A Management Plan for

Perry Oldenburg

Wildlife and Environmental Area

2017 - 2027

Hernando County, Florida

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

A Management Plan
for
Perry Oldenburg Wildlife and Environmental Area

Hernando County, Florida

Owned and managed by the Florida Fish and Wildlife Conservation Commission

June 2017

Approved

Thomas H. Eason, Ph.D.
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: Perry Oldenburg Wildlife and Environmental Area (POWEA)
Location: Hernando County, Florida
Acreage Total: 380 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Depression Marsh	6.90	1.86%
Mesic Flatwoods	1.98	0.53%
Mesic Hammock	10.94	2.95%
Pasture - Semi-improved	13.07	3.52%
Ruderal	14.23	3.83%
Sandhill	324.27	87.31%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement No.: Mitigation Park Agreement (Appendix 12.1)
Use: Single _____ Management Responsibilities:
Multiple X Agency FWC Responsibilities
LEAD, (Wildlife and Environmental Area, resource protection, law enforcement)
Designated Land Use: Wildlife and Environmental Area
Sublease (s): None
Encumbrances: Electricity transmission line
Type Acquisition: Fish and Wildlife Habitat Program
Unique Features: Natural: Sandhill, mesic hammock and a depression marsh
Archaeological/Historical: None documented within POWEA.
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: No acres currently on the FWC Additions and Inholdings list; no adjacent Florida Forever Projects.
Surplus Lands/Acreage: None
Public Involvement: Management Advisory Group consensus building meeting and Public Hearing (Appendix 12.2)

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

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

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, 4
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	9
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	1, 9, 85-99
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	6-8, 60
6	An **assessment** as to whether the property, or any portion, should be declared surplus. *Provide Information regarding **assessment and analysis** in the plan, and provide **corresponding map**.*	18-2.021	40
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. *Please clearly indicate parcels on a map.*	18-2.021	62
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	79
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)	3-5, 37-40
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	9, 10

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	38-40
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	36, 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	38-40
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	5, 64
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	59, 73, Appendix 12.7

16	Analysis/description of other managing agencies and private land managers, if any, which could facilitate the restoration or management of the land.	18-2.021	62, 64
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)	38, 39
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	82, 83
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.11
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	14-38, 47-52, 58-67
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	37-40
22	If the lead managing agency determines that timber resource management is not in conflict with the primary management objectives of the managed area, a component or section, prepared by a qualified professional forester, that assesses the feasibility of managing timber resources pursuant to section 253.036, F.S.	18-021	Appendix 12.4
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	39

*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, Appendix 12.2
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 12.2
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. *Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.*	259.032(10)	13, Appendix 12.2
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.2
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. *Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.*	253.034(5) & 259.032(10)	Appendix 12.2
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Include manager's replies to the team's findings and recommendations.*	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. *Use brief descriptions and include USDA maps when available.*	18-2.021	14, 16, 17, Appendix 12.3
33	Insert FNAI based natural community maps when available.	ARC consensus	18

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	15, 18-24
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	15, 18-24, 33-36
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	25-32
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	25-32, 51, 52
40	The identification or resources on the property that are listed in the Natural Areas Inventory. *Include letter from FNAI or consultant where appropriate.*	18-2.021	33, 34
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)	45-82
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.	↓	45-82
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.		67-77
42-C.	The associated measurable objectives to achieve the goals.		67-77
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. *Include fire management plans - they can be in plan body or an appendix.*		45-82, Appendix 12.4
42-E.	A detailed expense and manpower budget in order to provide a management tool that facilitates development of performance measures, including recommendations for cost-effective methods of accomplishing those activities.		79-81, Appendix 12.9
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	15-25

44	Sustainable Forest Management, including implementation of prescribed fire management		
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		45-82
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).	18-2.021, 253.034(5) & 259.032(10) ↓	67-77
44-C.	Measurable objectives (see requirement for #42-C).		67-77
44-D.	Related activities (see requirement for #42-D).		45-82, Appendix 12.4
44-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9
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).	↓	45-82
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67-77
45-C.	Measurable objectives (see requirement for #42-C).		67-77
45-D.	Related activities (see requirement for #42-D).		45-82
45-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	53, 54
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 12.10
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).	↓	45-82
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67-77
48-C.	Measurable objectives (see requirement for #42-C).		47-77
48-D.	Related activities (see requirement for #42-D).		45-82
48-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9

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. *If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.*	18-2.018 & 18-2.021	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	33
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	33
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	33
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).	↓	45-82
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67-77
53-C.	Measurable objectives (see requirement for #42-C).		67-77
53-D.	Related activities (see requirement for #42-D).		45-82
53-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9

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. *Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.*	18-2.018, 18-2.021 & per DHR's request	36
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	36, 59
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	59, 73 Appendix 12.9
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).	↓	59, 73, 77, 78
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		73

57-C.	Measurable objectives (see requirement for #42-C).		73
57-D.	Related activities (see requirement for #42-D).		59, Appendix 12.7
57-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9

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

Section G: Facilities (Infrastructure, Access, Recreation)

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. *See footnote.*	253.034(5)	55-57, 59, 60
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).	↓	55-57, 59, 60, 67-82
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67-82
59-C.	Measurable objectives (see requirement for #42-C).		67-82
59-D.	Related activities (see requirement for #42-D).		55-57, 59, 60, 67-82
59-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	55-57, 59, 60
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).	↓	55-57, 59, 60, 67-82
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		67-82
61-C.	Measurable objectives (see requirement for #42-C).		67-82
61-D.	Related activities (see requirement for #42-D).		55-57, 59, 60, 67-82
61-E.	Budgets (see requirement for #42-E).		79-81, Appendix 12.9

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)	ii
64	If this LMP is a 10-year update, note the accomplishments since the drafting of the last LMP set forth in an organized (categories or bullets) format.	ARC consensus	40-44
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	45-82
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)	79-81, Appendix 12.9
67	Cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired, include recommendations for cost-effective methods in accomplishing those activities.	259.032(10)	79-81, Appendix 12.9
68	A statement of gross income generated, net income and expenses.	18-2.018	79-81, Appendix 12.9

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

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Management Plan Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
CAS	Conservation Action Strategy
DEP	Department of Environmental Protection
DHR	Department of State Division of Historical Resources
DSL	Department of Environmental Protection Division of State Lands
FAC	Florida Administrative Code
FAMU	Florida Agricultural and Mechanical University
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FNAI	Florida Natural Areas Inventory
FNST	Florida National Scenic Trail
FS	Florida Statute(s)
FTA	Florida Trail Association
FWC	Florida Fish and Wildlife Conservation Commission
GIS	Geographic Information Systems
GPS	Global Positioning System
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
IWHRS	Integrated Wildlife Habitat Ranking System
LAP	Landowner Assistance Program
LATF	Land Acquisition Trust Fund
LMR	Land Management Review
MAG	Management Advisory Group
MOU	Memorandum of Understanding
MSL	Mean Sea Level
NRCS	Natural Resources Conservation Service
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
POWEA	Perry Oldenburg Wildlife and Environmental Area
SWFWMD	Southwest Florida Water Management District

Management Plan Acronym Key

TNC	The Nature Conservancy
TPL	Trust for Public Lands
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WEA	Wildlife and Environmental Area
WMA	Wildlife Management Area
WSF	Withlacoochee State Forest

1 Introduction and General Information

Set within the prehistoric sandhills of the Brooksville Ridge physiographic province in northeastern Hernando County, the Perry Oldenburg Wildlife and Environmental Area (POWEA) conserves a remnant tract of the increasingly rare sandhill longleaf forest once covering much of Florida and the southeastern United States. Encompassing longleaf pine- and wiregrass-covered sandhills, the POWEA and other proximate conservation lands protect vital habitat for the gopher tortoise and many other imperiled, rare, and more prevalent wildlife species.

