>
Coastalplain palafox	<i>Palafoxia integrifolia</i>
Coffeeweed	<i>Senna obtusifolia</i>
Common persimmon	<i>Diospyros virginiana</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Coralbean	<i>Erythrina herbacea</i>
Corkscrew threeawn	<i>Aristida gyrans</i>
Cottonweed	<i>Froelichia floridana</i>
Crabgrass	<i>Digitaria sp.</i>
Creeping cucumber	<i>Melothria pendula</i>
Creeping lespedeza	<i>Lespedeza repens</i>
Crimson bluestem	<i>Schizachyrium sanguineum</i>
Crowngrass	<i>Paspalum sp.</i>
Darrow's blueberry	<i>Vaccinium darrowii</i>
Dogtongue wild buckwheat	<i>Eriogonum tomentosum</i>
Dollarleaf	<i>Rhynchosia reniformis</i>
Downy milkpea	<i>Galactia volubilis</i>
Dwarf pawpaw	<i>Asimina pygmea</i>
Earleaf greenbrier	<i>Smilax auriculata</i>
Eastern milkpea	<i>Galactia regularis</i>
Eastern poison ivy	<i>Toxicodendron radicans</i>
Eastern poison oak	<i>Toxicodendron pubescens</i>
Eastern silver aster	<i>Symphotrichum concolor</i>
Elliott's bluestem	<i>Andropogon gyrans</i>
Eustis lake beardtongue	<i>Penstemon australis</i>
False foxglove	<i>Agalinis sp.</i>
Fernleaf yellow false foxglove	<i>Aureolaria pectinata</i>
Fewflower tick-trefoil	<i>Desmodium paniculatum</i>

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Fimbry	<i>Fimbristylis sp.</i>
Flatsedge	<i>Cyperus sp.</i>
Fleabane	<i>Erigeron sp.</i>
Florida bluestem	<i>Andropogon floridanus</i>
Florida false sunflower	<i>Phoebanthus grandiflorus</i>
Florida feathershank	<i>Schoenocaulon dubium</i>
Florida greeneyes	<i>Berlandiera subacaulis</i>
Florida hoary-pea	<i>Tephrosia florida</i>
Florida Indian-plantain	<i>Arnoglossum floridanum</i>
Forked bluecurls	<i>Trichostema dichotomum</i>
Fragrant eryngo	<i>Eryngium aromaticum</i>
Fringed bluestar	<i>Amsonia ciliata</i>
Fringed nutrush	<i>Scleria ciliata</i>
Goat's rue	<i>Tephrosia virginiana</i>
Golden-aster	<i>Chrysopsis sp.</i>
Goldenrod	<i>Solidago sp.</i>
Gopher apple	<i>Geobalanus oblongifolius</i>
Green silkyscale	<i>Anthraenantia villosa</i>
Greeneyes	<i>Berlandiera sp.</i>
Hairawn muhly	<i>Muhlenbergia capillaris</i>
Hairsedge	<i>Bulbostylis sp.</i>
Hairy bedstraw	<i>Galium pilosum</i>
Hairy lespedeza	<i>Lespedeza hirta</i>
Hammock snakeroot	<i>Ageratina jucunda</i>
Heartleaf sandmat	<i>Chamaesyce cordifolia</i>
Heartwing dock	<i>Rumex hastatulus</i>
Hercules' club	<i>Zanthoxylum clava-herculis</i>
Hoary-pea	<i>Tephrosia sp.</i>
Kidneyleaf rosinweed	<i>Silphium compositum</i>
Largeflower jointweed	<i>Polygonella robusta</i>
Lattice jointgrass	<i>Coelorachis tessellata</i>
Laurel oak	<i>Quercus hemisphaerica</i>
Leggett's pinweed	<i>Lechea pulchella var. ramosissima</i>
Lesser snakeroot	<i>Ageratina aromatica</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Live oak	<i>Quercus virginiana</i>
Longleaf pine	<i>Pinus palustris</i>
Lopsided Indiangrass	<i>Sorghastrum secundum</i>
Lovegrass	<i>Eragrostis sp.</i>

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Mexican pricklypoppy	<i>Argemone mexicana</i>
Michaux's croton	<i>Croton michauxii</i>
Milkpea	<i>Galactia sp.</i>
Mockernut hickory	<i>Carya tomentosa</i>
Mohr's thoroughwort	<i>Eupatorium mohrii</i>
Narrowleaf blue-eyed grass	<i>Sisyrinchium angustifolium</i>
Narrowleaf silkgrass	<i>Pityopsis graminifolia</i>
Narrowleaf sunflower	<i>Helianthus angustifolius</i>
Needleleaf witchgrass	<i>Dichanthelium aciculare</i>
Netleaf leather flower	<i>Clematis reticulata</i>
Nettleleaf noseburn	<i>Tragia urticifolia</i>
Nutrush	<i>Scleria sp.</i>
Oak	<i>Quercus sp.</i>
Oblongleaf twinflower	<i>Dyschoriste oblongifolia</i>
Partridge pea	<i>Chamaecrista fasciculata</i>
Perennial sandgrass	<i>Triplasis americana</i>
Piedmont blacksenna	<i>Seymeria pectinata</i>
Pinebarren beaksedge	<i>Rhynchospora intermedia</i>
Pinebarren frostweed	<i>Helianthemum corymbosum</i>
Pineland false foxglove	<i>Agalinis divaricata</i>
Pineland nailwort	<i>Paronychia patula</i>
Pineland pinweed	<i>Lechea sessiliflora</i>
Pineland wild indigo	<i>Baptisia lecontei</i>
Pinewoods milkweed	<i>Asclepias humistrata</i>
Pineywoods dropseed	<i>Sporobolus junceus</i>
Pinweed	<i>Lechea sp.</i>
Pitted stripeseed	<i>Piriqueta cistoides ssp. caroliniana</i>
Poor joe	<i>Diodia teres</i>
Prairie clover	<i>Dalea sp.</i>
Pricklypear	<i>Opuntia humifusa</i>
Purple bluestem	<i>Andropogon glomeratus var. glaucopsis</i>
Purple lovegrass	<i>Eragrostis spectabilis</i>
Queen-devil	<i>Hieracium gronovii</i>
Queen's delight	<i>Stillingia sylvatica</i>
Rabbitbells	<i>Crotalaria rotundifolia</i>
Rose-rush	<i>Lygodesmia aphylla</i>
Roundleaf bluet	<i>Houstonia procumbens</i>
Runner oak	<i>Quercus pumila</i>
Sand blackberry	<i>Rubus cuneifolius</i>

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Sand live oak	<i>Quercus geminata</i>
Sand post oak	<i>Quercus margaretta</i>
Sandgrass	<i>Triplasis sp.</i>
Sandyfield beaksedge	<i>Rhynchospora megalocarpa</i>
Saw palmetto	<i>Serenoa repens</i>
Scaleleaf aster	<i>Symphyotrichum adnatum</i>
Scurf hoary-pea	<i>Tephrosia chrysophylla</i>
Sensitive pea	<i>Chamaecrista nictitans</i>
Shiny blueberry	<i>Vaccinium myrsinites</i>
Shortleaf gayfeather	<i>Liatris tenuifolia</i>
Showy milkwort	<i>Asemeia violacea</i>
Sidebeak pencil flower	<i>Stylosanthes biflora</i>
Silver croton	<i>Croton argyranthemus</i>
Silver plumegrass	<i>Saccharum alopecuroides</i>
Skeletongrass	<i>Gymnopogon sp.</i>
Slash pine	<i>Pinus elliottii</i>
Slender flattop goldenrod	<i>Euthamia caroliniana</i>
Slender scratchdaisy	<i>Croptilon divaricatum</i>
Slender threeseed mercury	<i>Acalypha gracilens</i>
Slimleaf pawpaw	<i>Asimina angustifolia</i>
Small's skullcap	<i>Scutellaria multiglandulosa</i>
Smooth tick-trefoil	<i>Desmodium laevigatum</i>
Soft greeneyes	<i>Berlandiera pumila</i>
Southern crabgrass	<i>Digitaria ciliaris</i>
Southern sandbur	<i>Cenchrus echinatus</i>
Spanish moss	<i>Tillandsia usneoides</i>
Spanish needles	<i>Bidens bipinnata</i>
Sparkleberry	<i>Vaccinium arboreum</i>
Splitbeard bluestem	<i>Andropogon ternarius</i>
Spurge	<i>Euphorbia sp.</i>
Spurred butterfly pea	<i>Centrosema virginianum</i>
Squareflower	<i>Paronychia erecta</i>
Sugarcane plumegrass	<i>Saccharum giganteum</i>
Summer farewell	<i>Dalea pinnata</i>
Swamp laurel oak	<i>Quercus laurifolia</i>
Sweet goldenrod	<i>Solidago odora</i>
Switchgrass	<i>Panicum virgatum</i>
Tailed bracken	<i>Pteridium aquilinum var. pseudocaudatum</i>
Tall ironweed	<i>Vernonia angustifolia</i>

Table 4: Native Plant Species Known to Occur On the BRLWEA

Common Name	Scientific Name
Tall jointweed	<i>Polygonella gracilis</i>
Tall lespedeza	<i>Lespedeza stuevei</i>
Thin paspalum	<i>Paspalum setaceum</i>
Thoroughwort	<i>Eupatorium sp.</i>
Threeawn	<i>Aristida sp.</i>
Tracy's bluestem	<i>Andropogon tracyi</i>
Trailing phlox	<i>Phlox nivalis</i>
Tread-softly	<i>Cnidoscolus stimulosus</i>
Tufted lovegrass	<i>Eragrostis pectinacea</i>
Turkey oak	<i>Quercus laevis</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Virginia snakeroot	<i>Aristolochia serpentaria</i>
Ware's hairsedge	<i>Bulbostylis warei</i>
Wavyleaf noseburn	<i>Tragia urens</i>
Wax myrtle	<i>Morella cerifera</i>
Western ragweed	<i>Ambrosia psilostachya</i>
Whip nutrush	<i>Scleria triglomerata</i>
White thoroughwort	<i>Eupatorium album</i>
Whitemouth dayflower	<i>Commelina erecta</i>
Whitetop aster	<i>Sericocarpus tortifolius</i>
Whorled milkweed	<i>Asclepias verticillata</i>
Winged sumac	<i>Rhus copallinum</i>
Wiregrass	<i>Aristida stricta</i>
Witchgrass	<i>Dichanthelium sp.</i>
Woolly croton	<i>Croton capitatus</i>
Woolly pawpaw	<i>Asimina incana</i>
Yankeeweed	<i>Eupatorium compositifolium</i>
Yellow jessamin	<i>Gelsemium sempervirens</i>

Table 5: Imperiled Plant Species Observed at the BRLWEA

Common Name	Scientific Name	Status*
Florida Arrowroot	<i>Zamia integrifolia</i>	CE
Florida toothache grass	<i>Ctenium floridanum</i>	SE
Hooded pitcher plant	<i>Sarracenia minor</i>	SE
Non-crested eulophia	<i>Eulophia ecristata</i>	SE
Sandhill spiny-pod	<i>Matelea pubiflora</i>	CE

*CE = Commercially Exploited, SE = State Endangered

Table 6: Exotic and Invasive Plant Species Observed at the BRLWEA

Common Name	Scientific Name	FLEPPC
Bahiagrass	<i>Paspalum notatum</i>	-
Broomcorn	<i>Sorghum bicolor ssp. verticilliflorum</i>	-
Camphor tree	<i>Cinnamomum camphora</i>	I
Durban crowfootgrass	<i>Dactyloctenium aegyptium</i>	II
Hairy indigo	<i>Indigofera hirsuta</i>	-
Lanceleaf rattlebox	<i>Crotalaria lanceolata</i>	-
Mimosa	<i>Albizia julibrissin</i>	I
Natal grass	<i>Melinis repens</i>	I
Septicweed	<i>Senna occidentalis</i>	-
Showy rattlebox	<i>Crotalaria spectabilis</i>	-
Sweet tanglehead	<i>Heteropogon melanocarpus</i>	-
Tropical Mexican clover	<i>Richardia brasiliensis</i>	-

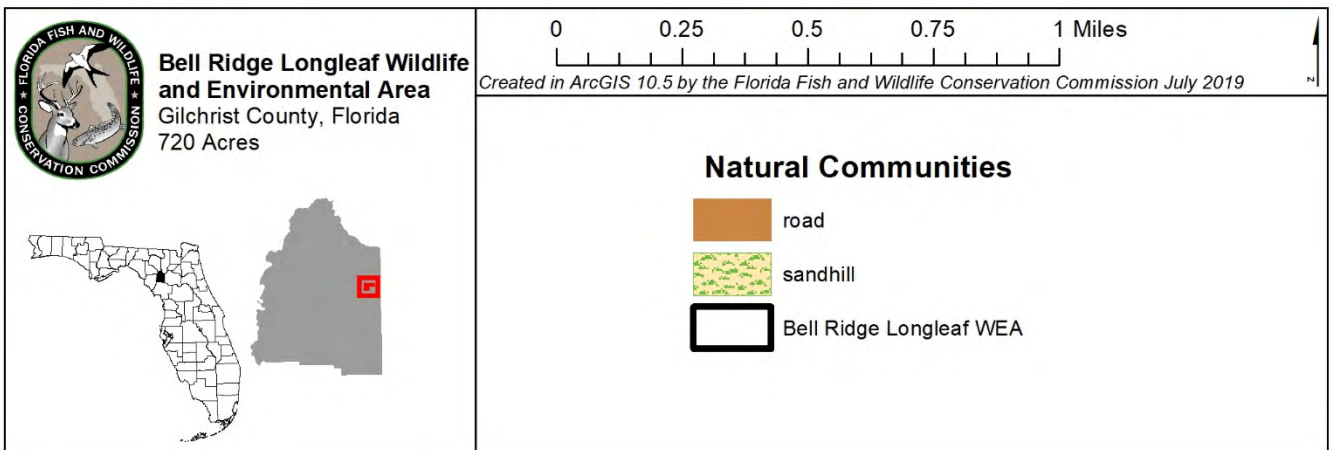


Figure 7: Natural and Anthropogenic Communities of the BRLWEA

2.2.1 FNAI Natural Community Descriptions

2.2.1.1 Sandhill (688 acres)

Sandhill occurs on rolling hills with deep, often yellowish, well-drained sands. These are open, xeric communities dominated by widely spaced longleaf pine trees with a sparse midstory of deciduous oaks and a moderate to dense groundcover of grasses, herbs, and low shrubs. The midstory trees and low shrubs can be sparse to dense, depending on fire history, and typically include turkey oak, bluejack oak, sand live oak, sand post oak, sparkleberry, dwarf huckleberry, pricklypear, and gopher apple. The diverse herbaceous groundcover is often dominated by wiregrass, with other grasses and herbs including pineywoods dropseed, lopsided indiagrass, and a variety of forbs with many species of legumes and asters.

At the BRLWEA, the canopy consists of widely scattered, mixed age longleaf pine, the oldest of which are in the 80- to 100-year-old range. Within the sparse subcanopy are slash pine, black cherry, sand live oak, turkey oak, and swamp laurel oak. Shrubs include common persimmon, longleaf pine, sand live oak, turkey oak, winged sumac, sand blackberry, saw palmetto, and Adam's needle. Many of the smaller diameter oaks – primarily turkey oaks less than four inches diameter at breast height– that recently dominated the understory were hand thinned. The cut stems were left in place and presently account for high amounts of medium sized fuel. Evidence of this hardwood reduction effort will disappear with time and continued burning. These management options are desirable because of their low impact to soils and ground cover plant species. The ground cover is primarily composed of wiregrass and covers up to 70 percent of the ground in some areas. Other herbaceous species include Elliott's bluestem, Florida greeneyes, goldenaster, silver croton, witchgrass, yankeeweed, fimbry, roundleaf bluet, sandhill spiny-pod, bracken fern, sugarcane plumegrass, little bluestem, sweet goldenrod, lopsided indiagrass, pineywoods dropseed, and queen's delight.

2.2.2 Imperiled Plants

For the purposes of this Management Plan, the term “imperiled species” as it relates to plants refers to plant species that the Florida Department of Agriculture and Consumer Services (DACS) or the United States Fish and Wildlife Service (USFWS) designated as endangered or threatened. This designation is commonly known as “listed species”, and all names and status determinations were derived from Florida's Regulated Plant Index Rule (5B-40.0055 F.A.C.) that is maintained by the DACS.

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

There are three imperiled plant species known to occur on the area. The protections afforded plants that occur on conservation lands, in conjunction with management actions that include exotic 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 BRLWEA.

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

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

Florida Toothache Grass - Florida toothache grass prefers sunny, moist to quite dry sandy areas within mesic flatwoods, sandhills, scrub, and scrubby flatwoods. This species requires fires and it generally will only flower after a fire. Prescribed fire intervals should vary by season, frequency, and fire intensity to ensure species diversity, mosaic habitats and sandy openings. If Florida toothache grass is top-killed by fire, it survives by resprouting from rhizomes. Altered fire regimes and fire suppression negatively affect this species, therefore, prescribed fire should follow appropriate natural community fire regimes varying by season, frequency, and fire intensity to ensure species diversity. Scrub management programs should strive to mimic natural processes that create the openings this species prefers. This species is identifiable all year by its dried, curling spikes, and the best time for conducting flower and fruit surveys is from June-September.

Hooded Pitcherplant - Hooded Pitcherplant prefers sunny to lightly shaded, moist to wet, sandy, acid soil in basin swamps, depression marshes, dome swamps, dry prairies, mesic flatwoods, wet flatwoods, wet prairies, shrub bogs, seepage slopes, and edges of seepage streams. This species may occur on boggy roadsides and ditches. This species has the widest ecological range

compared to other *Sarracenia* species, and grows on both wet and dry sites, and it is more shade tolerant than most species of the genus. This species needs a fire regime that includes frequent (2-3 years) growing season fires that reduce the encroachment of woody species. Fire usually top-kills pitcherplants, but they survive by resprouting from rhizomes. Pitches are identifiable all year, and surveys for flowers can occur from late March to mid-May. Soil and hydrologic disturbances negatively affect this species; therefore, staff should maintain and restore the natural hydrology where practicable.

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

Sandhill Spiny Pod - Sandhill spiny pod prefers to grow and flower in xeric well-drained soils in sunny or semi-shaded areas in sandhill and scrub communities. This species requires a fire regime that includes frequent fire that reduces the encroachment of woody species and creates open areas that allow sunlight to reach the ground. Altered fire regimes and fire suppression negatively affect this species, therefore, prescribed fire should follow appropriate natural community fire regimes, varying by season, frequency, and fire intensity to ensure species diversity. Sandhill spiny pod is identifiable all year by its unique trialing habit, and the best time for conducting flower surveys is from April to June and fruiting surveys is from August to October.

2.2.3 Forest Resources

As described in detail above, the BRLWEA is composed entirely of the sandhill vegetative community. This community contains an abundance of longleaf pine. The FWC will continue to manage the sandhill at the BRLWEA to maintain the presence of longleaf pine at an appropriate density. The FFS has completed a timber assessment for the BRLWEA, which can be found in Appendix 12.6 of this management plan. The FWC will continue to cooperate with the FFS on all actions that involve the timber resources of the BRLWEA.

2.3 Fish and Wildlife Resources

The sandhill natural community found at the BRLWEA supports a wide array of imperiled, rare, and more common wildlife species. Active wildlife management practices make the BRLWEA an excellent place to view wildlife. The BRLWEA's sandhill provides critical habitat for resident and migratory wildlife.

The FWC maintains an inventory of fauna occurring on the BRLWEA listed in the following tables, including mammals (Table 7), birds, (Table 8), and reptiles and amphibians (Table 9).

Table 7: Mammal Species Observed At the BRLWEA

Common Name	Scientific Name
Eastern harvest mouse	<i>Reithrodontomys humulis</i>
Florida mouse	<i>Podomys floridanus</i>
Hispid cotton rat	<i>Sigmodon hispidus</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Old field mouse	<i>Peromyscus polionotus</i>
Southern flying squirrel	<i>Glaucomys volans</i>
Southeastern pocket gopher	<i>Geomys pinetis</i>
Southern fox squirrel	<i>Sciurus niger</i>

Table 8: Bird Species Observed At the BRLWEA

Common Name	Scientific Name
American kestrel	<i>Falco sparverius sparverius</i>
Bachman's sparrow	<i>Peucaea aestivalis</i>
Brown-headed nuthatch	<i>Sitta pusilla</i>
Blue grosbeak	<i>Passerina caerulea</i>
Blue jay	<i>Cyanocitta cristata</i>
Common nighthawk	<i>Chordeiles minor</i>
Eastern bluebird	<i>Sialia sialis</i>
Eastern screech owl	<i>Megascops asio</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Great horned owl	<i>Bubo virginianus</i>
Mourning dove	<i>Zenaida macroura</i>
Northern bobwhite quail	<i>Colinus virginianus</i>
Northern flicker	<i>Colaptes auratus</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Southeastern American kestrel	<i>Falco sparverius paulus</i>
Wild turkey (Florida wild turkey)	<i>Meleagris gallopavo osceola</i>

Table 9: Reptile and Amphibian Species Observed At the BRLWEA

Common Name	Scientific Name
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>
Eastern corn snake	<i>Pantherophis guttatus</i>
Eastern glass lizard	<i>Ophisaurus ventralis</i>
Eastern indigo snake	<i>Drymarchon couperi</i>

Table 9: Reptile and Amphibian Species Observed At the BRLWEA

Common Name	Scientific Name
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Greenhouse frog	<i>Eleutherodactylus planirostris</i>
Leopard frog	<i>Lithobates sphenoccephalus</i>
Six-lined racerunner	<i>Aspidozelis sexlineata</i>
Southern toad	<i>Anaxyrus terrestris</i>

2.3.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates the Florida landscape based upon the 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 IWHRS 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 IWHRS (2009) indicates that the BRLWEA has a mean wildlife value of 5.9 out of 10 (Figure 8).

2.3.2 Imperiled Fish and Wildlife

Four imperiled animal species have been documented at BRLWEA (Table 10). All abbreviations and status determinations were derived from Florida's Endangered and Threatened Species List published by FWC in December 2018. The FWC maintains the state list of animals designated as Federally-designated endangered or threatened, State-designated endangered or threatened, or State-designated species of special concern, in accordance with Rules 68A-27.003, and 68A-27.005, respectively, FAC.

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

At its November, 2016, Commission meeting, the FWC approved Florida's Imperiled Species Management Plan (<http://myfwc.com/wildlifehabitats/imperiled/plan/>), which included changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 FAC) came into effect in June 2019. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (<https://www.flrules.org/gateway/RuleNo.asp?title=RULES%20RELATING%20TO%20ENDANGERED%20OR%20THREATENED%20SPECIES&ID=68A-27.003>) as federally-

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

Table 10: Imperiled Species Observed at BRLWEA		
Common Name	Scientific Name	Status
Eastern Indigo Snake	<i>Drymarchon couperi</i>	ST
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	ST
Gopher tortoise	<i>Gopherus polyphemus</i>	ST
Southeastern American kestrel	<i>Falco sparverius paulus</i>	ST

2.3.3 FNAI Element Occurrences

A diversity of wildlife species is found on the BRLWEA. FNAI element occurrence records include occurrences of gopher tortoise, eastern indigo snake, larger sandhill grasshopper, pine snake, southern fox squirrel, and southeastern American kestrel in the vicinity of the BRLWEA. 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 a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. FNAI assigns a rank to each “element” occurrence. This ranking system was developed by The Nature Conservancy and the Natural Heritage Program Network based on the element's global rank (element's worldwide status) or state rank (status of element in Florida). FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

Known locations of FNAI element occurrences from the most recent GIS databases are displayed in Figure 9. Appendix 12.7 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

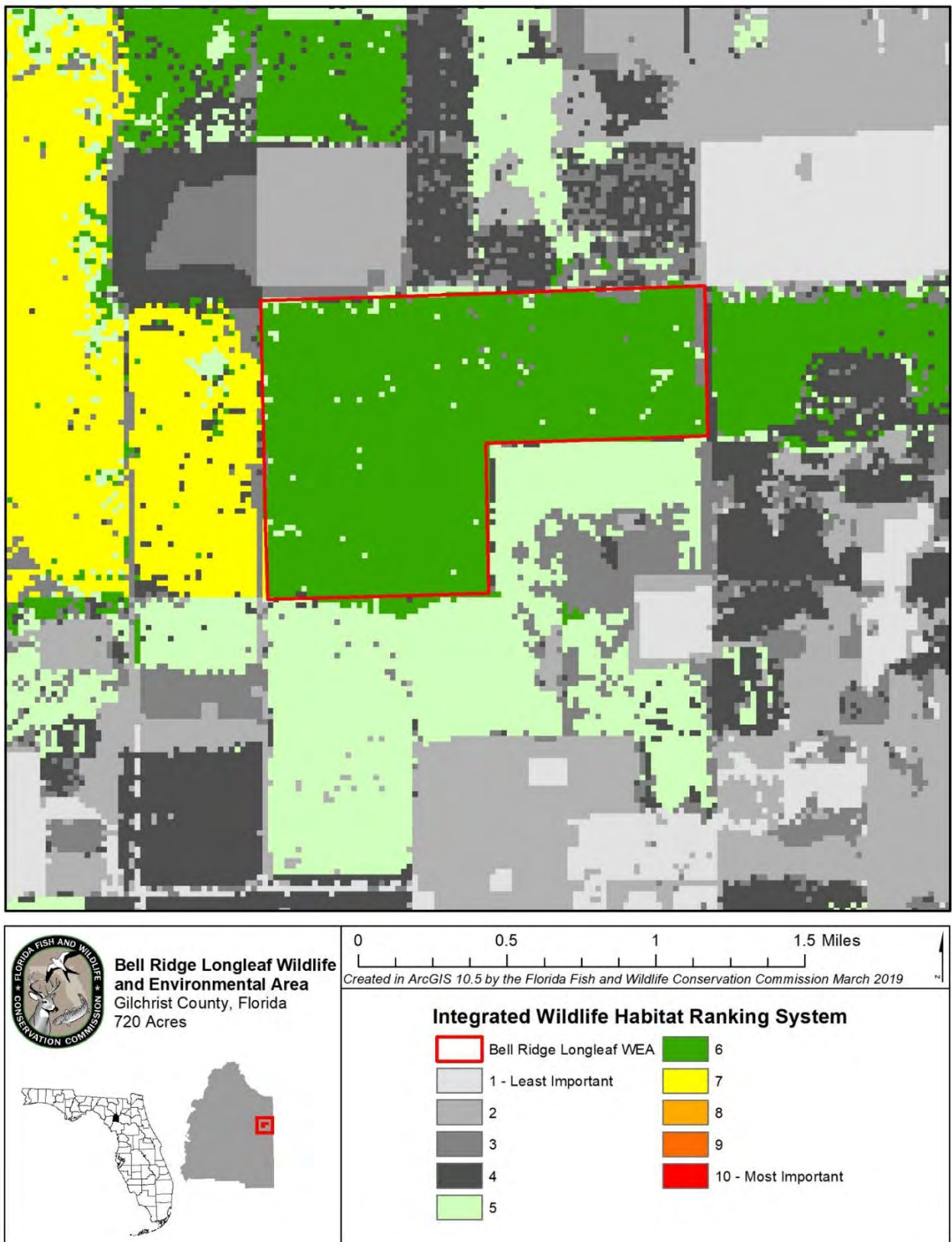


Figure 8: Integrated Wildlife Habitat Ranking System

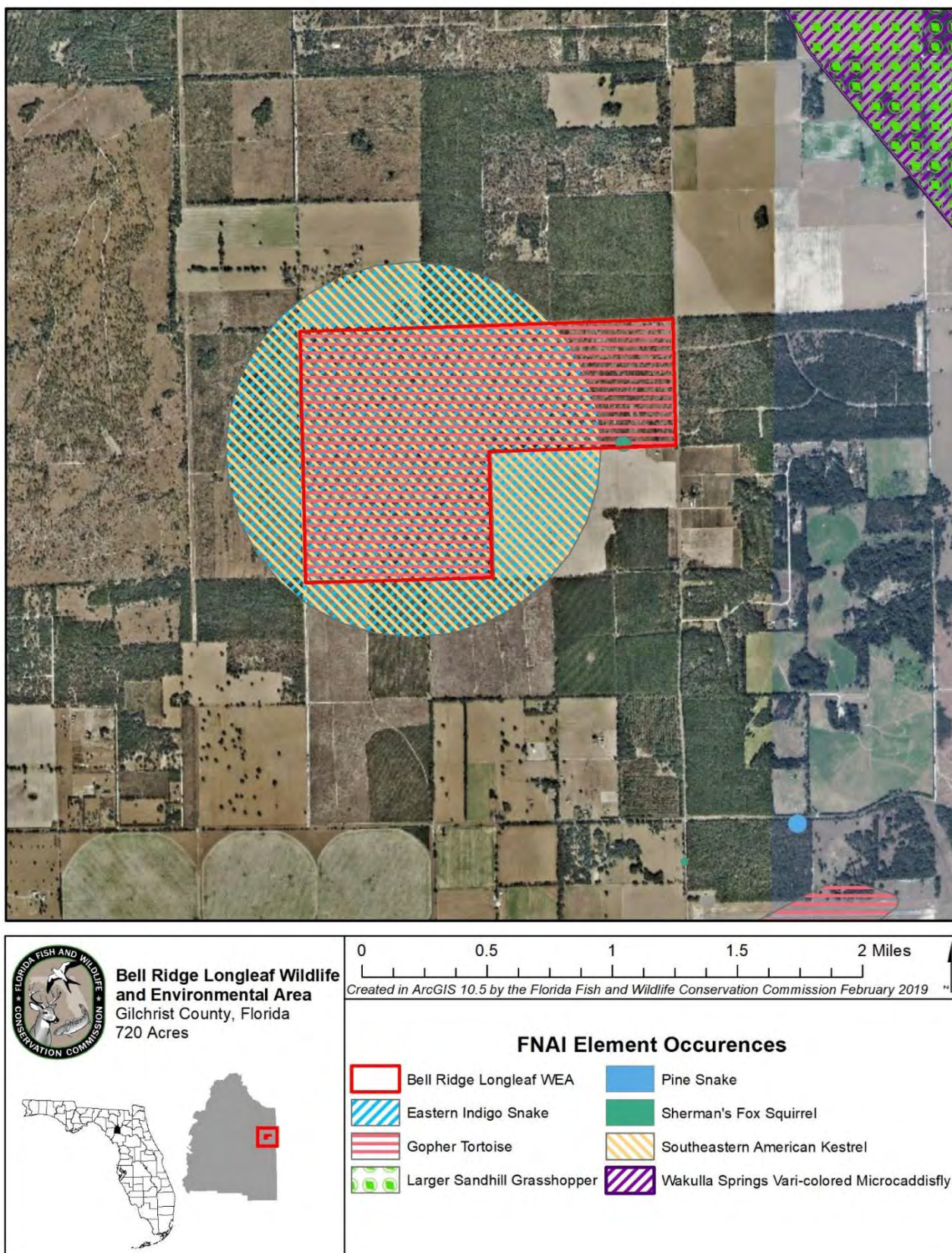


Figure 9: FNAI Element Occurrences

2.4 Native Landscapes

As previously discussed, the landscape of the BRLWEA is composed of the sandhill natural community. This community is described in detail in section 2.2.1.

2.5 Water Resources

The aquifer systems in the area of the BRLWEA in Gilchrist County consist of the surficial aquifer system, the intermediate confining unit and the Floridan aquifer system. The surficial aquifer system in Gilchrist County is unconfined and consists of unconsolidated clay and sand near the surface. The surficial aquifer is estimated to range from 45 to 80 ft in thickness. Below the surficial aquifer system, in areas where a sufficient thickness of clay exists, the intermediate confining unit is present and it acts as a confiner to the Floridan aquifer system below. Precipitation on the BRLWEA rapidly replenishes underlying aquifers through excessively drained sands of rapid permeability. The Floridan aquifer system is comprised of limestone formations underlying the surficial aquifer where the intermediate confining unit does not exist. It is the principle source of drinking water in Gilchrist County. The Floridan aquifer system is semi-confined in the area of the BRLWEA, where it receives moderate to high ground water recharge.

Surface water from most of the BRLWEA flows northward and westward into the Cow Creek-Santa Fe River Watershed, which is part of the Suwannee River Basin. The BRLWEA is also located within the sub-watershed catalogued as number 031102060701 in accordance with the 12-digit hydrologic unit code system. However, surface flows from the easternmost part of the BRLWEA flow into the Newberry Drain Watershed, a closed (internally draining) hydrologic unit (Figure 10). Hydric soils and wetlands have not been indicated to occur on the BRLWEA. Management of the BRLWEA in a natural condition helps protect the ground water resource from pollutant sources. According to the DEP, Division of Water Resource Management, conservation of water is promoted by best management practices, wetland conservation, wastewater systems, education and minimizing polluted runoff. Surface water quality standards established by the DEP include classifications and designated most beneficial uses, numeric and narrative criteria to support and protect those uses and an anti-degradation policy for protection of water quality.

The SRWMD also has jurisdictional authority governing the protection, use and monitoring of water resources within the Suwannee River Basin region in which the BRLWEA is located. The FWC cooperates with both the DEP and the SRWMD in their water monitoring, conservation and protection activities.

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 FAC. The surface waters of the BRLWEA and the surrounding area are designated as Class III, and classified for fish consumption; recreation, as well as 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 Outstanding Florida Waters (OFW) and Outstanding National Resource Waters (Chapter 62-302.700 FAC). However, no portions of the BRLWEA are designated as OFW. No degradation of water quality, other than that allowed in subsections Chapter 62-4.242(2) and (3) FAC, is permitted in these OFW, notwithstanding any other DEP rules that may allow water quality lowering.

2.6 Beaches and Dunes

The BRLWEA does not contain any beach or dune resources.

2.7 Mineral Resources

There are no known commercially viable mineral deposits on the BRLWEA.

2.8 Historical Resources

The Florida Department of State's Division of Historical Resources (DHR) observations are broken down into five categories: historic sites, resource groups, historical structures, historic bridges, and historic cemeteries. Currently, there are no known historical sites on the BRLWEA. All Master Site recordings, assessments, and preservation strategies will be coordinated with the DHR. The need for a comprehensive historical resource survey is regularly assessed in cooperation with the DHR.

2.9 Scenic Resources

The rolling sandhill of the BRLWEA makes the area a scenic venue for hiking and wildlife viewing. A detailed description of the sandhill found at the BRLWEA can be found in section 2.2.1.

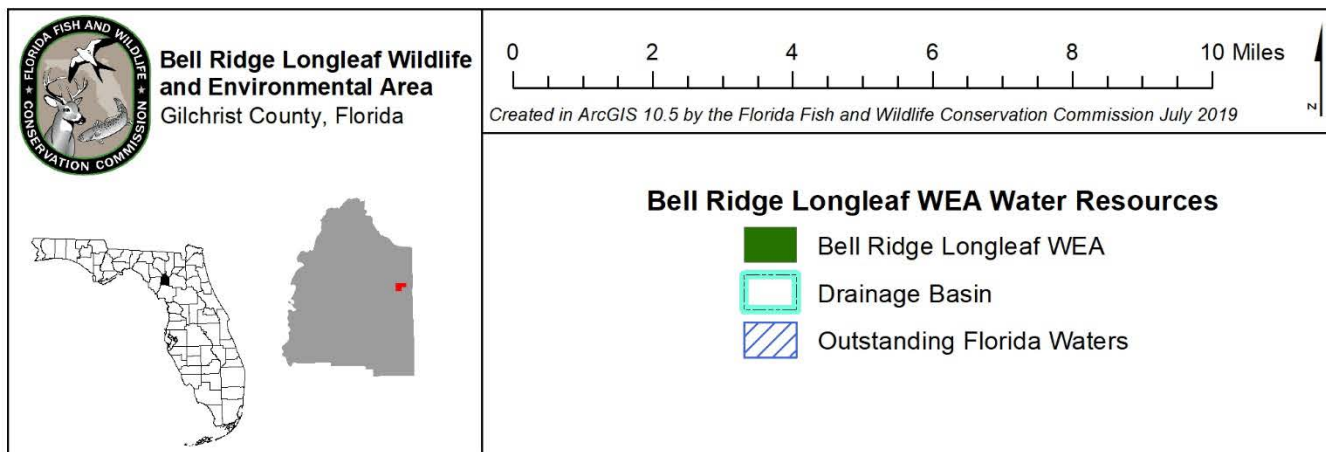
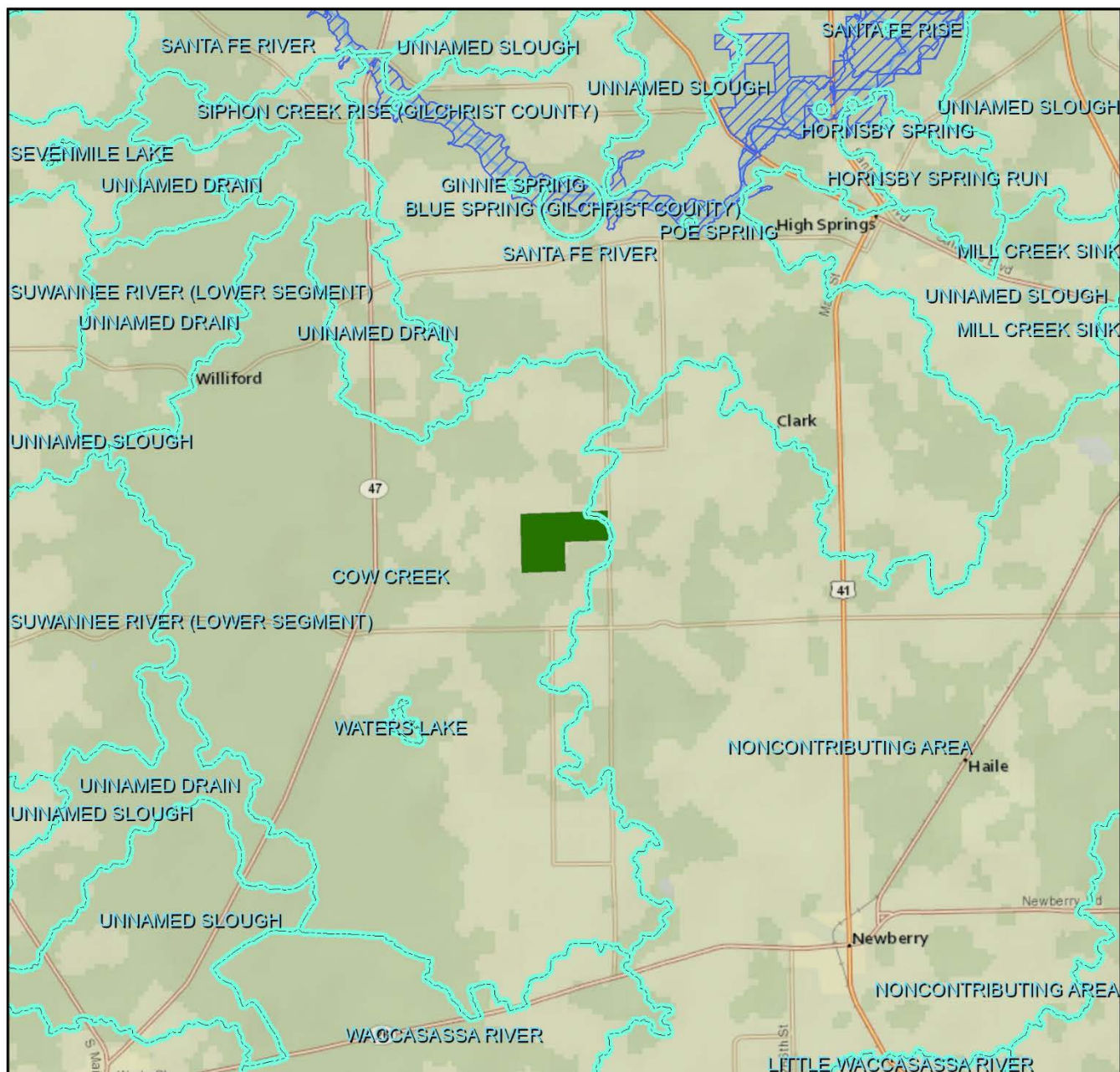


Figure 10: BRLWEA Water Resources

3 Uses of the Property

3.1 Previous Use and Development

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

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

Historical development associated with the early settlement of the BRLWEA is similar to other early settlements in North-central Florida. Exploitation of timber resources and agricultural development were the main factors that opened the area to settlers.