Connected to the adjacent Withlacoochee State Forest (WSF, near the Ahhochee Hill Sanctuary, owned and managed by the Florida Audubon Society), POWEA aids in maintaining wildlife connectivity within a mosaic of other public conservation lands in the surrounding vicinity. Along with protecting and conserving habitat for its diverse assemblage of plants and animals, the POWEA conserves watershed and water recharge lands within the Withlacoochee river watershed. Surrounded by a wide array of conservation lands, the 380 acres of land that comprise POWEA were conserved through the Florida Fish and Wildlife Conservation Commission's (FWC's) Mitigation Park Program to protect vital habitat for the gopher tortoise. The POWEA's natural communities, including sandhill, mesic hammock, and depression marsh, are managed by the FWC primarily for the benefit of the area's native wildlife. Over three quarters of the area's acreage is composed of sandhill habitat, and the loose, sandy soils of these sandhills support vegetative communities of longleaf pine and wiregrass and provide ideal habitat for the gopher tortoise and a variety of other species.

The POWEA is managed by the FWC primarily to protect vital habitat for the gopher tortoise. The area is also managed to conserve and restore natural habitat for the benefit of imperiled and common wildlife, while also providing high-quality opportunities for wildlife viewing, hiking, and other forms of wildlife-based public outdoor recreation.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of POWEA. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on POWEA. Furthermore, it identifies 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 POWEA's management for the next ten years.

1.1.1 FWC Planning Philosophy

The FWC's planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group (MAG) and solicits additional input from user groups and the general public at a public hearing (Appendix 12.2). 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 POWEA Management Plan (Sections 5 – 7).

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 of the State of Florida (Board of Trustees) through the Florida Department of Environmental Protection's Division of State Lands (DSL), 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 DSL. Terms used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

Although the lands covered by this management plan are not titled to the Board of Trustees, they are being presented to the ARC for a variety of important reasons. Foremost among these, is that the FWC has determined that it is essential for all of the conservation areas that it manages, including those lands titled to entities other than the Board of Trustees, to have management plans that are in conformance with the State's statutory framework and criteria for the development of management plans for state-owned conservation lands. This ensures that each conservation area that the FWC manages has a comprehensive, consistent, and accountable land management plan that is developed under and meets the requirements of the current ARC, Board of Trustees, and FWC planning framework.

Further, the FWC may, in the future, also request for the POWEA to be included on the list of FWC-managed conservation lands that receive funding through the LATF conservation land management funding formula. Notably, in order for a public conservation area to be eligible to receive land management funding through the LATF land management funding

formula, the area is required to have an ARC- and Board of Trustees-compliant land management plan that meets the State's management plan requirements for state-owned conservation lands. For these reasons, this Management Plan has been developed to meet the ARC and Board of Trustees criteria for approval.

1.2 Location

The POWEA is located about six miles northeast of Brooksville in Hernando County (Figures 1 and 2). The Withlacoochee River is about four miles to the east of the area. The POWEA is located in Sections 32 and 33, Township 21 South, Range 20 East (Figure 3). The designated entrance to the POWEA is located at the intersection of Deer Run Road and Government Road about 1.25 miles east of U.S. highway 41.

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

The primary purpose of acquiring the POWEA was to protect significant natural habitat important to the gopher tortoise. POWEA was acquired to serve as an offsite mitigation facility to offset the loss of gopher tortoise habitat. Areas acquired by FWC through its FWC Mitigation Park Program such as POWEA were acquired as a means to provide an offsite compensation alternative to state and federal listed species regulatory decisions. In general, the primary acquisition and conservation goals and purposes of the FWC Mitigation Park Program were:

1) Promote habitat conditions critical to meeting the life history requirements of the gopher tortoise and associated upland species; conserve, protect, and restore landscapes, forests, watershed, water resources, historical resources, and other elements important to ecosystem functions;

2) Provide recreational opportunities that are compatible with the primary purpose of conservation and management of the area's natural and historical resources.

3) Provide an off-site mitigation alternative to the previous method of on-site preservation of habitat within the boundaries of development; and

4) Provide public outdoor natural resource based recreational opportunities that are compatible with the conservation and management of the area's natural and historical resources.

Considered a Strategic Habitat Conservation Area for the Florida mouse, American swallow-tailed kite, Cooper's hawk, and striped newt, POWEA also protects several other species of concern as well as more common species. Another purpose of the POWEA project is to provide quality public outdoor, natural resource-based recreational opportunities for the public to enjoy.

The funding for acquisition and management of the POWEA originated from state regulatory actions taken by FWC on behalf of the gopher tortoise. The following mission statement was developed and approved by the FWC to guide management activities at the POWEA: "It shall be the primary management mission at POWEA to manage plant communities and public use in a manner that gives first consideration to the habitat needs and life history requirements of the gopher tortoise."

As noted above, in addition to protecting wildlife, POWEA conserves a portion of the sandhill vegetative community within the Withlacoochee River watershed.

1.3.2 Acquisition History

The original portion of POWEA, a 120-acre parcel, was acquired by the Trust for Public Land (TPL) in December of 1990. That 120-acre parcel was conveyed to the Game and Fresh Water Fish Commission (now FWC) through the FWC Fish and Wildlife Habitat Acquisition Program with funding from the FWC Mitigation Park Program in partnership with the (TPL) in July of 1990. Additionally, TPL acquired a 40-acre tract and a 208 acre tract within what is now POWEA which were conveyed to FWC in February 1991 and March 1995, respectively. The POWEA acquisition was completed under an interagency Memorandum of Understanding (MOU) that involved the Southwest Florida Regional Planning Council, the TPL, Florida Defenders of the Environment, and the FWC. This MOU was developed to provide an offsite mitigation alternative to land development interests and provided a template for the Mitigation Park Program.

The FWC implemented the now defunct Mitigation Park Program in 1988 to provide land use regulatory programs with an alternative to on-site wildlife mitigation under Section 372.074 of the FS (since replaced by Chapter 379, FS), which establishes the Fish and Wildlife Habitat Program for the purpose of acquiring, assisting other agencies or local governments in acquiring, or managing lands important to the conservation of fish and wildlife. Under this authority, the FWC, or its designee, is responsible for managing these lands for the primary purpose of maintaining and enhancing their habitat value for fish and wildlife and to provide compatible fish and wildlife based public outdoor recreation.

Gopher Tortoise Mitigation Parks, now established by the FWC as Wildlife and Environmental Areas (WEAs), provide conservation of important fish and wildlife habitat while allowing for public outdoor recreation within a multiple-use management regime that is primarily focused on restoration and management of gopher tortoise habitat. For this reason, management activities emphasize the maintenance and restoration of optimum imperiled (i.e. listed) species habitat.

The Mitigation Park Program was created in 1988 to help protect endangered and threatened wildlife from the impacts of development by providing an offsite alternative to the previous method of on-site preservation of habitat within the boundaries of a development. Through this program, when developers proposed to develop habitat for an

endangered or threatened species, they paid mitigation "taking" fees that were used to buy and manage high quality habitat elsewhere. As a result, the program provided an alternate method to preserve wildlife habitat while allowing developers to develop imperiled species habitat on their project sites. It also consolidated mitigation within a geographical region by buying larger, more manageable tracts which are established as WEAs and can be utilized by the public for low-intensity, natural resource-based recreation. All of the WEAs established through this program are managed primarily to protect and enhance habitat important to upland endangered or threatened wildlife, especially the gopher tortoise. The Mitigation Park Program has since been discontinued, but the 14 mitigation tracts acquired through the program continue to be actively managed by the FWC in accordance with their original purpose for acquisition.

1.4 Management Authority

The FWC holds title to and is therefore responsible for the management of all 380 acres of the POWEA. 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, 870, and 597 and of the Florida Statutes. These constitutional provisions and laws provide FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

1.5 Management Directives

In accordance with the purposes for the FWC's acquisition of the POWEA under the authority of the Mitigation Park Program, the FWC is required to protect, conserve, and manage the POWEA primarily to preserve and enhance habitat important to upland endangered and threatened wildlife species, especially the gopher tortoise, as well as to conserve other natural and historical resources. More specifically, the management of conservation land acquired under the FWC's Mitigation Park Program is required to emphasize the maintenance and restoration of optimum habitat for listed species above all other uses and activities. The FWC is also directed to provide public access and recreational opportunities on the POWEA that are compatible with the primary purpose for acquisition of the area.

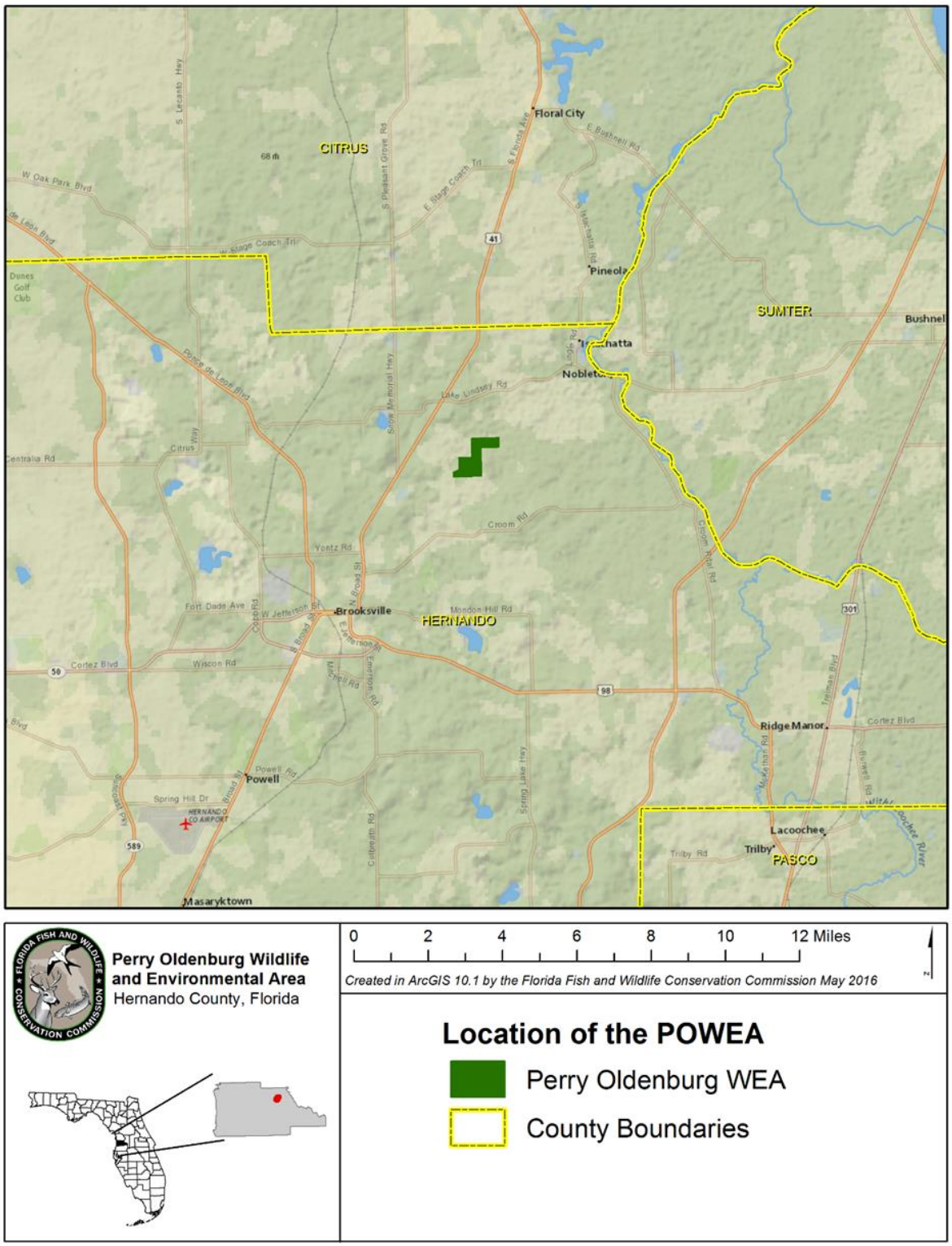


Figure 1: General Location of the POWEA

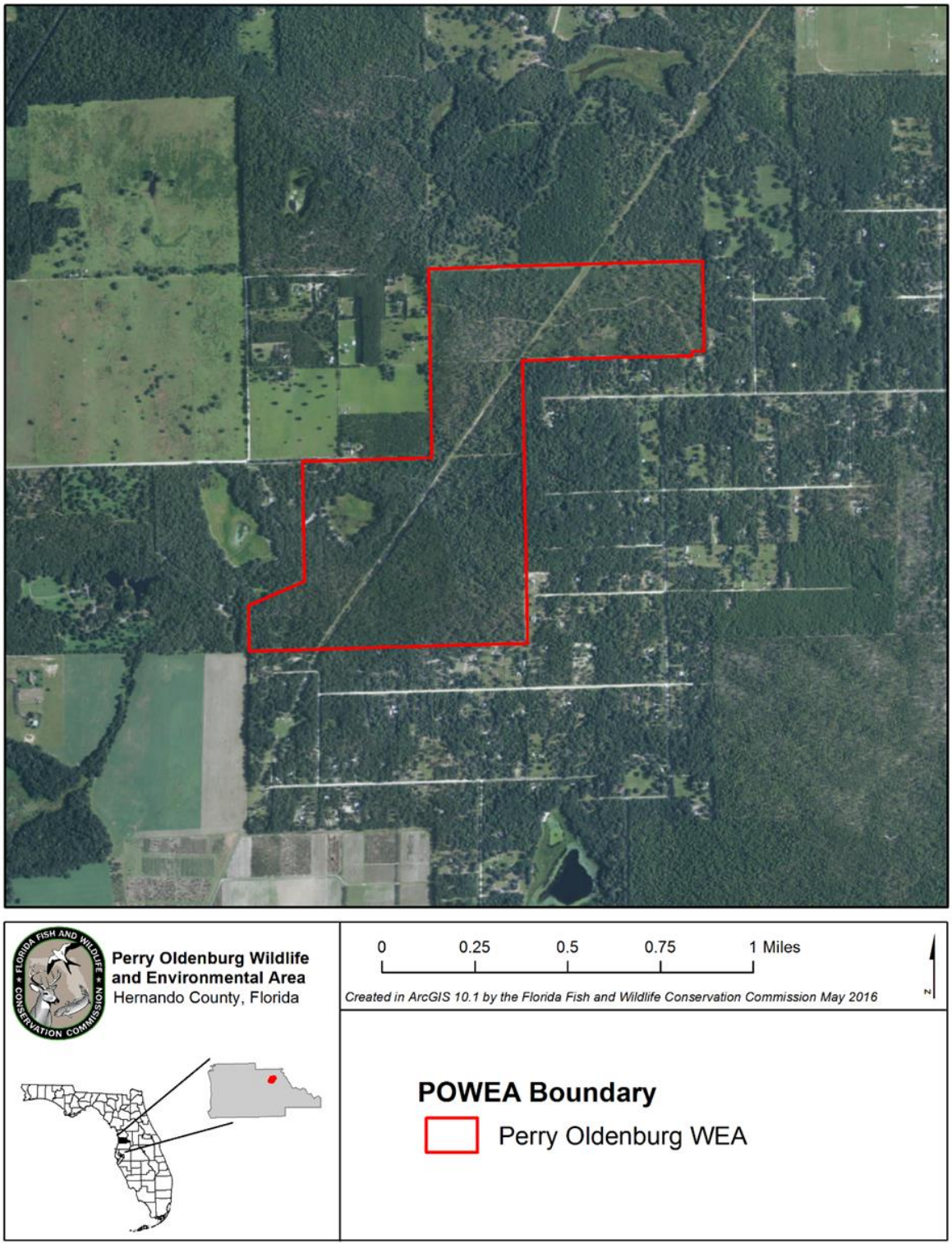


Figure 2: Boundary of the POWEA.

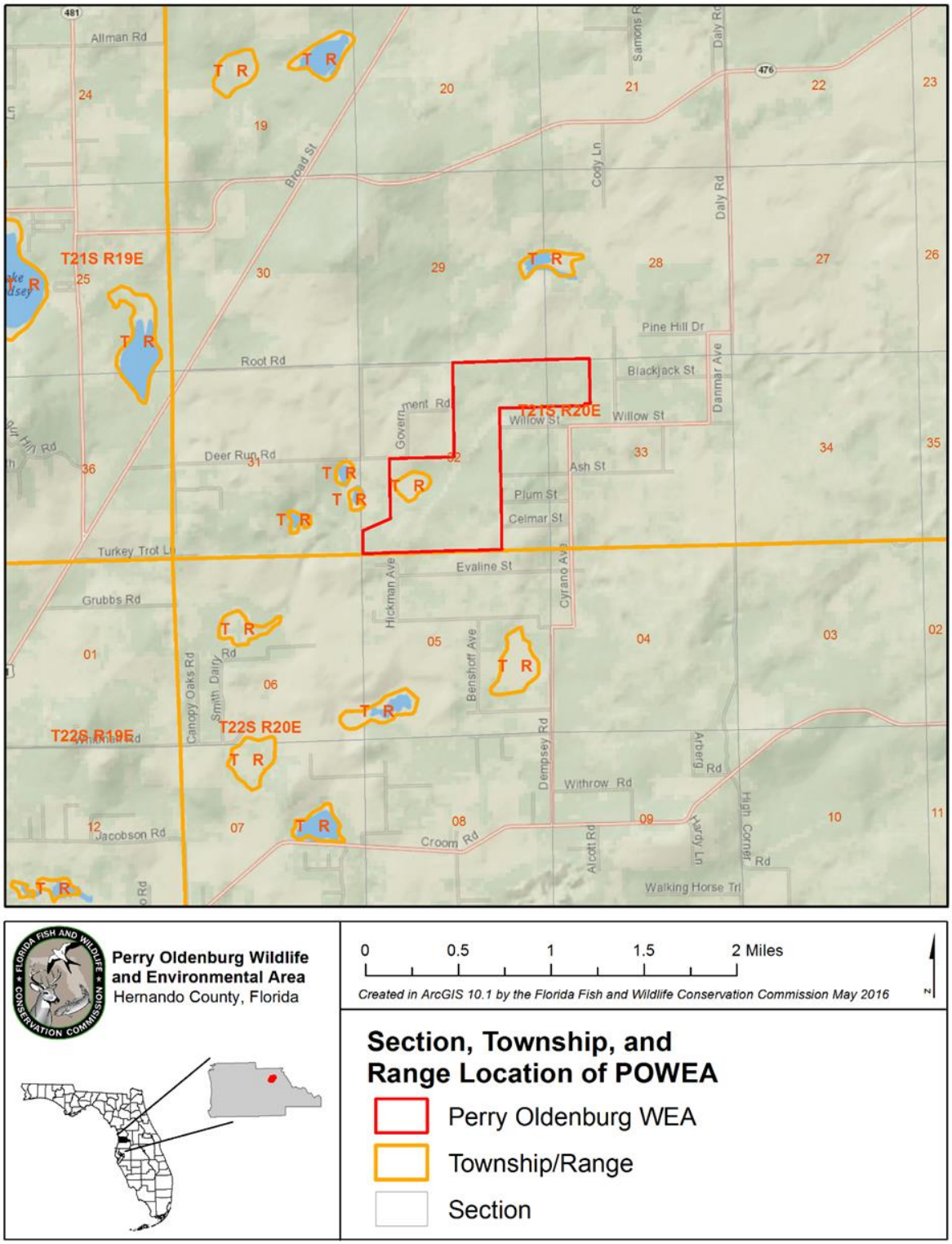


Figure 3: Section, Township, and Range Location of POWEA

1.6 Title Interest and Encumbrances

Title to the lands acquired and established as the POWEA is vested with the FWC. The FWC is designated as the lead managing agency for the entirety of the POWEA and holds title to all 380 acres of the area. Management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 372, 253, 259, 327, 370, 403, 870, 375, 378, 379, 487, and 597, FS. These laws establish the authority of the FWC with regard to protection and management of the State's fish and wildlife resources. The only known encumbrance on the area is an electric transmission line with an underlying easement held by Florida Power and Light. Currently, this encumbrance does not impose impediments to the overall management of the POWEA.

1.7 Proximity to Other Public Conservation Lands

Located within 15 miles of the POWEA are conservation areas managed by the Florida Agricultural and Mechanical University (FAMU), the Florida Department of Environmental Protection (DEP), the Florida Forest Service (FFS), the FWC, the Southwest Florida Water Management District (SWFWMD), Hernando and Pinellas counties, and the Florida Audubon Society. The Withlacoochee State Forest is directly adjacent to the POWEA's northern border. Nearby Florida Forever projects include Battle of Wahoo Swamp to the north, and Annutteliga Hammock to the west.