Little intensive previous use of the BRLWEA is apparent. Historically and presently, adjacent and nearby properties are either forested or in agricultural use. Evidence of litter and cat faced trees are present on the BRLWEA. The sandhill element occurrence record in the FNAI data layer is described as mature second growth. This indicates that there may have been periodic timber harvest, or clearing of the BRLWEA associated with agricultural and other rural uses, many decades ago. Past livestock grazing may have occurred. By 1970, the BRLWEA was apparently natural, second-growth sandhill with adjoining properties already in agricultural use or undeveloped. Some undeveloped areas were forested; timber had been removed from others. Several roads were in existence in the vicinity of the BRLWEA.

3.2 Current Use of the Property

Currently, the BRLWEA is managed for the conservation and protection of wildlife habitat and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on the BRLWEA each year including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive and exotic 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; archeological and historical resources monitoring and protection; and research related activities.

Current and anticipated resource uses of the property are diverse. The area offers excellent opportunities for bird watching. 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 plant study.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish and wildlife based public outdoor recreational opportunities is the primary source of economic benefits from the BRLWEA and contribute to the overall economy for the north central region of Florida. The FWC does not currently have an estimate of the number of people who visit the BRLWEA. However, if the current maximum visitation level of 43 visitors per day were achieved, a total of 15,695 visitors per year could be expected. If the area were at carrying capacity, FWC economic analysis estimates indicate that the BRLWEA generated an estimated annual economic impact of \$1.8 million for the State and the North Central Florida region. This estimated annual economic impact would aid in the support or creation of an estimated 159 jobs.

Further revenue generating potential of the BRLWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the BRLWEA might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly developed. 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.

3.3 Single- or Multiple-use Management

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

3.3.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on the BRLWEA. 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 12.8). 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 historical resources	✓		
Primitive camping		✓	
Protection of imperiled species	✓		
Off-road vehicle use			✓
Shooting sports park			✓
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation	✓		

3.3.2 Incompatible Uses and Linear Facilities

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

3.3.3 Assessment of Impact of Planned Uses of the Property

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

3.4 Acreage Recommended for Potential Surplus Review

On conservation lands where the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, ARC, and the Board of Trustees. This evaluation consists of GIS modeling and analysis, aerial photography interpretation, analysis of fish and wildlife resources, a review of resource and operational management needs, and a review of public access and recreational use of the area. Also, the FWC considers recommendations for surplus lands as they relate to Florida’s “No Net Loss of Hunting Lands” legislation (Ch. 379.3001 F.S.), as well as surplus restrictions for lands acquired through the Federal Aid in Wildlife Restoration Act (Pittman-Robertson) or through other federal grant programs.

The evaluation of the BRLWEA by the FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition, 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 BRLWEA is recommended for potential surplus review.

4 Accomplished Objectives from the BRLWEA Management Plan 2014 – 2024

This section is dedicated to reporting the extent to which the Objectives described in the BRLWEA Management Plan 2014– 2024 were successfully completed. Accomplishments for the BRLWEA during the previous planning timeframe are further discussed in more comprehensive detail throughout **Section 5 Management Activities and Intent** of this Management Plan.

The following **Resource Management Goals and Objectives** from the 2014 – 2024 BRLWEA Management Plan describe the planned activities for the BRLWEA during this period. The degree to which the FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

Objectives Accomplished from the 2014 BRLWEA Management Plan

Goals and Objectives	Percent Accomplished
Goal 1: Habitat Restoration and Improvement: Improve extant habitat and restore disturbed areas.	
Short-term	
Prescribe burn 240 acres per year, as needed. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Maintain 480 acres (67%) per year within 1 - 3 year target fire return interval. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Implement the Prescribed Burn Plan. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Develop and implement OBVM. <i>Comment: This objective was completed in Fiscal Year 2015-16.</i>	100%
Long-term	
Continue to prescribe burn 240 acres per year. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to maintain 720 acres (100%) within target fire return interval (1 - 3 years). <i>Comment: All management units are within the target fire return interval. The FWC continues to implement this ongoing objective.</i>	100%
Continue implementation of OBVM. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to conduct habitat/natural community improvement, including removal of undesirable densities of hardwoods as needed, on 0 - 720 acres per year. <i>Comment: Cut-stump treatment occurred in management units 1, 2, 4, 5, 6, and 12. The FWC continues to implement this ongoing objective.</i>	100%
Goal 2: Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration: Maintain, improve, and restore imperiled species populations, and habitats.	
Short-term	
Implement a WCPR strategy. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to collect opportunistic wildlife species occurrence data. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Monitor four kestrel nest boxes per year. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Long-term	
Continue to implement WCPR strategy by managing identified habitats and monitoring identified species. <i>Comment: The FWC continues to implement this ongoing objective. The FWC has monitored Florida mouse, gopher tortoise, and Southeastern American kestrel, and has conducted drift-fence surveys.</i>	100%
Conduct gopher tortoise surveys every five years. <i>Comment: FWC continues to implement this ongoing objective.</i>	100%

Goals and Objectives	Percent Accomplished
Continue to collect opportunistic imperiled wildlife species occurrence data including eastern indigo snake and Sherman's fox squirrel. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Conduct a small mammal survey. <i>Comment: A small mammal inventory was conducted during the Florida mouse survey and drift-fence surveys.</i>	100%
Goal 3: Exotic and Invasive Species Maintenance and Control: Remove exotic and invasive plants and animals and conduct needed maintenance- control	
Short-term	
Annually treat at least 0 - 1 acres of FLEPPC Category I and Category II invasive exotic plant species, or as needed. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Implement control measures on one exotic and nuisance animal species (wild hog), as needed. <i>Comment: No signs of wild hog have been observed on the area. The FWC continually monitors for exotic animals.</i>	100%
Long-term	
Continue to annually treat at least 0 - 1 acres of FLEPPC Category I and Category II invasive exotic plant species, or as needed. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to implement control measures on one exotic and nuisance animal species (wild hog), as needed. <i>Comment: No signs of wild hog have been observed on the area. The FWC continually monitors for exotic animals.</i>	100%
Goal 4: Public Access and Recreational Opportunities: Provide public access, and fish- and wildlife-based recreational opportunities.	
Short-term	
Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 12 visitors per day. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Develop additional public access and recreational opportunities to allow for a carrying capacity of 43 visitors per day. <i>Comment: The BRLWEA contains an ADA accessible parking area, 2.79 miles of marked hiking trails, and 8.49 miles of unmarked trails.</i>	100%
Continue to provide a one panel kiosk for interpretation and education. <i>Comment: The FWC continues to implement this ongoing objective. The panel and kiosk were updated and replaced in Fiscal Year 2018-19.</i>	100%
Develop website, trail guide and bird list for interpretation and education. <i>Comment: The FWC has developed these materials.</i>	100%
Install two picnic tables. <i>Comment: The FWC may consider adding picnic tables in the future, however at this time it has been determined that picnic tables could impede management activities on the area.</i>	0%
Maintain approximately two miles of trails.	100%

Goals and Objectives	Percent Accomplished
<i>Comment: The BRLWEA contains 2.79 miles of marked hiking trails and 8.49 miles of unmarked trails.</i>	
Construct new interpretive signage. <i>Comment: The kiosk at the entrance to the BRLWEA contains interpretive signage.</i>	100%
Long-term	
Implement the Recreation Master Plan. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Monitor trails biannually for visitor impacts. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Reassess recreational opportunities every three years. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Cooperate with other agencies, County, stakeholders and regional landowners to investigate regional recreational opportunities including linking hiking and multi-use trail systems between adjacent public areas. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to identify partnerships that could provide for environmental educational programs and outreach. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Goal 5: Hydrological Preservation and Restoration: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.	
Long-term	
Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs. <i>Comment: A hydrological assessment for the BRLWEA was completed in Fiscal Year 2014-15.</i>	100%
Continue to maintain or restore natural hydrological condition and functions to the area as feasible and appropriate. <i>Comment: Recommendations from the BRLWEA hydrological assessment have been fully implemented.</i>	100%
Goal 6: Forest Resource Management: Manage timber resources to improve or restore natural communities for the benefit of wildlife.	
Short-term	
Continue to consult with the FFS or a professional forestry consultant regarding implementation of forest management activities as appropriate. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Long-term	
Continue to consult with the FFS or a professional forestry consultant regarding implementation of forest management activities as appropriate. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Goal 7: Cultural and Historical Resources: Protect, preserve and maintain cultural and historic resources.	

Goals and Objectives	Percent Accomplished
Short-term	
Ensure all known sites are recorded in the DHR Master Site file. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Monitor, protect and preserve as necessary any future identified sites. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Coordinate with DHR to assess the need for conducting a cultural resource survey. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Long-term	
Cooperate with DHR or trained FWC Staff in designing site plans for development of infrastructure. <i>Comment: The FWC staff consult the DHR guidelines for ground disturbing activities.</i>	100%
Continue to monitor, protect, and preserve as necessary any future identified sites. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Coordinate with DHR for cultural resource management guideline staff training. <i>Comment: Currently, three local area staff are ARM certified.</i>	100%
Goal 8: Capital Facilities and Infrastructure: Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.	
Short-term	
Continue to maintain one parking area facility. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Maintain 11.5 miles of roads. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Construct 2 miles of hiking trails. <i>Comment: The 2.79-mile Sandhill Trail has been marked and designated.</i>	100%
Long-term	
Monitor trails and infrastructure biannually for visitor impacts. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to maintain one parking area facility. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to maintain 11.5 miles of roads. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to maintain two miles of hiking trails. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to improve or repair one facility and 0.5 miles of roads. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Goal 9: Land Conservation Acquisition and Stewardship Partnerships: Enhance fish and wildlife conservation, resource and operational management through development of an optimal conservation planning boundary.	
Short-term	

Goals and Objectives	Percent Accomplished
Identify potential important wildlife habitat, landscape-scale linkages and wildlife corridors for operational/resource management. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to identify and pursue acquisition needs and conservation stewardship partnerships. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB for FWC's Landowner Assistance (LAP) and Land Acquisition Programs. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Develop a CAS. <i>Comment: A Conservation Action Strategy (CAS) has not yet been developed for this area. A CAS will be developed during the next planning cycle.</i>	0%
Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Determine which parcels should be nominated for addition to the FWC acquisition list. <i>Comment: No parcels have been identified at this time. The FWC continues to implement this ongoing objective.</i>	100%
Identify potential non-governmental organization partnerships and grant program opportunities. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Long-term	
To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for BRLWEA as deemed necessary. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB for the FWC LAP and for the FWC Land Acquisition Program. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to determine which nominated parcels should be added to the FWC acquisition list. <i>Comment: No parcels have been identified at this time. FWC continues to implement this ongoing objective.</i>	0%
Propose nominations of selected properties as additions to the FWC acquisition list. <i>Comment: 23 parcels have been identified at this time. The FWC continues to implement this ongoing objective.</i>	100%
Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow <i>Comment: 23 parcels have been identified at this time. The FWC continues to implement this ongoing objective.</i>	100%

Goals and Objectives	Percent Accomplished
Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the CAS. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Continue to coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Goal 10: Climate Change: Develop appropriate adaptation strategies in response to projected climate change effects and their potential impacts on natural resources, including fish and wildlife, and the operational management of the BRLWEA.	
Long-term	
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 BRLWEA. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the BRLWEA. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
Incorporate appropriate climate change adaptation strategies into the WCPR for the BRLWEA. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
As appropriate, update the BRLWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of BRLWEA'S fire-adapted habitats. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%
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: The FWC continues to implement this ongoing objective.</i>	100%
Goal 11: Research Opportunities: Explore and pursue cooperative research opportunities.	
Long-term	
Participate in cooperative research opportunities through universities, FWRI and others as appropriate. <i>Comment: Several research projects have occurred at the BRLWEA including the UF pocket gopher research, USGS magnetometers, the FWC Homosassa shrew research and a FWRI pollinator study.</i>	100%
Continue to assess the need for and participate in research and environmental education partnership opportunities as appropriate. <i>Comment: The FWC continues to implement this ongoing objective.</i>	100%

5 Management Activities and Intent

The following section provides a description of agency plans to locate, identify, protect, preserve or otherwise use fragile natural resources and nonrenewable historical resources. In general, the FWC management intent for the BRLWEA 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 the FWC's intent to provide quality fish and wildlife resource based public outdoor recreational opportunities on the BRLWEA. 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 s. 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." Since the BRLWEA is less than 1,000 acres, no land management review has been conducted on the area.

5.2 Adaptive Management

Adaptive management is "learning by doing";¹ 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.^{1, 2} 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.^{2, 3} 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.^{2, 3}

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

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of the BRLWEA. 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.²

For natural communities, monitoring protocols are established through the 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. Exotic and invasive plant and animal species (Section 5.5) are also monitored as needed and appropriate. Recreational uses are monitored through the FWC's Public Access Services Office (PASO) program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.3). Historical resources (Section 5.9) are monitored with guidance from the DHR.

5.2.2 Performance Measures

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

5.2.3 Implementation

The BRLWEA 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 BRLWEA and resolve conservation threats to fish and wildlife and the habitats they occupy. Based on evaluations of project results, the conservation actions are revised as necessary, and the adaptive management process is repeated.

5.3 Habitat Restoration and Improvement

On the BRLWEA, the FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities. Retention of the native, uneven-aged longleaf pine forest, while also providing for natural regeneration, remains an important consideration. The BRLWEA has high-quality native sandhill that the FWC will continue to manage and protect.

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

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to maintain the FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses OBVM to monitor how specific vegetative attributes are responding to management activities.

The first step in implementing OBVM is to map the current, and in most cases the historic natural communities, on the managed area using FNAI Natural Community Classification. The FWC contracts with FNAI to provide these mapping services, and plans to have natural community maps recertified on most areas on a five-year basis. A natural community, as defined by FNAI, is a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment.

After natural communities have been mapped, FWC land managers will identify those natural communities that will influence and guide management decisions, known as the actively managed natural communities. Through OBVM monitoring, the FWC collects data on a number of specific vegetation attributes that provide insight about the condition of the natural community. Because the FWC is interested in the overall effect of management on the natural communities, OBVM data is analyzed at the natural community level.

Measurable habitat management objectives referred to as 'desired future conditions' are established for each actively managed natural community. Desired future conditions are the acceptable range of values for quantifiable vegetation attributes, such as basal area, shrub height and cover, and ground cover. The FWC collaborated with FNAI to identify

‘reference sites’ for each actively managed natural community and applied the OBVM monitoring methodology at these reference sites to determine what attribute values occur in a high-quality community (<http://www.fnai.org/reference-natural-communities.cfm>). FWC staff considers the reference site attribute values when setting area-specific desired future conditions for natural communities.

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

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

Initial mapping and vegetation sampling provide FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the subsequent monitoring results to desired future conditions, provides important operational information on a natural community’s vegetation structural status at a given point in time and trend over time. Using this information, managers can evaluate, adjust and modify their management practices to meet the stated objectives. By comparing natural community mapping products through the years, managers can track progress in moving altered communities to functioning natural communities.

5.3.2 Prescribed Fire and Fire Management

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

The FWC employs a fire management regime to increase both species and habitat diversity and will continue a prescribed burning program on the BRLWEA in accordance with vegetative management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads typically will not carry fire as evenly, and usually burn at a lower intensity. Employing a burning program with different burning frequencies, intensities, and seasonality (dormant season vs. growing season) of prescribed burns create habitat diversity and a mosaic of vegetation patterns. This mosaic is designed to have both frequently burned and infrequently burned aspects.

While not currently an issue at the BRLWEA, on some areas prescribed burning is limited by the buildup of mid-story brush and a lack of pyrogenic groundcover fuels. This condition creates unsuitable habitat for many wildlife species. Mechanical control of brush on upland sites by roller chopping, logging, shredding, or incidentally by equipment during commercial thinning operations, can reduce shading and encourage the grasses and forbs that are necessary to sustain prescribed fire. Roller chopping can be a valuable management tool, enabling the use of prescribed fires in areas heavily invaded by dense woody vegetation. However, roller chopping may damage the herbaceous ground cover, especially wiregrass. Therefore, its application will be limited to situations where burning can only be accomplished by first reducing woody vegetation by mechanical means.



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

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan has been developed and implemented for the BRLWEA (Appendix 12.9). This plan includes delineation of burn management units, detailed 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. Approximately 100% of the fire-adapted

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

5.3.3 Habitat Restoration

Continuing habitat management activities on the BRLWEA will focus on enhancing the sandhill natural community, maintaining recommended fire return intervals on the area, treating and removing exotic plant species, and controlling vegetation through mowing and roller chopping as needed. Chemical and mechanical treatments may also be implemented in some select hardwood stands in the sandhill in order to reduce hardwood stem density and prevent shading of native groundcover. Exotic species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for the BRLWEA are described in Section 6 below.

5.4 Fish and Wildlife Management, Imperiled and Locally Important Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration

5.4.1 Fish and Wildlife

Due to the high quality sandhill found at the BRLWEA, a diversity of associated wildlife, including rare, imperiled, common game, and non-game species, can be observed on the area. In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted above, sandhill is the only natural community found on the area.

The sandhills of the BRLWEA provide suitable habitat for a wide variety of wildlife species. Resident wildlife will be managed for optimum richness, diversity and abundance. In addition to resident wildlife, the BRLWEA provides resources critical to many migratory birds including, passerines, raptors, and others. Habitats important to migratory species will be protected, maintained or enhanced.

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

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

5.4.2 Imperiled and 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 OBVM to monitor how specific vegetative parameters are responding to management activities and uses the WCPR program to ensure management is having the desired effect on wildlife.

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



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

The WCPR program helps the FWC take a proactive, science-based approach to species management on the FWC-managed lands, and in conjunction with input from species experts and people with knowledge of the area, creates site-

specific wildlife assessments for imperiled wildlife species and a select suite of locally-important species which are the focus of the WCPR program. Staff combines these assessments with area-specific management considerations to develop a Species Management Strategy for the area. Each Strategy contains area-specific measurable objectives for managing priority species and their habitat, prescribes management actions to achieve these objectives, and identifies monitoring protocols to verify progress towards meeting the objectives. 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 endangered and threatened fish and wildlife species (see <https://myfwc.com/media/1945/threatend-endangered-species.pdf>), as well as select WCPR locally important species found on the area.

In summary, for the FWC-managed areas, the WCPR program helps assess imperiled and locally-important wildlife species needs and opportunities, prioritize what the FWC does for imperiled and locally-important species, prescribe management actions to aid in species

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

During the previous planning period, the FWC conducted imperiled and locally important species surveys for Florida mouse and gopher tortoise. The FWC also monitored four kestrel nest boxes. These imperiled species projects, along with other ongoing imperiled species management activities, will continue to be implemented in accordance with the BRLWEA WCPR Species Management Strategy (Appendix 12.10).

5.5 Exotic and Invasive Species Maintenance and Control

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

The BRLWEA experiences only very low occurrences of exotic plant infestations. Exotic and invasive plant species known to occur on the area and treated annually by the FWC include camphor tree and mimosa (Table 6). Exotic and invasive plant species have been identified as occurring at varying densities on approximately 30 acres of BRLWEA. However, the FWC's methodology for determining the number of acres "infested" with invasive and exotic plants only represents a cumulative acreage and does not reflect the degree of the invasive exotic occurrence. The degree of infestation among areas identified with invasive and exotic plant occurrences often varies substantially by species, level of disturbance, environmental conditions, and the status of ongoing eradication and control efforts. The FWC will continue to focus treatments on areas identified as having invasive and exotic plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring.

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

A potential exotic animal species of concern on the BRLWEA is the feral hog. These animals have high reproductive rates, and when populations reach high densities, feral hogs can significantly degrade natural communities through foraging activity (rooting). Although no signs of feral hogs have been observed at BRLWEA, the FWC will consult with other regional natural resource managing agencies and private landowners to coordinate feral hog control measures as necessary. Feral hog populations may be controlled by hunting or trapping, as necessary, to aid in minimizing the negative impacts caused by potential future feral hog populations on the area.

Even though they are currently being successfully controlled, prevention and control of invasive and exotic plant species continues to be a management concern at the BRLWEA. During the previous 10-year planning period, the FWC continued to implement extensive exotic and invasive species control and maintenance activities throughout the BRLWEA. These included exotic plant species treatments on a total of 75 acres within areas classified as infested, resulting in an overall 100% of BRLWEA currently being in a maintenance condition. An estimated 0% of the BRLWEA remains classified in an infested condition, thus requiring only continued spot treatments. The FWC will continue to focus control and maintenance activities on areas identified as having invasive and exotic plant occurrences, as well as treating any new occurrences as they are identified through continued monitoring activities. Ongoing exotic plant species objectives and challenges for the BRLWEA are further detailed in Sections 6 – 7 below.

5.6 Public Access and Recreational Opportunities

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 ADA⁴ where:

1. Compliance will cause harm to historical resources, or significant natural features and their characteristics.
2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.
3. Compliance would not be feasible due to terrain or prevailing construction practices.
4. Compliance would require construction methods or materials prohibited by federal or state statutes, or local regulations.

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for the BRLWEA. To accomplish this, the FWC has worked with recreational stakeholders and the general public to develop a Recreation Master Plan for the BRLWEA that is used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. The 2013 Recreation Master Plan includes planning for parking, trail design, and area resource interpretation (Appendix 12.11).

5.6.3 Public Access Carrying Capacity

Baseline carrying capacities for users on the 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 resource based public outdoor recreation opportunities. Based on an analysis of the overall approved uses and supported public access user opportunities, and the anticipated proportional visitation levels of the various user groups, the FWC has determined that the BRLWEA can currently support 43 visitors per day. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum thresholds for public use of the respective area in order to protect the natural and historical resources on the BRLWEA 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 BRLWEA 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 the sandhill habitat found on the BRLWEA attract a diverse suite of wildlife species including various bird, mammalian, reptile, and amphibian wildlife throughout the area.

5.6.5 Hunting

Hunting is not permitted at the BRLWEA. However, hunting opportunities are provided at other nearby conservation lands

5.6.6 Fishing

There are no surface waters at the BRLWEA suitable for fishing. However, fishing opportunities are provided at other nearby conservation lands

5.6.7 Boating

There are no surface waters at the BRLWEA suitable for boating. However, boating opportunities are provided at other nearby conservation lands

5.6.8 Hiking

Currently, there are 11.15 miles of trails that can be explored by hikers and those interested in nature study, including 2.79 miles of marked hiking trails.

5.6.9 Bicycling

Currently, bicycling is not permitted at the BRLWEA.

However, biking opportunities are provided at other nearby conservation lands

5.6.10 Equestrian

Currently, equestrian use is not permitted at the BRLWEA, and there

are no facilities to support the equestrian use of the area. However, equestrian opportunities are provided at other nearby conservation lands



5.6.11 Camping

Camping is currently prohibited on the BRLWEA. However, special-use camping permit applications for special user group events will be evaluated on a case-by-case basis.

Camping is offered at several other conservation and recreation areas in the region.

5.6.12 Geocaching

Geocaching, also known as Global Positioning System (GPS) Stash Hunt and GeoStash, is a contemporary combination of orienteering and scavenger hunting generally utilizing a GPS receiver unit. Geocache websites routinely promote good stewardship. However, the potential exists for resource damage, user conflicts, or safety issues caused by inappropriately placed caches and/or links that do not provide adequate information about the area.

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts, or threats to the safety of the

activity participants. The placement of geocaches on the FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following the FWC website: <https://myfwc.com/license/public-land-use/geocaching/guidelines/>.

5.6.13 Environmental Education

The FWC currently provides a kiosk at the entrance to the BRLWEA that provides interpretive information to visitors. Additionally, the FWC maintains a website for the BRLWEA which provides a wealth of educational information about the area, its habitat, and its wildlife.

To facilitate wildlife viewing recreational opportunities on the area, the FWC has continued to establish and maintain hiking trails, a kiosk, a parking area, and a website. During the previous 10-year planning period, the FWC completed several public access, recreational, and facility improvements on the BRLWEA, including trail and parking area improvements. 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 BRLWEA Recreation Master Plan.

5.7 Hydrological Preservation and Restoration

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

5.7.1 Hydrological Assessment

A hydrological assessment for the BRLWEA was conducted in 2014. This assessment determined that there is no evidence of hydrologic modifications on the area, and the hydrology of the BRLWEA is currently in its historic condition. Therefore, no hydrological restoration work is necessary.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of the BRLWEA has been conducted by the FFS (Appendix 12.6). The management of timber resources will be considered in the context of the Timber Assessment and the overall land management goals and activities.

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. When natural pine regeneration is less than desired, management actions can be undertaken that will maximize pine seed catch, promote seedling establishment, and maximize seedling survival. However, where natural regeneration is unlikely, artificial reforestation may be necessary. Planting trees

on these sites is used to better ensure successful reforestation and to ensure diversity. Snags will be protected to benefit cavity-nesting species.

5.9 Historical Resources

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

To date, the DHR Master Site File indicates no known historic sites on the BRLWEA. The FWC will submit subsequently located historic sites on the area to the DHR for inclusion in their Master Site File.

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 capital facilities and infrastructure on the BRLWEA include an entrance facility featuring an ADA accessible parking area and an interpretive kiosk (Figure 11). The BRLWEA also contains 11.15 miles of trails including 2.79 miles of marked hiking trails.

As described in Section 2.4.1 of this Management Plan, for any public facilities that are developed on areas managed by FWC, every effort is made to comply with the Americans with Disabilities Act (Public Law 101-336).

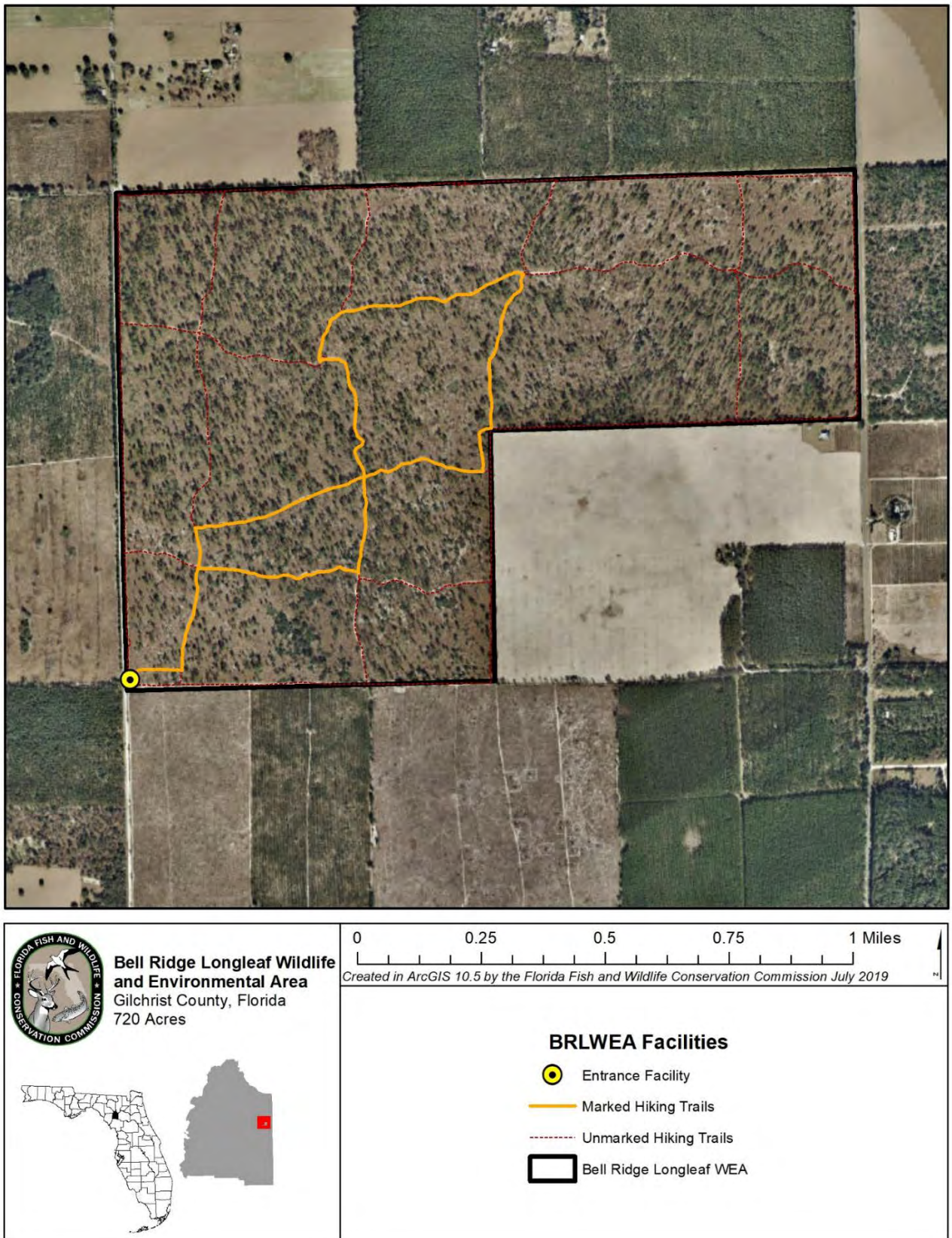


Figure 11: BRLWEA Facilities

5.11 Land Conservation and Stewardship Partnerships

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

5.11.1 Optimal Resource Boundary

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

5.11.2 Optimal Conservation Planning Boundary

The second tier is known as the OCPB. The OCPB combines the regional natural resources identified in the ORB, as well as regional and local area conservation planning, including habitat conservation and restoration, habitat linkages, management challenges, land use and zoning issues, infrastructure including roads and developments, improving access, eliminating inholdings, providing prescribed burn buffers, resolving boundary irregularities, water resource protection, and conserving other important natural and historical resources.

The OCPB provides the basis for development of a broader CAS for the BRLWEA. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region (Figure 12). As they are currently managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS is the third tier, and implements the results of the ORB and OCPB tiers. This element of the process incorporates the conservation planning recommendations into an action strategy that prioritizes conservation needs. The CAS is integral to the development of conservation stewardship partnerships and also implements the current approved

process for establishing the FWC Florida Forever Inholdings and Additions acquisition list, and it can be found in Appendix 12.12.

Primary components of the CAS may include:

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

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

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

5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, FWC has identified 2,654 acres of potential additions or privately held inholdings for BRLWEA (Appendix 12.12). Also, approximately 3,500 acres of the Bell Ridge Sandhills unit of the Longleaf Pine Ecosystem Florida Forever project remain to be acquired. Additions to the FWC Florida Forever Additions and Inholdings acquisition list may be recommended.

5.12 Research Opportunities

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

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of the BRLWEA as set forth in the lease agreement with the Board of Trustees. In keeping with the lease agreement, 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 12.13) are followed with regard to any ground-disturbing activities. In addition, the FFS assists FWC by providing technical assistance on forest resource management. Also, the FWC cooperates and consults with the SRWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of the BRLWEA.

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 BRLWEA. Such activities are considered allowable uses only when undertaken intermittently for short periods of time, in a manner that does not impede the management and public use of the BRLWEA, 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 BRLWEA. 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 BRLWEA. Location, management, and administration of apiaries on the BRLWEA is guided by the FWC Apiary Policy (Appendix 12.14.1), which requires apiary sites to be located at least ½ mile from the boundary lines of the area. According to the BRLWEA Apiary Assessment (Appendix 12.14.2), no portion of the BRLWEA is more than ½ mile from the property boundary. Therefore, apiaries are not allowed at the BRLWEA.

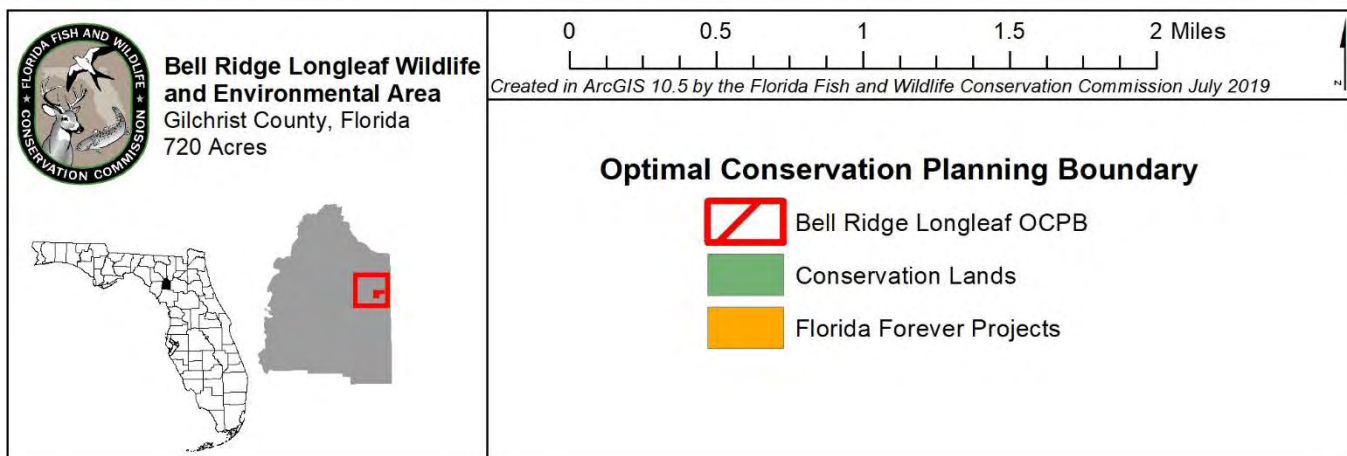
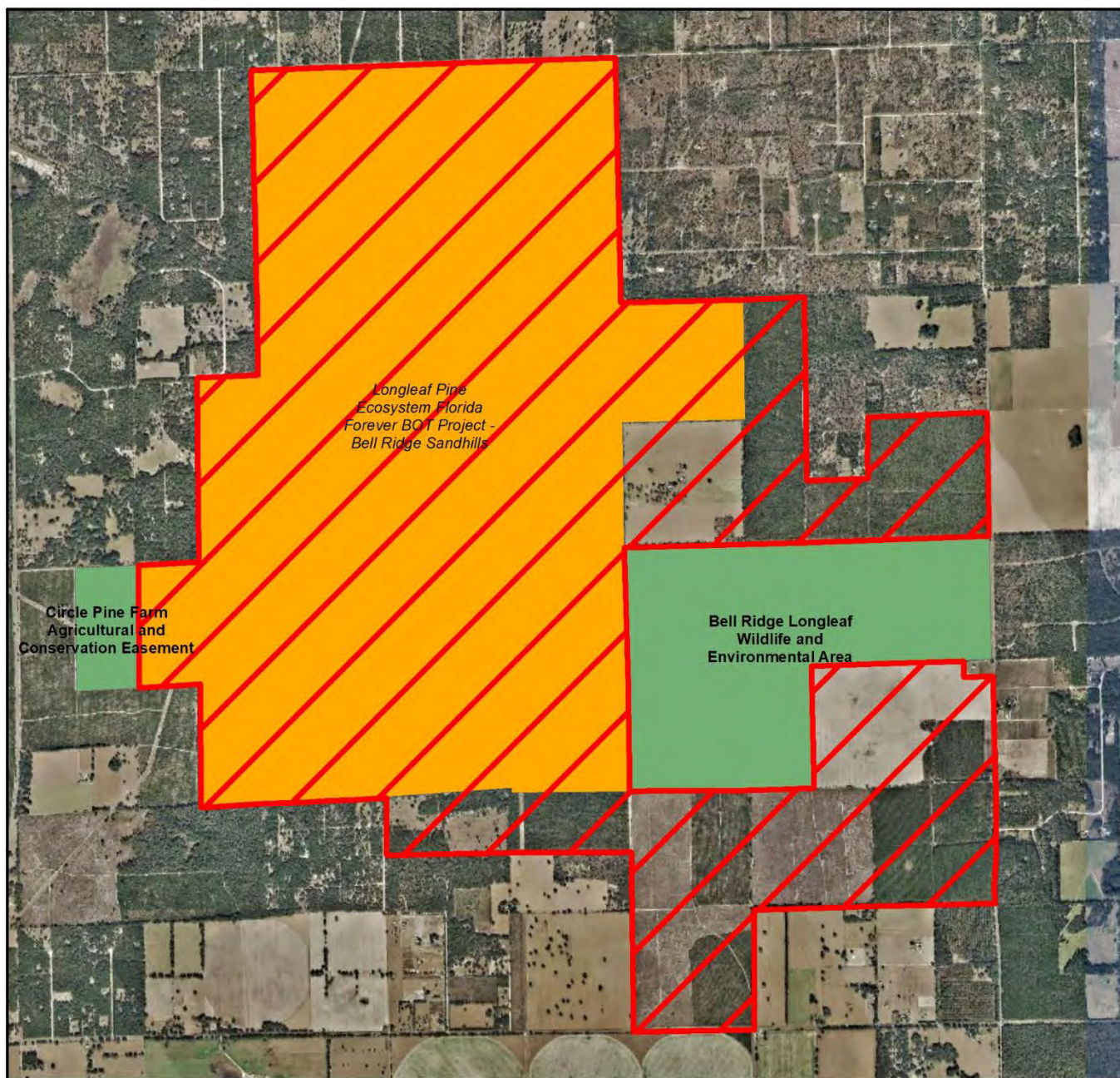


Figure 12: Optimal Conservation Planning Boundary

5.14 Climate Change

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

The Intergovernmental Panel on Climate Change (IPCC), a multi-national scientific body, reports that climate change is likely proceeding at a rate where there will be unavoidable impacts to humans, wildlife, and habitat. Given current levels of heat-trapping greenhouse gas emissions, shifts in local, regional, and national climate patterns including changes in precipitation, temperature, increased frequency and intensity of extreme weather events, rising sea levels, tidal fluctuations, and ocean acidification are projected. The current trend of global temperature increase has appeared to accelerate in recent decades, and continued greenhouse gas emissions may result in projected global average increases of 2 –11.5° F by the end of the century.⁵

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

Potential impacts that may be occurring as a result of climate change include: change in the timing of biological processes, such as flowering, breeding, hibernation, and migration;^{6, 7, 8} more frequent invasions and outbreaks of exotic invasive species;⁹ and loss of habitat in coastal areas due to sea level rise.¹⁰ Some species are projected to adjust to these conditions through ecological or evolutionary adaptation, whereas others are projected to exhibit range shifts as their distributions track changing climatic conditions. Those species that are unable to respond to changing climatic conditions are projected to go extinct. Some estimates suggest that as many as 20% - 30% of the species currently assessed by the IPCC are at risk of extinction within this century if global mean temperatures exceed increases of 2.7 – 4.5° F.¹¹ A number of ecosystems are projected to be affected at temperature increases well below these levels.

At this time, the potential effects of climate change on Florida's conservation lands are just beginning to be studied and are not yet well understood. For example, the FWC has begun a process for currently developing climate change adaptation strategies for monitoring, evaluating, and determining what specific actions, if any, may be recommended to ameliorate the projected impacts of climate change on fish and wildlife resources, native vegetation, and the possible spread of exotic and invasive species. Currently, the FWC is

continuing its work on the development of these potential adaptation strategies. However, as noted above, the effects of climate change may become more frequent and severe within the time period covered by this Management Plan.

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

To address the potential impacts of climate change on the BRLWEA, 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 BRLWEA 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 BRLWEA. 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 Update the prescribed burning plan.

Long-term

6.1.2 Continue to conduct prescribed burning on 229 acres of fire adapted communities (sandhill) per year.

6.1.3 Continue to maintain 688 acres of fire adapted communities (100%) per year within a 1 to 3-year target fire return interval.