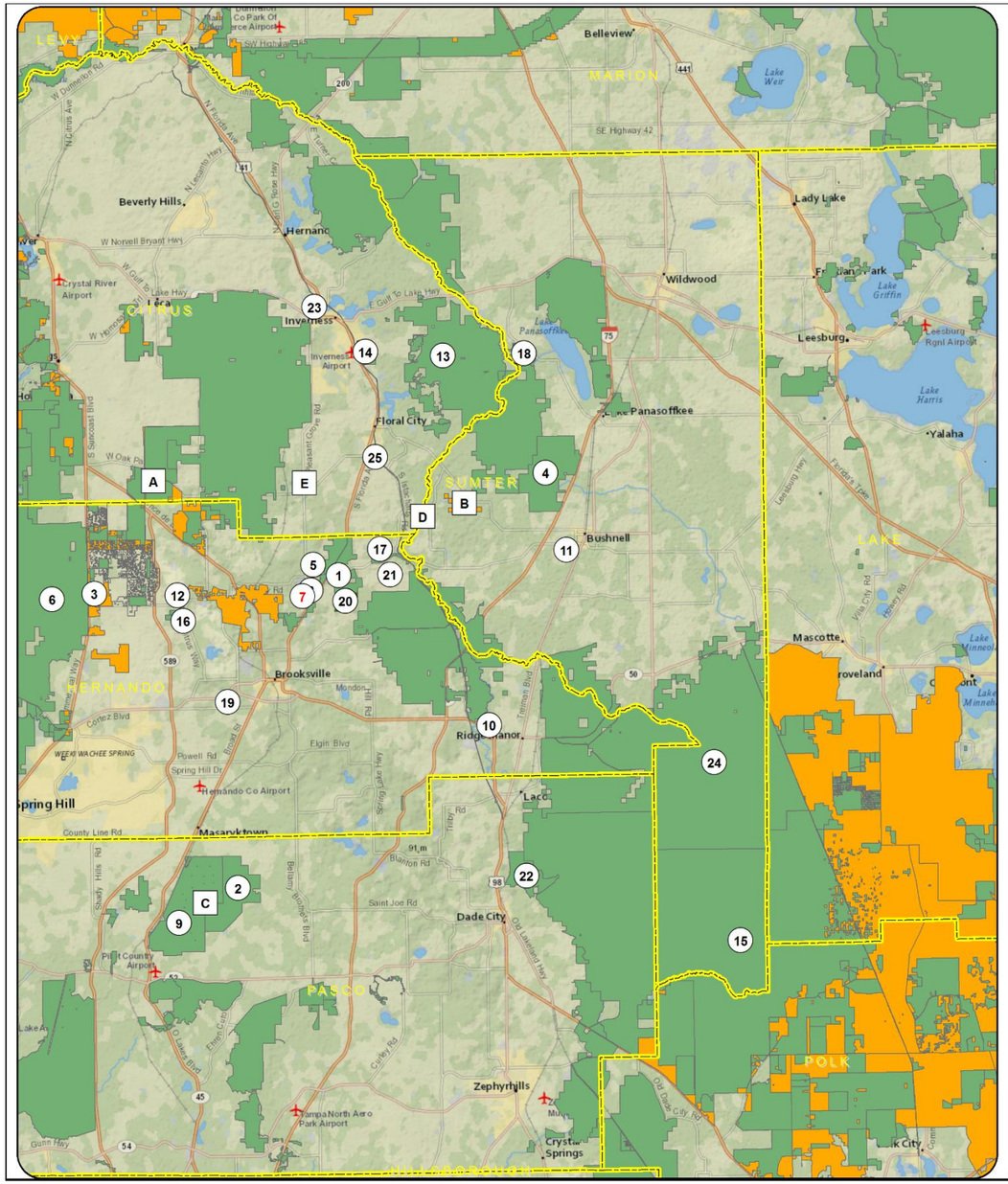
The established conservation lands and Florida Forever Program's Projects within a 15-mile radius of the POWEA (Tables 1 – 2, Figure 4) include lands managed by public and private entities that contribute to the conservation of natural and cultural resources within this region of Florida. Most of the conservation lands within the vicinity of the POWEA 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 by a private landowner while a public agency or not-for-profit organization holds a conservation easement and monitoring responsibility for the land. Other areas are simply owned by the private landowner, while public agencies or not-for-profit organizations manage the land.

Table 1: Conservation Lands in the Vicinity of POWEA

Federal Government	**Managing Agency**
Brooksville Plant Materials Center	USDA
State of Florida	**Managing Agency**
Brooksville Agricultural Environmental Research Station	FAMU
Chassahowitzka WMA	FWC
Chinsegut WEA	FWC
Dade Battlefield Historic State Park	DEP – DRP
Fort Cooper State Park	DEP – DRP
Janet Butterfield Brooks Preserve WEA	FWC
Withlacoochee State Forest	FFS
Withlacoochee State Trail	DEP – DRP
County/City	**Managing Agency**
Al Bar Ranch	Pinellas County
Chinsegut Hill Conference Center	Hernando County
Cross Bar Ranch Wellfield	Pinellas County
Cypress Lakes Preserve	Hernando County
Fickett Hammock Preserve	Hernando County
Lake Townsen Preserve	Hernando County
Peck Sink Preserve	Hernando County
Whispering Pines Park	City of Inverness
Water Management District	**Managing Agency**
Annutteliga Hammock	SWFWMD
Beville Ranch Conservation Easement	SWFWMD
Flying Eagle Ranch	SWFWMD
Green Swamp	SWFWMD
Panasoffkee/Outlet Tract	SWFWMD
SWFWMD Green Swamp Conservation Easements	SWFWMD
Other Conservation Lands	**Managing Agency**
Ahhochee Hill Sanctuary	Fla. Audubon Society, Inc.

Table 2: Florida Forever Projects in the Vicinity of POWEA

Project Name	**Acres**
Annutteliga Hammock	24,771
Battle of Wahoo Swamp	850
Crossbar/Al Bar Ranch	12,432
Southeastern Bat Maternity Caves	372

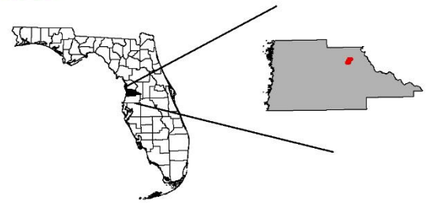


Conservation Lands within 15 miles of POWEA

Label	Area Name
1	Ahhochee Hill Sanctuary
2	Al Bar Ranch
3	Annutteliga Hammock
4	Beville Ranch Conservation Easement
5	Brooksville Plant Materials Center
6	Chassahowitzka Wildlife Management Area
7	Chinsegut Hill Conference Center
8	Chinsegut Wildlife and Environmental Area
9	Cross Bar Ranch Wellfield
10	Cypress Lakes Preserve (Hernando County)
11	Dade Battlefield Historic State Park
12	Fickett Hammock Preserve
13	Flying Eagle Ranch
14	Fort Cooper State Park
15	Green Swamp
16	Janet Butterfield Brooks Preserve WEA
17	Lake Townsen Preserve
18	Panasoffkee/Outlet Tract
19	Peck Sink Preserve
20	Perry Oldenburg Wildlife and Environmental Area
21	Subtropical Agricultural Research Station
22	SWFWMD Green Swamp Conservation Easements
23	Whispering Pines Park
24	Withlacoochee State Forest
25	Withlacoochee State Trail

Perry Oldenburg Wildlife and Environmental Area

Hernando County, Florida



Florida Forever Projects within 15 miles of POWEA

Label	Project Name
A	Annutteliga Hammock
B	Battle of Wahoo Swamp
C	Crossbar/Al Bar Ranch
D	SE Bat Maternity Caves - Sumter County Cave
E	SE Bat Maternity Caves - Sweet Gum Cave

Legend

- Perry Oldenburg WEA
- Conservation Lands
- Florida Forever Projects
- County

0 4.5 9 18 Miles

Created in ArcGIS 10.1 by the Florida Fish and Wildlife Conservation Commission, November 2016

Figure 4: Conservation Lands and Florida Forever Projects Near POWEA

1.8 Adjacent Land Uses

As listed in the Hernando County Comprehensive Land Use Plan, the lands within the POWEA are currently designated as public lands. The parcels around the POWEA are zoned as agricultural, which allows agricultural and light residential use of the area. The lands within the POWEA have the future land use designation of conservation lands, as do the nearby conservation lands listed above. The privately-owned lands surrounding the POWEA are designated as "rural."