6.1.4 Contract for recertification mapping of current natural communities.

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

6.1.6 Continue to implement the prescribed burning plan.

6.1.7 Continue to conduct habitat/natural community improvement, including removal of undesirable densities of hardwoods as needed up to 688 acres per year.

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

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

Short-term

6.2.1 Revise and implement an updated WCPR strategy by 2021.

Long-term

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

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 (Appendix 12.10).
- 6.3.2 Continue to collect and record opportunistic wildlife species occurrence data.

6.4 Exotic and Invasive Species Maintenance and Control

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

Long-term

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

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Long-term

- 6.5.1 Continue to implement the Recreation Master Plan.
- 6.5.2 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 43 visitors per day.
- 6.5.3 Continue to provide website, kiosk, trail map, bird list for interpretation and education.

- 6.5.4 Continue to maintain 2.79 miles of marked trails and 8.49 miles of unmarked trails.
- 6.5.5 Monitor trails annually for visitor impacts.
- 6.5.6 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.
- 6.5.7 Propose the BRLWEA as an addition to the Great Florida Birding and Wildlife Trail.
- 6.5.8 Update the Recreation Master Plan if warranted by land acquisition or other changes.

6.6 Hydrological Preservation and Restoration

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

Long-term

- 6.6.1 Continue to cooperate with the SRWMD and DEP for the monitoring of 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 consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

6.8 Historical Resources

Goal: Protect, preserve and maintain historical resources.

Long-term

- 6.8.1 Ensure all known sites are recorded in the Florida DHR Master Site file.
- 6.8.2 Coordinate with the DHR to schedule and conduct a historical resource or reconnaissance survey, if needed.
- 6.8.3 Cooperate with DHR in designing site plans for development of infrastructure.
- 6.8.4 Coordinate with DHR for Archeological Resource Monitoring staff training.
- 6.8.5 Continue to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for the management of cultural and historic resources.

6.9 Capital Facilities and Infrastructure

Goal: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this Management Plan.

Long-term

- 6.9.1 Monitor trails and infrastructure annually for visitor impacts.
- 6.9.2 Continue to maintain the entrance facility.
- 6.9.3 Continue to maintain 2.79 miles of marked trails and 8.49 miles of unmarked trails existing on site.
- 6.9.4 Improve or repair the entrance facility, 2.79 miles of marked trails, and 8.49 miles of unmarked trails existing on site (as applicable).

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

6.11 Climate Change

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

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 BRLWEA.
- 6.11.2 As appropriate, update the BRLWEA 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 BRLWEA to current cooperative managers and continue collaborative management and research efforts.

Long-term

- 6.12.1 Explore cooperative research opportunities through universities, Fish and Wildlife Research Institute, and others.
- 6.12.2 Continue to cooperate with researchers, universities, and others as appropriate.
- 6.12.3 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 BRLWEA.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with the BRLWEA 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: Currently, the FWC aims to meet FWC law enforcement and management staff standards and needs.

- 7.1.1 Strategy: Agency staff levels will continue to be evaluated to determine if increased staffing or other alternatives can improve management needs.
- 7.1.2 Strategy: Pursue funding for increased law enforcement, management staffing and additional private sector contract services as appropriate.
- 7.1.3 Strategy: Explore potential volunteer resources for assisting with management.

7.2 Challenge: Currently, the Florida Department of Transportation Type A field fencing around much of the boundary of the BRLWEA is having adverse impacts on wildlife.

- 7.2.1 Strategy: Consider and pursue alternatives to alleviate the adverse impacts from this type of fencing on wildlife, including potentially replacing the existing fencing or installing gaps in the current fencing.

7.3 Challenge: Insufficient area exists within the BRLWEA for long-term conservation of far-ranging species that have been documented or are expected to occur on the BRLWEA, such as eastern indigo snake and southern fox squirrel.

- 7.3.1 Strategy: Explore conservation stewardship and acquisition opportunities to secure habitat necessary for far-ranging species.

7.4 Challenge: Staff are encountering limitations when trying to implement prescribed burning plans.

- 7.4.1 Strategy: Improve interagency cooperation with the FFS, Florida Department of Transportation, Florida Highway Patrol, and local county governments.
- 7.4.2 Strategy: Explore conservation stewardship and acquisition opportunities.

7.5 Challenge: The BRLWEA is not a well-known recreation destination.

- 7.5.1 Strategy: Cross-promote the BRLWEA with other regional public conservation lands.
- 7.5.2 Strategy: Work with county tourism boards to promote the BRLWEA as a recreation destination.
- 7.5.3 Strategy: Cooperate with Non-Governmental Organization user groups such as Audubon and North American Butterfly Association to increase awareness of the area.

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

- 7.6.1 Strategy: Cooperate and work with Gilchrist County to ensure land use and zoning designations adjacent to the BRLWEA will continue to be compatible with the management of the area.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the BRLWEA. 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 BRLWEA. 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 2018-2019 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.15.

Bell Ridge Longleaf WEA Management Plan Cost Estimate

Maximum expected one year expenditure

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$1,398	(1)	(1) Immediate (annual)
Prescribed Burning	\$22,057	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$601	(1)	(3) Other (5+ years)
Timber Management	\$1,503	(1)	
Hydrological Management	\$0	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$25,928	(1)	
Subtotal	\$51,488		
 <u>Administration</u>			
General administration	\$3,855	(1)	
 <u>Support</u>			
Land Management Planning	\$12,810	(1)	
Land Management Reviews	\$2,671	(3)	
Training/Staff Development	\$1,188	(1)	
Vehicle Purchase	\$58,229	(2)	
Vehicle Operation and Maintenance	\$16,656	(1)	
Other (Technical Reports, Data Management, etc.)	\$3,529	(1)	
Subtotal	\$95,083		
 <u>Capital Improvements</u>			
New Facility Construction	\$0	(2)	
Facility Maintenance	\$6,141	(1)	
Subtotal	\$6,141		
 <u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$2,091	(1)	
 <u>Law Enforcement</u>			
Resource protection	\$658	(1)	
 <u>Total</u>	 \$159,315 *		

* 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.

Bell Ridge Longleaf WEA Management Plan Cost Estimate

Ten-year projection

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$12,287	(1)	(1) Immediate (annual)
Prescribed Burning	\$193,793	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$5,283	(1)	(3) Other (5+ years)
Timber Management	\$13,209	(1)	
Hydrological Management	\$0	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$227,810	(1)	
Subtotal	\$452,382		
 <u>Administration</u>			
General administration	\$33,869	(1)	
 <u>Support</u>			
Land Management Planning	\$112,548	(1)	
Land Management Reviews	\$7,647	(3)	
Training/Staff Development	\$10,442	(1)	
Vehicle Purchase	\$204,910	(2)	
Vehicle Operation and Maintenance	\$146,340	(1)	
Other (Technical Reports, Data Management, etc.)	\$31,003	(1)	
Subtotal	\$512,890		
 <u>Capital Improvements</u>			
New Facility Construction	\$0	(2)	
Facility Maintenance	\$53,956	(1)	
Subtotal	\$53,956		
 <u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$18,367	(1)	
 <u>Law Enforcement</u>			
Resource protection	\$5,778	(1)	
 <u>Total</u>	 \$1,077,241 *		

* 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
• Exotic 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 BRLWEA 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 12.8). 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, 379, 403, 870, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for the BRLWEA in compliance with Chapter 388.4111 F.S. (Appendix 12.16). The Arthropod Control Plan was developed in cooperation with the local Gilchrist County arthropod control agency. The BRLWEA Management Plan is in conformance with the Local Government Comprehensive Plan as approved and adopted for Gilchrist County, Florida, (Appendix 12.17).

11 Endnotes

- ¹ Aldridge, C. L., M. S. Boyce and R. K. Baydack. 2004. Adaptive management of prairie grouse: how do we get there? *Wildlife Society Bulletin* 32:92-103.
- ² Wilhere, G. F. 2002. Adaptive management in Habitat Conservation Plans. *Conservation Biology* 16:20-29.
- ³ Walters, C. J. and R. Hilborn. 1978. Ecological optimization and adaptive management. *Annual Review of Ecology and Systematics* 9:157–188.
- ⁴ Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas, Final Report (1999).
- ⁵ Karl, T. R., J. M. Melillo, and T. C. Peterson (Eds.). 2009. *Global Climate Change Impacts in the United States*. Cambridge University Press. New York, NY.
- ⁶ McCarty, J. P. 2001. Ecological consequences of recent climate change. *Conservation Biology* 15:320-331.
- ⁷ Walther, G. R., E. Post, P. Convey, A. Menzel, C. Parmesan, T. J. . Beebee, J. M. Fromentin, O. Hoegh-Guldberg, and F. Bairlein. 2002. Ecological responses to recent climate change. *Nature* 416:389–395.
- ⁸ Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. *Annual Review of Ecology, Evolution, and Systematics* 37:637-669.
- ⁹ Logan, J. A., and J. A. Powell. 2009. Ecological consequences of climate change altered forest insect disturbance regimes. In *Climate Warming in Western North America: Evidence and Environmental Effects* (F. H. Wagner, Ed.). University of Utah Press, Salt Lake City, UT.

- ¹⁰ 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.
- ¹¹ IPCC. 2007b. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK.

12 Appendices

12.1 Lease Agreement

DIVISION LOG # 1868

AGREEMENT NUMBER 08230

AGREEMENT ROUTING REVIEW FORM

CONTRACTOR BOT OF IITF AND FWC

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

PROJECT TITLE NEW LEASE #4595 FOR BELL RIDGE LONGLEAF WEA, TOTALING 720 ACRES

ORIGINATOR/CONTACT RICH MOSPENS PHONE 488-3831, EXT 17289 DIV./OFFICE/MAIL HSC / THCR

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

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

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

TOTAL CONTRACT AMOUNT \$ _____ PAYMENT AMOUNT \$ _____

BILLING PERIODS: MONTHLY QUARTERLY ANNUALLY OTHER

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

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

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

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

Commodity Code _____ Federal Funds: Agcy _____ CFDA _____

Routing Order for Approval	Approval (Signature)	Date	Comments
1. Project Leader	M. Briles	11/26/08	Budget Sheet is available upon request by external sources. Yes No
2. Budget Director (Expenditure Only)			Budget Authority: Existing New
3. Div./Reg./Inst./Off. Dir./Section Leader			
4. Contracts Administrator	Ray Chapman	12/02/08	
5. Legal	Reseller Initiative	12-8-08	
6. Accounting	S Bussey	12-10-08	Funds Availability: Yes No
7. Exec./Div./Reg./Inst./Off. Dir. review (check below).		12-11-08	
Expenditure Contracts: Return to Originator for Contractor signature. Other documents: Send to (circle) Exec./Div./Reg./Inst./Off. Dir. for signature.			Expenditure Contracts: After Contractor signs, send to Exec./Div./Reg./Inst./Off. Director for signature and dating.
8. Exec./Div./Reg./Inst. Dir. execute	10 for Nicky	12/17/08	
Originator Copy to Accounting*			Send a complete copy of the Contract & Routing Form
Originator to Contracts Administrator*			Send executed Original Contract & Original Routing Form
Originator to OIG FSAA Originals			Send to OIG: Mail Code 1E

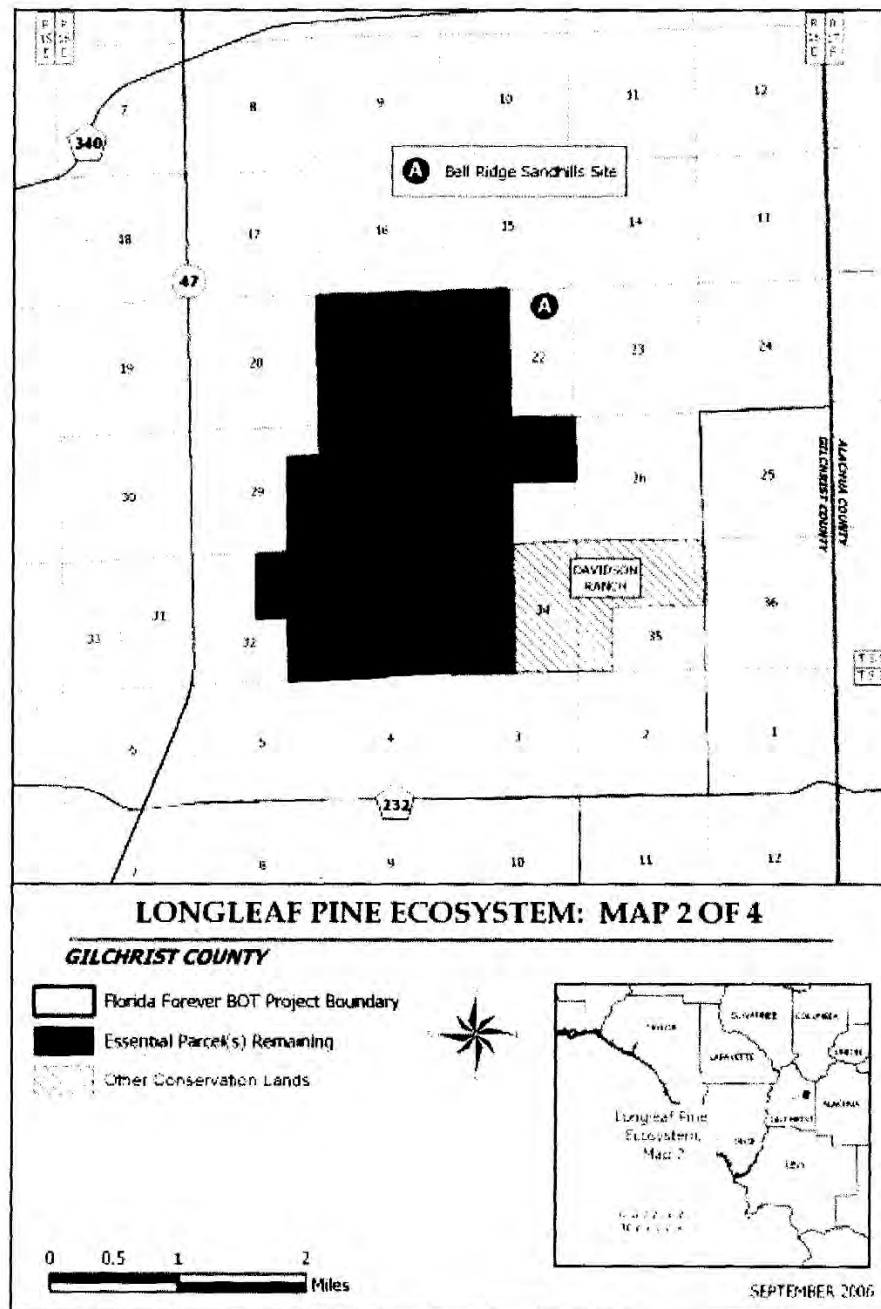
FWC 167/rev. 01/08 \SHARE\FORMS\CONROUTE.167

*See reverse for Codes/Definitions/Distribution

RECEIVED
DEC 09 2008
FWCC Bureau of
Accounting Services

RECEIVED
DEC 02 2008
FWC CONTRACT
ADMINISTRATOR

Longleaf Pine Ecosystem - Group B/Full Fee



315

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

MEMORANDUM

Date: May 18, 2009

To: Jeri Bailey, Contracts Administrator

CC: Matt Pollock, w/ amendment
Chris Tucker, w/ amendment
David Alden, w/ cover memo only
Rosa Torres, w/ cover memo only
Accounting, w/ cover memo only
Property, w/ cover memo only

From: Rich Mospens
HSC/THCP 

RE: New IITF Lease No. 4595 (FWC Contract #08230), Bell Ridge Longleaf
Wildlife and Environmental Area (f/k/a Davidson Ranch) 720 Acres

Included herewith please find a fully executed original of the referenced IITF Lease, which has FWC as the sole managing agency and provides a lease term of December 22, 2008 through December 21, 2058. Also included is the routing form.

The concerned lease is intended for gopher tortoise mitigation.

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

SAL2

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

720 acres

LEASE AGREEMENT

BELL RIDGE LONGLEAF WILDLIFE AND ENVIRONMENTAL AREA

Lease Number 4595

This lease is made and entered into this 22nd day of December, 2008, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

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

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

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

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, State of Florida Department of Environmental Protection.
2. DESCRIPTION OF PREMISES: The property subject to this lease is situated in the County of Gilchrist, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as "leased premises". Unless stated otherwise, all sovereignty lands located within the boundaries of Exhibit "A" shall be considered a part of leased premises.
3. TERM: The term of this lease shall be for a period of fifty years, commencing on December 22, 2008, and ending on December 21, 2058, unless sooner terminated pursuant to the provisions of this lease.

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

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

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

7. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises in accordance with Section 253.034, Florida Statutes, within twelve months of the effective date of this lease. The Management Plan shall be submitted for approval to the State of Florida Department of Environmental Protection, Division of State Lands, Office of Environmental Services, Mail Station 140, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved. The Management Plan shall emphasize the original management concept as approved by LESSOR at the time of acquisition, which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

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

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

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

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

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

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

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

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

- a. After consultation with the LESSEE, LESSOR agrees to provide the LESSEE with the title, survey and environmental products procured by the LESSOR, prior to closing.
- b. LESSOR will initiate surveying services to locate and mark boundary lines of specific parcels when necessary for immediate agency management and will provide a boundary survey of the entire acquisition project at the conclusion of all acquisition within the project boundary. Provided, however, the LESSEE may request individual parcel boundary surveys, if necessary, prior to the conclusion of acquisition activities within the project boundaries.
- c. Unless otherwise agreed to by LESSEE, LESSOR shall at its sole cost and expense, make a diligent effort to resolve all issues pertaining to all title defects, survey matters or environmental contamination associated with the leased premises, including but not limited to trash and debris, which were either known or should have been reasonably known by LESSOR at the time LESSOR acquired the leased premises. Notwithstanding the foregoing, LESSOR will not be responsible for any of LESSEE'S attorney's fees, costs, or liability or damages incurred by the LESSEE in resolving any issue in which the LESSEE is named as a party in any litigation or other legal or administrative proceeding.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

David Fewell
Witness

DAVE FEWELL
Print/Type Witness Name

Robin J Smith
Witness

Robin J Smith
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 22nd day of
December 2008, by Gloria C. Barber, as Operations and Management
Consultant Manager, Bureau of Public Land Administration, Division of State
Lands, State of Florida Department of Environmental Protection, acting as
agent on behalf of the Board of Trustees of the Internal Improvement Trust
Fund of the State of Florida.



David L. Fewell
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: [Signature]
DEP Attorney

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FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Sabrina Menendez
Witness
Sabrina Menendez
Print/Type Witness Name
Karen Ventingilia
Witness
Karen Ventingilia
Print/Type Witness Name

By: [Signature] (SEAL)
Nick White
Type/Print Name
Title: Asst. Executive Director

STATE OF FLORIDA
COUNTY OF LEON

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

The foregoing instrument was acknowledged before me this 12 day of
December 2008, by Nick White, as Asst. Exec Dir., on behalf
of the Florida Fish and Wildlife Conservation Commission, who is/are
personally known to me or who has produced _____ as
identification.

[Signature]
Notary Public, State of Florida
Kathleen L. Hampton
Print/Type Notary Name

Commission Number:
Commission Expires:

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

Prepared by and return to:
Wendi McAleese
American Government Services Corporation
3812 W. Linebaugh Avenue
Tampa, Florida 33618
File: 21666

Instrument# 2008004091.
Page 1 of 4
Recorded 08/06/2008 at 09:58 AM.
Joe W. Gilliam, Gilchrist County, Clerk of Court
Deputy Clerk DEBBIE CRAFT

SPECIAL WARRANTY DEED

THIS INDENTURE, made this 15th day of June, A.D., 2008, between The Nature Conservancy, a nonprofit corporation organized and existing under the laws of the District of Columbia, authorized to transact business in the State of Florida as The Nature Conservancy, Inc., whose address is 222 South Westmonte Drive, Suite 300, Altamonte Springs, Florida 32714-4269, grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, grantee,

(Wherever used herein the terms grantor and grantee include all the parties to this instrument and their heirs, legal representatives, successors and assigns. Grantor and grantee are used for singular and plural, as the context requires and the use of any gender shall include all genders.)

WITNESSETH: That the said grantor, for and in consideration of the sum of \$10.00 and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantees successors and assigns forever, the following described land situate, lying and being in Gilchrist County, Florida, to-wit:

See Exhibit "A" attached hereto and by reference made a part hereof.

Property Appraiser's Parcel ID Number: 34-08-16-0000-0001-0010 & 35-08-16-0000-0001-0000.

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

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

AND the said grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons claiming by, through or under the said grantor, but against none other.

*This conveyance is exempt from State Documentary Taxes pursuant to Section 201.02(6), Florida Statutes.

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

Signed, sealed and delivered in
the presence of:

The Nature Conservancy, a nonprofit corporation
organized and existing under the laws of the District of
Columbia, authorized to transact business in the State of
Florida as The Nature Conservancy, Inc.,

Jane Berger
Signature of First Witness

Jane Berger
Printed, Typed or Stamped
Name of First Witness

Patricia A. DeStefano
Signature of Second Witness

Patricia A. DeStefano
Printed, Typed or Stamped
Name of Second Witness

BY: Robert Bendick, Jr.
ROBERT BENDICK, JR.
as Vice President

(Corporate Seal)

State of FLORIDA
County of SEMINOLE

The foregoing instrument was acknowledged before me this 13th day of June, 2008, by ROBERT BENDICK, JR., as Vice President of The Nature of Conservancy, a nonprofit corporation organized and existing under the Laws of the District of Columbia, authorized to Transact business in the State of Florida as The Nature Conservancy, Inc., on behalf of the corporation.

Such person(s) (Notary Public must check applicable box):

- ☒ is/are personally known to me.
- ☐ produced a current driver license(s).
- ☐ produced _____ as identification.

(NOTARY PUBLIC SEAL)

Patricia A. DeStefano
Notary Public

(Printed, Typed or Stamped Name of Notary Public) Commission
No.: _____
My Commission Expires: _____



EXHIBIT "A"

THAT PART OF THE EAST 1/2 OF SECTION 34, TOWNSHIP 8 SOUTH,
RANGE 16 EAST, LYING EAST OF N.E. 65TH AVE.

ALSO

THE WEST 1/2 OF THE SOUTHWEST 1/4 AND THE NORTH 1/2 OF SECTION
35, TOWNSHIP 8 SOUTH, RANGE 16 EAST, LESS AND EXCEPT ANY PART
LYING WITHIN THE RIGHT OF WAY OF COUNTY ROAD NO. 337.

ALL BEING IN GILCHRIST COUNTY, FLORIDA.

LESS AND EXCEPT:

PARCEL A

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2583) AT THE
NORTHEAST CORNER OF SAID SECTION 35; THENCE S. 01°27'27" E.
ALONG THE EAST LINE OF SECTION 35, A DISTANCE OF 2661.66
FEET TO A NAIL & DISK (MILLS ENG. LB2583) AT THE SOUTHEAST
CORNER OF THE NORTHEAST 1/4 OF SECTION 35; THENCE S.
87°51'12" W. ALONG THE SOUTH LINE OF SAID SOUTHEAST 1/4 OF
THE NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL
ROD AND CAP (LB021) LYING ON THE WEST RIGHT WAY LINE OF
COUNTY ROAD 337 FOR A POINT OF BEGINNING; THENCE
CONTINUE S. 87°51'12" W. ALONG SAID SOUTH LINE, A DISTANCE
OF 623.67 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE
NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT
NUMBER 2004004262 OF THE PUBLIC RECORDS OF GILCHRIST
COUNTY, FLORIDA; THENCE N. 02°08'48" W., A DISTANCE OF 4.16
FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING 0.5 FEET
NORTH OF AN EXISTING FENCE LINE; THENCE N. 87°51'12" E.
PARALLEL WITH SAID SOUTH LINE, A DISTANCE OF 623.68 FEET TO
A 1/2" STEEL ROD AND CAP; THENCE S. 01°27'27" E. ALONG SAID
WEST RIGHT OF WAY LINE, A DISTANCE OF 4.16 FEET TO THE
POINT OF BEGINNING.

AND LESS AND EXCEPT:

DAVIDSON RANCH MITIGATION PARK
TNC TO FFWCC

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RS 4-23-08

Exhibit "A"
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EXHIBIT "A"

PARCEL B

COMMENCE AT A NAIL AND DISK (MILLS ENG. LB2583) AT THE NORTHEAST CORNER OF SAID SECTION 35; THENCE S. 01°27'27" E. ALONG THE EAST LINE OF SECTION 35, A DISTANCE OF 2661.66 FEET TO A NAIL & DISK (MILLS ENG. LB2583) AT THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 OF SECTION 35; THENCE S. 87°51'12" W. ALONG THE SOUTH LINE OF SAID NORTHEAST 1/4, A DISTANCE OF 40.00 FEET TO A 1/2" STEEL ROD AND CAP (LB021) LYING ON THE WEST RIGHT WAY LINE OF COUNTY ROAD 337; THENCE CONTINUE S. 87°51'12" W. ALONG SAID SOUTH LINE, A DISTANCE OF 623.67 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF A PARCEL RECORDED AS INSTRUMENT NUMBER 2004004262 OF THE PUBLIC RECORDS OF GILCHRIST COUNTY, FLORIDA FOR A POINT OF BEGINNING; THENCE CONTINUE S. 87°51'12" W. ALONG SAID LINE, A DISTANCE OF 3313.53 FEET TO A 1/2" STEEL ROD AND CAP (LB021) AT THE NORTHWEST CORNER OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SAID SECTION 35; THENCE S. 01°20'12" E. ALONG THE WEST LINE OF SAID EAST 1/2 OF THE SOUTHWEST 1/4, A DISTANCE OF 2653.59 FEET TO A 4"x4" CONCRETE MONUMENT (C&C INC. LB5075) AT THE SOUTHWEST CORNER OF SAID EAST 1/2 OF THE SOUTHWEST 1/4; THENCE ALONG THE WESTERLY AND SOUTHERLY LINES OF A SURVEY FOR THE NATURE CONSERVANCY BY WAYNE CHANCE PLS #1824, DATED 1991, THE FOLLOWING FIVE (5) CALLS; (1) N 01°24'29" W., A DISTANCE OF 1328.82 FEET TO A 4"x4" CONCRETE MONUMENT (C&C INC. LB5075); (2) CONTINUE N 01°24'29" W., A DISTANCE OF 1329.06 FEET TO A 4"x4" CONCRETE MONUMENT (C&C INC. LB5075); (3) N. 87°54'48" E., A DISTANCE OF 1326.56 FEET TO A 4"x4" CONCRETE MONUMENT (C&C INC. LB5075); (4) N. 87°54'58" E., A DISTANCE OF 1326.60 FEET; (5) N. 87°54'58" E., A DISTANCE OF 683.67 FEET TO A 4"x4" CONCRETE MONUMENT (C&C INC. LB5075); THENCE S. 02°08'48" E., 0.77' TO THE POINT OF BEGINNING.

DAVIDSON RANCH MITIGATION PARK
TNC TO FWCC

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12.2 Terms Used in This Management Plan

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

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

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

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

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

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

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

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

Imperiled species: A species or subspecies that is listed by the U.S. Fish and Wildlife Service as Endangered or Threatened; Florida Fish and Wildlife Conservation Commission (FWC) as Endangered, Threatened, or Special Concern; Florida Department of Agriculture and Consumer Services (FDACS) as Endangered or Threatened; or is tracked by Florida Natural Areas Inventory (FNAI) as globally or state Critically Imperiled or Imperiled.

Imperiled Species does NOT refer to species that are on the FDACS list of commercially exploited plants that are not Endangered or Threatened.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Visitor carrying capacity: An estimate of the number of users a recreation resource or

facility can accommodate and still provide a high quality recreational experience and preserve the natural values of the site.

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

12.3 Public Hearing Notice, Advertisements, and Press Release

12.3.1 Public Hearing Notice

NOTICE

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

PUBLIC HEARING

for the

Bell Ridge Longleaf Wildlife and Environmental Area Management Plan

Gilchrist County, Florida

7:00 P.M. Thursday, April 11, 2019

Gilchrist County Board of County Commissioners Meeting Facility
210 South Main Street
Trenton, FL 32693

PURPOSE: To receive public comment regarding considerations for the FWC ten-year Land Management Plan for the Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA). This hearing is being held EXCLUSIVELY for discussion of the DRAFT Bell Ridge Longleaf 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/>

or call (850) 487-7063.

A Management Prospectus for the Bell Ridge Longleaf WEA is available upon request. For a copy, please contact Lance Jacobson, Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9767. Email: Lance.Jacobson@MyFWC.com

12.3.2 Internal FWC Press Release

Help plan the future of Bell Ridge Longleaf Wildlife and Environmental Area

A 10-year plan for the Bell Ridge Longleaf Wildlife and Environmental Area (WEA) will be presented at a public hearing in Gilchrist County on Thursday, April 11th, 2019.

People are invited to the 7 p.m. Public Hearing at the Gilchrist County Board of County Commissioners Meeting Facility, 210 South Main Street, in Trenton.

Florida Fish and Wildlife Conservation Commission (FWC) staff will present the DRAFT land management plan for the FWC-managed WEA, and people will be encouraged to comment and ask questions. For more information on the [upcoming local public hearing](#), go to MyFWC.com/Conservation and select “Terrestrial Programs” then “Management Plans.”

The Bell Ridge Longleaf WEA is located in northeastern Gilchrist County. It offers opportunities for outdoor recreation, including wildlife viewing, and hiking.

The gopher tortoise, white-tailed deer, and southeastern American kestrel are among the native species living here. The pristine sandhill community in Bell Ridge Longleaf WEA not only provides quality habitat for gopher tortoise and other wildlife.

“Bell Ridge Longleaf WEA was purchased to ensure the preservation of wildlife resources, other natural and cultural resources, and for wildlife-based public outdoor recreation,” said Lance Jacobson, FWC land conservation planner. “This draft plan will specify how we intend to do that.”

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.

Hunting and fishing regulations are not included in this plan or meeting; those are addressed through a separate public process.

To obtain a copy of the land management prospectus for Bell Ridge Longleaf WEA, call Lance Jacobson at 850-487-9767 or email Lance.Jacobson@MyFWC.com.

For more information and background on [management plans](#) and their goals, visit MyFWC.com/Conservation and select “Terrestrial Conservation Programs” then “Management Plans.”

For more on [Bell Ridge Longleaf WEA](#), go to MyFWC.com and select “Wildlife Viewing” then “Wildlife Management Areas.”

12.3.3 Newspaper Advertisement

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LEGALS

(BRLWEA)

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Bell Ridge Longleaf WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our Proposed Rule Changes page: <http://myfwc.com/about/rules-regulations/changes/>

A Management Prospectus for Bell Ridge Longleaf WEA and copy of the agenda is available upon request from the Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850) 487-9767 or by e-mail at Lance.Jacobson@myfwc.com

March 31, 2019
#A000950259

The Florida Fish and Wildlife Conservation Commission (FWC) announces a PUBLIC HEARING for the FWC Lead Managed Portions of Bell Ridge Longleaf Wildlife and Environmental Area located in Gilchrist, Florida.

7:00 PM, Thursday, April 11th, 2019
Gilchrist County Board of County Commissioners Meeting Facility
210 South Main Street
Trenton, FL 32693

PURPOSE: To receive public comment regarding considerations for FWC's ten-year Management Plan for the FWC Lead Managed Portions of Bell Ridge Longleaf Wildlife and Environmental Area

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STATE OF FLORIDA COUNTY OF ALACHUA

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The Florida Fish and Wildlife Conservation Commission FWC announces a PUBLIC HEARING for the FWC Lead Managed Portions of Bell Ridge Longleaf Wildlife and Environmental Area located in Gilchrist, Florida. 7:00 P.M. Thursday, April 11th, 2019 Gilchrist C

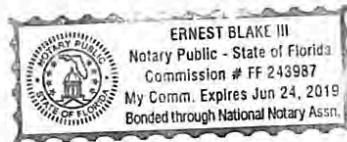
was published in said newspaper in the issues of:

3/31 1x

Affiant further says that the said THE GAINESVILLE SUN is a daily newspaper published at Gainesville, in said Alachua County, Florida, and that the said newspaper has heretofore been continuously published in said Alachua County, Florida, daily, and has been entered as second class mail matter at the post office in Gainesville in said Alachua County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the person of securing this advertisement for publication in the said newspaper.

K. Kowalski

Sworn to and subscribed before me this 10th day of April, A.D., 20 19



[Signature]
Notary Public

Ernest Blake III
(Print, Type or Stamp Name of Notary Public)

My commission expires 24 day of June, 20 19

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The Gainesville Sun

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A000950259	0001	03-31-19	03-31-19	2	42	The Florida Fish and Wildlife Conservation Commission FWC announces a PUBLIC HEARING for the FWC Lead Managed Portions of Bell Ridge Longleaf Wildlife and Environmental Area located in Gilchrist, Florida. 7:00 P.M. Thursday, April 11th, 2019 Gilchrist C

Payment Detail	Pay Date	Type	Card or Check #	Card	Exp	Amount
Current Payment	03/29/2019	CARD	xxxxxxxxxxxx3601	VI	11/21	\$ 99.92
Order Price						\$ 99.92
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Current Payment	03/29/2019	CARD	xxxxxxxxxxxx3601	VI	11/21	\$ 99.92
Order Price						\$ 99.92
Total Payments					-	\$ 99.92

12.3.4 Florida Administrative Register Ad

ID 21637904

Notice of Meeting/Workshop Hearing

FISH AND WILDLIFE CONSERVATION COMMISSION

Freshwater Fish and Wildlife

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

DATE AND TIME: Thursday, April 11, 2019, 7:00 p.m.

PLACE: Gilchrist County Board of County Commissioners Meeting Facility, 210 South Main Street, Trenton, FL 32693

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

This hearing is being held EXCLUSIVELY for discussion of the DRAFT Bell Ridge Longleaf WEA Management Plan. This meeting is not being held to discuss area hunting or fishing regulations. For more information on the process for FWC rule and regulation development visit our proposed rule changes page: <http://myfwc.com/about/rules-regulations/changes/>.

A copy of the agenda may be obtained by contacting: A Management Prospectus for Bell Ridge Longleaf WEA and copy of the agenda is available upon request from the Florida Fish and Wildlife Conservation Commission, Land Conservation and Planning Group, 620 South Meridian Street, Tallahassee, Florida 32399-1600. Telephone: (850)487-9767 or by e-mail at Lance.Jacobson@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: Diana Kilgore, (850)487-7063, Diana.kilgore@myfwc.com. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

For more information, you may contact: Diana Kilgore, (850)487-7063, Diana.kilgore@myfwc.com.

12.4 Public Input

12.4.1 Management Advisory Group Meeting Results

Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) Management Advisory Group (MAG) Consensus Meeting Results

March 13, 2019 in Newberry, Florida

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

The MAG consensus meeting was held on the morning of March 13, 2019 at the Newberry Municipal Building, in Newberry, Florida in Alachua County. The ideas found below were provided by stakeholders for consideration in the 2019-2029 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.

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

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

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
1.	[6]	[14]	7. Continue to implement prescribed fire. Prescribed fire is one of the most valuable tools for managing wildlands and natural communities such as sandhill, longleaf pine, wiregrass, turkey oak, etc. Without fire it will turn into another community.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
2.	[5]	[13]	3. Maintain and control invasive species. Some of the properties in the area have a lot of cogon grass, and climbing fern, and if they occur on site control the species.
3.	[4]	[19]	11. Maintain infrastructure. This area doesn't have a lot, but there are a few things out there such as roads, trails, and ADA compliant parking area with a trailhead and kiosk. So maintaining that and updating those helps bring non-consumptive users to this area, such as birding and wildlife viewing. Maintaining the infrastructure is a key to drawing in users.
4.	[3]	[4]	1. Manage sandhill natural community. Bell Ridge is unique because it hasn't been converted to another landcover/land use type. The area is intact Sandhill and longleaf, and has a really nice native groundcover component. So managing and maintaining that natural community to desired future conditions and keeping how it is and not allowing conversion.
5.	[3]	[9]	5. Maintain the longleaf pine overstory suitable for sandhill. Not looking to plant this is rows, however there is a concern with maintaining longleaf pine overstory on the tract. Look into using a baseline, if there isn't already one, to maintain or enhance the plant and animals that are found on the area. Throughout the property there are a good many old longleaf, however, for reasons such as lightening, they are dying out. This is not a widespread problem throughout the tract, but the old longleaf are dying. So looking into putting plans in place to replace those naturally. At some point you may be losing more than what is coming up naturally. At some point this area was probably logged. So these are not the best longleaf that were originally out there.

<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
6.	[2]	[3]	2. Endangered Species. Looking towards placing birds on the area and if that is done they will come. Potentially adding a colony of Endangered species such as red cockaded woodpecker or Scrub jay. If that occurs, then the area can potentially be added to the great Florida birding trail. So maintaining the habitat and getting rid of the invasive plants, will assist in attracting the birds and in turn stimulate visitation.
7.	[2]	[6]	6. Set up and maintain monitoring guidelines. If you have a desired future conditions, just knowing what that is, knowing what your expectations are from an overstory and groundcover level, and knowing what the expectations are for endangered plants and animals. Such as what populations are you expecting to increase and do you need it to increase. So listing it out so there is a quantifiable trajectory so you know where you need to go. Also, having backup ideas outside of prescribed fire, incase you do not have that tool available, so that you can still maintain the area. There could be future decisions such as smoke being restricted. In the future land managers may have to work towards other tools.

Two items of equal rank:

8.	[2]	[9]	9. Improve cover along the road. It is difficult in this area, because the only things that are out there is wiregrass, palmettos, and small hardwoods. Safety issues are occurring where people are hiking, and people are shooting from around the boundary of the area. Looking towards opportunities to make it less wide open from the boundary. Providing a barrier for people attempting to hunt from the road, which causes safety issues. Local landowners have Rx fire on their space but have a small border around the edge and having fire on the instead of the border. **Having the edge can also stimulate bird species habitat. **
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<u>Rank</u>	<u># of Votes</u>	<u>Score</u>	<u>Idea</u>
8.	[2]	[9]	10. Make adjustments to fence for wildlife. The fence that has been established is not the most wildlife friendly fence. The way the fence currently is deer can jump the fence and then their legs can get caught. You don't want to tear the fence down, but there are things you can do to adjust fence to make a wildlife corridor, and to make the area more wildlife friendly.
10.	[1]	[4]	4. Focus on native species maintenance. There are quite a few people who use the area, and those people have asked more if species such as turkey can occur on the area. Looking into what is needed to keep them or draw them into the property. Possibly maintaining types of feed.

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

N/A	[0]	[0]	12. Add area to the Great Florida Birding Trail If you have the birds there, there is a potential to be put on the trail. Then you can get a bird inventory and further monitoring. So stimulate wildlife habitat for birds in order to potentially put area on birding trail
N/A	[0]	[0]	13. Prevention of illegal or unapproved activities Increase county and FWC law enforcement (LE) presence, the LE side is few and far between, they have a couple officers covering many areas. So they are stretched thin. We don't have a ton of issues at the area, such as dumping. However things such as hunting from the roads can cause issues. Continue to promote LE and establish guidelines for authorized and unauthorized activities.