The U.S. Census Bureau estimates that there were 174,441 people living in Hernando County in 2013. The Bureau of Economic and Business Research's (BEBR) medium-range population projection indicates that by 2030, there will be 223,400 people living in the county. Population projections for the counties surrounding Hernando County for the year 2025 according to BEBR are as follows: Citrus County – 162,100; Pasco County – 635,300; Sumter County – 187,900.

Based on the current zoning and future land use designations in the vicinity of the POWEA, and assuming those designations remain the same, significant development of the lands adjacent to the area during this ten-year planning period appears unlikely.

1.9 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Brooksville, Florida on May 25, 2016 to obtain input from both public and private stakeholders regarding management of POWEA. Results of this meeting were used by FWC to develop management goals and objectives and to identify opportunities and strategies for inclusion in this Management Plan. A summary of issues and opportunities raised by the MAG, as well as a listing of participants, is included as Appendix 12.2. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Spring Hill on June 28, 2016. The report of that hearing is also contained in Appendix 12.2. A website is also maintained for receipt of public input at http://myfwc.com/conservation/terrestrial/management-plans/develop-mps/ . Further testimony and input is received at a public hearing held by ARC. Input received from all public involvement efforts has been considered in the development of this Management Plan.

2 Natural and Historical Resources

2.1 Physiography

The POWEA is located within the Brooksville Ridge Physiographic Province. The Brooksville Ridge occupies most of Hernando County and extends easterly from about U.S. Highway 19 to U.S. Highway 301. The Brooksville Ridge is made up of two distinct parts: the eastern/western edges and a central area.

2.1.1 Climate

The climate of Hernando County, like most of peninsular Florida, is humid and subtropical. Between October and May, cold fronts regularly sweep through the state which keeps conditions dry, particularly over the peninsula. In winters where an El Niño climate cycle exists, rainfall increases while temperatures are cooler statewide. Beginning in the spring, towards the end of the dry season, lightning originated wildfires become more common. There is a defined rainy season from June through September, which are also the months most at risk of tropical cyclones making landfall in the region. Easterly winds off the warm waters of the Gulf Stream running through the Florida Straits keep temperatures moderate across the central peninsula year round.

The average annual maximum temperature for the City of Brooksville is 82º Fahrenheit (F). The average minimum annual temperature is 60.8º F. Historically, the lowest average temperatures have occurred in January and the highest average temperatures have occurred in July and August. Annually, Brooksville experiences an average total rainfall of 55 inches.

2.1.2 Topography

The central part of the Brooksville Ridge ranges in elevation from about 100 feet to more than 200 feet. This rolling area consists of poorly drained to well drained, sandy to clayey soils. Natural vegetation consists of pine and hardwoods. Much of this area is cleared and used for crops and pasture. Elevations within the POWEA range from 50 feet above mean sea level (MSL) to about 120 feet MSL. The highest point within the POWEA is located in the northwest corner of the area, and the lowest point is in the depression marsh near the area's main entrance.

2.1.3 Soils

The Hernando County soil survey prepared by the Natural Resources Conservation Service (NRCS) shows six series occurring on the POWEA. Soils found within the POWEA include Arrendondo, Candler, Floridana, and Sparr soil series classifications. These are mostly sandhill soils characterized as fine sands with high permeability and low pH. The taxonomic and physical descriptions of the soil series found within the POWEA are found in Appendix 12.3. Figure 5 depicts the soil profile of the POWEA, while Figure 6 shows the soil depth to the water table.

2.1.4 Geologic Conditions

The Suwannee Limestone geologic formation predominately underlies the Brooksville Ridge and beneath the lands that comprise the POWEA. The Suwannee Limestone geologic formation is composed of the Peninsular Lower Oligocene carbonates crop out on the northwestern, northeastern and southwestern flanks of the Ocala Platform. The Suwannee Limestone is absent from the eastern side of the Ocala Platform due to erosion, nondeposition or both, an area referred to as Orange Island (Bryan, 1991). The Suwannee Limestone, originally named by Cooke and Mansfield (1936), consists of a white to cream, poorly to well indurated, fossiliferous, vuggy to moldic limestone (grainstone and packstone). The dolomitized parts of the Suwannee Limestone are gray, tan, light brown to moderate brown, moderately to well indurated, finely to coarsely crystalline, dolostone with limited occurrences of fossiliferous (molds and casts) beds. Silicified limestone is common in Suwannee Limestone. Fossils present in the Suwannee Limestone include mollusks, foraminifers, corals and echinoids.

2.2 Vegetation

The POWEA is situated about 20 miles inland from the gulf coast in a region that is characterized by upland sandhill habitat. The FWC has completed natural and anthropogenic community mapping of POWEA through the work of the Florida Natural Areas Inventory (FNAI). Through this work, FNAI has identified and mapped a total of 6 plant communities, four rare plants and 25 exotic invasive plants within the POWEA.

The plant communities located on POWEA, which are described below, are listed in Table 3 and shown in Figure 7. Natural and rare plant species known to occur on POWEA are listed in Tables 4 and 5, respectively. Table 6 lists the exotic and invasive plant species found on the area and the Florida Exotic Pest Plant Council (FLEPPC) category for each species.

Table 3: FNAI Mapped Vegetative Community Types on the POWEA

Community Type	GIS Acres	Percentage
Depression Marsh	6.90	1.86%
Mesic Flatwoods	1.98	0.53%
Mesic Hammock	10.94	2.95%
Pasture - Semi-improved	13.07	3.52%
Ruderal	14.23	3.83%
Sandhill	324.27	87.31%

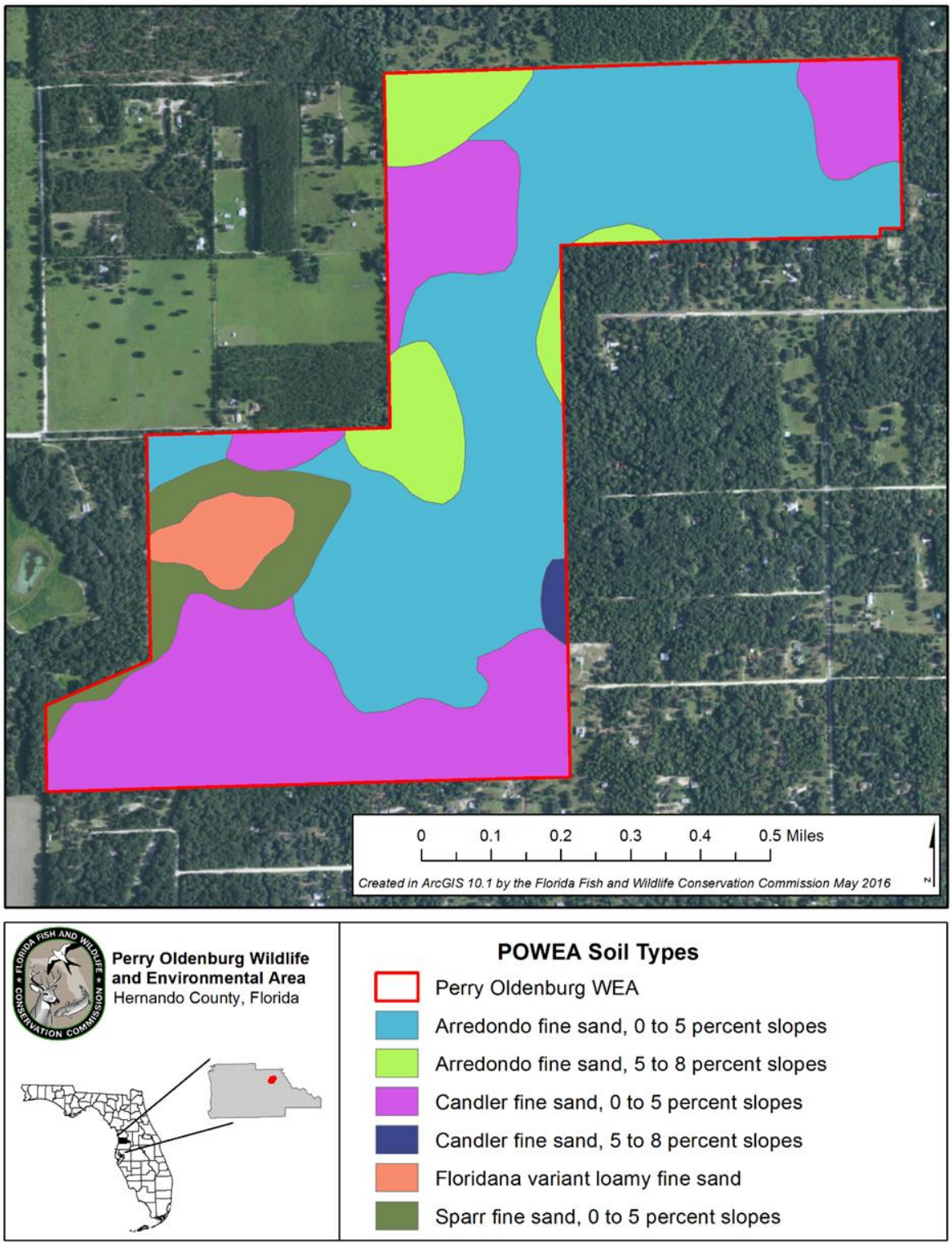


Figure 5: Perry Oldenburg WEA Soils

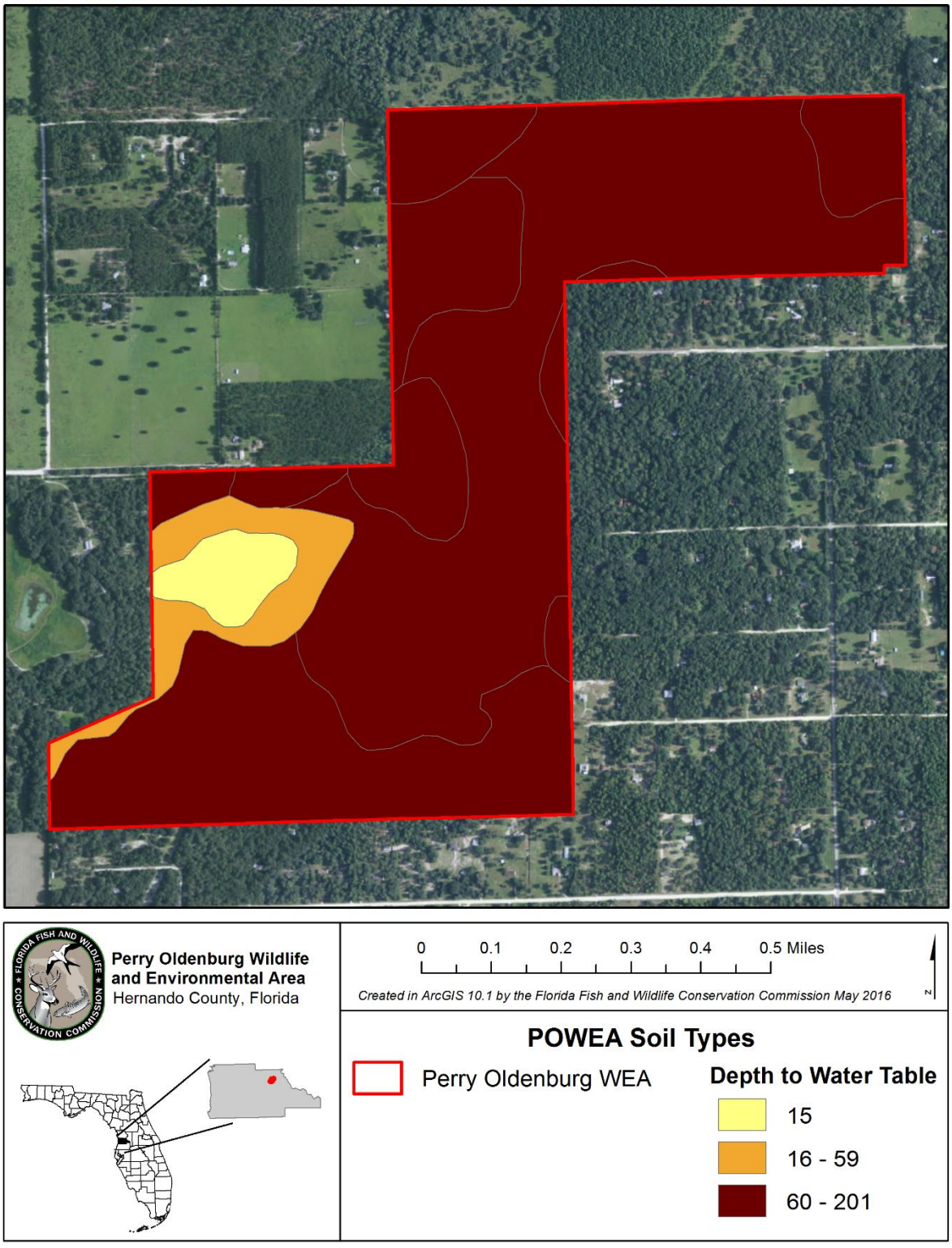


Figure 6: Soil Depth to Water Table

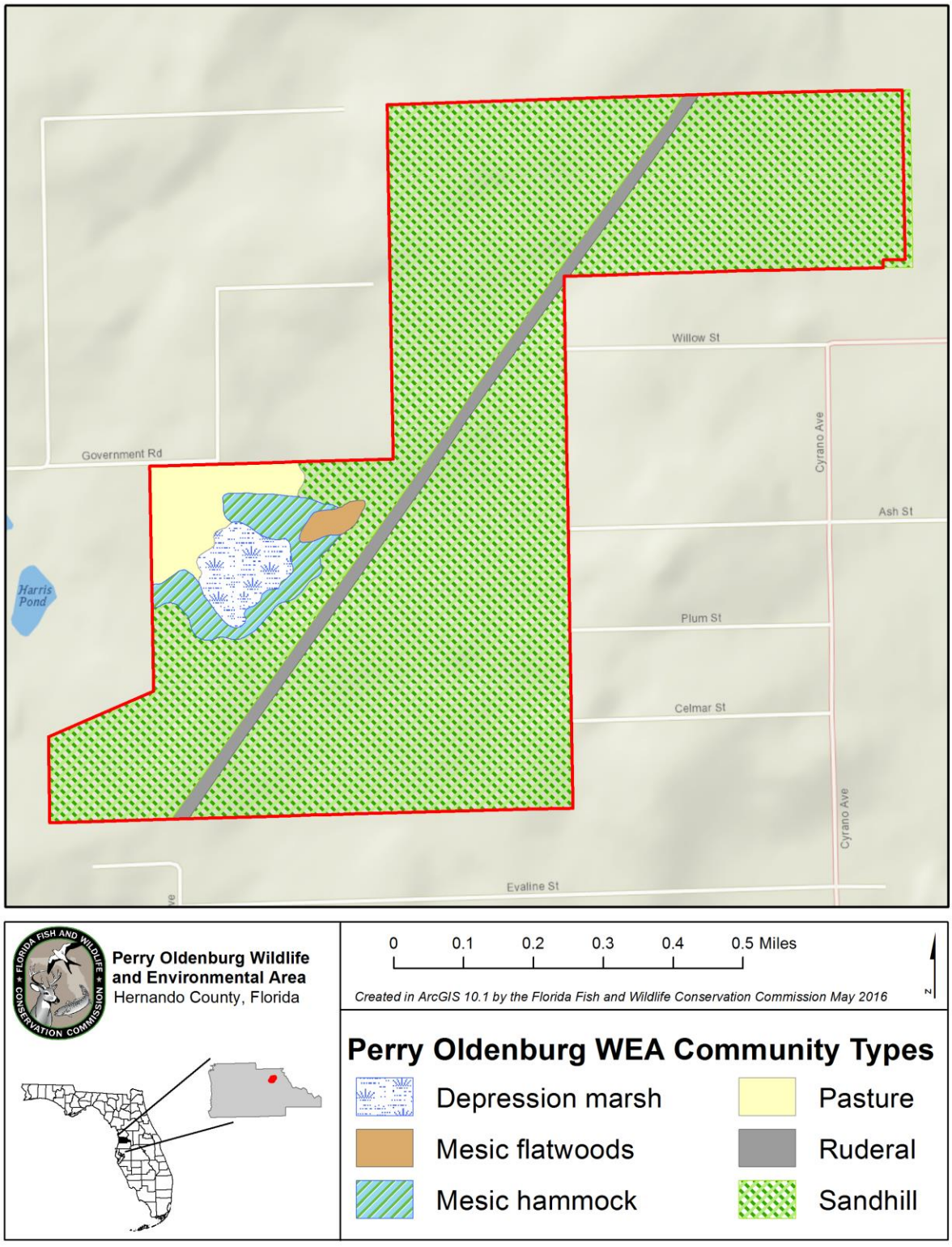


Figure 7: Natural Communities Found at POWEA

Table 4: Native Plants found on POWEA

Common Name	Scientific Name
American beautyberry	*Callicarpa americana*
American pokeweed	*Phytolacca americana*
Bearded skeletongrass	*Gymnopogon ambiguus*
Beggarticks	*Bidens alba* var. *radiata*
Bluejack oak	*Quercus incana*
Bottlebrush threeawn	*Aristida spiciformis*
Broomsedge bluestem	*Andropogon virginicus*
Canada goldenrod	*Solidago canadensis* var. *scabra*
Coastalplain chaffhead	*Carphephorus corymbosus*
Coastalplain goldenaster	*Chrysopsis scabrella*
Coastalplain staggerbush	*Lyonia fruticosa*
Corkscrew threeawn	*Aristida gyrans*
Corkscrew threeawn	*Aristida gyrans*
Cottonweed	*Froelichia floridana*
Danglepod	*Sesbania herbacea*
Darrow's blueberry	*Vaccinium darrowii*
Diamond-leaved oak	*Quercus laurifolia*
Dogfennel	*Eupatorium capillifolium*
Dogtongue wild buckwheat	*Eriogonum tomentosum*
Dotted smartweed	*Polygonum punctatum*
Elliott's bluestem	*Andropogon gyrans*
Finger grass	*Eustachys sp.*
Florida indian-plantain	*Arnoglossum floridanum*
Florida spiny-pod	*Matelea floridana*
Forked bluecurls	*Trichostema dichotomum*
Fragrant eryngo	*Eryngium aromaticum*
Gopher apple	*Licania michauxii*
Hoary pea	*Tephrosia sp.*
Knotroot foxtail	*Setaria parviflora*
Laurel oak	*Quercus hemisphaerica*
Littleleaf buckbrush	*Ceanothus microphyllus*
Live oak	*Quercus virginiana*
Longleaf pine	*Pinus palustris*
Lopsided indiangrass	*Sorghastrum secundum*
Manyflower beardtongue	*Penstemon multiflorus*
Muscadine	*Vitis rotundifolia*
Narrowleaf silkgrass	*Pityopsis graminifolia*
Panic grass	*Panicum sp.*
Perennial sandgrass	*Triplasis americana*
Pinebarren frostweed	*Helianthemum corymbosum*
Pinweed	*Lechea sp.*
Pricklypear	*Opuntia humifusa*
Resurrection fern	*Pleopeltis polypodioides*
Rustweed	*Polypremum procumbens*
Sand blackberry	*Rubus cuneifolius*
Sand live oak	*Quercus geminata*
Sand pine	*Pinus clausa*
Sand post oak	*Quercus margaretta*