**Bell Ridge Longleaf Wildlife and Environmental Area
MAG Meeting Participants**

Name

Affiliation

Active Participants

Nathan Lambert	FWC Area Biologist
Justin Allen	FWC Law Enforcement
Doug Longshore	Florida Forest Service
Gerry Poltorak	Four Rivers Audubon Society
Scott Gregor	Suwannee River Water Management District
Chakesha Harvey	Natural Resources Conservation Service

Supportive Participants

Matt Pollock	FWC Habitat and Species Conservation (HSC), Regional Biologist
Scott Johns	FWC HSC, District Biologist
Katherine Burke	FWC Office of Public Access and Wildlife Viewing Services (OPAWVS)
Tom M. Matthews	FWC OPAWVS

Invited but Unable to Attend

Jason O'Donoghue	Division of Historical Resources
Dan Hipes	Florida Natural Areas Inventory
Whitney Markle	Sierra Club
Marion Poitevint	Gilchrist County Commissioner
Tim Powell	Gilchrist County Community Development
George Paxton	Department of Environmental Protection
Mitch Sapp	Florida Trail Association
Jenny Welch	Florida Native Plant Society
David Nicholson	National Wild Turkey Federation
Mary Galloway	Adjacent Private Landowner

FWC Planning Personnel

Lance Jacobson	Land Conservation Planner, Facilitator
Dylan Imlah	Land Conservation Planner, Recorder

12.4.2 Public Hearing Report

PUBLIC HEARING REPORT
FOR
BELL RIDGE LONGLEAF WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT PLAN
HELD BY THE
BELL RIDGE LONGLEAF WILDLIFE AND ENVIRONMENTAL AREA
MANAGEMENT ADVISORY GROUP
AND THE
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
APRIL 11, 2019 – GILCHRIST COUNTY, FLORIDA

The following report documents the public input that was received at the Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for BRLWEA that was held at 7:00-9:00 PM, on Thursday, April 11, 2019 at the Gilchrist County Board of County Commissioners Meeting Facility in Trenton, FL.

1) BRLWEA Management Advisory Group Introduction:

The meeting was introduced by Mr. Nathan Lambert, a BRLWEA Management Advisory Group participant, who represented the BRLWEA MAG. Mr. Lambert indicated that he was one of six stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated BRLWEA MAG meeting held on March 13, 2019. Mr. Lambert stated that the Draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the BRLWEA MAG meeting report were available at the front door for the public's review. Mr. Lambert thanked everyone for attending and then introduced Mr. Lance Jacobson, Land Conservation Planner, FWC, to facilitate and coordinate the presentation of an overview of BRLWEA, FWC's planning process, and the draft components of the BRLWEA Draft Management Plan.

2) Presentation on an Overview of BRLWEA and the FWC Planning Process:

Mr. Lance Jacobson welcomed everyone and thanked the public for their attendance. Mr. Jacobson then went over an orientation of the material and explained that the purpose of the public hearing was to solicit public input regarding the Draft Management Plan for

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

3) Questions, Answers and Discussion on the BRLWEA Overview and FWC's Planning Process:

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

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

Presentation of the BRLWEA Draft Management Plan:

At this point, Mr. Lance Jacobson, began the presentation of the BRLWEA Draft Management Plan. Mr. Jacobson then completed and concluded the presentation of the BRLWEA Draft Management Plan.

4) Questions and Comments on the BRLWEA Draft Management Plan Presentation:

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

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

5) Public Testimony on the BRLWEA Draft Management Plan:

No members of the public audience submitted speaker cards indicating their intention to provide formal public testimony. Mr. Jacobson again emphasized that the public hearing was for taking input regarding the BRLWEA Draft Management Plan.

6) Adjournment:

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

No speakers offered further comments.

Then Mr. Jacobson declared the public hearing adjourned.

12.5 Soil Series Descriptions

Map Unit Description

Gilchrist County, Florida

[Minor map unit components are excluded from this report]

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

Component: Penney (80%)

The Penney component makes up 80 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R152AY002FL Longleaf Pine-turkey Oak Hills ecological site. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 3 - Penney fine sand, 5 to 8 percent slopes

Component: Penney (80%)

The Penney component makes up 80 percent of the map unit. Slopes are 5 to 8 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 13 - Wadley fine sand, 0 to 5 percent slopes

Component: Wadley (85%)

The Wadley component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 18 - Kershaw fine sand, gently rolling

Component: Kershaw (90%)

The Kershaw component makes up 90 percent of the map unit. Slopes are 2 to 8 percent. This component is on ridges on marine terraces on coastal plains, knolls on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is very high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R152AY002FL Longleaf Pine-turkey Oak Hills ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 35 - Alpin fine sand, 0 to 5 percent slopes

Component: Alpin (90%)

The Alpin component makes up 90 percent of the map unit. Slopes are 0 to 5 percent. This component is on ridges on marine terraces on coastal plains. The parent material consists of eolian deposits or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water

Map Unit Description

Gilchrist County, Florida

Map unit: 35 - Alpin fine sand, 0 to 5 percent slopes

Component: Alpin (90%)

to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map Unit Description

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

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

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

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

12.6 Timber Assessment

TIMBER ASSESSMENT
BELL RIDGE LONGLEAF
WILDLIFE and ENVIRONMENTAL AREA
PREPARED BY
DOUG LONGSHORE
SENIOR FORESTER, OTHER PUBLIC LANDS REGION 2
FLORIDA FOREST SERVICE
October 2011

PURPOSE

This document is intended to fulfill the timber assessment requirement for Bell Ridge Wildlife and Environmental Area (BR WEA) as required by Section 253.036, Florida Statutes. The goal of this *Timber Assessment* is to evaluate the potential and feasibility of managing timber resources for conservation and revenue generation purposes.

BACKGROUND

This tract was approved for purchase by FWC in 2008 under FWC's Fish and Wildlife Habitat Acquisition Program for the purpose of establishing, managing, and conserving a Gopher Tortoise Mitigation Park. Prior to purchase by the state, this property was in private ownership. While in private ownership, the tract was used primarily for bird hunting. During this time, the property was prescribed burned on a regular basis.

GOALS AND OBJECTIVES

This property is to be managed as a Gopher Tortoise Mitigation Park for natural resource conservation, restoration, and resource-based public outdoor recreation within a multiple-use management concept. The main emphasis however, is the restoration and management of gopher tortoise habitat.

Gopher tortoises prefer habitats characterized by a relatively open tree canopy which allows ample sunlight to reach the ground, promoting the growth of a healthy ground cover. It will be essential to introduce frequent prescribed fires into this area in order to insure the success of restoration and maintenance efforts.

TIMBER MANAGEMENT

A useful measurement of tree stocking, density and any other characteristic for that matter, is basal area per acre (BA). Basal area is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. (The diameter of an individual tree measured at this height is referred to as its diameter breast height or DBH.) Once the basal area of individual trees is known, the stand table factor (stf) can be derived. The stand table factor is the number of trees represented by a tree which is "in" with the angle gauge or prism. Suppose the stand table factor for a particular tree was 30. This suggests that for each one of those particular trees counted in with the prism, there are 30 of these trees per acre. Knowing that, if those particular trees had 2

logs per tree then you would have 60 logs per acre. If they had 100 insects per tree, then you would have 3000 insects per acre. Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. North Florida longleaf pine stands with 70 to 110 square feet of BA are considered fully stocked. It requires more, smaller diameter trees than it does larger diameter trees to equal one square foot of basal area. (For example: It takes 357 evenly spaced, six-inch diameter breast height trees to equal 70 sq. ft. BA. Whereas, only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. BA.)

Basal Area can be roughly correlated to crown coverage and therefore needle-cast. About 40 to 60 sq. ft. BA should provide sufficient needle-cast to carry prescribed fire and still allow adequate sunlight for native grasses to be maintained.

The ultimate goal of most fire maintained, natural communities in Florida is to have relatively open, uneven-aged pine stands.

EXISTING TIMBER RESOURCES

Bell Ridge Wildlife and Environmental Area consists of open, mixed aged longleaf pine with an understory of turkey oak, sand live oak, and post oak. The wiregrass ground cover is mostly intact and in good condition.

Timber management activities on the Bell Ridge tract will be long term oriented and infrequent, every 20 years or so, directed at the maintenance of a healthy basal area range of 40 to 60 square feet per acre. The basal area of the stand is a dynamic measurement, changing over time. Through the planned management activities which include prescribe burning and selective hardwood control, longleaf pine basal area will increase over the long term requiring the need for some type of pre-commercial or commercial thinning in order to maintain the basal area in an acceptable range to meet management objectives.

Current Recommendations

Complete a forest inventory of the tract. The intent of this inventory is not to determine the dollar value of the timber, but establish a baseline basal area and diameter distribution for both pine and hardwood. This inventory will also identify areas with little to no longleaf pine stocking and plans can be made for natural or artificial regeneration of longleaf pine. Over the long term, the health and status of the longleaf pine can be monitored, in addition to the long term affects of prescribed burning (reduction of hardwood stems, increase of longleaf pine regeneration, etc.).

Complete a prescribe burn plan. From information gathered in the forest inventory plan, burn rotations of specific burn units may need to be altered in order to promote natural seeding of longleaf pine. This plan will enable the manager to efficiently monitor these burn rotations and prepare future burns.

Much thought and time can be spent discussing the “details” of prescribe burning this tract, but most importantly, safely put fire on the ground on a regular basis whenever the time and weather permits.

SUMMARY

Bell Ridge WEA is a unique property and well suited for its intended purpose. Through regularly scheduled and properly timed prescribe burns, conditions for ground cover plants will improve as well as the overall health and long term sustainability of the longleaf pine, making this tract a true gem for the citizens of Florida.

12.7 FNAI Element Occurrence Data Usage Letter



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

April 11, 2014

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

Dear David,

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

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

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

Sincerely,

Gary Knight
Director
Florida Natural Areas Inventory



Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

12.8 FWC Agency Strategic Plan

Florida Fish and Wildlife Conservation Commission
Agency Strategic Plan
2014 – 2019

Theme One – Florida’s Fish and Wildlife Populations and Their Habitats

Goal 1: Ensure the sustainability of Florida’s fish and wildlife populations.

Strategies:

1. Manage listed species so they no longer meet Florida’s endangered and threatened listing criteria.
2. Manage species to keep them from meeting Florida’s endangered and threatened listing criteria.
3. Anticipate and address fish and wildlife species’ conservation needs in light of adaptation to long-term environmental changes.
4. Develop, acquire and apply the appropriate biological and sociological science to inform fish and wildlife conservation decisions.
5. Inform and guide partners regarding how their regulations, policies, procedures and other actions affect fish and wildlife conservation.
6. Protect fish and wildlife species through effective outreach and enforcement.

Goal 2: Ensure sufficient habitats exist to support healthy and diverse fish and wildlife populations.

Strategies:

1. Use science to determine quantity, quality and location of the habitats most critical to sustain healthy and diverse fish and wildlife populations.
2. Protect lands and waters critical to sustaining healthy and diverse fish and wildlife populations through diverse incentive programs.
3. Manage habitats to sustain healthy and diverse fish and wildlife populations.

Theme Two – Interactions with Fish and Wildlife, including Fishing, Hunting, Boating and Wildlife Viewing Opportunities

Goal 1: Provide residents and visitors with quality fishing, hunting, boating and wildlife viewing opportunities that meet their needs and expectations while providing for the sustainability of those natural resources.

Strategies:

1. Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources.
2. Manage fish and wildlife populations to provide sustainable fishing, hunting, and wildlife viewing opportunities.
3. Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners.
4. Recruit and manage sustainable levels of resident and visitor participation in fishing, hunting, boating and wildlife viewing.
5. Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans.

Goal 2: Enhance the safety and outdoor experience of those who hunt, fish, boat and view wildlife.

Strategies:

1. Provide and promote opportunities for residents, and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing.
2. Enhance the boating safety and waterway experience of residents and visitors through improved access, management, education and enforcement.
3. Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors.
4. Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors.

Goal 3: Use minimal regulations to manage sustainable fish and wildlife populations, manage access to fish and wildlife resources, and protect public safety.

Strategies:

1. Continually evaluate proposed and existing regulations, based on resource management benefits, public safety concerns, and economic and social impacts, to improve or eliminate regulations as warranted.
2. Coordinate with partners and stakeholders to ensure that appropriate authorities and regulations exist to maintain sustainable fish and wildlife populations.
3. Implement and enforce regulations in an informative, proactive and influential manner to enrich resident and visitors' outdoor experience while safeguarding the natural resources.

Goal 4: Minimize adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants that are known, or have a potential, to cause adverse impacts.

Strategies:

1. Manage species and their habitats, as well as species and human interactions, to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife and plants.
2. Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants.
3. Manage captive and non-native wildlife movement and trade through proactive and responsive enforcement, regulation and education, with an emphasis on species that pose a high risk to our native fish and wildlife.
4. Enhance partnerships to address adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants and ensure a consistent and integrated approach with FWC.

Theme Three – Sharing Responsibility for Fish and Wildlife Conservation and Management with an emphasis on developing conservation values in our youth

Goal 1: Ensure current and future generations support fish and wildlife conservation.

Strategies:

1. Expand and promote the Florida Youth Conservation Centers Network through leveraging FWC programs and staff, and developing public and private partnerships and sponsorships.

2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.
3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.
4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

Goal 2: Ensure residents, visitors, stakeholders and partners are engaged in the processes of developing and implementing conservation programs.

Strategies:

1. Foster a common vision among partners and the FWC to maintain and enhance fish and wildlife populations and their habitats through interagency coordination, mutually beneficial goals and initiatives.
2. Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities.
3. Use citizen science to enhance conservation programs.

Goal 3: Increase opportunities for residents and visitors, especially youth, to actively support and practice fish and wildlife conservation stewardship.

Strategies:

1. Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife.
2. Provide and promote opportunities for residents and visitors, especially youth, to participate in conservation stewardship activities, including FWC volunteer opportunities.

Goal 4: Encourage communities to conserve lands and waters critical to sustaining healthy and diverse fish and wildlife populations.

Strategies:

1. Provide communities with the necessary assistance to help them obtain the social and economic benefits of local conservation lands.
2. Provide residents and visitors with relevant information on the social and economic benefits of conservation, fishing, hunting, boating, and wildlife viewing.

3. Support community events and programs that promote fish and wildlife conservation.

Theme Four – Responsive Organization and Quality Operations

Goal 1: Integrate our commitment to benefit the community and enhance the economy through our conservation efforts and public service.

Strategies:

1. Identify and implement ways to support Florida businesses and job growth while managing fish and wildlife.
2. Identify and promote opportunities for staff to benefit local communities through participation in approved activities where FWC resources can be used (for example, the Florida State Employees' Charitable Campaign, the Guardian ad Litem Program, mentoring programs, FWC Disaster Response Teams, and American Red Cross Disaster Services).
3. Provide residents and visitors with reliable and current information on Florida's fish and wildlife.
4. Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities.

Goal 2: Provide resources and support for the safety and protection of residents and visitors, our natural and cultural resources, and for emergency responses to critical incidents and environmental disasters.

Strategies:

1. Identify existing and emerging risks to the safety of residents and visitors and foster internal collaboration and external partnerships necessary to effectively manage, reduce or eliminate those risks.
2. Provide immediate and effective disaster response and recovery through mutual-aid efforts with local, state and federal partners.
3. Provide search, rescue, and recovery services in coordination with local, state and federal entities to ensure the safety of residents and visitors.
4. Protect natural and cultural resources through proactive and responsive enforcement efforts.

Goal 3: Ensure the FWC has highly effective and adaptive business practices.

Strategies:

1. Address emerging biological, social and economic trends, anticipate impacts and take advantage of opportunities to accomplish FWC's mission.

2. Expect each employee to be an ambassador for FWC and its mission to Florida's diverse residents and visitors.
3. Provide efficient and effective service to Florida's diverse residents, visitors, and FWC staff.
4. Foster a diverse, accountable, responsive and skilled workforce who effectively serves Florida's residents and visitors.
5. Manage existing and secure additional resources necessary to achieve fish and wildlife conservation and meet residents, visitor and stakeholder needs.
6. Create and maintain an effective business model that supports the FWC's mission by using continuous improvement approaches that foster a collaborative and professional culture.

12.9 Prescribed Burn Plan

Prescribed Burning Plan

Bell Ridge Longleaf Wildlife and Environmental Area

INTRODUCTION

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

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

The Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) is composed entirely of fire-dependent, ecologically intact, sandhill habitat. The primary objectives of prescribed burning at BRLWEA are to (1) improve wildlife habitat, (2) maintain fire-dependent plant communities, (3) reduce fuel accumulation and wildfire hazard, (4) enhance aesthetics, and (5) control oak mid-story. The purpose of this plan is to ensure that all aspects of the burn are well considered and that the burning is conducted in an orderly manner so impacts of smoke and other environmental hazards are minimized.

DESCRIPTION OF AREA

Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) is located in east central Gilchrist County, between High Springs and Bell Florida, near the Alachua county line. BRLWEA encompasses 720 acres of intact longleaf pine-turkey oak-wiregrass sandhills and has no wetland component. BRLWEA was acquired from The Nature Conservancy (TNC) in 2008. Under TNC management, the area was known as the Davidson Ranch. The property was acquired as a gopher tortoise mitigation park and its current management activities emphasize the maintenance and restoration of optimum habitat conditions for listed wildlife. The site supports several listed species including gopher tortoise and Florida pinesnake. The Florida Fish & Wildlife Conservation Commission has lead management authority. The property is surrounded by former sandhill, most of which has been converted to pine plantation and pasture.

PRESCRIBED BURNING PROGRAM

A. Firelines

Existing features (e.g. roads) are utilized as firelines to safely contain prescribed fires whenever feasible. These roads are evenly spaced throughout the property and delineate 12 burn zones of modest and manageable size. Many of the roads that are utilized as firebreaks require either disking, tilling or debris sweeping to maintain functional mineral firebreaks before actual burning. Firelines will be maintained as roads by FWC personnel and maintained by mowing during non-burning intervals. The exterior boundary fireline was constructed forty feet wide, to give fire fighting equipment and personnel room to safely operate as well as a wide space to contain prescribed burning operations within the BRLWEA boundary.

B. Size and Arrangement of Management Units

BRLWEA is divided into 12 management units that function as burn zones for prescribed fire purposes. The burn zones are roughly rectangular in shape and average sixty acres in size, with the largest management unit at 106 acres and the smallest at 22 acres.

All burn zones are composed of intact sandhill habitat, with light to moderate fuel loadings. The forest canopy is dominated by longleaf pine (*Pinus palustris*) with some large live oaks (*Quercus virginiana*), turkey oaks (*Quercus laevis*), and post oaks (*Quercus stellata*), distributed about the property. The mid-story is largely composed of smaller turkey oaks, post oaks, bluejack oaks (*Quercus incana*) and live oaks.

The groundcover is dominated by wiregrass (*Aristida stricta* var. *beyrichiana*) but is fortified with a diverse suite of native sandhill species. The groundcover is dense enough to effectively carry fire across each burn zone with moderate weather conditions at the time of ignition.

The burn zones can all be burned at one time or separated out according to management timetables, considering relative need, weather conditions, and personnel availability. Ideally, burns should be conducted at one to three-year intervals with a two-year rotation being optimal.

C. Type of Burn

All 12 management units have been burned and are currently in a 2-3 year burn rotation. The sandhill of the type found at BRLWEA should be burned using backfire, strip head fire, or flanking fire. Firing technique will likely vary due to ambient weather conditions at the time of ignition, as well as fuel loading. The appropriate technique will keep fire intensity down to minimize pine mortality while providing adequate heat to control mid-story species. Every effort will be made to burn during the growing season to best control small oaks, stimulate the production of viable grass seeds, and promote flowering of native forbs.

D. Season and Time of Day

Growing season burning will be preferred but dormant season burns should be allowed when needed. Burning will be conducted primarily during daylight hours; night burning will be

avoided due to problems associated with smoke dispersal. However, if favorable conditions exist and authorizations can be obtained, burning will be continued into the night, if necessary.

SMOKE MANAGEMENT

There is considerable flexibility when burning at BRLWEA due to the absence of smoke sensitive areas in the immediate vicinity. Gilchrist County Road 337 runs parallel to the eastern boundary of BRLWEA and will be well posted with caution signs if there is any likelihood of smoke impacting visibility on the roadway. To minimize smoke problems, burning should be conducted when the atmosphere is slightly unstable, with mixing height a minimum of 1,500 feet and transport wind speed of 5-15 mph (Southern Forest Fire Laboratory 1976, Crow and Shilling 1983). Additionally, use of backfires, as needed, will produce less smoke and consume fuel more completely than headfiring (Mobley et al. 1973, Southern Forest Fire Laboratory 1976, Crow and Shilling 1983).

PERSONNEL AND EQUIPMENT NEEDED

A. Personnel

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

B. Equipment

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

C. Fire Weather Monitoring

One person will be assigned to monitor fire weather on each burn. This person will monitor and record wind speed, wind direction and humidity hourly, or as requested by any burn

crew member, during the burn. If conditions stray outside of the burn prescription the burn boss will be notified, and appropriate measures can be taken.

MOP UP AND MONITORING

After the initial ignition/suppression phase has been completed the burn mop-up standards will be as follows: (1) extinguish all visible flame within 30 feet of perimeter fire lines and access roads; (2) ensure that any smoldering fuel must be within the black; (3) burn out or isolate unburned fuels within the unit to prevent spreading fire from occurring two hours after sunset; (4) inspect aerial fuels and snags on perimeter fire lines, felling snags away from the line as necessary; and (5) re-inspect and mop-up all fire lines as necessary to ensure containment. The day after and subsequent days, the burn unit will be monitored by assigned personnel, prioritizing the peak fire activity period in the afternoon, until the fire is declared out. Monitoring will be conducted along both sides of perimeter firebreaks to ensure any visible flame is more than 30' inside the unit and no spot overs occurred overnight. Any location of visible, active flame greater than 30' within the unit will be recorded and re-inspected over subsequent days. Any visible flame within the 30' perimeter will be extinguished until no longer smoking. Unburned fuels along the perimeter and grassy areas within the firebreak will be checked to ensure creeping has not occurred overnight or pose a risk to escape.

AUTHORIZATION AND NOTIFICATIONS

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

SPECIAL CONSIDERATIONS

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

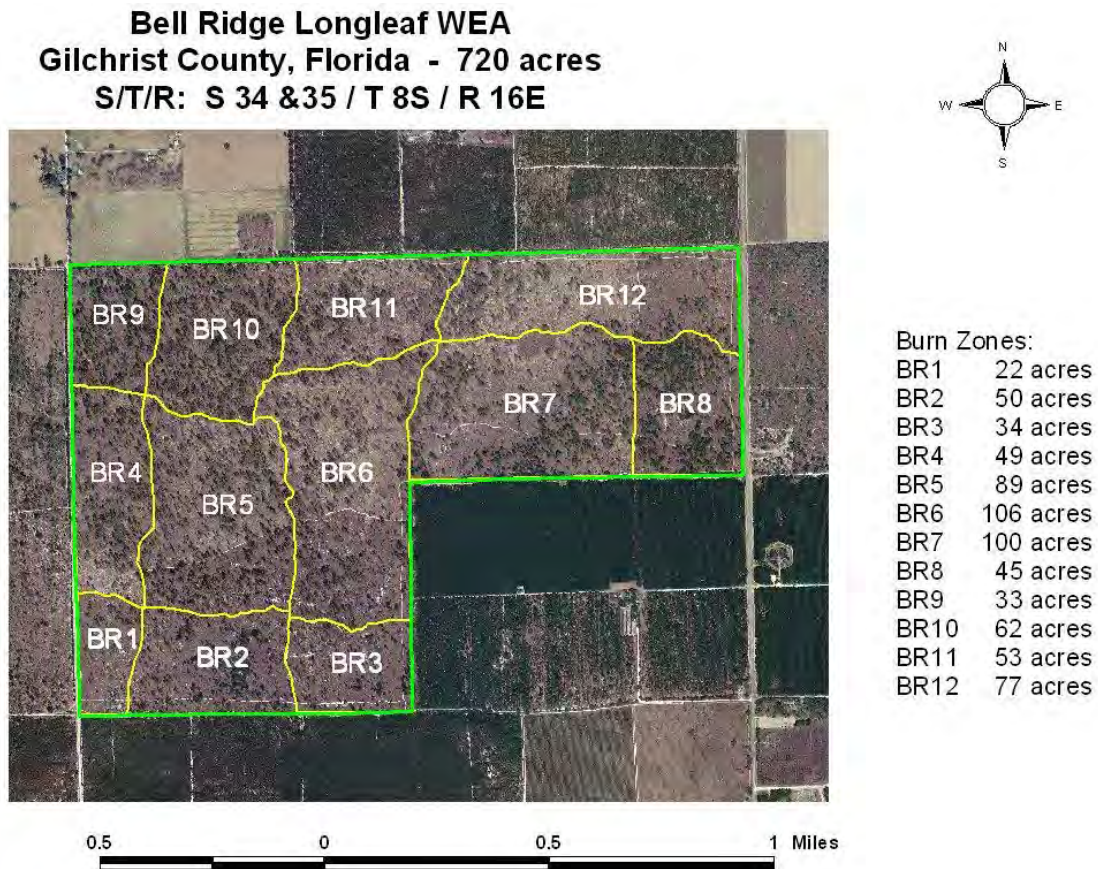
Gopher tortoises (*Gopherus polyphemus*) and both game and non-game birds that breed in the sandhill ecosystem are dependent on the vegetative response of the groundcover to fire, and research has shown no adverse effects on the populations of these species from prescribed

burning (Means and Campbell 1981). Although individual tortoises may be destroyed by fire on rare occasions, prescribed burning provides better habitat for tortoise populations than unburned areas (J. Diemer, FGFWFC, pers. commun.).

LITERATURE CITED

- Crow, A. B., and C. L. Shilling. 1983. Prescribed burning in Louisiana pinelands. Louisiana State Univ. Coop. Ext. Serv. Pub. 1618.
- Givens, L. S. 1962. Use of fire on southeastern wildlife refuges. Proc. Annu. Tall Timbers Fire Ecol. Conf. 1:121-126.
- Halls, L. K. 1977. Southern fruit-producing woody plants used by wildlife. U. S. For. Serv. Gen. Tech. Rep. SO-16.
- Means, D. B., and H. W. Campbell. 1981. Effects of prescribed burning on amphibians and reptiles. Pages 89-97 in G. W. Wood (ed.). Prescribed fire and wildlife in southern forests. Belle W. Baruch Forest Science Institute, Clemson Univ., Georgetown, S.C.
- Miller, H. A. 1963. Use of fire in wildlife management. Proc. Annu. Tall Timbers Fire Ecol. Conf. 2:19-30.
- Mobley, H. E., R. S. Jackson, W. E. Balmer, W. E. Ruziska, and W. A. Hough. 1973. A guide for prescribed fire in southern forests. U. S. For. Serv., Southeastern State and Private Forestry-2, Atlanta, Ga.
- Southern Forest Fire Laboratory. 1976. Southern forestry smoke management guide book. U.S. For. Serv. Gen. Tech. Rep. SE-10.
- Stoddard, H. L. 1963. Bird habitat and fire. Proc. Annu. Tall Timbers Fire Ecol. Conf. 2:163-175.
- Stoddard, H. L. 1971. Wildlife habitat management handbook--southern region. FSH 2609.23R, U. S. For. Serv., Atlanta, Ga.
- U. S. Forest Service. 1969. Wildlife Habitat Improvement Handbook. FSH 2609.11, U.S. For. Serv., Washington, D.C.

Figure 1. Location of burn zones / management units on Bell Ridge Longleaf Wildlife Environmental Area (BRLWEA), Gilchrist County, Florida.



12.10 Wildlife Conservation and Prioritization and Recovery Program Strategy (WCPR)

A Species Management Strategy for Bell Ridge Longleaf WEA and Branan Field Mitigation Park WEA

May 2013

Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Wildlife and Habitat Management Section
A product of the Wildlife Conservation,
Prioritization and Recovery Program



Executive Summary

The Florida Fish and Wildlife Conservation Commission's (FWC) Wildlife and Habitat Management section (WHM) takes a proactive, science-based approach to species management on lands in the Wildlife Management Area system (WMA/WEA). This approach uses information from statewide models, in conjunction with input from species experts and people knowledgeable about the area, to create site-specific assessments of a number of focal species. Staff combines these assessments with management considerations to develop a wildlife management strategy for the area. The FWC intends for this Strategy to: 1) provide land managers with information on actions that should be taken provided the necessary resources are available, 2) promote the presence and ensure the persistence of focal wildlife species on the area, and 3) provide measurable species objectives that can be used to evaluate the success of wildlife management on the area.

This document presents the results of a science-based process for evaluating focal species needs using an ecosystem management approach on the Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) and Branan Field Mitigation Park Wildlife and Environmental Area (BFWEA). Natural community management designed for a set of focal species benefits a host of species reliant upon the same natural communities. Monitoring select species verifies whether natural community management is having the desired effect on wildlife. To maximize the potential wildlife conservation benefit, staff considers the role of the WMA in regional and statewide conservation initiatives throughout the process.

[Section 1](#) informs the reader about the process used to generate this document.

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

[Section 3](#) provides a list of the focal and listed species on the area, and an assessment of each species' level of opportunity and need. This includes species-specific objectives that were identified for the gopher tortoise, southeastern American kestrel, Florida mouse, and rare plants.

[Section 4](#) describes specific land management actions recommended for focal species. This includes Strategic Management Areas (SMA) and Objective-Based Vegetation Management (OBVM) considerations. This section also discusses management necessary to ensure continued persistence of focal species.

[Section 5](#) describes species-specific management and monitoring actions prescribed for the area, and identifies any research that would be necessary to guide future management efforts. Monitoring is recommended for the gopher tortoise, southeastern American kestrel, and Florida mouse. Documentation of observations of other focal and listed species is recommended.

[Section 6](#) identifies coordination that will assist in conserving these focal species. We identify coordination with 4 other units in FWC and inter-agency coordination with 3 other entities.

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

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

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Acronym List

ARCI	Avian Research and Conservation Institute
BFWEA	Branan Field Wildlife and Environmental Area
BRLWEA	Bell Ridge Longleaf Wildlife and Environmental Area
CFCC	Cecil Field Conservation Corridor
CPS	Conservation Planning Services (office; formerly Habitat Conservation Scientific Services)
DBH	diameter at breast height
DFC(s)	Desired Future Condition(s)
FFS	Florida Forest Service (formerly Division of Forestry)
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
FWLI	Florida's Wildlife Legacy Initiative
FWRI	Fish and Wildlife Research Institute
JSF	Jennings State Forest
MU	Management Unit
NC	Natural Community
OBVM	Objective-Based Vegetation Management
PLCP	Public Lands Conservation Planning (project)
PVA	Population Viability Analysis
SCP	Species Conservation Planning (section)
SMA	Strategic Management Area
TNC	The Nature Conservancy
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WHCNIFL	Wildlife Habitat Conservation Needs in Florida
WHM	Wildlife and Habitat Management (section)
WMA	Wildlife Management Area

Statewide Species Prioritization Parameters

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

Species Common Name	Millsap Report, 2008		Legacy Initiative		PVA on managed lands	
	Biological Score ¹	Supplemental Score ²	Population Status ³	Population Trends ⁴	Probability of a 50% decline ⁵	Populations persisting (to 80 or 100 years) ⁶
Frosted Flatwoods Salamander	24.3	16	low	declining	0	22% (to 100)
Striped Newt	29	20	low	declining	0	80% (to 100)
Florida Pine Snake	23.7	15	medium	declining	0	31% (to 80)
Gopher Tortoise	27.3	17	medium	declining	0	55% (to 100)
American Swallow-tailed Kite	25.7	13	low	unknown	20%	50% (to 100)
Bachman's Sparrow	16.0	12	medium	declining	0	49% (to 80)
Brown Headed Nuthatch	17.0	13	medium	declining	0	25% (to 80)
Cooper's Hawk	15.0	12	not a SGCN ⁷	not a SGCN	96%	100% (to 100)
Northern Bobwhite	11.0	14	low	declining	0	100% (to 100)
Southeastern American Kestrel	28.0	14	low	declining	0	67% (to 100)
Wading Birds	23.7	13	varying	varying	0	100% (to 100)
Florida Black Bear	32.7	13	medium	stable	5%	100% to (100)
Florida Mouse	22.0	19	medium	declining	74%	17% (to 80)
Sherman's Fox Squirrel	24.0	17	low	declining	0	28% (to 80)
Southeastern Myotis	22.6	16	medium	stable	5%	100% (to 100)

¹ Species trigger this parameter if the score is ≥ 25.9

² Species trigger this parameter if the score is ≥ 15

³ Species trigger this parameter if the score is $\geq$ low or unknown (unk)

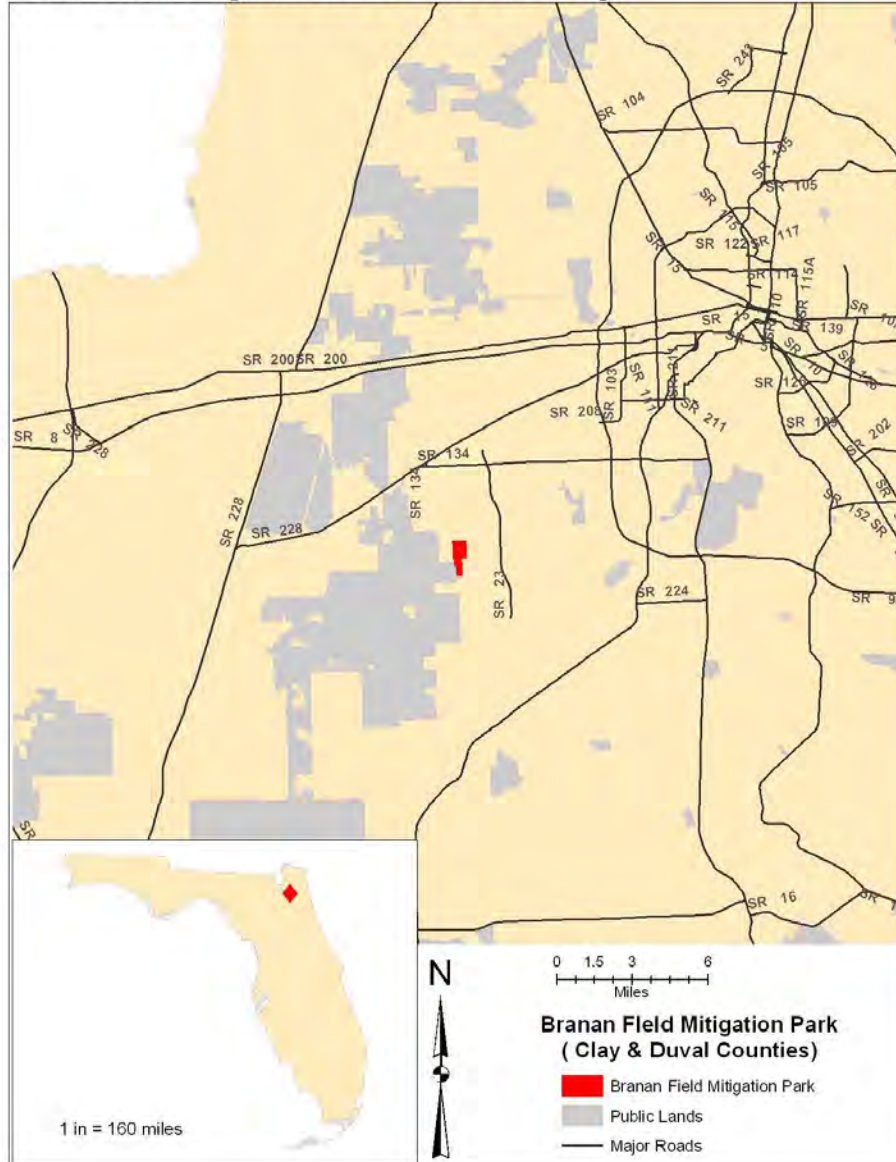
⁴ Species trigger this parameter if the score is $\geq$ declining (decl) or unknown (unk)

⁵ Species trigger this parameter if the score is > 0

⁶ Species trigger this parameter if the score is $\leq 75\%$

⁷ SGCN = species of greatest conservation need

Branan Field Mitigation Park WEA Locator Map



Bell Ridge Longleaf WEA Locator Map



Section 1: Introduction

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

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

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

In addition to the concepts discussed above, we use specific definitions in a Strategy. *Goals* are broad statements of a condition or accomplishment to be achieved; goals may be unattainable, but provide direction and inspiration. *Objectives* are a measurable, time-specific statement of results responding to pre-established goals. *Imperiled Species* refers to any plant or animal federally listed under the Endangered Species Act, or state-listed by the Florida Fish and Wildlife Conservation Commission or the Department of Agriculture and Consumer Services.

Creating the BRLWEA and BFWEA Strategy involved a number of steps. First, staff assessed the results of species-specific habitat models and statewide potential habitat maps for focal species to determine which focal species had potential habitat on BRLWEA and BFWEA. We then used staff knowledge, species-expert opinions, and area-specific natural community maps, to modify the statewide models to create area-specific potential habitat maps for each focal species on the areas. Next, we conducted a workshop at which local staff, species experts, and section leaders discussed and evaluated BRLWEA's and BFWEA's potential roles in the conservation of focal species. For each species, workshop participants determined the status of the species on the areas; evaluated the opportunities for management on the areas; specified appropriate monitoring and research actions; and

identified beneficial coordination and ‘beyond the boundary’ considerations. Using the information from the workshop, staff drafted the Strategy document and sent it to species experts and other professionals for review. Following the review, the Strategy was finalized and staff initiated implementation of actions in the Strategy.

Neither of these WEAs has an Acquisition and Restoration Council approved management plan. As such, having an existing Wildlife Strategy will assist in developing imperiled species related actions and objectives once the process of management plan development is initiated.

While this Strategy focuses on BRLWEA and BFWEA, it considers the role of each area within the larger state or regional context. Similarly, while the Strategy has species-specific objectives and actions, it does not endorse single-species management. Natural community management is the core of FWC’s ecological management approach, and by paying special attention to the needs of focal and imperiled species, we verify that our management actions are having the desired effect. By implementing the actions in the Strategy, the FWC believes our management will keep common species common, aid in the recovery of listed species, and benefit the largest suite of native wildlife.

Section 2: Historic, Current, and Planned Management on Bell Ridge and Branan Field Wildlife and Environmental Areas

Both of these properties were acquired under FWC’s Fish and Wildlife Habitat Program pursuant to s. 372.074, F.S. The FWC established the Mitigation Park program to provide an offsite compensation alternative to state and federal listed species regulatory decisions. Because of the regulatory and mitigation nature of this program, management activities at mitigation park facilities emphasize the maintenance and restoration of optimum listed species habitat above all other uses and activities.

No staff is assigned specifically to these properties. Rather, a staff that includes 1 Biological Scientist III, 1 Biological Scientist II, and 1 Biological Technician is responsible for the management of Ft. White WEA (1,328 ac., Gilchrist Co.), Suwannee Ridge WEA (1,429 ac., Hamilton Co.), BRLWEA (720 ac., Gilchrist Co.), BFWEA (386 ac., Duval/Clay Cos.), and Lafayette Forest WEA (2,148 ac., Lafayette Co.). Management of 5 areas in 5 counties presents challenges to the assigned staff and requires assistance from additional regional staff. While BRLWEA is within 15 miles of the Ft. White Field Office, BFWEA is in Duval County approximately 85 miles away.

2.1: Location, Acquisition, and Influences on Current Condition

Bell Ridge Longleaf WEA – BRLWEA, situated 8 miles southwest of High Springs, encompasses 720 acres in eastern Gilchrist County. Access to the property from the east is by County Road 337 or from the west by NE 65 Avenue. The surrounding area is a mix of natural pine, pine plantation, irrigated row-crop agriculture, pasture, and rural residential land use.

The FWC purchased BRLWEA in 2008 from The Nature Conservancy (TNC) under the Fish and Wildlife Habitat Program. The regulatory and mitigation directives of the Fish and Wildlife Habitat Program guide the management activities at BRLWEA and require

management that emphasizes the restoration and maintenance of optimum habitat for listed species.

TNC acquired the tract in 1991 from the Galloway family who still owns and manages the 3,000+-acre Canaan Ranch to the west. The Galloway family used dormant season fire on a regular basis to manage the property for northern bobwhite (*Colinus virginianus*) hunting and for selectively-harvested high value timber products such as poles, peeler logs, and saw logs. As a result, BRLWEA contains natural second-growth longleaf pine (*Pinus palustris*) with intact native ground cover. After TNC's acquisition of the property, fire frequency decreased and hardwood trees and shrubs began to increase in density and coverage.

While the Bell Ridge tract is small and isolated from other public conservation lands, the adjacent Canaan Ranch property is enrolled in the United States Fish and Wildlife Service (USFWS) red-cockaded woodpecker (*Picoides borealis*) Safe Harbor program and is managed for conservation, with an emphasis on management to enhance northern bobwhite habitat. The extensive use of frequent prescribed fire on Canaan Ranch in all longleaf pine with intact native ground cover increases the availability of high quality habitat to many of the focal species found on BRLWEA.

Branan Field WEA – BFWEA encompasses 386 acres in southern Duval and northern Clay Counties, situated 2 miles west of Chaffee Road (SR 23) in Jacksonville and 9 miles north of Middleburg. Oakleaf Plantation Boulevard via the Cecil Field connector accesses the property from the east. The surrounding area is a mix of pine plantation, airport, light industrial, commercial, and residential land use.

The site was purchased in 1990 from the Trust for Public Land under FWC's Fish and Wildlife Habitat Program. The Trust for Public Land acquired the site in 1989 from Gulfstream Properties, Inc. Gulfstream Properties, Inc. managed the site as an industrial pine plantation and for cattle grazing. Between 1980 and 1986, the area was cleared and slash pine (*Pinus elliotii*) plantations were established with approximately 700 trees per acre. While there is no evidence that the previous owners used prescribed fire on the tract subsequent to plantation establishment, the native ground cover on the tract remained intact and has responded well to the reintroduction of regular prescribed fire.

Cecil Field airport is on the north half of BFWEA's western boundary and Cecil Field Conservation Corridor (CFCC) is on the south half of the western boundary. Formerly part of Cecil Field Naval Air Station, CFCC is 5,300 acres that consists of primarily pine plantations and wetlands. The CFCC forms a corridor from Jennings State Forest (JSF) north, along the west side of Cecil Field, to Interstate 10. When Cecil Field Naval Air Station closed in 2000, the land contained in the CFCC was deeded to the City of Jacksonville for conservation and public recreation. The Florida Forest Service (FFS) manages the CFCC for the City of Jacksonville. Other nearby public land includes the JSF, Camp Blanding Military Reservation, Sal Taylor Creek Preserve, and McGirts Creek Preserve.

The Cecil Field airport has a very large, deep drainage ditch parallel to the east side of the runway. The ditch turns 90 degrees at the south end of the runway and traverses east bisecting BFWEA and ending in a wetland on private property to the east. This drainage ditch has altered the hydrology of the area and changed the hydroperiod of the ephemeral wetlands and flatwoods adjacent to the ditch. Most of the xeric natural communities on the

area have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands.

Private property borders BFWEA on the north, east, and south, and 6,400 acres of this land is a planned unit development known as Oakleaf Plantation. Oakleaf Plantation is currently completing the infrastructure for mixed-use development with development planned to within 0.25 mile of the eastern boundary of BFWEA. According to the Oakleaf Plantation site plan, this 0.25-mile buffer will be managed for silviculture with wetland areas designated as nature preserve. A golf course, high school, commercial town center, police and fire stations, multi-family housing, and single-family housing are completed; additional housing units and a second commercial town center are planned. The ongoing residential and commercial development in the area will make prescribed fire more challenging and will increase the potential for feral cats and dogs to influence wildlife.

2.2: Management and Monitoring Since State Acquisition – BRLWEA

Sandhill is the only natural community on BRLWEA, occurring on all 720 acres. All of BRLWEA's sandhill community remains in good condition with intact ground cover and the Florida Natural Areas Inventory (FNAI) identified a sandhill community reference site on the area. The FNAI will add the data they collected on BRLWEA to their [Reference Natural Community Website](#) in the spring of 2013. Most of BRLWEA's focal species are adapted to open canopied uplands with fire-maintained herbaceous ground cover. Therefore, frequent fire is essential to maintaining suitable habitat for these species.

A decrease in the use of prescribed fire from 1993 to 2008 resulted in artificially high amounts of hardwoods. The removal of the small oaks was necessary to prevent shading of ground cover and facilitate fire management. During the early growing season of 2009, FWC implemented a project to control the excess small hardwoods while retaining appropriate mature hardwoods. Hand crews used chainsaws to cut down excess small oaks on 632 acres. To prevent re-sprouting, crews applied a Garlon treatment to the cut stumps. Basal treatment of small oaks with Velpar-L was used on an additional 66 acres.

The FWC is implementing a prescribed burn program to prevent hardwood encroachment, lessen the chances of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. BRLWEA contains 720 acres of fire-maintained sandhill natural community. Intact native ground cover provides the continuous fine fuels required to maintain frequent prescribed fire. Since State acquisition, FWC has conducted prescribed burns on all fire maintained acres at least twice, reestablishing a 2-3 year fire return interval. BRLWEA is now in a maintenance condition and the continued use of prescribed fire on a 2-3 year return interval will be the primary tool used for management. Growing season burns are preferred, but occasional dormant season burns are necessary to reduce excessive fuels or maintain fire frequency when conditions do not permit the safe application of fire in the growing season.

FNAI conducted a floristic assessment in May of 2009. This survey identified 109 species of plants on BRLWEA. Sandhill spiny-pod (*Matelea pubiflora*), listed as endangered by the state, was the only rare plant identified. Small groups of this plant occur across BRLWEA. Other rare plant species may occur on BRLWEA in the future, particularly species that were dormant or have different flowering phenology such that they were not found in the 2009 assessment.

Surveyors noted 2 exotic species, a single camphor tree (*Cinnamomum camphora*) and a single sapling mimosa (*Albizia julibrissin*). The camphor tree, a Florida Exotic Pest Plant Council (FLEPPC) Category I species, was located along the southeastern boundary. The mimosa, a FLEPPC Category II species, was identified near the center of the property. Staff treated these individuals and will monitor periodically for these and other invasive exotic plants.

Recreational activities on BRLWEA include hiking and bird watching. BRLWEA, which is open to the public year round, has a handicapped accessible parking area with an informational kiosk. No hunts occur on BRLWEA, primarily due to the small size of the unit.

Wildlife monitoring by FWC on BRLWEA includes [gopher tortoise](#) (*Gopherus polyphemus*) surveys, [Florida mouse](#) (*Peromyscus floridanus*) surveys, and [southeastern American kestrel](#) (*Falco sparverius paulus*) nest box monitoring. The survey results are included in the species assessments. Proposed species monitoring ([Section 5.2](#)) on BRLWEA includes continued monitoring of kestrel nest boxes, surveys for Florida mice, and gopher tortoise burrow surveys.

2.3: Management and Monitoring Since State Acquisition – BFWEA

The FNAI completed plant community mapping at BFWEA as part of FWC's OBVM program ([Table 1](#)). Sandhill, and mesic flatwoods are the actively managed natural communities on BFWEA. Basin swamp, xeric hammock, depression marsh, ruderal, and dome swamp are other natural communities embedded within, or adjacent to, actively managed communities that are subject to management activities. The FWC uses prescribed fire, along with mechanical and chemical vegetation control in the actively managed communities on BFWEA. Through the OBVM process, staff delineated management units and defined Desired Future Conditions (DFCs) for these actively managed natural communities. Many of BFWEA's focal species are adapted to open canopied uplands with fire-maintained herbaceous ground cover; therefore, frequent fire is essential to maintaining suitable habitat for these species. Additionally, several of the focal species require fire-maintained ephemeral wetlands with grassy ecotones occurring in these upland habitats.

The primary management activity on BFWEA is the continued use of prescribed fire. The previously suppressed ground cover has recovered with the resumption of fire management and removal of the closed pine canopy. An intact ground cover provides the continuous fuels required to maintain frequent growing season fire.

The FWC is implementing a prescribed burn program to reduce fuel loads, decrease the chance of catastrophic wildfires, and enhance natural communities for the benefit of wildlife. BFWEA contains 343 acres of fire-maintained natural communities. To date, FWC has treated all fire-maintained acres on a 2-3 year fire return interval. As a result, all fire-maintained acres have burned 5-6 times since acquisition. Growing season burns are preferred, but occasional dormant season burns are necessary to reduce excessive fuels or maintain fire frequency when conditions do not permit fire in the growing season. Staff enlarged perimeter firebreaks to a 30 foot width in 2006 to allow improved access and to increase safety for prescribed burn crewmembers.

At the time of acquisition, BFWEA was a pine plantation that consisted of densely planted off-site slash pine. The trees were about 10 years away from merchantability and

canopy closure was beginning to shade out the desirable ground cover. In 1992, staff intentionally used a hot prescribed fire as a pre-commercial thinning technique for young slash pine plantations in management unit (MU) BF2. The objective for the burn was to achieve 80% kill of pines. However, heavy rains after the burn limited kill to approximately 60%. In 1993, area managers contracted the planting of 20,000 longleaf seedlings in MU BF2 (approximately 400 trees per acre) to replace the off-site slash pine that was killed and to initiate stand conversion. During 1998, staff used a timber sale to remove approximately 75% of the standing timber in MUs BF1, BF3, and BF4 to open up the canopy and promote understory growth for the benefit gopher tortoises and other wildlife.

Table 1. Mapped acreage of current and historic communities on BFWEA, including management status and the number of focal species that use the community.

Community Type	Estimated Current Acreage	Estimated Historic Acreage	# of focal species that use the NC
Basin swamp	22	22	3
Depression marsh	1	1	3
Dome swamp	20	20	5
Mesic flatwoods	131	131	9
Ruderal	1	0	0
Sandhill ¹	83	86	10
Wet flatwoods ¹	125	50	5
Wet Prairie	0	76	3
Xeric hammock	3	0	7
TOTAL ACRES	386		

¹ Actively managed communities monitored via the OBVM process. Other communities may be managed, but are not be monitored via OBVM.

Exotic species observed on BFWEA include Chinese tallow tree (*Sapium sebiferum*) and feral hogs (*Sus scrofa*). Chinese tallow trees occupied a single patch along the ditch that traverses BFWEA draining the Cecil Field runway. Staff treated the tallow tree area in 2006. Staff regularly monitors this area, and has not observed any new tallow trees since that treatment. The feral hog problem is not severe.

Recreational activities occurring on BFWEA include hiking and bird watching. BFWEA has an informational kiosk and signage, a system of well-marked hiking trails, and limited parking. No hunts occur on BFWEA, primarily due to the small size of the unit.

Due to the small size of the area as well as the distance from the Ft. White field office, current species monitoring on BFWEA is limited to [gopher tortoise](#) surveys and a [Florida mouse](#) survey. Gopher tortoise burrow surveys are conducted every 5 years to track population trends. Staff conducted a Florida mouse survey in February 2012, but did not catch any Florida mice. More details on these monitoring efforts are included in the species assessments.

Section 3: Area Focal Species

The FWC's management approach focuses on maintaining and restoring the ecological form and function of natural communities. However, in some instances, it is important to consider the needs of specific wildlife species and to monitor the influences of natural community management on these species. To achieve a science-informed approach to species management, the FWC uses the focal species concept embraced by the [Wildlife Habitat Conservation Needs in Florida](#) (WHCNIFL) project. This concept allows one to identify the needs of wildlife collectively by strategically focusing on a subset of wildlife species. The subset of species selected includes umbrella species, keystone species, habitat specialist species, and indicator species.

The Public Lands Conservation Planning (PLCP) project, an expansion of the WHCNIFL project, added a few species and provided potential habitat modeling on public lands. For the PLCP, the FWC selected 60 focal species (including 1 group of species, the wading birds) for which potential habitat models were created to generate statewide potential habitat maps for each focal species. The FWC's 2003 landcover data served as the base layer for all potential habitat models, and staff selected additional layers considering the particular natural history of each species (e.g., species' range, known occurrence records); as such, each model is species specific. Once statewide potential habitat maps were completed, a Population Viability Analysis (PVA) was conducted for each focal species.

The statewide landcover-based habitat models identified 15 of the 60 focal species to have potential habitat on BRLWEA and BFWEA ([Section 3.1](#)). For all focal species modeled to have potential habitat on the WEAs, staff created more accurate area-specific potential habitat maps by using the same statewide models but replacing the landcover data with area-specific natural community data. The resulting area-specific potential habitat maps were then refined based on the input of local managers and species experts.

The WCPR Workshop for the North Central Region WEAs, held September 16-17, 2009, brought decision makers together to assess species' opportunities and needs, identify measurable objectives, outline necessary coordination efforts, and determine required actions such as monitoring. To facilitate informed discussion of the species, WCPR staff compiled a workbook that contained information on the focal species. Participants at the workshop discussed the "level of opportunity and need" for each species. This included considering the number of statewide prioritizations the species triggered ([Statewide Species Prioritization Table](#)), the species' listing status, and the long-term security of the species (i.e., examining PVA results). Other factors considered were the species' use of actively managed communities ([Table 1](#)), species' response to management, and any local overriding factors (e.g., status of species in the region, local declines or extirpations). A brief summary of the opportunity and need assessments for each focal species is available in [Section 3.2](#).

3.1: BRLWEA and BFWEA Focal Species List

Workshop participants assessed 15 species for their level of opportunity or need on BRLWEA and BFWEA. In the following species list, we use a ¹ to denote species for which a measurable objective is identified, a ² for species for which some level of monitoring is recommended, a ³ for species for which a SMA is recommended, and a ⁴ for species for which species management is recommended. Because these conservation lands are separated

by a long distance, some species have potential on only one of the areas. We use a ⁵ to indicate species that only have potential on BRLWEA, and a ⁶ for species that only have potential on BFWEA. Workshop participants and expert reviewers determined that ongoing management would meet the needs of these species, except for those species identified with a superscript number. Therefore, for species with no numerical superscripts, participants and reviewers agreed there is no need for measureable objectives, monitoring, SMAs, or species-specific management.

Occasionally, statewide models indicate a species has potential habitat on the area, but the local assessment indicates there is little opportunity to manage for these species. These limited opportunity species are denoted with an *.

Frosted flatwoods salamander (*Ambystoma cingulatum*) ⁶
 Striped newt (*Notophthalmus perstriatus*)*

Florida pine snake (*Pituophis melanoleucus mugitus*) ⁵
 Gopher tortoise (*Gopherus polyphemus*) ^{1, 2}

American swallow-tailed kite (*Elanoides forficatus*)
 Bachman's sparrow (*Peucaea [Aimophila] aestivalis*)
 Brown-headed nuthatch (*Sitta pusilla*)
 Cooper's hawk (*Accipiter cooperii*)*
 Northern bobwhite (*Colinus virginianus*)
 Southeastern American kestrel (*Falco sparverius paulus*) ^{1, 2, 4, 5}
 Wading birds (*Multiple spp.*)*

Florida black bear (*Ursus americanus floridanus*)*
 Florida mouse (*Peromyscus floridanus*) ^{1, 2}
 Sherman's fox squirrel (*Sciurus niger shermani*)
 Southeastern bat (*Myotis austroriparius*)*

3.2: Focal Species Opportunity and Needs Assessment

This section provides an assessment of each focal species' need and opportunity for management. The assessment considers a number of attributes, including the status of a species, the number of prioritization parameters it triggers, the species' response to management, and the amount and spatial arrangement of species' potential habitat available on the area. Because all federally listed wildlife species are FWC-listed, we will provide only the federal listing status for federally listed species. When a species is not federally listed but is FWC-listed, we will provide the FWC listing status. The FWC is currently in the process of developing management plans for FWC-listed species. Staff will review these plans to determine if the content warrants a revision to any of these assessments and will revise this Strategy as warranted.

Unless otherwise noted, all reported acres of potential habitat are the result of using the area-specific natural community data in the species' potential habitat model. These estimates include all the area mapped as potential habitat, including patches that may not be contiguous with other suitable habitat. During the workshop, participants considered the

spatial arrangement and habitat patch size when assessing the potential role BRLWEA and BFWEA play in the conservation of each species. For species that require larger habitat patches, we considered the continuity and condition of habitat on lands adjacent to the WEAs. To determine the restoration potential, we inserted the historic natural community data into the potential habitat models and generated the acres of potential habitat that could be obtained if all natural communities are restored.

3.2.1: Frosted Flatwoods Salamander

The USFWS recently recognized the flatwoods salamander (*Ambystoma cingulatum*) to be 2 distinct species; the frosted flatwoods salamander (*A. cingulatum*), which occurs east of the Apalachicola River, and the reticulated flatwoods salamander (*A. bishopi*), which occurs west of the Apalachicola River. The USFWS lists the frosted flatwoods salamander as threatened, and the reticulated flatwoods salamander as endangered.

Managing habitat for frosted flatwoods salamanders requires frequent prescribed fire and protection of the hydrological integrity of ephemeral wetlands, which are essential for breeding. The maintenance of a continuous herbaceous ground cover from the uplands through the ecotone and into the wetlands is especially important for this species.

As evaluated prior to the taxonomic revision, the species triggers 4 of the 6 prioritization parameters ([priorities table](#)). Because many of the prioritization parameters were calculated prior to the recognition that the flatwoods salamander was 2 distinct species, it is possible that if the prioritization scores for these species were calculated reflecting the recent taxonomic revision, the 2 species may trigger more prioritization parameters.

No potential habitat for the frosted flatwoods salamander occurs on BRLWEA, and this species is not a focal species for BRLWEA. Models indicate 276 acres of potential habitat for the frosted flatwoods salamander on BFWEA. The frosted flatwoods salamander has not been searched for and is not documented on BFWEA. There are currently no plans for FWC herpetologists to survey BFWEA, which they consider a low priority for this species. The nearest known occurrence of the species is from a 1982 record of the species approximately 7 miles north of Cecil Field Airport on what is now the CFCC. While the JSF has modeled potential habitat for the frosted flatwoods salamander, the species has not been observed on the property.

While the literature does not identify how much habitat is required to support a population of flatwoods salamanders, it is unlikely BFWEA has enough potential habitat to independently sustain a population of this species. If a population remains on CFCC or JSF, the habitat on BFWEA can help support this local population.

The goal on BFWEA is to maintain suitable habitat for the frosted flatwoods salamander that would allow the area to help support a regional population should they occur on adjacent public lands. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. If frosted flatwoods salamanders occur on or near BFWEA, ongoing natural community management focused on frequent growing season prescribed fire will improve habitat conditions for this species. Growing season prescribed fire will promote herbaceous growth in the uplands as well as in ephemeral wetlands and create conditions compatible with this species' needs. Additional land management considerations can be found in [Section 4.3.1](#).

3.2.2: Florida Pine Snake

There is no documentation of Florida pine snakes (*Pituophis melanoleucus mugitus*) on BRLWEA or BFWEA, but no effort has been made to systematically survey either site for herpetofauna other than the gopher tortoise. The Florida pine snake has been documented on private lands adjacent to BRLWEA, and the surrounding landscape is well suited for pine snakes. Therefore, it is likely the species uses BRLWEA. There are no observations of Florida pine snakes near BFWEA, and there is little suitable habitat in the surrounding landscape.

Specific habitat requirements of this species are not well defined, except it is most closely associated with upland pine and sandhill communities. Pine snakes typically occupy locations with sandy soils dominated by pines and a well-developed grassy understory, though they have been documented in a number of plant communities. Southeastern pocket gophers (*Geomys pinetis*) are a preferred prey item. Florida pine snakes are commonly found in pocket gopher burrows but also may be found in stump holes and, occasionally, in gopher tortoise burrows. Southeastern pocket gopher burrows are evident on all of BRLWEA but are less common on BFWEA.

The Florida pine snake triggers 3 of 6 prioritization parameters ([priorities table](#)) and is an FWC-listed species of special concern. Based on a recent biological status review, the pine snake will be a threatened species after approval of the management plan that is currently in development. According to the literature, pine snakes and eastern indigo snakes (*Drymarchon couperi*) have similar home range sizes, and at least 2,471 acres of suitable habitat are required to support a viable population of pine snakes. Models identified 720 acres of potential habitat on BRLWEA and only 86 acres on BFWEA. BRLWEA has enough potential habitat in good condition to provide a significant contribution to the local population. Continued use of frequent prescribed fire will benefit this species. Privately owned property near BRLWEA is in fair to good condition for this species. The persistence of the Florida pine snake on BRLWEA is dependent upon management decisions made by private landowners. Therefore, we recommend coordination with Conservation Planning Services (CPS) staff to ensure cooperation with surrounding landowners in conservation efforts ([Section 6.1.3](#)).

Potential habitat on BFWEA is in good condition, but this habitat is isolated from potential habitat on CFCC and JSF. Most of the surrounding private land is under development and is unsuitable. Further, most of the xeric natural communities on BFWEA have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands. Because Florida pine snakes prefer sandy, xeric soils, it is possible BFWEA was never high quality pine snake habitat. Since the opportunity for conserving the Florida pine snake on BFWEA is limited, no goal is recommended.

Management actions that maintain or enhance habitat for this species include prescribed fire and ground cover restoration treatments that aid in restoring sandhill and associated natural communities. Stumps and other coarse woody debris should be retained during land management activities ([Section 4.3.2](#)).

Because there is no adequate monitoring technique available for this species, opportunistic monitoring is recommended ([Section 5.2.4](#)) on both WEAs. If resources are available to conduct drift-fence surveys on the WEAs, the use of large snake traps in addition to funnel and pitfall traps is recommended. Drift-fence surveys should be repeated at

approximately 10-year intervals, if resources are available. While these surveys will not provide population level information, they can produce indices to the relative abundance of terrestrial herpetofaunal species.

The goal on BRLWEA is to continue to manage habitat to support pine snakes. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species on BRLWEA is dependent on conditions that influence the regional population. However, the occurrence of large tracts of well-managed private lands, including lands managed for conservation, increases the opportunity for Florida pine snakes to persist on BRLWEA.

3.2.3: Gopher Tortoise

The FWC purchased BRLWEA and BFWEA to secure habitat for the gopher tortoise and other upland species as mitigation for habitat loss to land development activities. As such, management to benefit this species is the priority. Staff conducted a gopher tortoise survey on BRLWEA prior to acquisition and estimated a density of 2.25 tortoises per acre. On BFWEA, a survey by staff in 2012 yielded a density estimate of 1.05 tortoises per acre. While this is lower than the estimate of 1.4 tortoises per acre in 2006, or the estimate of 1.5 tortoise per acre in 1994, these densities are within the range of average densities in good gopher tortoise habitat. These densities, coupled with evidence of reproduction and recruitment, indicate a sustainable population.

The gopher tortoise is a management-responsive species that can serve as an indicator of properly managed upland pine or grassland communities. It prefers xeric upland communities maintained with fire, which helps perpetuate the ground cover on which it feeds. The gopher tortoise is often considered a keystone species because many other species use their burrows, including focal species such as the Florida mouse and gopher frog. This species is listed as threatened by the FWC and triggers 4 of 6 prioritization parameters ([priorities table](#)). The FWC gopher tortoise management plan, revised in 2012, places emphasis on increasing the number of tortoises on public lands.

Models indicate 720 acres of potential habitat on BRLWEA. On BFWEA, models only consider 86 acres of sandhill as potential habitat, but gopher tortoises inhabit an additional 131 acres mapped as mesic flatwoods. There is discussion in the literature about the minimum requirements to sustain a population of gopher tortoises, with estimates ranging from 50–200 or more acres. The USFWS suggests the use of 250 acres for identifying potential viable populations. While BRLWEA has enough habitat to sustain a viable population of gopher tortoises, BFWEA is below the threshold being recommended by the USFWS. However, when adding the acres included in the in the CFCC and Oakleaf Plantation buffer, it is likely BFWEA can sustain a viable population of gopher tortoises.

Ongoing natural communities management emphasizing the frequent use of prescribed fire to promote a diverse ground cover and open tree canopy will benefit gopher tortoises. Additional land management considerations are found in [Section 4.3.3](#). Based on the life history of this species and the rate at which it responds to management, workshop participants reached consensus that monitoring on a 5-year interval is appropriate ([Section 5.2.1](#)).

The goal is to sustain a viable gopher tortoise population on both of these WEAs. To meet this goal, staff will continue to apply prescribed fire in an effort to maintain the habitat in a condition that will support the species. The measurable objective is to:

1. Track changes in the population trend by monitoring every 5 years.

3.2.4: American Swallow-Tailed Kite

The American swallow-tailed kite (*Elanoides forficatus*) is occasionally seen around BRLWEA and BFWEA, but nesting has not been documented on either area. The swallow-tailed kite uses a variety of natural communities, requiring a mosaic of tall trees for nesting habitat and open areas for foraging habitat. Dominant trees taller than the surrounding trees are preferred for nesting sites. Shrub height and density tends to be higher around nest sites than in the surrounding area. Currently few potential nest sites exist on BRLWEA or BFWEA, but nest sites may occur on adjacent properties.

American swallow-tailed kites trigger 4 of 6 statewide prioritization parameters ([priorities table](#)). Models indicate 720 acres of potential habitat on BRLWEA and 236 acres on BFWEA; but on both areas, this is primarily foraging habitat. While it is unlikely that any WMA/WEA could independently support a population of this wide-ranging, migratory species, this species tends to continue to use nest sites as long as the habitat remains suitable. Therefore, even smaller acreage areas can have a role in the conservation of the species. Given the generalist nature of this species and its high mobility, it is not considered management dependent, though it does benefit from active management to restore natural communities, provided nest sites are not disturbed. Thinning of pine plantations can help improve the forest structure and increase the use of these areas by swallow-tailed kites. Timber management that favors open, mature stands of native pine will benefit this species in the long-term.

Prescribed fire and actions that aid in restoring natural community structure should continue to maintain and enhance habitat for this species. Cooperation with the Avian Research and Conservation Institute (ARCI) for future monitoring efforts is encouraged to further define the regional needs of the species. If nests are located on the area, management recommendations around these sites should be considered ([Section 4.3.4](#)) and the nest reported to ARCI ([Section 6.3](#)). If swallow-tailed kite nesting activity is observed, this information should be documented and reported ([Section 5.2.4](#)).

The goal is to provide suitable habitat for the American swallow-tailed kite that will allow individuals using the WEAs to continue to function as part of a regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will meet the foraging needs of the species. The continued presence of this species on these areas is dependent on conditions that influence the regional population.

3.2.5: Bachman's Sparrow

Bachman's sparrows (*Peucaea [Aimophila] aestivalis*) are commonly heard on both WEAs, and Bachman's sparrows have been documented on JSF nearby BFWEA. Both areas also have adjacent lands that are managed to provide suitable habitat for Bachman's sparrow. Nesting has not been documented on either WEA, but is likely occurring on both WEAs. No specific monitoring to determine the spatial distribution or relative abundance of Bachman's

sparrows has been completed on either WEA.

The Bachman's sparrow triggers 2 of 6 prioritization parameters ([priorities table](#)) and is currently experiencing range-wide population declines. On BRLWEA, models identified 720 acres of potential habitat. On BFWEA, models identified 214 acres of potential habitat. Literature suggests a viable population can be maintained on around 520 acres, which suggests BRLWEA has enough potential habitat to maintain a viable population of Bachman's sparrows. BFWEA in conjunction with adjacent conservation lands will contribute to sustaining a regional population, providing appropriate management can be applied.

Bachman's sparrows prefer mature pine forests with a low basal area and healthy herbaceous vegetation, well-maintained dry prairie, or early-successional old-field habitat. The Bachman's sparrow is responsive to management and the occurrence of frequent fire is critical to sustaining habitat for this species. Use of an area by Bachman's sparrows declines rapidly around 18 months post-fire and sites are typically abandoned if fire is excluded for ≥ 3 years. Current land management focusing on the frequent use of prescribed fire on both WEAs will continue to improve and maintain suitable habitat for Bachman's sparrow. Additional land management recommendations for Bachman's sparrow can be found in [Section 4.3.5](#).

Staff does not monitor Bachman's sparrows on either BRLWEA or BFWEA, largely due to the small size of these areas and limited resources. Staff visiting the area for other duties readily detect Bachman's sparrows, and should document these observations when they occur during the early spring and summer and overlap nesting season ([Section 5.2.4](#)).

The goal for BRLWEA is to provide suitable habitat for the Bachman's sparrow and support a viable population. The goal for BFWEA is to provide suitable habitat for the Bachman's sparrow and contribute to sustaining the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species on BFWEA is dependent on conditions that influence the regional population. However, adjacent public conservation lands increase the likelihood that Bachman's sparrows will persist on BFWEA, provided beneficial management that includes the use of frequent fire can be applied.

3.2.6: Brown-Headed Nuthatch

Brown-headed nuthatches (*Sitta pusilla*) are commonly heard on both WEAs. Nesting has not been documented, but is likely on both WEAs. No specific monitoring to determine the spatial distribution or relative abundance of brown-headed nuthatches has been completed on either WEA. Brown-headed nuthatches are dependent on open stands of mature pine. Older pine forests (>35 years for longleaf or slash pine) and stands with basal area between 35–50 ft²/acre are preferred, although nuthatches can use pine stands with younger trees and higher basal areas. This cavity-nesting species is dependent on the presence of snags for suitable nesting habitat. Unfortunately, to the detriment of the nuthatch, land management activities frequently knock over these snags. Both WEAs have numerous snags available and staff avoids unnecessary disturbance of these snags. Both areas also have adjacent lands that are managed to provide suitable habitat for brown-headed nuthatches.

This species triggers 2 of 6 prioritization parameters ([priorities table](#)) and is currently

experiencing range-wide declines due to habitat loss and degradation. Models identified 720 acres of potential habitat on BRLWEA, and 214 acres on BFWEA. Literature suggests between 320 and 1,000 acres of suitable habitat are necessary to support a viable population of this species. Given this, BRLWEA may have enough potential habitat to maintain a viable population, and BFWEA, in conjunction with adjacent conservation lands, will contribute to sustaining a regional population of brown-headed nuthatches. Potential habitat on private lands adjacent to each area is unevenly distributed, and in varying degrees of suitability to the species.

Management actions that aid in restoring natural community structure, such as frequent prescribed fire, or thinning and other silvicultural activities favoring mature timber, maintain or enhance habitat for this species. Current land management focused on the frequent use of prescribed fire on both WEAs will continue to improve and maintain suitable habitat for brown-headed nuthatches. Additional land management recommendations for brown-headed nuthatches can be found in [Section 4.3.6](#).

Staff does not monitor brown-headed nuthatches on either BRLWEA or BFWEA, largely due to the small size of the areas and limited resources. Staff visiting the area for other duties readily detect brown-headed nuthatches, and should document these observations when they occur during the early spring and summer and overlap nesting season ([Section 5.2.4](#)).

The goal for BRLWEA is to provide suitable habitat for brown-headed nuthatches and support a viable population. The goal for BFWEA is to provide suitable habitat for brown-headed nuthatches to contribute to the regional population. To meet these goals, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. For BFWEA, the availability of potential habitat on adjacent public conservation lands increases the likelihood that brown-headed nuthatches will persist.

3.2.7: Northern Bobwhite

Although systematic efforts to document local distribution and relative abundance of northern bobwhite have not been attempted, staff regularly see and hear the species on BRLWEA and BFWEA. Further, the private land adjacent to BRLWEA is managed to enhance the northern bobwhite population. Bobwhites are associated with open canopy forests and grassland communities dominated by warm-season grasses, legumes, and patchy bare ground. Bobwhites depend on multiple early-succession habitats that are well interspersed to meet their annual requirements. Areas with abundant native warm-season grasses and herbaceous annual vegetation are used for raising broods and foraging. Shrubs or other thickets are useful as roosting habitat or escape cover. Managers can use the frequent application of prescribed fire to create the mosaic of vegetation conditions this species requires to meet its life history needs.

The bobwhite is a game species and is not listed at either the FWC or federal level. This species triggers 2 of the 6 statewide prioritization parameters ([priorities table](#)); however, BBS data indicate a 3% decline per year range-wide with a 4.0% decline per year in Florida. As a result, this species has become the focus of a number of ongoing conservation initiatives and the FWC approved the [Strategic Plan for Northern Bobwhite Restoration in Florida](#) in 2007. The ongoing range-wide population declines, its popularity as a game bird, the

potential to increase habitat quality, and the many conservation initiatives for this species make it a medium priority species on both WEAs.

Models indicate 720 acres of potential habitat on BRLWEA. Literature suggests that 2,000–4,000 acres are necessary to support a viable population. The potential habitat on BRLWEA is good quality, and this relatively small acreage is supplemented by more than 3,000 acres on Canaan Ranch to the west, which is managed for bobwhite hunting. Therefore, the opportunity for bobwhite conservation on BRLWEA is high.

Models indicate 342 acres of potential habitat on BFWEA. The potential habitat on BFWEA is good quality and there is additional habitat in fair to good condition on CFCC and JSF. However, the proximity of BFWEA to residential development makes free-ranging or feral cats a significant risk to sustaining a population of bobwhites. Sustaining bobwhites on BFWEA will be more challenging, but the species should persist with continued use of prescribed fire.

Current land management focused on the frequent use of prescribed fire on both WEAs will continue to improve and maintain suitable habitat for bobwhites. Additional land management recommendations for bobwhites can be found in [Section 4.3.8](#). Staff does not monitor bobwhites on either BRLWEA or BFWEA, largely due to the small size of the areas and limited resources. Staff visiting the area for other duties readily detects bobwhites. When conducting management activities during the northern bobwhite nesting season (early spring and summer), staff should document these observations ([Section 5.2.4](#)).

The goal for both WEAs is to provide suitable habitat for the bobwhite and contribute to sustaining the regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species is dependent on conditions that influence the regional population. However, the condition and management of adjacent private lands increases the opportunity for conservation of northern bobwhites on BRLWEA. On BFWEA there is adjacent public conservation lands to the west that support the regional population, but the urbanization of land to the east will present a challenge to maintaining northern bobwhites on BFWEA.

3.2.8: Southeastern American Kestrel

The southeastern American kestrel is observed frequently on BRLWEA, which is located within the core breeding range of the species. Staff installed 4 nest boxes on the area in 2011, and monitors these boxes according to protocol developed by FWC's Fish and Wildlife Research Institute (FWRI). Kestrels nested in 2 of the nest boxes in 2012, but both nests failed to fledge young. One nest may have been depredated and the other appeared to have been abandoned when the eggs failed to hatch. Staff frequently observe kestrels using natural cavities in snags on BRLWEA, which may be preferred over the nest boxes. Additionally, significant quantities of private lands near BRLWEA are managed in a fashion compatible with the needs of this species.

Southeastern American kestrels utilize upland habitats, including sandhills, longleaf savannas, pastures, sand pine scrub, and prairies. As a secondary cavity-nesting species, southeastern American kestrels use previously excavated cavities in large snags. They will utilize artificial cavities when placed in areas of suitable habitat. They require adequate perch sites within foraging areas for hunting, low ground cover (<1 ft), and an open canopy

(<20% cover). Average breeding territory size is 125 acres, though more area may be necessary if the habitat quality is marginal.

Southeastern American kestrels are listed by the FWC as a threatened species and trigger 4 of 6 prioritization parameters ([priorities table](#)). Models did not identify any potential habitat for this species on BFWEA, and therefore the southeastern American kestrel is not a focal species for BFWEA. Models indicate 720 acres of potential habitat for southeastern American kestrels on BRLWEA. The level of opportunity on BRLWEA is high, given the quality of potential habitat and the fact that southeastern American kestrels already use, and nest on, the area.

Management actions that maintain or enhance habitat for this species include prescribed fire and management favoring mature, open stands of longleaf pine. Additional land management considerations including the protection and creation of snags can be found in [Section 4.3.9](#). Monitoring for southeastern American kestrels will continue according to a protocol developed by FWRI as part of a statewide kestrel nest box monitoring program ([Section 5.2.2](#)). Staff shares the results of this monitoring with FWRI ([Section 6.1.2](#)) and uses the results to assess the need for additional nest boxes ([Section 5.1.1](#)).

The goal is to promote suitable foraging and nesting habitat for southeastern American kestrels that will allow individuals using BRLWEA to function as part of a regional population. While the continued presence of this species is dependent on conditions that influence the regional population, Southeastern American kestrels are likely to persist on BRLWEA. The measurable objectives are to:

1. Maintain at least 4 functional nest boxes within suitable habitat on BRLWEA.
2. Evaluate the use of available nest boxes and the suitability of adjacent habitat to determine the need for additional boxes or alternative sites.

3.2.9: Florida Mouse

Florida mice are abundant on BRLWEA, but, despite efforts to locate them, staff has not documented the species on BFWEA. This species occurs in fire-maintained xeric uplands that have well-drained, sandy soils. While acorns are an important food source for this species, having a diverse ground cover that provides a diversity of food throughout the year is equally important. Abundance of Florida mice is highest in areas supporting early successional vegetation; populations decline as natural communities become more densely vegetated, more heavily shaded, and more mesic. The Florida mouse is an obligate commensal of the gopher tortoise, and may not be able to persist long-term on sites where tortoises are absent.

Maintenance of native sandhill ground cover along with fire-tolerant oak species will help ensure that Florida mice will have food resources available throughout the year. Fire-tolerant oak species such as dwarf live oak (*Quercus minima*), bluejack oak (*Q. incana*) sand live oak (*Q. geminata*), turkey oak (*Q. laevis*), and sand post oak (*Q. margarettae*) distributed in small clumps, or individually throughout the landscape, provide important food and habitat structure for the Florida mouse and other species.

The Florida mouse triggers 4 of 6 prioritization parameters ([priorities table](#)) and is listed by FWC as a species of special concern. Based on a recent biological status review, the Florida mouse does not warrant listing. The species will remain a species of special

concern until the FWC approves a management plan for the species, and approves the rule change removing the species from the list.

On BRLWEA, Florida mice are abundant. So much so, that beginning in February 2012, Species Conservation Planning (SCP) staff with assistance from WHM staff initiated a study on BRLWEA to examine the effects of prescribed fire on Florida mouse demographics and survival. Staff trapped mice prior to scheduled burns on the area and 4 post-fire trapping events have been conducted. Preliminary data analysis indicates a healthy population. Trap success was very high with 318 mice ear-tagged through October of 2012, including pregnant and lactating females, scrotal (reproductively active) males, and many juveniles. SCP staff plans to continue this effort through several prescribed fire cycles to assess seasonal vs. fire-related trends in survival.

Models indicate 720 acres of potential habitat on BRLWEA. Literature suggests Florida mice require 75–200 acres of suitable habitat to support a viable population. Based on this information, with appropriate management, BRLWEA can support a viable population of Florida mice. This species is management responsive and there is the opportunity for management on BRLWEA to have a significant influence; therefore, it is a high priority species. The current study of Florida mice on BRLWEA is scheduled to continue through 3 prescribed fire cycles ending in 2016. The current study collects more data and monitors with greater intensity, but the layout of transects and the individual trapping stations are the identical to the standard Florida mouse occupancy protocol. Subsequent to the completion of the current study the standard monitoring protocol will be repeated on a 5-year interval ([Section 5.2.3](#)).

The goal on BRLWEA is to maintain a viable Florida mouse population. The main action staff will take to affect this goal is to continue to manage the sandhill with frequent prescribed fire, with an emphasis on growing season burns. The measurable objective is to:

1. Conduct follow-up surveys on a 5-year interval to monitor persistence of populations.

Despite surveys specifically looking for the Florida mouse, staff has not documented the species on BFWEA. In February 2012, WHM staff conducted a trapping effort within 2 management units of BFWEA that had gopher tortoise burrows, intact ground cover, and had been treated with fire on a 2-year rotation. No Florida mice were captured during 160 trap-nights. The northwest regional SCP biologist has previously attempted to catch Florida mice on BFWEA with no success. Staff should conduct one more presence/absence sampling effort on BFWEA within the next 3–5 years ([Section 5.2.3](#)). If no Florida mice are captured, the species should not be considered a focal species on BFWEA. If Florida mice are captured, this assessment should be revisited.

While models did identify 85 acres of potential habitat for the Florida mouse on BFWEA, this is near the lower threshold of what is needed to support a viable population. Additionally, most of the xeric natural communities on BFWEA have heavier, less well-drained soils that are more characteristic of flatwoods than xeric uplands. Because Florida mice prefer sandy, xeric soils, it is possible BFWEA was never high quality Florida mouse habitat. Further, the closest modeled potential habitat on conservation lands is greater than 2 miles distant on JSF. As such, until Florida mice are documented on site, we will not draft a goal for the area. The measurable objective is:

1. Conduct a Florida mouse survey in suitable habitat on BFWEA by 2018.

3.2.10: Sherman's Fox Squirrel

Sherman's fox squirrels (*Sciurus niger shermani*) are frequently seen on BRLWEA and occasionally seen on BFWEA. In a recent (Aug 2011-Apr 2012) web-based citizen-science survey effort, numerous reports of fox squirrels came from the area surrounding each of these WEAs.

This FWC-listed species of special concern triggers 4 of 6 prioritization parameters ([priorities table](#)). Suitable habitat for Sherman's fox squirrel includes longleaf pine sandhills or flatwoods with a mixture of pines and oaks, and a sparse to moderate shrub layer. Sherman's fox squirrels appear to do best in mature longleaf pine stands maintained with fire that results in an open understory with an oak component. Mast-producing hardwoods, especially mature oaks, are important as fox squirrels often use large oaks for nest sites and daytime refugia. In addition, acorns provide a major part of their diet. Mature longleaf pines that produce seed bearing cones are an important energy-rich food source, particularly during summer. A mosaic of habitat conditions across the landscape, including a variety of oaks, ensures a year-round supply of food items that vary seasonally.

Models identified 720 acres of potential habitat on BRLWEA, and 217 acres on BFWEA. The fox squirrel is a wide-ranging species and the literature suggests 2,000-9,000 acres of suitable habitat are required to support a population. Given this, the habitat on these WEAs cannot independently support a local population. The potential habitat on BRLWEA, and the adjacent Canaan Ranch, is generally in good condition. The rest of the private land adjoining the area is in moderate to poor condition for this species. The potential habitat on BFWEA, and on upland portions of CFCC and JSF to the west and south, is generally in fair to good condition. The rest of the land adjoining BFWEA is privately owned and in moderate to poor condition for this species. Therefore, while these WEAs have a role in supporting the regional population, it will be important to maintain additional habitat for fox squirrels on adjacent public and private lands.

Management actions that maintain or enhance habitat for fox squirrels include prescribed fire, mechanical actions that aid in restoring natural community structure, and timber management that results in open, mature pine forests. Additional land management recommendations for fox squirrels are found in [Section 4.3.9](#). Because this species naturally occurs at low densities and can be difficult to detect, no specific monitoring, aside from opportunistic documentation, is recommended ([Section 5.2.4](#)).

The goal for these WEAs is to provide suitable habitat for Sherman's fox squirrels that allows the individuals using these WEAs to function as part of the regional population. To meet this goal, staff will continue to apply prescribed fire to maintain the habitat in a condition that will support the species. The continued presence of this species is dependent on conditions that influence the regional population. However, the Galloway plantation and agricultural lands adjacent to BRLWEA increase the opportunity for conservation of fox squirrels. There are adjacent public conservation lands to the west of BFWEA that support the regional population of fox squirrels, but the urbanization of land to the east will present a challenge to maintaining fox squirrels on BFWEA. Because habitat availability and management on private lands affects the continued regional presence of fox squirrels, FWC staff from CPS ([Section 6.1.3](#)) should work with private landowners to identify and maintain suitable conditions.

3.2.11: Limited Opportunity Species

Five focal species (striped newt, Cooper's hawk, wading birds, Florida black bear and southeastern bat) were modeled (using statewide data) to have potential habitat on these WEAs but lack reasonable opportunity for management. Opportunistic observations of these species should be documented ([Section 5.2.4](#)). If any of these species are documented with increasing regularity, the areas' roles in their conservation should be re-visited. As limited opportunity species, there is no need for SMAs, specific monitoring, goals, or measurable objectives.

Striped Newt- Models did not identify any potential habitat for the striped newt on or within >2.5 miles of BRLWEA. While these models did identify 200 acres of potential habitat for striped newts on BFWEA, the species has not been documented on BFWEA. The closest and most recently documented breeding ponds are on JSF, 4 miles to the southwest. The potential habitat on BFWEA is isolated from these ponds on JSF by a wide swath of mesic and wet flatwoods that are unsuitable for striped newts.

The striped newt triggers 4 of 6 prioritization parameters ([priorities table](#)). Potential habitat models indicate 200 acres of habitat for this species, but only 86 acres of sandhill habitat, which can potentially be used by adults. This potential habitat is isolated from other xeric uplands in the area by development and flatwoods. While the continued use of frequent prescribed fire will maintain this potential habitat in suitable condition, there is little opportunity to manage for the species on this small isolated acreage.

Cooper's hawk-The Cooper's hawk has not been observed on BRLWEA and nesting has not been documented. This species is not listed at either the FWC or federal level, and the species triggers 1 of the 6 statewide prioritization parameters ([priorities table](#)). No potential habitat is modeled to occur on BFWEA. While the statewide PLCP mapped potential habitat on BRLWEA, area-specific natural community based modeling indicated that no potential habitat occurs on the area. This species nests in a variety of habitats including swamps, floodplain forests, and upland hardwood, which are not found on these WEAs. The Cooper's hawk is not considered management dependent, though it does benefit from active management to restore natural communities, provided nest sites are not disrupted.

Because of the generalist nature of this species, the opportunity for management to have a significant impact on this species at the WEA level is limited. Migrating individuals may forage on the WEAs, but suitable nesting habitat is unlikely to occur on BRLWEA in the future, and Cooper's hawk should not be a focus of management on either of these WEAs.

Wading birds- No potential habitat was identified for this group on BRLWEA. Of the 8 species in this group, great egret (*Casmerodius albus*), snowy egret (*Egretta thula*), reddish egret (*E. rufescens*), tricolored heron (*E. tricolor*), little blue heron (*E. caerulea*), white ibis (*Eudocimus albus*), roseate spoonbill (*Ajaia ajaja*), and wood stork (*Mycteria americana*), none are commonly seen on BFWEA. Some species may occasionally forage in the basin and dome swamps.

Models indicate 169 acres of current potential habitat on BFWEA. Most of this habitat is wet flatwoods with about 42 acres of basin swamp and dome swamp. No nesting colonies have been documented on the area. If wading bird nesting is documented on or within 300 feet of the area, this assessment should be revisited.

While the area can provide limited foraging opportunities for wading birds, there is little opportunity to influence these species through active management. The lack of nesting colonies and the proximity to an active airport further limit the opportunity to manage for these species. With these limitations, wading birds should not be a focus of management on BFWEA.

Florida black bear- In June 2012, the FWC removed the Florida black bear from the threatened species list and adopted the [FWC Bear Management Plan](#). The Florida black bear triggers 2 of 6 prioritization parameters ([priorities table](#)), but is not known to occur on BRLWEA or BFWEA. BRLWEA falls more than 25 miles outside of the primary and secondary range of any bear population as identified by the FWC Bear Management Plan. Few nuisance and no road kill bears have been documented in the vicinity. BFWEA falls outside of the primary and secondary range of the Osecola subpopulation as identified by the FWC Bear Management Plan. However, the nearest secondary range to BFWEA is only 820 feet away on the CFCC, and numerous nuisance and road-kill bears have been documented in the vicinity. It is possible that bears, particularly young dispersing males, will occasionally cross through BFWEA; however, the limited size and the composition of natural communities on BFWEA will always limit bear use of this property.

This species requires a mosaic of natural communities throughout the year to meet nutritional and reproductive needs. Optimal bear habitat in Florida is described as a thoroughly interspersed mixture of flatwoods, swamps, scrub oak ridge, bayheads, and hammock habitats. The use of frequent prescribed fire to manage these properties for gopher tortoises will result in a more open habitat than is preferred by bears. While models indicate some potential habitat on both WEAs, there is little opportunity to influence the species on such small acreage. As such, the black bear should not be a focus of management. Additionally, attracting bears to these properties would likely increase undesirable interactions between humans and bears.

Southeastern bat- No potential habitat was modeled to occur for the Southeastern bat on BFWEA and the species is not known to occur on BRLWEA. While Southeastern bats may feed and roost in areas of sandhill, their primary foraging habitat is over open water, which does not occur on or near BRLWEA. Suitable maternity caves do not exist on BRLWEA and no documented maternity caves occur within 10 miles of BRLWEA.

This species triggers 2 of 6 prioritization parameters ([priorities table](#)). While the statewide PLCP mapped potential habitat on BRLWEA, area-specific natural community based modeling indicated that no potential habitat occurs on the area. This species is not considered management dependent and the opportunity to affect this species on BRLWEA is low. Because of the lack of preferred habitat and the lack of maternity caves, the southeastern bat should not be a focus of management on BRLWEA or BFWEA.

3.3 Other Listed and Locally Important Species

While natural community management centered on a set of focal species provides benefits to a host of species reliant upon these natural communities, species that are imperiled sometimes require specific attention. Further, subsection 253.034(5) of the Florida Statutes (F.S.) requires all land management plans to include an analysis of the property to determine if significant natural resources, including listed species, occur on the property. If significant natural resources occur, the plan shall contain management strategies to protect the resources. The Florida Forever Act (s. 259.105, F.S.) adds that all State lands that have imperiled species habitat shall include restoration, enhancement, management, and repopulation of such habitats as a consideration in the management plan. In this subsection, we discuss listed or locally important species that are not PLCP focal species.

It is possible other imperiled species occur on BRLWEA and BFWEA, and if encountered, staff will document these encounters. Florida's imperiled species are adapted to natural communities and should continue to benefit from FWC's ongoing or planned ecological management that aims to restore natural community structure and function. Under FWC's ecological management, these species have a higher probability of persistence than in the absence of this management.

3.3.1: Other Listed and Locally Important Wildlife Species

Eastern Indigo Snake - The federally threatened eastern indigo snake (*Drymarchon couperi*) has been documented on private lands near BRLWEA. The status on BFWEA is less certain, but the species possibly inhabits the area. As this species has large home ranges, individuals may occur on or occasionally pass through both WEAs. Planned habitat management that includes the use of prescribed fire will enhance conditions for this species. Stumps and other coarse woody debris should be retained when possible during land management activities as potential refuge sites ([Section 4.3.2](#)). All indigo snake sightings on BRLWEA or BFWEA should be documented ([Section 5.2.4](#)).

Short-Tailed Snake - While BRLWEA is within the known range of the short-tailed snake (*Lampropeltis extenuata*), BFWEA is outside of the known range and does not have soils that meet this species requirements. The short-tailed snake is a FWC-listed threatened species that has been documented in similar soil types in Alachua and Levy counties near BRLWEA. Little is known regarding the life history of this species. Conservation of sandhill habitat will presumably benefit this species. Any incidental sighting of this species should be documented ([Section 5.2.4](#)) and collection of a photo-voucher is encouraged.

3.3.2: Rare Plants

The FNAI conducted a plant survey on BRLWEA and documented 109 species, including 1 state endangered plant, sandhill spiny-pod (*Matelea pubiflora*). While no formal rare plant inventory has been conducted on BFWEA, 4 imperiled plant species have been documented: hooded pitcher plant (*Sarracenia minor*), piedmont joint grass (*Coelorachis tuberculosa*), giant orchid (*Pteroglossaspis [Eulophia] ecristata*), and Florida toothache grass (*Ctenium floridanum*). The Florida Department of Agriculture and Consumer Services

lists hooded pitcher plant, piedmont joint grass, and giant orchid as threatened. Florida toothache grass is listed as endangered. The protections afforded plants by existing on conservations lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain habitat for these and other rare plants. As such, these species should persist under current management on BRLWEA and BFWEA.

While planned management is compatible with the needs of most imperiled plants, contracting for a rare plant inventory is suggested. This will require additional resources. The measurable objective is:

1. Seek funding to allow for contracting for the completion of a rare plant inventory on BFWEA.

Piedmont Joint Grass - Piedmont joint grass is an obligate wetland indicator species found in wet bogs, edges of depressions, and savannahs. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent shrub encroachment in these wetlands and help preserve this species.

Hooded Pitcher Plant - Hooded pitcher plant is an obligate wetland indicator species found in wet bogs, edges of depressions, and pine flatwoods. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent succession to sedges and shrubs in these wetlands and help preserve this species

Giant Orchid - Giant orchid is typically found in sandhill, scrub, pine flatwoods, and pine rockland natural communities that are actively managed. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to these orchids, and should be avoided near known occurrences.

Florida Toothache Grass - Florida toothache grass is found from sandhill to wet flatwoods sites. Soil disturbing activities should be avoided where this species is likely to occur. Periodic burning will prevent shrub encroachment and help preserve this species.

Sandhill Spiny-pod - Sandhill spiny-pod is typically found in sandhill natural communities that are actively managed. Management for this species includes the use of prescribed fire to create sunny openings and reduce competition from woody species. Soil-disturbing activities such as bedding and plowing fire lanes can be destructive to this species, and should be avoided near known occurrences.

Section 4: Land Management Actions and Considerations

Models identified potential habitat for 11 focal species on BRLWEA and 12 focal species on BFWEA ([Section 3.1](#)); however, not all of these species have the same level of management opportunity or need ([Section 3.2](#)). The FWC's natural community-based management, which emphasizes prescribed fire methods that produce a mosaic of burned and unburned areas, will promote the habitat conditions necessary for most of these species, without the need for further strategic management actions. We may designate Strategic Management Areas (SMAs) when actions over and above ongoing natural community

management are required in a specific location ([Section 4.1](#)). In addition, to ensure natural community management addresses the needs of these focal species, we evaluate the OBVM DFCs for natural communities ([Section 4.2](#)). [Section 4.3](#) provides recommendations for species that need specific protective measures or land management considerations to ensure their continued presence on the property.

4.1: Strategic Management Areas

The intent on BRLWEA and BFWEA is to apply management actions that maintain intact natural communities in good condition and restore degraded or altered natural communities to a condition that will better suit focal and listed species. However, SMAs focus management actions on MUs with the highest possibility of success, and or MUs most critical for the conservation of a species on the WEAs. Staff designates SMAs to achieve at least one of the following:

- Identify the area in which to apply specific land or species management that creates the highest probability for persistence and conservation of a species or suite of species. These specific actions should aid in restoring, enhancing, or maintaining the habitat or population.
- Identify an area in which to focus specific land or species management actions for the best chance of success, when there is more restoration and enhancement than can be accomplished in short order on the WEA. This might be the first or next step in a sequential series of management actions that will increase the likelihood of occupation and or persistence of a specific species.
- Identify an area that is so critical to the persistence of a species on the WEA that it warrants special designation to ensure protection against negative alteration.
- Identify areas that are critical for research or monitoring.
- Recommend MU-specific natural community DFCs that differ from the DFCs in the natural community area-wide, when this is necessary to benefit a specific species.

Workshop participants agreed that planned and ongoing management actions across BRLWEA and BFWEA will meet the needs of the focal species; therefore, they did not designate any SMAs.

4.2: Objective-Based Vegetation Management (OBVM) Considerations

OBVM is an approach to land management that emphasizes restoring and maintaining natural plant communities towards pre-determined desired conditions. The OBVM DFCs ([Table 2](#)) target a range in values for various habitat attributes within actively managed communities. However, if a focal species requires a more restricted range in habitat attributes than is reflected in the area-wide DFCs, or depends on a vegetative attribute that is not currently monitored on BRLWEA or BFWEA, we may recommend adjusting the DFC range or adding the attribute. The workshop gave participants the opportunity to evaluate if the current DFCs meet the needs of focal species and if not, to suggest modifications. The following are common reasons to modify DFCs:

- To obtain maximum habitat suitability for a species that requires a more restricted range of DFC values than the current DFC values.

- To benefit a particular species in specific MUs; typically when we have designated a SMA that requires a change in natural community DFCs only within the SMA and not in the natural community area-wide.
- To add an attribute that was not previously monitored.

Table 2. Desired Future Conditions for mesic flatwoods and sandhill natural communities on BFWEA and BRLWEA, based on FNAI reference site values.

Mesic Flatwoods	DFC Value Range
Pine Basal Area (sq. ft./acre)	10-50
LL Basal Area (sq. ft./acre)	10-50
Non Pine-Density (count in 7m radius)	0
Subcanopy (count within 4m quadrant)	<1
Serenoa Cover (%)	10-25
Serenoa Petiole Density >3 ft (count)	0
Average Maximum Shrub Height (ft)	≤2
Shrub Cover (%)	<25
Shrub Stem Density >3 ft (count)	<1
Maximum Shrub DBH ¹ (inches)	<0.5
Herbaceous Cover (%)	>25
Wiry Graminoids Cover (%)	>10
Exotics Plant Cover (%)	0
Weed Cover (%)	<2
Sandhill	DFC Value Range
Pine-only Basal Area (sq. ft./acre)	20-60
Longleaf Pine Regeneration (count)	NA
Non-Pine stem Density (in 7m radius)	<3
Subcanopy (stems)	<1
Shrub Cover (%)	10-20
Serenoa Cover (%)	<5
Serenoa Petiole Density	0
Shrub Stem Density >3 ft	0
Average Maximum Shrub DBH (in)	<1
Average Maximum Shrub Height (ft)	<3
Herbaceous Cover (%)	>25
Bare Ground Cover (%)	1-10
Weedy Cover (%)	<2
Exotic Plant Cover (%)	0

¹ DBH = diameter at breast height.

The OBVM 'data collection protocol' and 'attribute range in values' have changed since the BFWEA OBVM workshop, due to program review and budgetary issues. Additionally, the OBVM workshop occurred prior to the identification of references sites.

Reference sites are areas identified by FNAI as representing the highest quality examples of natural communities in the State. FNAI has identified a reference site for sandhill natural community on BRLWEA. The FWC has not conducted an OBVM workshop for BRLWEA. At the WCPR workshop, participants agreed that use of the reference sites' values would best meet the needs of the focal species. As such, Table 2 reflects the recommended OBVM DFCs for BFWEA and BRLWEA. The actively managed natural communities on BFWEA include mesic flatwoods, wet flatwoods and sandhill, while sandhill is the only actively managed natural community on BRLWEA.

4.3: Further Land Management Considerations

Most generalist or wide-ranging species benefit from management that maintains or restores the structure and function of the natural communities they use. However, specific management recommendations and precautions are necessary to ensure continued suitability of the area for some species. The following recommendations should help these WEAs continue to fulfill their role in the conservation of these species.

4.3.1: Frosted Flatwoods Salamander

Frosted flatwoods salamanders frequently move between wetland breeding ponds and adjacent uplands. Avoid placing new firebreaks or roads along wetland ecotones because they can alter or destroy the herbaceous component of pond margins preferred by this species and other amphibians. Wet-lining can be an alternative to mineral firebreaks around wetlands if necessary; however, it is preferred to allow fire to burn through the wetland. Managers will use prescribed fire as the primary tool to remove shrubs and other thick vegetation from pond margins; mechanical treatments may be needed initially, but prescribed fire should be the primary management tool in suitable wetlands. Because it is important to maintain potential breeding ponds in good condition, minimize soil disturbance within 500 yards of potential breeding ponds.

Growing season (April–September) burns, preferably after April, are more beneficial to frosted flatwoods salamanders than dormant season (October–March) burns. This is because growing season burns are more effective at reducing shrub cover and litter in the wetland basin, stimulating the growth of herbaceous emergent vegetation, enhancing the wetland/upland ecotone, and stimulating the reproduction of wiregrass in the surrounding uplands. The most beneficial time to burn is when the wetland is dry. Although growing season fires are preferred, it is better to burn during the dormant season than to avoid burning.

4.3.2: Eastern Indigo Snake / Florida Pine Snake

Large upland snakes such as the eastern indigo snake and Florida pine snake are relatively wide-ranging and elusive. Ongoing land management activities will enhance the suitability of habitat for these species, but could be directly detrimental. When using heavy equipment during land management activities, it is important to avoid direct mortality by allowing snakes to move away from the path of the equipment. When practical during land management activities, keep heavy equipment at least 25 feet from areas with a high density

of pocket gophers or gopher tortoise burrows. This precaution will help to avoid direct mortality of pine snakes, which regularly use gopher tortoise burrows for refuge, and forage on pocket gophers. When possible, leave coarse woody debris and residual stumps intact to provide cover for both of these snake species. If necessary to reduce smoke management issues, it is acceptable to pile and burn excess logging slash, but leave some debris in the stand to provide cover for these species and their prey. Creating brush piles can provide cover for these species if natural cover is sparse or absent.

4.3.3: Gopher Tortoise

In areas where gopher tortoises occur, the timing of mechanical treatments should occur, when appropriate, during the dormant season to minimize negative impacts to gopher tortoises. Gopher tortoises are generally less active and remain in burrows during the winter months; therefore, mechanical equipment at this time will be less likely to crush or otherwise harm foraging tortoises. In addition, because it is difficult for equipment operators to see hatchling tortoises, and hatchlings are most abundant during September and October, avoid mechanical treatments during these months when practical. However, consider how the timing of the treatment will affect management results, and conduct the treatment in a way that allows for meeting management objectives while minimizing negative impacts on tortoises. Regardless of timing, take steps (e.g., flagging burrows) to minimize impacts on known burrows.

4.3.4: American Swallow-Tailed Kite

Because swallow-tailed kites exhibit high nest site fidelity, if nests are found on the WEAs, protect known nest sites from disturbance and alteration, and retain all of the tallest pines in the area of nest sites. Maintaining a 330-foot protective buffer around active nests during the nesting season (March-June) should minimize the chance of disturbance. When possible, kite nesting areas should be managed to have a higher shrub height and density than surrounding areas. During nesting season, if kites are observed carrying nesting material, mobbing, or congregating in groups of 3 or more, these activities should be documented and an effort to locate the nest should be made. For information on how to locate nests, see:

Meyer, K. D., and M. W. Collopy. 1995. Status, distribution, and habitat requirements of the American swallow-tailed kite (*Elanoides forficatus*) in Florida. Project Report, Florida Game and Fresh Water Fish Commission, Tallahassee.
http://research.myfwc.com/publications/publication_info.asp?id=47206

While kites have not been documented nesting on either WEA, it is important to preserve future potential nest trees. This can be done by retaining the largest, oldest trees on the landscape during land management activities.

4.3.5: Bachman's Sparrow

Prescribed fire improves habitat quality for Bachman's sparrows, and is the primary land management tool recommended to promote habitat for Bachman's sparrow on both

WEAs. Suitable habitat can be created and maintained through frequent (≤ 3 year rotation) use of prescribed fire. The repeated occurrence of fire is critical to sustaining this species as use of an area by Bachman's sparrows declines rapidly around 18 months post-fire, and Bachman's sparrows may abandon habitat if fire is excluded for more than 3 years. When using mechanical treatment to reduce palmetto, apply a 'sloppy chop' to retain some potential singing perches, and follow with a prescribed burn.

4.3.6: Brown-Headed Nuthatch

This species is a cavity nester that is dependent on the presence of snags for suitable nesting habitat. As such, make an effort to retain snags during land management activities and evaluate the impact of management activities on snags to ensure new snags will replace consumed snags. Old, short snags with flaking bark and soft wood, especially old, decaying oak snags with a diameter at breast height of < 10 inches are important nesting sites for this species. Take care to retain these particular types of snags.

4.3.7: Northern Bobwhite

The primary land management tool used to benefit northern bobwhite is the frequent use of prescribed fire. Ignite fires using a variety of firing techniques and environmental conditions with the goal of promoting a mosaic burn. Mosaic burns result in a patchwork of burned and unburned areas that meet different life history requirements for northern bobwhite. Growing season fires are generally preferred, as they are required to trigger flowering and viable seed production in many native species. Recent evidence suggests that the frequency of fire in flatwoods communities may be just as important as the seasonality of burn. Thus, if growing season burns do not occur, it is better to burn the unit during the following dormant season rather than waiting until the following summer.

Pine stands with basal areas > 70 ft²/acre should be thinned to trigger herbaceous growth and improve habitat conditions for this species. Ruderal areas can be managed for northern bobwhite through mechanical actions like mowing and/or disking strips during the summer months to promote herbaceous growth.

4.3.8: Southeastern American Kestrel

Southeastern American kestrels are dependent on the occurrence of open upland habitats that contain a number of snags for nest sites and perches. While ongoing management will encourage the open foraging condition this species requires, make an effort to retain large snags during land management activities. The practice of snag management (i.e., protecting snags when safe and practical, promoting the creation of new snags in areas currently lacking) will benefit southeastern American kestrels. If nesting is documented, minimize the amount of mechanical activity within 500 feet of the nest during the nesting season and protect the snag during prescribed fire activities. For more information on management for kestrels, see:

Stys, B. 1993. [Ecology and habitat protection needs of the southeastern American kestrel \(*Falco sparverius paulus*\) on large-scale development sites in Florida](#). Florida Game and Fresh Water Fish Commission, Nongame Wildlife Program Technical Report No. 13. Tallahassee, Florida, USA.

4.3.9: Sherman's Fox Squirrel

To help these areas reach their full potential for fox squirrels, prescribed fire should continue to be used to create an open, mature forest structure. Efforts to reduce dense palmetto cover in some MUs will benefit this species by providing the open conditions the species prefers. Reducing palmettos will also enhance conditions for food producing species such as runner oak (*Quercus pumila*) and dwarf live oak (*Q. minima*), preferred by Sherman's fox squirrel. As fox squirrels require an oak component, mature oaks should be retained in appropriate sites (e.g., fire shadows) during natural community restoration. Ideally, a variety of oak species in a range of age classes should be retained, but not to the extent that interferes with other species needs and natural community management. Maintaining single large hardwood trees and small patches of oaks within pine uplands creates the highest quality fox squirrel habitat. Studies conducted in southwest Georgia produced a recommendation of 2-3 large single trees (>12 inch DBH), or patches of smaller trees (4-12 inch DBH), for every acre of pine savanna, to accommodate the needs of Sherman's fox squirrels.

Section 5: Species Management Opportunities

Land management that considers the needs of a suite of focal species provides direct benefits to many associated species. However, land management actions alone are insufficient to maintain or recover some species. These species need species-specific management ([Section 5.1](#)). Additionally, monitoring ([Section 5.2](#)) is required to verify management is having the desired influence on wildlife. [Section 5.3](#) identifies research necessary to guide future management.

5.1: Species Management

Species management as used here refers to actions other than land management, monitoring, or research, taken for a specific species. Species-specific management actions can include actions such as translocation, restocking, or installing artificial cavities. These actions may be needed for species that are currently present but occur at low densities, have low reproduction potential, or have other limitations that inhibit recovery. Additionally, species that are not present on a site, have limited dispersal capabilities, or are unlikely to occupy a site without reintroduction, may require species-specific management. [Section 2](#) and [Section 4](#) provide information on land management actions, such as prescribed fire or mechanical treatments. [Section 5.2](#) covers monitoring related actions, including banding or tagging.

5.1.1: Southeastern American Kestrel

Staff installed 4 southeastern American kestrel nest boxes in March 2010 on BRLWEA. Staff maintains and monitors these boxes following a FWRI developed protocol. The purpose of the southeastern American kestrel nest box program on BRLWEA is to facilitate FWRI research efforts and encourage kestrel nesting opportunities. The FWRI project is part of a statewide effort to erect and monitor southeastern American kestrel nest boxes and collect data on habitat structure near successful boxes to gain a greater understanding of preferred nesting habitat. As monitoring identifies the need, staff will erect, maintain, and monitor new nest boxes.

5.2: Species Monitoring

Monitoring is critical to evaluating the effect of management on wildlife. While we are unable to monitor all of the focal species on BRLWEA and BFWEA, the recommended monitoring assesses species in all actively managed communities, and includes opportunistic monitoring for uncommon or hard to monitor species. Data collected will be reported to the regional conservation biologist for inclusion in the appropriate database developed for the WCPR program. The FWC will make monitoring data available to cooperating agencies and organizations, such as FNAI ([Section 6.4](#)).

This section lists the monitoring recommended for BRLWEA and BFWEA. We also provide the purpose for each monitoring effort. The FWC is in the process of standardizing monitoring protocols for a number of these species, and developing a central database for data storage. Area staff will work with the regional conservation biologist to implement standardized protocols, standardize ongoing monitoring that does not have a standardized protocol, and ensure data is included in the central database.

5.2.1: Gopher Tortoise Monitoring

The purpose of gopher tortoise monitoring on these WEAs will be to track the species' distribution and abundance to determine the effect of management on the population trend. Past surveys followed the established gopher tortoise mitigation park protocol and were intended to be conducted on a 5-year interval. However, the FWC is part of a Gopher Tortoise Candidate Conservation Agreement and the members of this Agreement are working to create a standardized monitoring protocol for the gopher tortoise throughout its range. Once this protocol is agreed upon, we anticipate all gopher tortoise monitoring conducted by FWC will follow this protocol. This protocol will allow for estimating the gopher tortoise density, which will give managers the ability to track changes in the population, rather than just changes in the number of burrows. Data will be reported to the gopher tortoise plan coordinator ([Section 6.1.1](#)).

5.2.2: Southeastern American Kestrel Monitoring

The purpose of monitoring kestrel nest boxes is to determine the extent of nesting by southeastern American kestrels on BRLWEA, and to track nesting in boxes over time. Staff

will conduct southeastern American kestrel monitoring according to protocol developed by FWRI. Data will be reported to the conservation biologist for submission to FWRI as part of the statewide study.

5.2.3: Florida Mouse Monitoring

The Florida mouse can be used as an indicator of how gopher tortoise management is influencing commensal species. On BRLWEA, the purpose of monitoring Florida mice is to determine the persistence and distribution of Florida mice on the area, to ensure management is compatible with the needs of this species. We will use the standardized Florida mouse monitoring, with follow-up monitoring occurring on a 5-year interval, to track Florida mouse persistence and distribution.

On BFWEA, the Florida mouse has not been detected despite 2 separate monitoring events. One additional attempt will be made to detect the presence of Florida mice on BFWEA. Prior to 2018, staff will conduct Florida mouse monitoring according to the current protocol with the intent of verifying presence. If not detected in this monitoring event, we will presume the species does not occur on BFWEA.

5.2.4: Opportunistic Monitoring

The purpose of opportunistic monitoring is to document the presence of specific species. Opportunistic monitoring is the process of recording important information on species when encountered. By following the standardized monitoring protocol for [wildlife](#) and [plants](#), staff ensures their data are compatible with other opportunistic observations. Documentation of opportunistic sightings including species, date of the observation, observer, approximate lat/long or appropriate MU, number of individuals, behavior, and habitat type should be forwarded to the regional conservation biologist. Monitoring data will be made available to cooperating agencies, and organizations such as FNAI ([Section 6.4](#)). Use the Opportunistic Observation protocol ([links above](#)) to record encounters with, or sign of, the following focal species:

- Frosted flatwoods salamander
- Striped newt
- Eastern indigo snake
- Florida pine snake
- Short-tailed snake
- American swallow-tailed kite (aggregations of 3 or more birds on regular basis in one area during spring, and any nesting activity)
- Bachman's sparrow (during spring/early summer when nesting is likely)
- Brown-headed nuthatch (during spring/early summer when nesting is likely)
- Cooper's hawk
- Northern bobwhite (during spring/early summer when nesting is likely)
- Southeastern American kestrel (use of natural cavities on BRL, any observation during nest season on BF)
- Wading birds (nesting activity only)
- Florida black bear
- Sherman's fox squirrel (adults with young, juveniles, or nests)

- Southeastern myotis
- Any listed species that does not have a monitoring protocol in this section

5.3: Species Research Needs

Species management recommendations in other sections of this document are based on the most current information available. Cases may arise where little or no information is available to guide management, and research is needed. Further, many of these focal species do not have standard monitoring protocol. Research is needed to determine the most efficient means of monitoring these species. For many of the focal species, managers need research about aspects of natural history, such as minimum habitat patch size, preferred habitat parameters, and response to habitat management activities. However, workshop participants did not identify any area-specific species research needs on BRLWEA or BFWEA.

Section 6: Intra/Inter Agency Coordination

The WCPR process identified many recommendations regarding possible management actions for focal species. WHM staff can handle most proposed management actions; however, coordination with other sections in FWC or with other agencies sometimes is necessary or more efficient. This section describes coordination that is necessary outside of the WHM section, identifies the entity to coordinate with, and provides position contacts for these entities. We attempt to provide the name, position, and contact information for the people holding the position when the Strategy was drafted. As positions experience turnover, when in doubt, contact the current Section Leader or supervisor to determine the appropriate person now holding the position.

6.1: Florida Fish & Wildlife Conservation Commission (FWC)

6.1.1: Species Conservation Planning Section (SCP)

Monitoring animal populations on a WMA/WEA gives managers a way to gauge population response to management. If this information is not shared with others, valuable data useful in assessing statewide conservation efforts often is lost or unused. Therefore, WHM will share monitoring data with the appropriate taxa coordinators, and with program coordinators for species that have formal conservation initiatives or management programs. The regional SCP biologist is a good source of information on the regional status of non-game species. Additionally, the Endangered Species Act [Section 6 Cooperative Agreement](#) between the FWC and the USFWS provides the authorization for FWC staff to handle federally listed wildlife. However, staff must be in compliance with the terms and conditions of the Agreement, which includes proper reporting of actions with federally listed wildlife. Staff will coordinate with FWC's Endangered Species Coordinator to meet the reporting requirements. Please note some contacts will also be covered under [Section 6.1.2](#); FWRI, and [Section 6.1.4](#); Florida's Wildlife Legacy Initiative.

Contacts:

Elsa Haubold, Species Conservation Planning Section Leader: (850) 488-3831
Robin Boughton, Avian Taxa Coordinator: (352) 732-1225
Melissa Tucker, Mammalian Taxa Coordinator: (386) 754-1668
Bill Turner, Herpetofauna Taxa Coordinator: (850) 921-1143
Brad Gruver, Endangered Species Coordinator: (850) 488-3831
Terry Doonan, North Central Regional SCP Biologist: (386) 754-1662
Deborah Burr, Gopher Tortoise Management Plan Coordinator: (850) 921-1019

6.1.2: Fish and Wildlife Research Institute (FWRI)

Area staff will cooperate with Kevin Enge on herpetofauna monitoring and report documentation of these species to FWRI. Staff will communicate with Karl Miller on an assessment of the current location of kestrel nest boxes and whether sites that are more suitable can be identified. Jim Rodgers administers the FWC's [migratory bird scientific collection permit](#). [Report](#) handling of migratory birds covered by the permit to Mr. Rodgers in January of each year.

Contacts:

Tim O'Meara, Section Leader: (850) 488-3831
Janell Brush, Avian Research Biologist: (352) 955-2081
Karl Miller, Biological Administrator (avian): (352) 334-4215
Kevin Enge, Associate Research Scientist (herps): (386) 758-0525
Jim Rodgers, Research Administrator: (352) 334-4218

6.1.3: Office of Conservation Planning Services (CPS)

Private lands biologists within FWC's Office of CPS work to provide technical and financial assistance to landowners interested in managing their properties in a manner compatible with the needs of wildlife. These biologists are able to write management plans for landowners and enroll them in cost-share programs that offset some of the financial costs associated with land management. If private landowners near BRLWEA or BFWEA express an interest in managing their lands for wildlife, CPS biologists should be contacted and provided the landowner's information.

Contacts:

Scott Sanders, Office Director: (850) 488-3831
Kris Cathey, Regional Coordinator: (386) 754-6244

6.1.4: Florida's Wildlife Legacy Initiative (FWLI)

FWLI can assist in identifying potential partners for collaboration of monitoring and management efforts. FWLI also might be a source of funding via the State Wildlife Grants program; therefore, regular communication with this section will be important.

Contacts:

Katherine Haley, Program Coordinator: (850) 617-9503
Caroline Gorga, Wildlife Legacy Biologist: (386) 754-1667

6.2: Florida Forest Service (FFS)

The FFS provides authorizations for prescribed burning, and will provide assistance with escaped fires. FFS can provide assistance with timber management including administration of contracts for thinning or reforestation operations. WEA staff should continue to coordinate prescribed fire and timber management activities with FFS.

Contacts:

Pat Deren, Duval Forest Area Supervisor; (904) 266-5022
Dewitt Watson, Gilchrist Forest Area Supervisor; (352) 493-6802

6.3: Avian Research and Conservation Institute (ARCI)

ARCI surveys and keeps information on American swallow-tailed kite populations. Location information on the swallow-tailed kite, particularly nests or nesting behavior, should be shared with ARCI.

Contacts:

Dr. Ken Meyer, Avian Researcher: (352) 335-4151; meyer@arcinst.org
Gina Kent, Research Ecologist and Coordinator: (352) 514-5607; gkent@arcinst.org

6.4: Florida Natural Areas Inventory (FNAI)

FNAI collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. The FNAI's database and expertise facilitate environmentally sound planning and natural resource management to protect the plants, animals, and communities that represent Florida's natural heritage. The FNAI maintains a database of rare and listed species that is often used for planning purposes. As such, WHM will share information about rare and listed species occurrences on BRLWEA and BFWFA with FNAI to ensure this information is included in their database. Additionally, FWC has a contract that allows FNAI to provide plant and animal surveys if the need exists and resources are available.

Contacts:

Dan Hipes, Chief Scientist: (850) 224-8207

Section 7: Beyond the Boundaries Considerations

There is enough potential habitat on BRLWEA and BFWFA, under an appropriate management regime, to support some of the focal species known to occur on or near the WEAs. With the continuation of funding for management, BRLWEA can support viable

populations of several species, including Bachman's sparrows, brown-headed nuthatches, gopher tortoises, and Florida mice. Wide-ranging species such as Florida pine snakes, American swallow-tailed kites, and southeastern American kestrels will continue to exist on these WEAs as long as regional conditions are conducive to their persistence.

The current management boundaries for these WEAs do not include all important habitat for focal species. The FWC originally identified Strategic Habitat Conservation Areas (SHCAs) in the [Closing the Gaps in Florida's Wildlife Habitat Conservation System report](#) (Cox et al. 1994). The goal of SHCAs is to identify the minimum amount of land needed in Florida to ensure long-term survival of key components to Florida's biological diversity. The SHCAs identify important remaining habitat conservation needs. New SHCAs have been identified in recent FWC efforts to update the Closing the Gaps entitled "[Wildlife Habitat Conservation Needs in Florida: Updated Recommendations for Strategic Habitat Conservation Areas](#)". This report identified SHCAs within 3 miles of BRLWEA for Cooper's hawk and the Florida mouse, and within 3 miles of BFWEA for striped newt. Although it is unlikely Florida will acquire all property identified in SHCAs, property acquisition and actions that encourage land use and management that is compatible with the needs of the WEAs' focal species should be a priority in the area.

While the current conditions and management of BRLWEA and BFWEA and neighboring lands provide an opportunity to further the conservation of many focal and imperiled species, significant changes in management or land use beyond the boundaries may have a significant impact on some species. As many of these areas' species are dependent upon fire-maintained habitat, any change beyond the boundaries that impedes staff's ability to conduct prescribed fire would be detrimental to the persistence of species such as the northern bobwhite, Bachman's sparrow, brown-headed nuthatch, and gopher tortoise.

Much of the land surrounding BRLWEA is used for agriculture and intensive silviculture, but many of these landowners are involved in private lands conservation programs. Staff within FWC's Office of Conservation Planning Service ([Section 6.1.3](#)) should encourage landowners neighboring BRLWEA to continue managing their silvicultural or agricultural operations in a manner that is compatible with the needs of wildlife. Although BRLWEA is not in an area with a high expectation of commercial or residential development in the near future, there is currently a high rate of conversion from silviculture to intensive irrigated agriculture in the surrounding area. If habitat continues to be altered, this may negatively influence some species.

While BFWEA does share part of its boundary with CFCC, most of the adjacent private land is being developed as residential and commercial real estate. Lands adjacent to BFWEA that are cleared for development due to an expanding Jacksonville population or developing Cecil Commerce Center will negatively affect species that require large home ranges, or that are dependent on dispersal for maintaining viable populations. This development will also present challenges for maintaining the desired prescribed fire regime and is likely to increase the potential for invasive pest plants on the area.

Document Map

Species	Species Assessment	Land management actions	Species management actions	Species monitoring	Research needs	Intra/inter agency coordination
Florida flatwoods salamander	3.2.1	4.3.1		5.2.4		6.1.2
Striped newt	3.2.11			5.2.4		
Florida pine snake	3.2.2	4.3.2		5.2.4		6.1.3
Gopher tortoise	3.2.3	4.3.3		5.2.1		6.1.1
American swallow-tailed kite	3.2.4	4.3.4		5.2.4		6.3
Bachman's sparrow	3.2.5	4.3.5		5.2.4		
Brown-headed nuthatch	3.2.6	4.3.6		5.2.4		
Cooper's hawk	3.2.11			5.2.4		
Northern bobwhite	3.2.7	4.3.7		5.2.4		
Southeastern American kestrel	3.2.8	4.3.8	5.1.1	5.2.2		6.1.2
Wading birds	3.2.11			5.2.4		
Florida black bear	3.2.11			5.2.4		
Florida mouse	3.2.9			5.2.3		
Sherman's fox squirrel	3.2.10	4.3.9		5.2.4		6.1.3
Southeastern Bat	3.2.11			5.2.4		

12.11 Recreation Master Plan

**Recreation Plan
for
Bell Ridge Longleaf
Wildlife and Environmental Area**



Florida Fish and Wildlife Conservation Commission



Office of Public Access and Wildlife Viewing Services

May 2013

**Bell Ridge Longleaf Wildlife and Environmental Area
Recreation Plan**

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I. Introduction

Purpose of Plan/Planning Process

This Plan serves as a guide for providing recreational experiences with an emphasis on those focused on wildlife viewing and nature study on Bell Ridge Longleaf Wildlife and Environmental Area (Bell Ridge WEA). The Plan contains specific recommendations for recreational trail development and related enhancements such as trailheads and viewing structures. It also provides guidelines for monitoring recreation-related use to ensure resource protection and meaningful visitor experiences. The plan was developed by the Florida Fish and Wildlife Conservation Commission (FWC) Office of Public Access and Wildlife Viewing Services (PAWV) in collaboration with Bell Ridge WEA staff with input from other FWC divisions.

Location

Bell Ridge WEA comprises 720 acres of well maintained sandhills in Gilchrist County (Figure 1). The property is part of an upland physiographic feature called the Bell Ridge just north of the much larger Brooksville Ridge. The WEA exists as an island of native sandhill habitat surrounded by pine plantations and improved pasture. Bell Ridge WEA supports a diversity of wildlife populations that provide opportunities for wildlife viewing and is within 15 miles of several sites on the Great Florida Birding and Wildlife Trail.

Acquisition Purpose

Bell Ridge WEA was approved as an acquisition by the Florida Fish and Wildlife Conservation Commission (FWC) as a Gopher Tortoise (*Gopherus polyphemus*) Mitigation Park in June, 2007. FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 379.212, F.S., which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and compatible fish and wildlife based public outdoor recreation.

II. Resource Inventory

Topography and Hydrology

Bell Ridge WEA has a hilly terrain ranging from 70 to 105 feet in elevation. This is typical of the Bell Ridge which consists of relic sand dunes. There are no water features within the boundary of the WEA. The hilly topography provides potential for scenic views and combined with sandy soils has the potential to provide moderate to strenuous hiking opportunities in some locations within the WEA.

Natural Communities

(Figure 2)

Bell Ridge WEA consists entirely of sandhill community. This community type has an open canopy of longleaf pines with a diverse understory and groundcover dominated by wiregrass. This WEA provides opportunities to interpret high quality sandhill and FWC's management techniques.

The sandhill communities on Bell Ridge WEA are excellent examples of their type and would be appropriate for interpretation of land management practices and sandhill ecology.

Sensitive Areas

Sandy soils and hilly topography are more likely to be disturbed and eroded by foot traffic. Once destroyed, wiregrass is unlikely to reestablish itself. Also, soil disturbance can introduce weedy or invasive species. To counter this possibility public access will be directed to the existing roads.

Wildlife

Eastern indigo snakes, southeastern American kestrels, and Sherman's fox squirrels have been identified on the property. In 2006, the gopher tortoise population was measured at 2.25 tortoises per acre. Several bird species including brown-headed nuthatch, red-headed woodpecker, indigo bunting, northern bobwhite, southeastern American kestrel, and pine warbler are also present on the WEA. Bachman's sparrow has been seen on the WEA and is on FWC's "Top 40" bird list. Wildlife viewing can be good at almost any spot on the WEA thanks to the relatively open understory.

Cultural Resources

The Florida Master Site File does not contain any archaeological or historic sites within the boundary of Bell Ridge WEA.

Scenic Resources

The sandhills of Bell Ridge WEA provide numerous scenic vistas through the open canopy, especially from the top of the hills. These vistas will be accessible from the scenic routes being designated for the area.

Resource Management

The FWC's resource management goals for the area include enhancing and maintaining the native sandhill on the WEA. To accomplish this objective, the FWC has instituted a program of prescribed burning and mechanical hardwood tree control. FWC is also controlling non-native invasive plants through mechanical and chemical treatments.

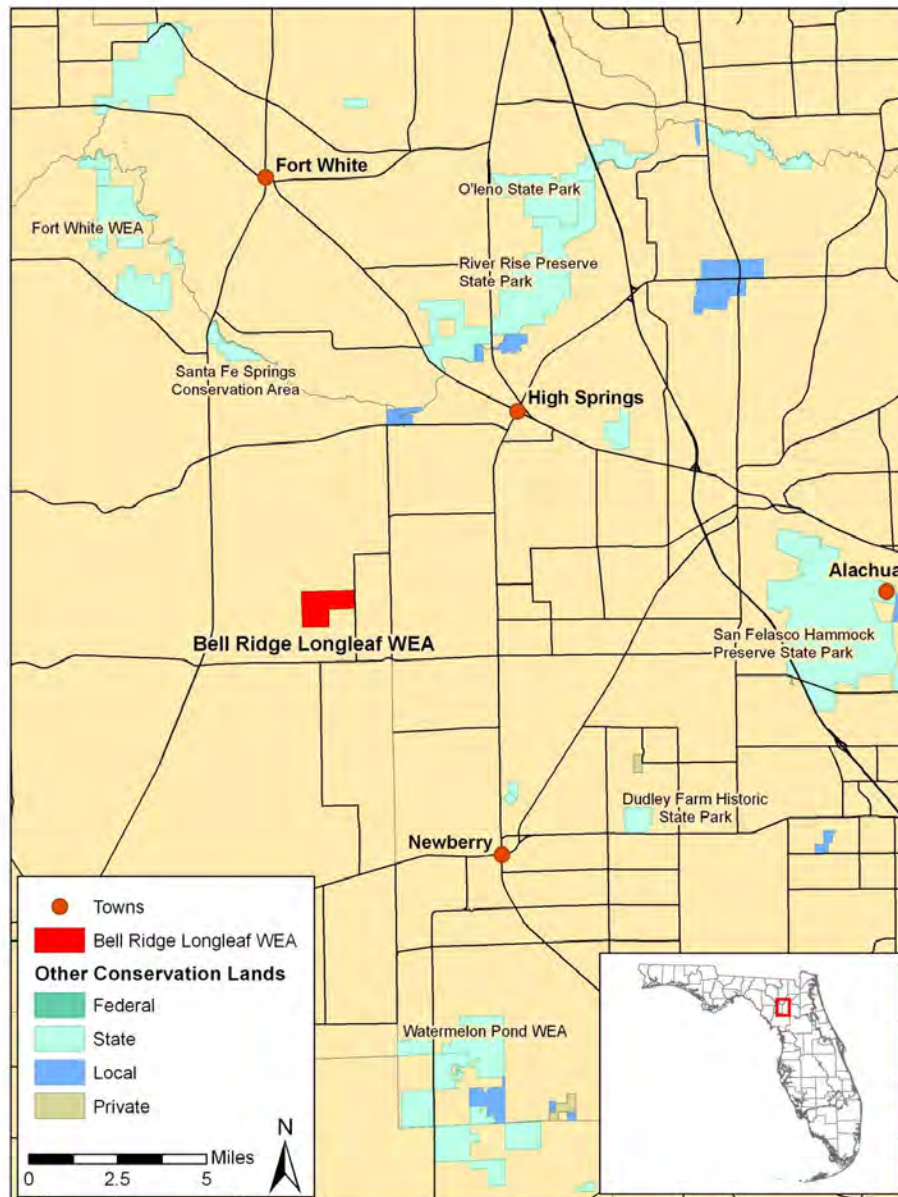


Figure 1: Bell Ridge WEA Location Map

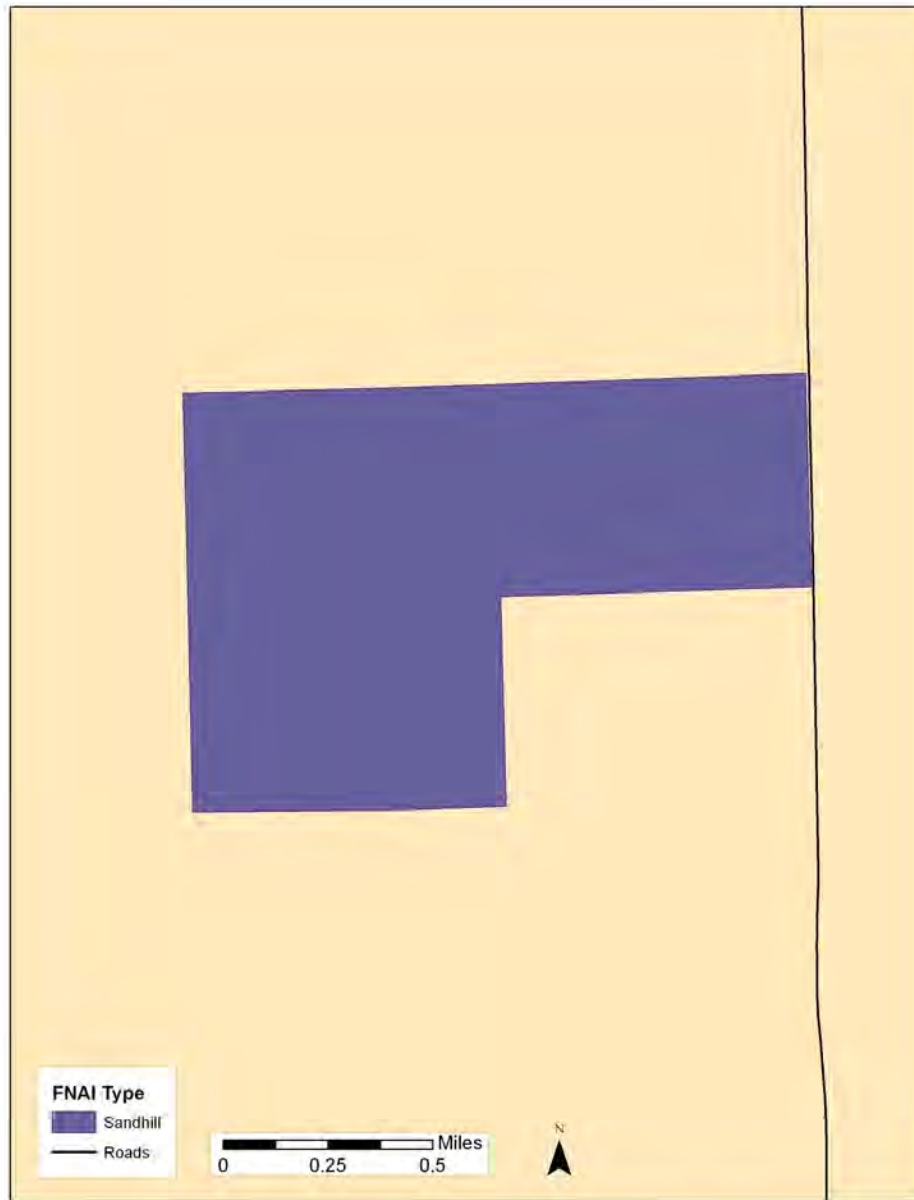


Figure 2: Bell Ridge WEA Natural Communities

III. Visitor Experience Goals

Bell Ridge WEA offers visitors opportunities to see and learn about the sandhills, their wildlife and wildlife management, while hiking on the area. Visitor experience goals are those concepts and experiences we want visitors to take away from their time at Bell Ridge. These goals guide both interpretive and recreation planning.

At Bell Ridge WEA, the FWC will provide opportunities for visitors to:

1. Become oriented to and participate in a range of recreational activities on Bell Ridge WEA while:
 - Becoming acquainted with wildlife and natural plant communities through interpretive materials at welcome kiosks, trails and wildlife viewing sites.
 - Understanding Bell Ridge WEA's natural, history, within the context of the state's history and prehistory.
 - Understanding how we are working to conserve gopher tortoises and other species on this WEA that was purchased and established through FWC's Mitigation Park Program, which used fees paid by developers to purchase high-quality habitat for endangered and threatened species.
 - Appreciating Bell Ridge WEA as an oasis providing a retreat from the pressures of urban life and an opportunity to connect with the natural world.
2. Have an enjoyable recreational experience without impairing the natural and cultural values of the site. In terms of wildlife viewing, FWC's goal will be to facilitate positive, memorable experiences that keep wildlife disturbances to a minimum.
3. Understand the management goals and activities of the FWC on Bell Ridge WEA and their emphasis on protecting and enhancing sandhill habitats important to upland endangered or threatened wildlife, especially the gopher tortoise.

IV. Recreation Planning Context

Public recreation areas within 15 miles of Bell Ridge WEA:

Area	Hiking	Biking	Camping	Paddling	Fishing	Horseback Riding	Hunting	Wildlife Viewing
Dudley Farm Historic State Park	✓	✗	✗	✗	✗	✗	✗	✓
Fort White Wildlife and Environmental Area (FWC)	✓	✓	✗	✓	✓	✗	✓	✓
Mill Creek Nature Preserve (Alachua Co.)	✓	✗	✗	✗	✗	✗	✗	✓
O'leno State Park	✓	✓	✓	✓	✓	✓	✗	✓
Poe Springs Park (Alachua Co.)	✓	✗	✗	✓	✓	✗	✗	✓
River Rise Preserve State Park	✓	✗	✓	✗	✓	✓	✗	✓
Saarnen Preserve (Alachua Conservation Trust)	✓	✗	✗	✗	✗	✓	✗	✓
San Felasco Hammock Preserve State Park	✓	✓	✗	✗	✗	✓	✗	✓
Santa Fe Springs Conservation Area (SRWMD)	✓	✗	✗	✓	✓	✗	✗	✓
Watermelon Pond WEA (FWC)	✓	✓	✗	✗	✗	✓	✓	✓

V. Recreation Assessment

Recreation Inventory and Enhancements

The purpose of this section is to identify and describe the existing recreational uses and facilities on Bell Ridge WEA and note their status and condition (Figure 3) as well as to propose enhancements to these uses. This informs recommendations for achieving visitor experience goals and meeting future recreation demands and needs.

Bell Ridge WEA offers opportunities for quality wildlife-focused recreation activities. Based on the approved uses and activities as stated in the 2013-2023 Management Plan, the analysis of existing resources and uses and the interpretive themes developed for the area, the following activities should be continued and enhanced as described in this section. Conditional activities are those that require additional permits or permission.

- Astronomy (Conditional)
- Ecotourism
- Environmental Education
- Geocaching (Conditional)
- Hiking
- Wildlife observation

Visitation to Bell Ridge WEA is not being monitored at this time, and no traffic or infrared counters are installed.

Visitor Contact Points and Roads/Vehicle Access– The main entrance for Bell Ridge WEA is on an unpaved road, NE 65th Avenue. The nearest paved road is County Road 232, about one mile to the south of the entrance. There are no approach signs on either CR 232 or NE 65th Ave. Improvements to parking have been made at the main entrance, including an ADA accessible parking spot with a sidewalk to a kiosk. There is a walk-through just behind the kiosk. A wildlife viewing bench will be considered at this location. A welcome map has been installed in the kiosk and will be updated as new facilities and trails are developed.

Motor vehicles are prohibited within the WEA. The 11.5 miles of roads that are within the area are mostly sand 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 Bell Ridge WEA at this time due to the size of the property.

Fishing/Boating/Paddling – There are no fishing, paddling or boating opportunities on Bell Ridge WEA.

Trail Use – Hiking is permitted on all existing roads and firebreaks of Bell Ridge WEA. This activity will also be permitted on proposed designated trails.

Trail infrastructure – Two designated loop trails will be established by PAWV. The trails will traverse the rolling sandhills on the west portion of the property and will total approximately 2.8 miles. The loop nearest to the parking area is one mile and the other is 1.5 miles. A 0.3 mile trail will connect the parking area with the first loop.

Wildlife Viewing and Nature Study – Wildlife viewing opportunities are available throughout Bell Ridge WEA. The 11.5 mile road network provides access to the sandhills. The sparse understory and well developed pine and oak overstory provide excellent wildlife viewing opportunities. A bench will be installed at the main entrance to allow for passive wildlife viewing.

Picnicking – There are currently no picnic facilities on the WEA. Two picnic tables or covered picnic shelters will be developed along the trail network.

Camping – Permission for primitive camping for organized groups and special events may be sought via a special use permit.

Geocaching – is allowed on the area. There are currently no permitted geocaches on Bell Ridge WEA. 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 Bell Ridge WEA.

Staff/Volunteers- There is currently a Fisheries and Wildlife Biological Scientist III, a Fisheries and Wildlife Biological Scientist II, and a Wildlife Technician shared between Bell Ridge WEA and other north Florida mitigation parks.

Summary of Proposed Improvements

(Figure 3)

- A 2-3 mile network of marked trails along existing dirt roads and firebreaks
- A bench at the parking area near the walk-through
- Two picnic tables or covered picnic shelters along the trail network
- One or two interpretive signs along the trail network

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 Bell Ridge WEA is 12 people per day. If all planned facilities are constructed, this capacity increases to 56 people per day.

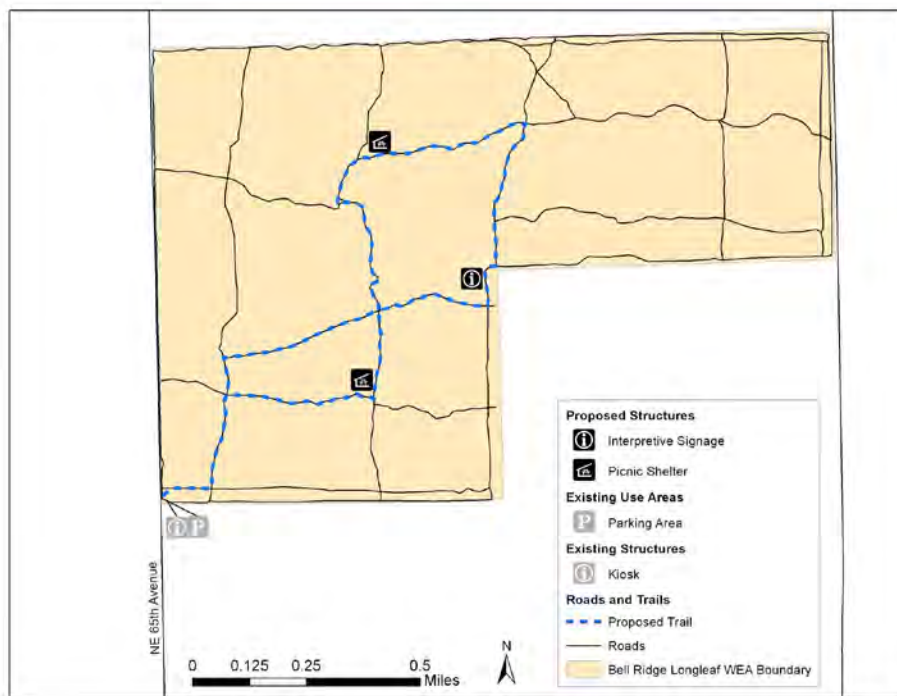


Figure 3: Bell Ridge WEA Existing and Proposed Facilities

Work Plan

PAWV will work with local staff to prepare annual work plans and budgets to implement the Recreational Trail Plan for Bell Ridge WEA. PAWV will be responsible for 1) developing cost estimates for recreation-related facilities; 2) coordinating design and permitting; and 3) obtaining construction bids and the work of contractors during the construction phase. This includes pre-construction meetings, site visits at construction milestones and final reviews. Generally, the area manager and staff monitor construction sites frequently during the construction process to make sure contractor is not doing damage to the surrounding area.

PAWV will design interpretive materials for the area in consultation with management area staff. Generally, the cost of producing maps and interpretive products and maps comes out of the PAWV budget.

1. Short Term

- Develop a 2-3 mile network of hiking trails on existing roads and firebreaks
- Install a bench at main entrance near walk-through

3. Long Term Completion and Ongoing Tasks

- Install two picnic tables or covered picnic shelters along designated trail
- Install limited interpretive signage along trail, including signage explaining the difference between plantation forestry and the type of management at Bell Ridge WEA.

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 Bell Ridge WEA are described in Appendix 3. Indicators should be monitored for each zone, and when necessary, management actions taken to ensure that visitor use and resource impacts remain within the established standards.

References

A Management Plan for Bell Ridge Longleaf Wildlife and Environmental Area 2013 – 2023 (Draft). Florida Fish and Wildlife Conservation Commission (2013).

Florida Natural Areas Inventory (FNAI). 2010. Guide to the natural communities of Florida: 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.

Management Prospectus for Bell Ridge Wildlife and Environmental Area September 2011. Florida Fish and Wildlife Conservation Commission (2011).

Appendices

Appendix 1: Recreation and Wildlife Viewing Facilities Design Guidelines

- **Entrances**
Should welcome visitors to the area, identify the Commission, describe the range of potential experiences on the area, and describe the wildlife viewing experiences by season, time of day or wildlife event.
- **Viewing structures**
Structures should include wildlife identification or other interpretive information. The structure should be surrounded by and focused on wildlife and habitat, rather than being the focus itself. For towers, each level should focus visitor attention to a different habitat or feature.
- **Trails**
Trails should be described at the trailhead with length or time required. If the focus is wildlife viewing, include best seasons. Interpretive panels or brochure stops should be well-spaced and focused by season.

General considerations in developing facilities:

- Locate viewing facilities on previously disturbed properties wherever possible.
- Preserve a sense of solitude and limit impact on natural resources by concentrating recreation uses in small “developed” zones and along existing road/trail corridors.
- Site facilities and design trails to minimize user conflicts.
- Avoid sensitive areas such as wetlands and route trails to avoid fragmenting habitat.
- Consider physical characteristics and the historical and natural character of the location.
- Adapt parking lots, buildings and other physical developments to existing topography.
- Retain on-site surface water run-off generated by development.
- Use porous pavements where surface hardening is required.
- Consider sewage disposal needs.
- Use native plants representative of the area for all landscaping.
- Design and build trails and observation structures to avoid disturbing wildlife and to minimize negative impacts such as erosion.
- Use elevated boardwalks in wet areas and swamps and walkovers to protect other sensitive areas.
- Incorporate wildlife viewing ethics into all interpretive materials.
- Incorporate interpretive themes into all brochures, trail guides and other materials produced to support recreation opportunities.

- Install interpretive signs and panels as appropriate at all recreation facilities.
- Route trails to interpret restoration and wildlife management activities.
- Insure interpretation of highly desired species viewable on the area.

Universal Access

Nature-based recreation facilities and programs must be developed and implemented in compliance with the Americans with Disabilities Act. All facilities in developed zones should be universally accessible. Recreation facilities in semi-primitive or primitive zones should be planned to be accessible to the degree possible except where:

- compliance will cause harm to cultural, historic or religious sites or significant natural features or characteristics.
- compliance will substantially alter the nature of the setting or purpose of the facility (or a portion of the facility).
- compliance would require construction methods or materials prohibited by federal, state or local regulations or statutes, or compliance would not be feasible due to terrain or prevailing construction practices.

Appendix 2: Carrying Capacity Methodology

FWC Recreation Carrying Capacity

Carrying capacities for recreational users on FWC lands are developed using a methodology employing existing spatial data and models, recommended guidelines for spatial and temporal carrying capacity, recommended guidelines for minimizing wildlife disturbance by outdoor recreation, and site-specific characteristics. The intent of this methodology is to provide a realistic carrying capacity which is based on the best science and data available with a focus on minimizing wildlife and habitat disturbance and providing the type of recreation our visitors desire and FWC's managed areas can support. This methodology also provides a means of monitoring visitor impacts and allows for flexibility in responding to these impacts and adjusting the carrying capacity as necessary. The carrying capacities generated through this process are not a visitation goal but are a guideline included in the overall area Management Plan and used as a tool to help plan and develop recreation opportunities.

Sensitivity Analysis

An initial analysis of site sensitivity to recreation impacts is conducted using:

- Integrated Wildlife Habitat Ranking System model results for the site
- Natural community values based on threat rankings developed for the Florida Wildlife Legacy Initiative using the rankings for Roads, Incompatible Recreation Activities, and Conversion to Recreation Areas
- Natural community values based on the sensitivity guidelines published by the Florida Park Service
- Wetlands
- Slope
- Soils
- Known point locations of species-of-interest
- Known locations of sensitive resources
- Division of Historic Resources Master Site File sites
- Density of existing roads, trails and facilities
- Other datasets as available and appropriate

These data layers are converted to grids as necessary and normalized to a scale of 1-100. Then a weighted sum is calculated for all data resulting in a "Sensitivity Index" for the area with higher values being more sensitive to disturbance from recreation.

Recreation Zoning

Once the results of the Site Sensitivity model are obtained, a Recreation Zone Map is developed incorporating these results and any statutory or rule constraints for recreation activities. These Recreation Zone Maps will show the different types of recreation experiences appropriate for each zone of the area. This guides potential trail lengths, trail types, types of facilities and other parameters related to recreation infrastructure.

Carrying Capacity Development

For linear recreation facilities (i.e., trails), a physical carrying capacity is developed based on trail length using a 100-meter buffer on either side of the trails. This buffer distance is consistent with the estimated area of wildlife disturbance along the trail. An additional 100-meter buffer is used between potential trail users above and beyond the minimum wildlife disturbance distance to avoid having a continuous disturbance impact along the trail if it were at full capacity. 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 PAWV 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 quota permits the hunting capacity will be established as the greatest number a quota permits issued for any single hunt which will then be doubled to account for guest hunters.
- For those areas with seasonal hunting use and no quota permits 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.

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 PAWV 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 PAWV 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

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.¹

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 ¹	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.

¹Ratings 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

12.12 Conservation Action Strategy



A Conservation Action Strategy Bell Ridge Longleaf Wildlife and Environmental Area

Gilchrist County, Florida

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



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Introduction

As described in the Bell Ridge Longleaf Wildlife and Environmental Area (BRLWEA) Management Plan, Longleaf pine sandhills are one of Florida's most distinctive and endangered natural communities. This forest type has significantly declined in the last few decades due to an increase in land conversion, urbanization, and disruption of pre-historical and historical fire regimes. The BRLWEA conserves approximately 720 acres of public conservation land within Gilchrist County, and includes one of the highest quality longleaf pine sandhill forest tracts in the state of Florida.

Perched among the ancient sandhills of Northcentral Florida in rural Gilchrist County, the BRLWEA is an intact old-growth longleaf-pine, turkey oak, and wiregrass natural community. Open canopy and understory conditions are present throughout most of the site, and a diverse herbaceous groundcover exists in nearly all areas.

Considering the apparent age of the longleaf trees and quality of the natural vegetative groundcover, it is evident that it has never been cleared for other agricultural uses or that the timber was ever clear-cut. In short, the BRLWEA is a benchmark model of an old-growth longleaf pine sandhill forest ecosystem. The Florida Natural Areas Inventory (FNAI) has designated the BRLWEA as a reference area for sandhill natural communities. The BRLWEA is a multiple use area that allows for outdoor fish and wildlife-based public recreational opportunities that include hiking, bicycling, and wildlife viewing.

The relatively sparse tree density of these longleaf pine stands allows for high levels of sunlight to penetrate the canopy. Control of woody broadleaf species, typically with routine fire, allows much of that light to reach the forest floor, encouraging the species-rich understory. Intact and properly managed sandhills are key in the survival of several rare fauna and flora species. Some of the species documented on site include gopher tortoise (*Gopherus Polyphemus*), Southern fox squirrel (*Sciurus niger niger*), Eastern indigo snake (*Drymarchon corais couperi*), and Southeastern American kestrel (*Falco sparverius paulus*).

More detailed information regarding other elements of the BRLWEA's overall operational and resource management goals, objectives, and baseline resource data may be found in the BRLWEA Management Plan.

The BRLWEA Conservation Action Strategy (CAS) has been developed as an integral component of the Florida Fish and Wildlife Conservation Commission (FWC) Land Conservation Work Plan and the BRLWEA Management Plan to provide recommended land conservation acquisition and stewardship actions for the BRLWEA. As described in the BRLWEA Management Plan, the FWC utilizes a three-tiered approach to land conservation and stewardship analysis and recommended actions that includes identifying, acquiring, or otherwise protecting important conservation lands adjacent to, or in proximity to, existing FWC-managed areas that involves development of an Optimal Resource Boundary (ORB), Optimal Conservation Planning Boundary (OCPB), and a CAS.

The CAS was developed to aid in recommending lands within the BRLWEA OCPB for inclusion on the FWC Florida Forever Addition and Inholding (A&I) Acquisition List; to enhance the ongoing operational and resource management of the BRLWEA; sustain the overall conservation of wildlife within and adjacent to the BRLWEA; increase wildlife habitat or landscape conservation connectivity on adjacent

public and private conservation lands; maintain adequate prescribed burning buffers; aid in landscape conservation connectivity; conserve additional wildlife habitat; and provide more public access opportunities on conservation lands.

Additionally, the CAS also fulfills an objective of the BRLWEA Management Plan, specifically the Land Conservation and Stewardship Goal. Following, are other elements of this CAS including more information on the area's location; acquisition purposes and history; adjacent land uses within the vicinity of the BRLWEA; the OCPB; and the recommended prioritized conservation actions that have been developed to provide a proactive, comprehensive and long-term strategy for further potential land conservation opportunities within, adjacent to, and surrounding the BRLWEA.

2 Location

The BRLWEA is 720 acres and in Gilchrist County, Florida. Lying within parts of Sections 34 and 35, Range 16 East, Township 8 South, the BRLWEA is located approximately 23 miles northwest of Gainesville, 30 miles south of Lake City, and 21.5 miles northeast of Chiefland. Other municipalities near the BRLWEA include Trenton (12 miles southwest) and Bell (10 miles west) in Gilchrist County; Fanning Springs (17 miles southwest) in Gilchrist and Levy counties; High Springs (7.5 miles northeast) and Newberry (7.5 miles southeast) in Alachua County; Bronson (21 miles south) in Levy County; and Mayo (39 miles northwest) in Lafayette County as shown in Figure 1.

The BRLWEA is bordered on the north primarily by privately owned agricultural lands mixed with improved pasture, pinelands, and shrub. The northern half of the eastern boundary borders County Road (CR) 337. Immediately across CR 337 are privately owned lands that appear to have extant sandhill habitat. The southern half of the eastern boundary borders privately owned pineland. Surrounding the privately-owned lands, including along the southern boundary and western boundary, appear to have small amounts of sandhill habitat. Lands within the Bell Ridge Sandhills Unit of the Longleaf Pine Ecosystem Florida Forever Project adjoin the western boundary (Figure 1).

3 Purpose for Acquisition

The Nature Conservancy (TNC) acquired the BRLWEA, previously known as the Davidson Ranch, in 1991, and thenceforth managed it as a nature preserve. The FWC acquired the BRLWEA from TNC for the purpose of establishing, managing, and conserving its lands as a Gopher Tortoise Mitigation Park with funds from the FWC Land Acquisition Trust Fund. The primary purpose of this acquisition was to help to ensure the survival of wildlife like the gopher tortoise, and other associated wildlife resources.

The FWC implemented the Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074, Florida Statutes (F.S.), which establishes the Fish and Wildlife Habitat Acquisition Program (FWHAP) for the purpose of acquiring and assisting other agencies or local governments in acquiring or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife. The BRLWEA 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.

The 50-year Board of Trustees' of the Internal Improvement Trust Fund (Board of Trustees) lease agreement with the FWC directs the agency 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 18-2.004(1)(d), Florida Administrative Code, which have been selected, developed or approved for the protection and enhancement of the leased premises."

4 Acquisition History

The FWC approved the purchase of the BRLWEA in 2007 under the FWC's FWHAP for the purpose of establishing, managing, and conserving a Gopher Tortoise Mitigation Park. The Board of Trustees approved the purchase of the BRLWEA in March 2008 and closed on the property in July 2008. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife. The established boundary for the BRLWEA is shown in Figure 2.

5 Proximity to Other Public Conservation Lands and Florida Forever Projects

The BRLWEA is surrounded by a myriad of conservation lands including San Felasco Hammock Preserve State Park to the east, the Santa Fe Springs Conservation Area to the northwest, and the Rock Bluff Conservation Area to the west. Conservation lands near the BRLWEA's boundary are shown in Figure 1.

Most of the public conservation lands are owned in full fee by a public entity. However, some of these conservation lands are protected by less-than-fee conservation easements consisting primarily of privately owned and managed ranchlands with a public or private entity holding and monitoring a conservation easement. Conservation easements may be held by either public agencies or private entities, while the landowner who sells or otherwise grants the conservation easement retains the remaining title interests. The BRLWEA is not located within any Area of Critical State Concern as defined in Section 380.05, F.S.

The BRLWEA is part of the Longleaf Pine Ecosystem Florida Forever Project. The project area includes 22,299 acres, in which approximately 12,634 acres have been acquired, leaving 9,665 remaining acres in the project yet to be acquired. Other Florida Forever projects near the BRLWEA include Florida's First Magnitude Springs- Blue Springs, the North Waccasassa Flats, and the Southeastern Bat Maternity Caves.

6 Adjacent Land Use

The BRLWEA is surrounded by low population density rural lands, primarily small home sites and pine plantations that are managed as timberlands. The current land use designations for lands near the BRLWEA are currently zoned agricultural development and conservation. Gilchrist County's land use codes indicate that this designation allows for agriculture and silviculture uses and related industries, natural resource conservation/preservation, and agriculture. Agriculture uses are allowed with a maximum density of one dwelling unit per ten acres. The FWC's Land Use Planning Program reviews proposed changes to Future Land Use Maps and other changes to comprehensive plans for all 67 counties in Florida.

The area comprising the BRLWEA is zoned conservation. The Gilchrist County's land development code states that land zoned conservation permits the following uses: non-intensive resource-based recreation activities and silviculture conducted in accordance with the Comprehensive Plan. The majority of the surrounding area has a future land use designation of Agricultural, which identifies a maximum residential density of one dwelling unit per ten acres.

Based on the location of the property and the current and five-year future zoning ordinances for the BRLWEA and surrounding properties, the BRLWEA should not face substantial development impacts or challenges in the foreseeable future. The closest cities are considered rural; apart from Gainesville and Lake City, whose current proximity is not considered near enough to effect development trends or the ongoing conservation of the BRLWEA during the ten-year Management Plan, planning period (2016-2026).

7 Florida's Changing Population

More U.S. residents moved to Florida than any other state in 2018, making it one of the fastest-growing in the nation. Florida had the nation's fourth-highest growth rate (1.5 percent), the third-highest population (21 million), the second-highest number of total new residents (323,000) and 133,000 people who came from elsewhere in the country between July 1, 2017 and July 1, 2018. This means that, Florida's population is growing by nearly 1,000 people a day: about half of the newcomers are foreign-born immigrants and half are from other U.S. states. In the years to come, Florida's growth rate is expected to stabilize. In 2018, the U.S. Census estimated that there were 17,424 people living in Gilchrist 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 19,100 people living in Gilchrist County. The BEBR's medium-range population projections for the same year of the surrounding counties are as follows: Alachua – 289,900; Columbia – 75,000; Dixie – 17,700; Lafayette – 8,900; Levy – 44,400; Suwannee – 48,400.

However, it should be noted that, according to Wildlife 2060, the population of coastal counties is predicted to double from 12.3 million to more than 26 million by 2060 (FWC 2008). The FWC has prepared a report titled, ["Wildlife 2060: What's at Stake for Florida"](#) to relay the changes that may occur in Florida's fish and wildlife and in our own lifestyles, if the state's population doubles. Recent predictions indicate if that happens, as a study published by [1000 Friends of Florida](#) suggests, about seven million acres of land could be converted from rural and natural to urban uses.

8 The BRLWEA Optimal Conservation Planning Boundary

A number of properties have been identified for inclusion in the OCPB (Figure 3). These properties have been identified to further protect the wildlife and other resources of the property, to lessen conflicts caused by housing development within an area where prescribed burning is required for resource management, to achieve an optimum property boundary, and to provide critical habitat connectivity for the BRLWEA and other wildlife habitat. Lands within the OCPB are considered to be important in order to buffer the boundaries of the BRLWEA from potential adjacent incompatible developments and to aide the FWC, other state and federal governmental entities, non-governmental organizations, and local governments with their acquisition and planning efforts in order to better manage the area on a landscape level for the benefit and continued conservation of wildlife and other natural resources.

9 Potential Conservation Stewardship Opportunities Adjacent to the BRLWEA

The FWC Landowner Assistance Program (LAP) provides many potential opportunities for conservation minded landowners to obtain the assistance and advice of FWC staff and programs for improving land conservation practices on their lands. The LAP routinely conducts workshops for interested landowners to interact with FWC staff and learn how they may participate in the program. In addition, the LAP works with landowners to enroll in the Natural Resources Conservation Service conservation cost-share programs in order to assist with implementation of wildlife friendly practices.

At the time of the plan development, no specific land stewardship workshops had been conducted for landowners adjacent to the BRLWEA. The role and development of Land Conservation and Stewardship Partnerships is fully explained in both sections 5.11 and 6.10 of the BRLWEA Management Plan. Private landowners seeking assistance with habitat management will likely find it offered within the FWC's LAP. The FWC employs biologists who are available to provide wildlife-related assistance with land use planning and habitat management. There are many forms of assistance that include technical, financial, educational, and various forms of recognition that seek to award landowners who manage their wildlife habitat responsibly. The FWC will continue to evaluate the level of interest and efficacy of providing technical assistance to adjacent private landowners on enhancing the conservation management of their lands. More information on FWC's LAP program and online habitat management tools are available online at: <http://myfwc.com/conservation/special-initiatives/lap/>.

10 The FWC Florida Forever Additions and Inholdings Acquisition List Conservation Benefits Analysis

Several properties have been identified for recommended acquisition under the auspices of the FWC Florida Forever A&I acquisition program for the BRLWEA (Figures 3-5). The A&I acquisition list identifies lands within or adjacent to FWC-managed areas that are important for the conservation of fish and wildlife, serve as a link or corridor to other publicly owned property, enhance the protection or management of the property, would create a more manageable boundary configuration, have a high resource value that would otherwise be unprotected, or that could be acquired at substantially less than fair market value. Consistent with Florida Forever program criteria, parcels on the list have been ranked

High, Medium, or Low priority based on a score generated by a GIS-based resource evaluation model, along with technical input from FWC staff.

The FWC Florida Forever A&I acquisition list is updated through time, thus staying up to date for land ownerships, County parcel records, land conservation opportunities, and evolving management challenges. The FWC continually analyzes, evaluates, and prioritizes its recommended conservation actions in a systematic, comprehensive, and consistent manner over time.

The FWC continues to recommend acquisition of the remaining lands within the Longleaf Pine Ecosystem Florida Forever projects as essential to the long-term conservation of wildlife and to the optimal resource and operational management of the BRLWEA. Parcels on the FWC Florida Forever A&I acquisition list will be acquired if possible, according to their priority ranking for acquisition and landowner willingness to sell their lands. Participation in any FWC acquisition is entirely voluntary and at the sole discretion of willing landowners.

11 Prioritization of Lands on the FWC Florida Forever A&I Acquisition List

Figures 4 and 5 depicts the results of the FWC's Acquisition Prioritization Model Analysis and the recommended prioritization of acquisition actions of lands on the FWC Florida Forever A&I acquisition list for the BRLWEA. These parcels are prioritized on the accompanying map (Figure 5), into one of three priority categories: High, Medium, and Low. The order of acquisition priority may be changed as necessary based on factors including available funding necessary to complete a particular acquisition project, changing development pressures, landowner willingness, funding partnerships, and unique acquisition opportunities like bargain sales (less than 80% of appraised value) and donations.

It should be noted that, only parcels located directly in or adjacent to the subject area can be recommended for fee-simple acquisition, though the FWC Florida Forever A&I Acquisition program. A corresponding list also provides more detailed ownership information. A complete list of all the parcel identification numbers, corresponding prioritization ranking, and acreage, are provided in Table 1.

If the circumstances with adjacent land uses and conservation opportunities arise, the FWC may recommend adding other parcels to the FWC Florida Forever A&I acquisition list.

12 Acquisition Partnership Opportunities

Opportunities for working with other potential acquisition partners within this project area include the Florida Department of Environmental Protection (DEP), Alachua Conservation Trust, the Florida Forest Service (FFS), the Suwannee River Water Management District (SRWMD), Gilchrist County and other non-governmental conservation organizations and potential grant programs.

13 Analysis of the Potential and Need for Fee vs. Less-than-Fee Acquisition

At this time, the FWC often recommends full-fee acquisition of the lands on the FWC Florida Forever A&I acquisition list for the BRLWEA that are either inholdings, or are located immediately adjacent to the area, to optimize the conservation of fish and wildlife, public access and use, and overall resource and operational management of the area. However, the FWC continues to recommend full fee acquisition or

may pursue less-than-fee acquisition with adjacent landowners within the Bell Ridge Sandhills Unit of the Longleaf Pine Ecosystem Florida Forever Project in order to optimize the conservation of wildlife and overall resource and operational management of the BRLWEA. Though it should be noted that landowner preference is often the key element in determining whether to pursue full fee or less than fee acquisition.

14 Recommendations for Prioritized Land Conservation Actions

Following are the prioritized recommendation of conservation actions for the BRLWEA:

1. Acquire parcels on the FWC Florida Forever A&I acquisition list as prioritized and feasible with available funding.
2. Recommend adding parcels within the Bell Ridge Sandhills Unit of the Longleaf Pine Ecosystem Florida Forever Project that are also within the BRLWEA OCPB for inclusion on the FWC Florida Forever A&I acquisition list.
3. Continue to assist and support the acquisition of the lands remaining within the Bell Ridge Sandhills Unit of the Longleaf Pine Ecosystem Florida Forever Project by DEP/Board of Trustees within the vicinity of the area.
4. Continue to work with private landowners near the BRLWEA to encourage participation in available conservation stewardship programs for private landowners.
5. Recommend landowner assistance workshop(s) for neighboring and surrounding landowners to assist with enhanced conservation of these lands.
6. Continue to cooperate with public and private organizations for conservation of lands within the OCPB.
7. Continue to recommend acquisition of identified land through the Florida DEP, Alachua Conservation Trust, the FFS, the SRWMD, Gilchrist County and other non-governmental conservation organizations and pursue potential grant programs.

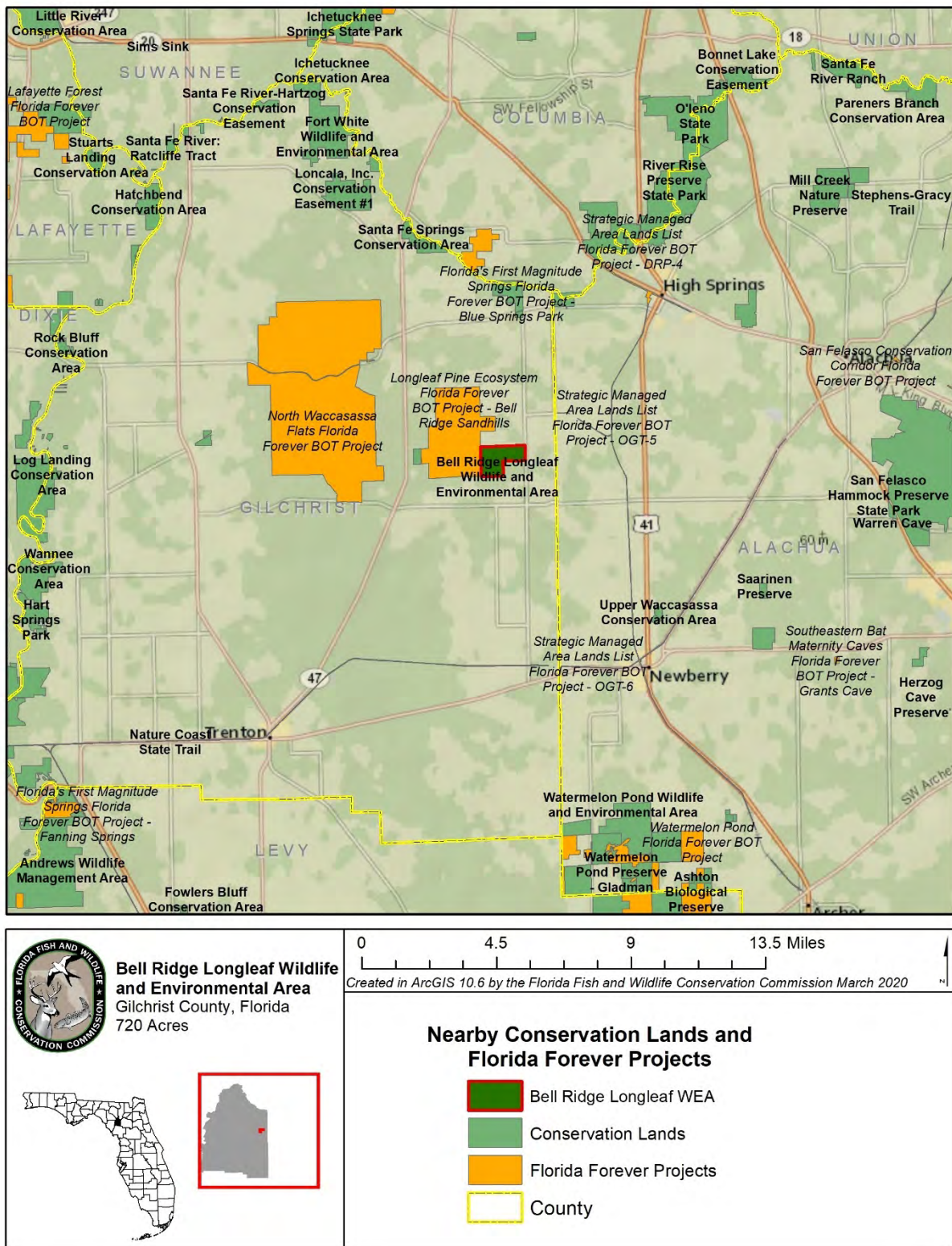


Figure 13. Vicinity Map of the BRLWEA

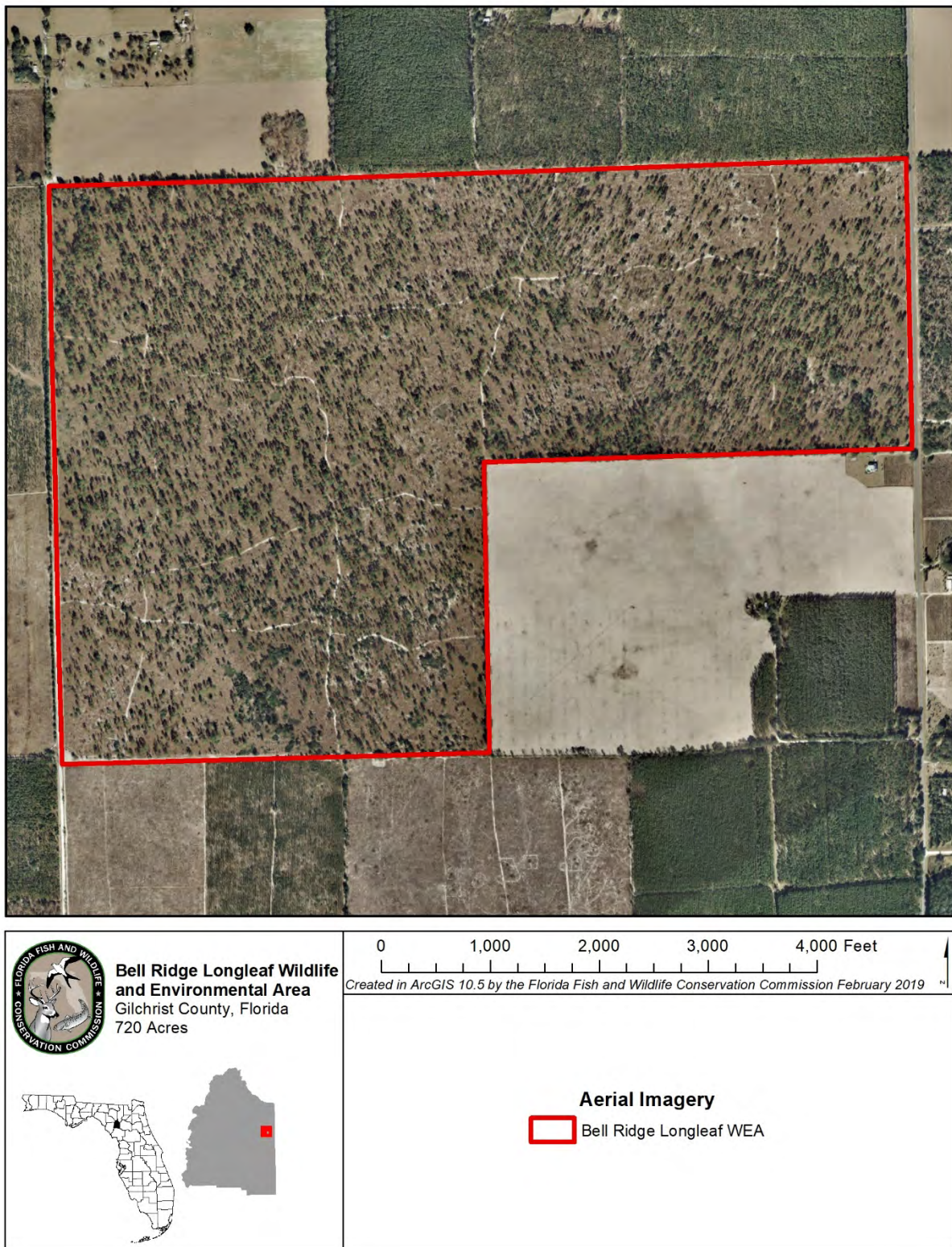


Figure 14. Aerial Imagery

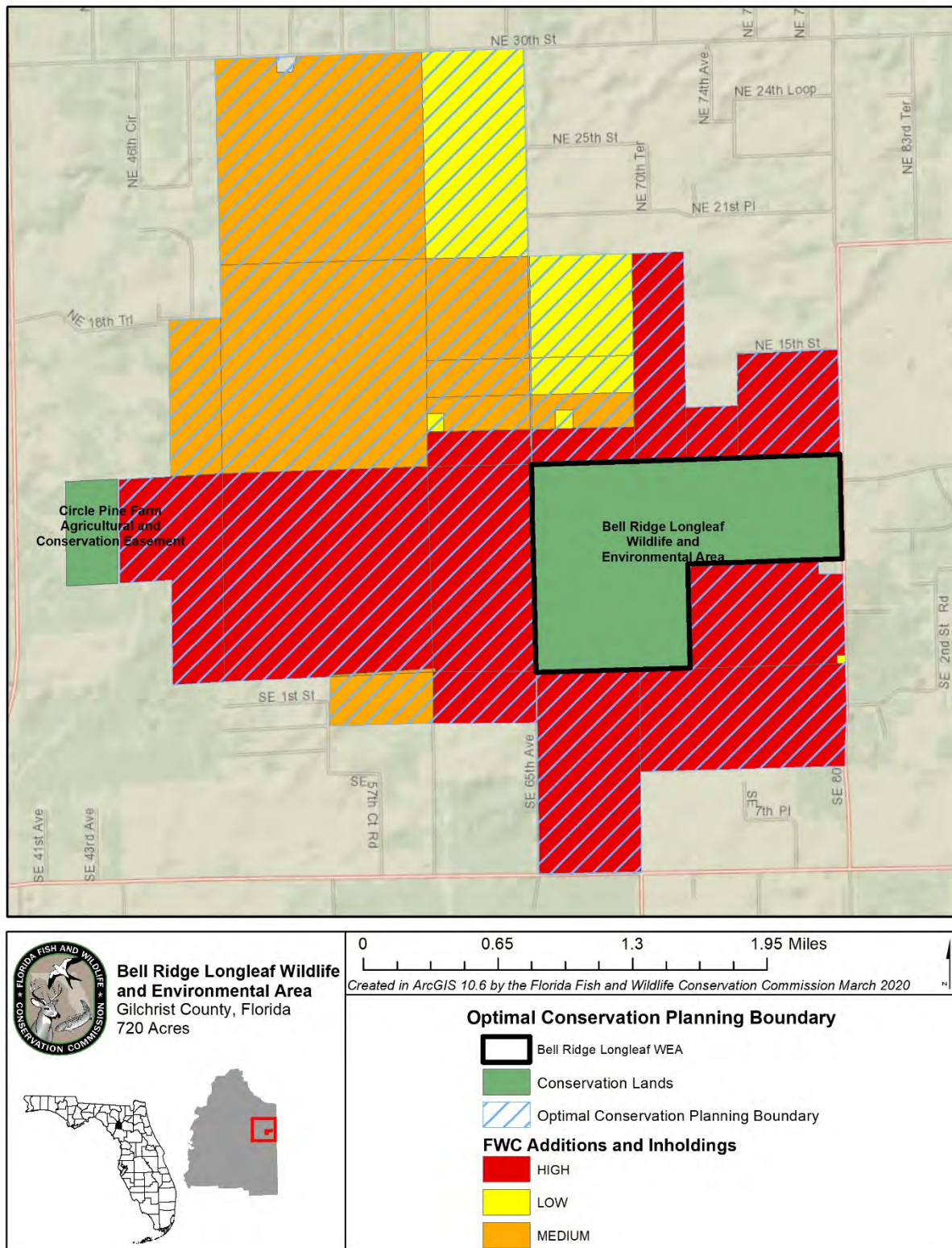


Figure 15. Optimal Conservation Planning Boundary

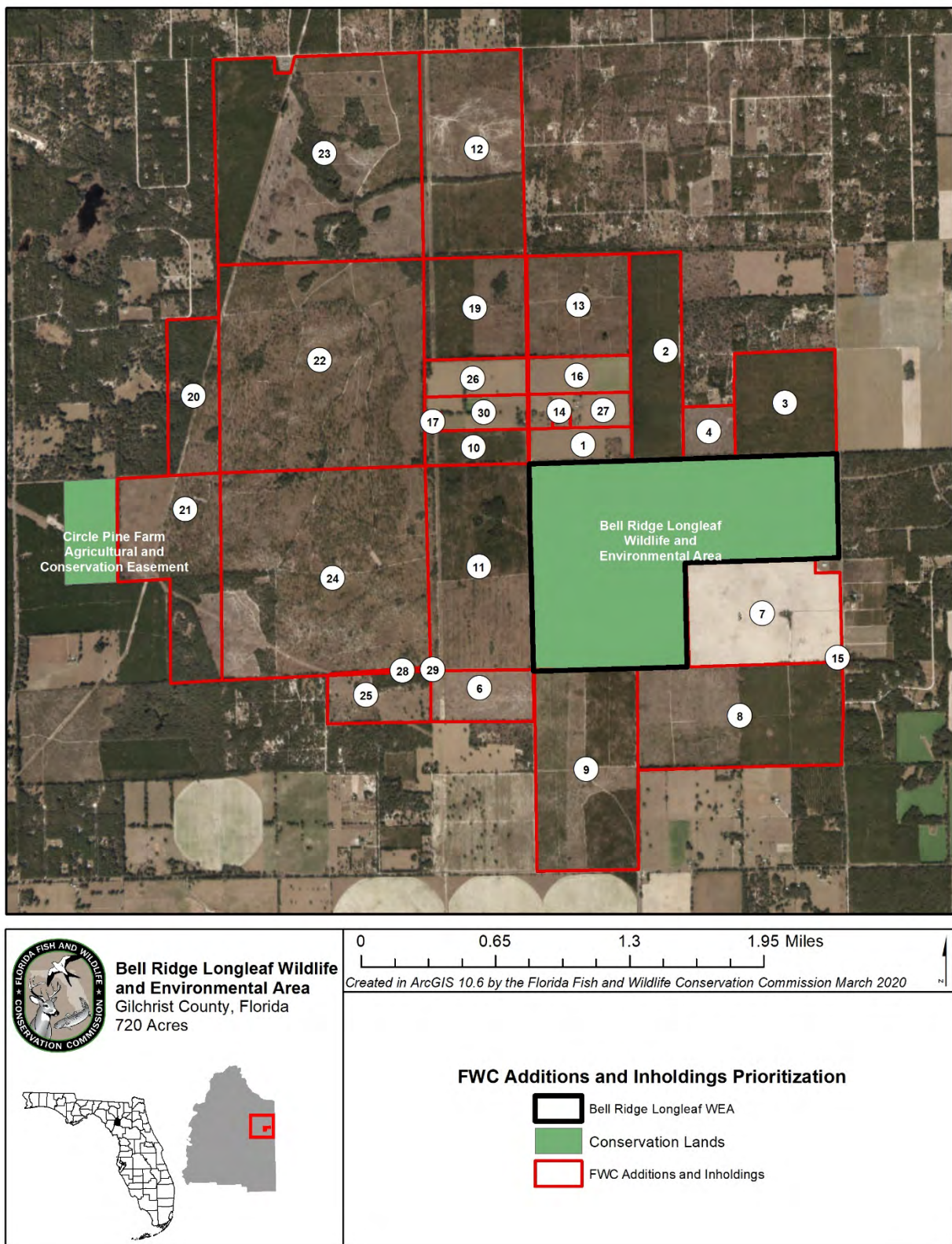


Figure 16. FWC Additions and Inholdings

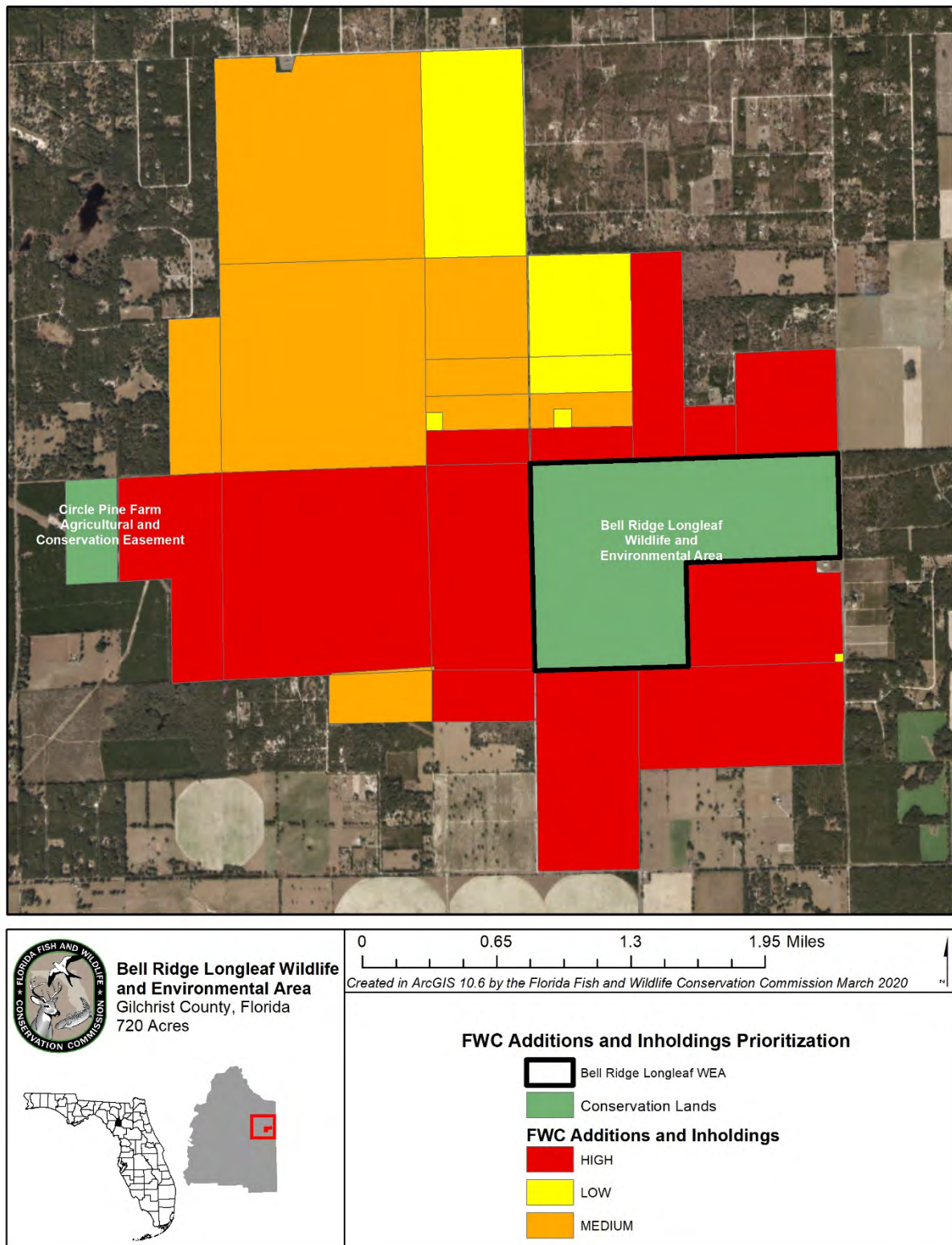


Figure 17. FWC Additions and Inholdings Prioritization

Table 11. Additions and Inholdings List for the BRLWEA

<u>Label</u>	<u>Parcel ID</u>	<u>Priority</u>	<u>Acres</u>
1	27-08-16-0000-0002-0030	HIGH	52.98
2	26-08-16-0000-0004-0010	HIGH	160.13
3	26-08-16-0000-0004-0000	HIGH	158.41
4	26-08-16-0000-0003-0000	HIGH	40.31
5	34-08-16-0000-0001-0000	HIGH	0.00
6	03-09-16-0000-0001-0000	HIGH	79.30
7	35-08-16-0000-0002-0000	HIGH	231.89
8	02-09-16-0000-0001-0000	HIGH	313.25
9	03-09-16-0000-0001-0000	HIGH	308.39
10	27-08-16-0000-0002-0040	HIGH	53.44
11	34-08-16-0000-0001-0000	HIGH	318.34
12	22-08-16-0000-0001-0000	LOW	315.69
13	27-08-16-0000-0001-0010	LOW	155.83
14	27-08-16-0000-0002-0015	LOW	5.03
15	35-08-16-0000-0003-0000	LOW	1.01
16	27-08-16-0000-0002-0020	LOW	56.50
17	27-08-16-0000-0002-0005	LOW	4.53
18	04-09-16-0000-0001-0000	LOW	0.00
19	27-08-16-0000-0001-0000	MEDIUM	155.51
20	29-08-16-0000-0003-0000	MEDIUM	120.55
21	32-08-16-0000-0001-0000	HIGH	240.60
22	28-08-16-0000-0001-0000	MEDIUM	639.12
23	21-08-16-0000-0001-0000	MEDIUM	632.77
24	33-08-16-0000-0001-0000	HIGH	635.89
25	04-09-16-0000-0001-0000	MEDIUM	77.22
26	27-08-16-0000-0002-0050	MEDIUM	56.88
27	27-08-16-0000-0002-0010	MEDIUM	47.95
28	04-09-16-0000-0001-0000	MEDIUM	4.00
29	04-09-16-0000-0001-0000	MEDIUM	0.14
30	27-08-16-0000-0002-0000	MEDIUM	48.77

12.13 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 March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, *‘Historic property’ or ‘historic resource’ means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state.’*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
<http://www.flheritage.com/preservation/compliance/guidelines.cfm>

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination. In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at:

http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Robin Jackson
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street Tallahassee, FL 32399-0250
Phone: (850) 245-6496
Toll Free: (800) 847-7278
Fax: (850) 245-6439
Robin.Jackson@DOS.MyFlorida.com

12.14 Apiaries

12.14.1 FWC Apiary Policy

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Apiary Policy

Division of Habitat and Species Conservation

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

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

DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY

Issued September 2010

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

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

Definitions

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

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

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

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

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

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

Establishment of Apiary Sites on WMA/WEA

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

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

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

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

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

- It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.
- FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

WMA/WEA Staff Responsibilities

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

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

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

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

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

Apiary Wait List and Apiary Application

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

- Proof of a valid registration with the FDACS/DPI.
- Proof of payment of outstanding special inspection fees for existing sites.
- A validated history of being an apiary manager.

- Three references that can attest to the applicant's beekeeping experience.

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

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

Contracts

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

Pricing of Apiary Site(s)

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

Pricing examples:

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

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

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

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

The Board of Trustees of the Internal Improvement Trust Fund – Recommended Apiary Agreement Guidelines For Apiaries & Revisions to an Agreement for Apiary Activities on State Lands on September 23, 1986

S:\HSC\THCR\APIARY.BACKUP.POLICY\dlissupport@dos.state.fl.us_20100903_111446.pdf

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

Attachments

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

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

Division Director or Designee

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

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

WITNESSETH

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

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.
2. The COMMISSION Agrees:
 - a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.
 - b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.
 - c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).
3. The USER Agrees:
 - a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission, Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.

- b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.
- c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.
- d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.
- e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER'S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30 day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.
- f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.
- g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.
- h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.
- i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.
- j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than \$300,000 for bodily injury and \$100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.

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

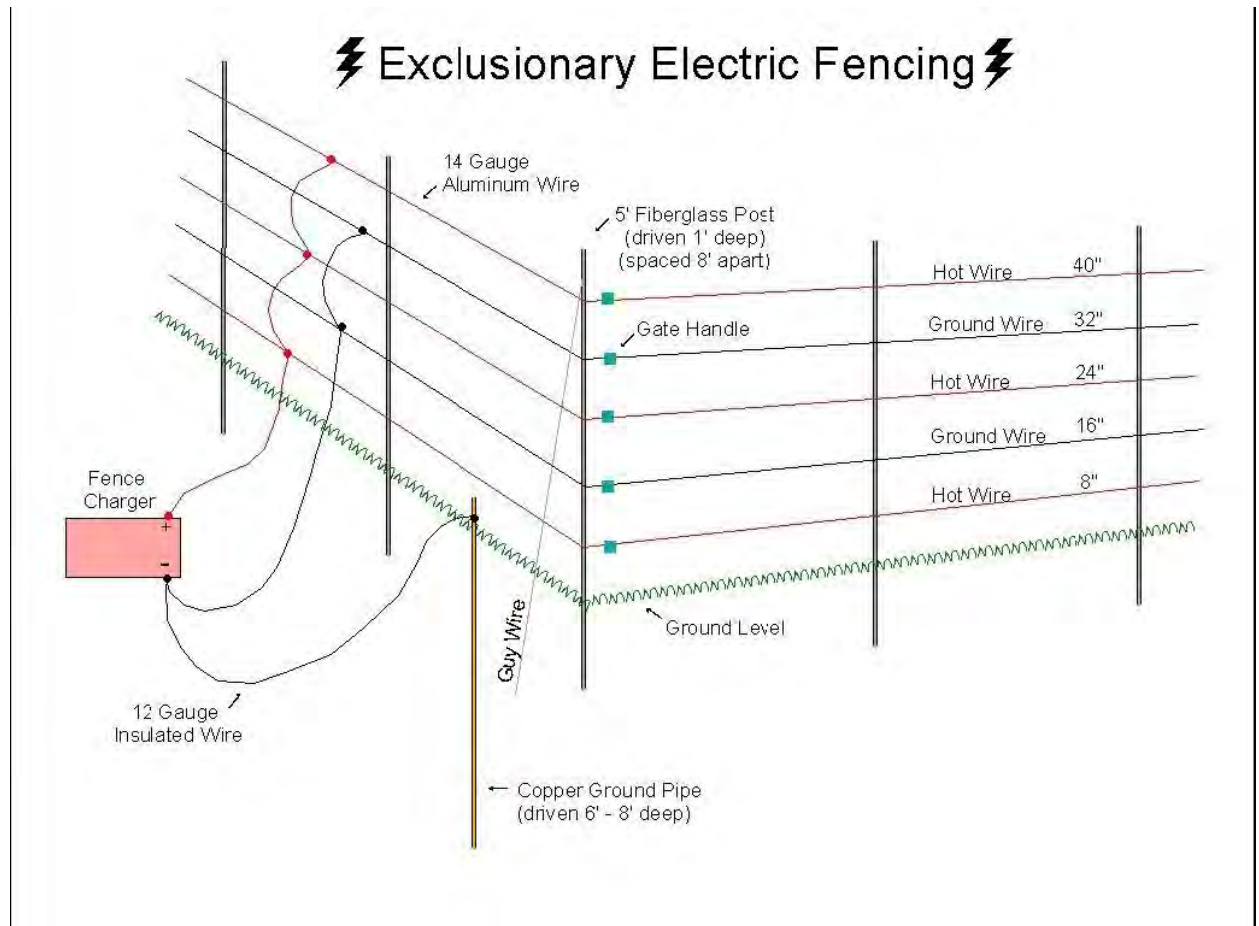
corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach 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.



AGREEMENT
ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

APIARY SITE APPLICATION FORM

Florida Fish and Wildlife Conservation Commission

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

Name _____ Telephone Number _____

Mailing Address _____

City or Town _____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address) _____

Company Name: _____

Email Address _____

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

WMA/WEA _____ County _____ # of Sites _____

WMA/WEA _____ County _____ # of Sites _____

WMA /WEA _____ County _____ # of Sites _____

WMA /WEA _____ County _____ # of Sites _____

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

Member of Beekeepers Association: Yes ____ No ____

Number of Years a Member _____

Name of Beekeepers Association: _____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI): _____ Yes _____ No _____ N/A If yes, please provide proof.

Are you current with any and all special inspection fees: _____ Yes _____ No _____ N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?: _____ Yes _____ No

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

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

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

MISSION STATEMENT

**Management
Of
Florida Fish and Wildlife Conservation Commission's
Wildlife Management Areas
And
Wildlife and Environmental Areas**

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

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

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR

MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.
2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.
3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.
4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.
5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.
6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.
7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.
8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.
9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.
10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supercedure queens mating with AHB drones.
11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.
12. Treat all honey bees with respect.

RANDOM
SELECTION PROCESS
FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an “Apiary Wait List Folder” on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an “Apiary Wait List”.
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.
8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.
9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

- a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.
- b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.
- c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.
- d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.
- e. The apiarist whose name is selected will be awarded the available site.
- f. A new Agreement will be developed by the THCR Contract Manager.

*A new apiary application must be submitted once requestor's name is removed from a waiting list.

12.14.2 Bell Ridge Longleaf WEA Apiary Assessment

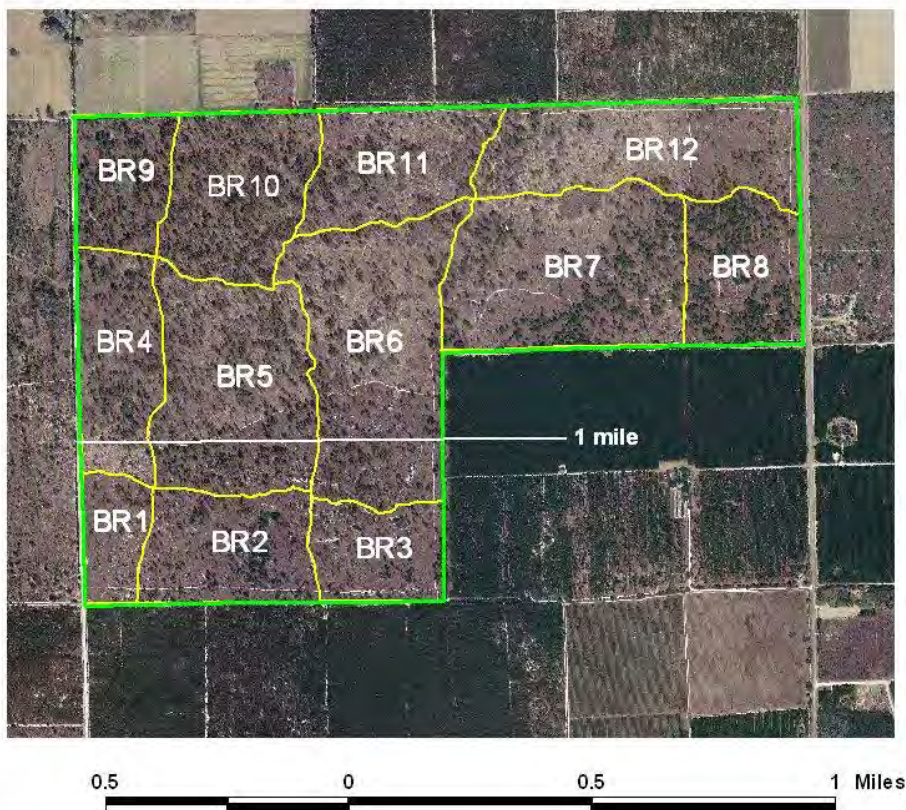
Bell Ridge Longleaf WEA Apiary Assessment

The guidelines set forth in the FWC Apiary Policy were used along with ArcGIS, to assess the feasibility of permitting apiary sites within the Bell Ridge Longleaf WEA (BRLWEA). Based on the following criteria outlined in the apiary policy, no suitable apiary sites have been identified on BRLWEA.

Bell Ridge Longleaf WEA

- 1.) Apiary sites should be situated at least $\frac{1}{2}$ mile from WMA property boundary lines, and at least one mile from any other known apiary site.
 - a. There are no parts of the BRLWEA that are more than $\frac{1}{2}$ mile from the property boundary. As such no suitable sites were identified and no further analysis was conducted.

Bell Ridge Longleaf WEA Gilchrist County, Florida - 720 acres Apiary Assessment Map



12.15 Cost Estimates

12.15.1 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

12.15.2 Operation Plan Fiscal Year 2018-2019

Bell Ridge Longleaf Wildlife and Environmental Area

Fiscal year 2018 Projects: 1213

Activity Title	Man Days	Salary	FuelCost	Other	Total	Unit s
100 Administration	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
101 Project inspection	4.00	\$871.92	\$34.00	\$0.00	\$905.92	0
182 Data management	2.00	\$435.96	\$17.00	\$50.00	\$502.96	0
185 GIS	2.00	\$435.96	\$17.00	\$50.00	\$502.96	0
200 Resource Management	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
202 Timber management	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
206 Prescribed burning - growing season	24.00	\$5,231.52	\$204.00	\$500.00	\$5,935.52	211
207 Prescribed burning - dormant season	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
208 Firebreaks	8.00	\$1,743.84	\$68.00	\$150.00	\$1,961.84	11
210 Exotic species control	4.00	\$871.92	\$34.00	\$150.00	\$1,055.92	0
211 Exotic plant control (mechanical)	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
215 Hydrology Management	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
221 Animal surveys	8.00	\$1,743.84	\$68.00	\$150.00	\$1,961.84	0
263 Nest box monitoring	3.00	\$653.94	\$25.50	\$50.00	\$729.44	4
289 Native vegetation management (mechanical)	4.00	\$871.92	\$34.00	\$100.00	\$1,005.92	0
290 Native vegetation management (chemical)	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
311 Boundary signs	2.00	\$435.96	\$17.00	\$50.00	\$502.96	5
312 Informational signs	2.00	\$435.96	\$17.00	\$1,200.00	\$1,652.96	1
913 New construction -- trails	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
920 FEM -- buildings/structures	0.00	\$0.00	\$0.00	\$0.00	\$0.00	0
923 FEM -- vehicles/equipment	6.00	\$1,307.88	\$51.00	\$300.00	\$1,658.88	0
926 FEM -- roads/bridges	4.00	\$871.92	\$34.00	\$150.00	\$1,055.92	12
927 FEM -- trails	4.00	\$871.92	\$34.00	\$50.00	\$955.92	3
928 FEM -- fences	5.00	\$1,089.90	\$42.50	\$50.00	\$1,182.40	5
All totals	82.00	\$17,874.36	\$697.00	\$3,000.00	\$21,571.36	252

12.16 Arthropod Control Plan



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

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

ADAM H. PUTNAM
COMMISSIONER

Section 388.4111, F.S.
Telephone: (850) 617-7997

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:

Bell Ridge Longleaf Wildlife & Environmental Area

Is Control Work Necessary:

☐ Yes ☒ No

Location:

Bell Ridge Longleaf WEA, 531 NE CR 337, Trenton, FL 32693

Land Management Agency:

Florida Fish & Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary?

☐ Yes ☒ No

If "Yes", please explain:

Which Surveillance Techniques Are Proposed?

Please Check All That Apply:

☐ Landing Rate Counts

☐ Light Traps

☐ Sentinel Chickens

☐ Citizen Complaints

☐ Larval Dips

☐ Other

If "Other", please explain:

Arthropod Species for Which Control is Proposed:

None

Proposed Larval Control:

None

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:

None

Material to be Used for Larvaciding Applications:

(Please Check All That Apply.)

☐ Bti

☐ Bs

☐ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name:

☐ Ground

☐ Aerial

Rate of application:

Method of application:

Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒ No

Ground adulticiding ☐ Yes ☒ No

Please specify the following for each adulticide:

Chemical or common name:

Rate of application:

Method of application:

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

No modification will be needed.

Proposed Notification Procedure for Control Activities:

Contact: Florida Fish & Wildlife Conservation Commission, North Central Regional Office, 3377 E. US Hwy. 90, Lake City, FL 32055

Records:

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

☐ Yes ☒ No

Records Location: We have no arthropod control measures in place and therefore no records to maintain at this time.

How long are records maintained:

We are not maintaining any records because there are no arthropod control measures implemented or proposed.

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
None.

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed?
No.

Include proposed operational schedules for water fluctuations:
None.

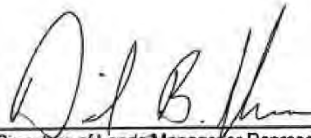
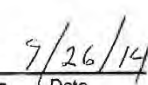
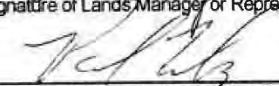
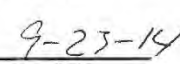
List any periodic restrictions, as applicable, for example peak fish spawning times:
None.

Proposed Modification of Aquatic Vegetation:
None.

Land Manager Comments:

There are no arthropod control measures needed for this property.

Arthropod Control Agency Comments:

	
Signature of Lands Manager or Representative	Date
	
Signature of Mosquito Control Director / Manager	Date

12.17 Gilchrist County Letter of Compliance with Local Government Comprehensive Plan



SENT VIA E-MAIL ONLY

April 22, 2020

Ms. Dylan (Imlah) Haase
Senior Conservation Planner
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
620 S. Meridian Street
Tallahassee, Florida 32399

RE: Consistency Review for Bell Ridge Longleaf Wildlife and Environmental
Area 2019-2029 (Gilchrist County, Florida)

Dear Ms. Haase:

Pursuant to your request for Management Plan Review for compliance with the Gilchrist County Comprehensive Plan, this correspondence shall serve as my opinion on behalf of the County. Based upon my review, the above referenced plan submitted by your office follows the basic principles and guidelines and is consistent with the Gilchrist County Comprehensive Plan.

If I can be of further assistance to you now, or in the future, please do not hesitate to contact me.

Very Truly Yours,

A handwritten signature in blue ink, appearing to read "David M. Lang, Jr.", is written over the typed name.

David M. Lang, Jr.
Gilchrist County Attorney
and Planning Director

xc: Mr. Lance Jacobson
Tara Howell, Gilchrist County Community Development Department

Our Vision for Gilchrist County in 2030 is rural communities working in harmony to provide opportunities for all its citizens through balanced growth and enhanced education, while preserving our proud heritage, natural resources and agriculture.