Saw greenbrier	*Smilax bona-nox*

Common Name	Scientific Name
Saw palmetto	*Serenoa repens*
Shiny blueberry	*Vaccinium myrsinites*
Shortleaf gayfeather	*Liatris tenuifolia*
Shortspike bluestem	*Andropogon brachystachyus*
Skyblue lupine	*Lupinus diffusus*
Slender flattop goldenrod	*Euthamia caroliniana*
Slimleaf pawpaw	*Asimina angustifolia*
Sparkleberry	*Vaccinium arboreum*
Starry rosinweed	*Silphium asteriscus*
Tall jointweed	*Polygonella gracilis*
Tough bully	*Sideroxylon tenax*
Turkey oak	*Quercus laevis*
Water oak	*Quercus nigra*
Wax myrtle	*Myrica cerifera*
Whitehead bogbutton	*Lachnocaulon anceps*
Winged sumac	*Rhus copallinum*
Wiregrass	*Aristida stricta* var. *beyrichiana*
Witch grass	*Dichanthelium sp.*
Yankeeweed	*Eupatorium compositifolium*
Yellow jessamine	*Gelsemium sempervirens*
Yellow-eyed grass	*Xyris sp.*

Table 5: Rare Plant Species Observed on the POWEA

Common Name	Scientific Name	Status
Atamasco lily	*Zephyranthes atamasco*	ST
Florida mountain-mint	*Pycnanthemum floridanum*	ST
Florida spiny-pod	*Matelea floridana*	SE
Garberia	*Garberia heterophylla*	ST
Showy dawnflower	*Stylisma abdita*	SE
Trailing milkvine	*Matelea pubiflora*	SE

Status Acronyms: SE – State Endangered ST – State Threatened

Table 6: Exotic and Invasive Plant Species Observed on the POWEA

Common Name	Scientific Name	FLEPPC
Air potato	*Dioscorea bulbifera*	I
Alligator weed	*Alternanthera philoxeroides*	II
Bahiagrass	*Paspalum notatum*	
Caesar's weed	*Urena lobata*	I
Camphor tree	*Cinnamomum camphora*	I
Centipede grass	*Eremochloa ophiuroides*	
Chinaberry	*Melia azedarach*	II
Chinese tallow	*Triadica sebifera*	I
Chinese wisteria	*Wisteria sinensis*	II
Cogon grass	*Imperata cylindrica*	I
Coral ardisia	*Ardisia crenata*	I
Crabgrass	*Digitaria ischaemum*	
Elephant ear	*Xanthosoma sagittifolium*	II
Lantana	*Lantana camara*	I
Mimosa	*Albizia julibrissin*	I
Natal grass	*Melinis repens*	
Paper mulberry	*Broussonetia papyrifera*	II
Podocarpus	*Podocarpus macrophyllus*	
Rosary pea	*Abrus precatorius*	I
Skunk vine	*Paederia foetida*	I
Smutgrass	*Sporobolus indicus*	
Spadeleaf	*Centella asiatica*	
Sword fern	*Nephrolepis cordifolia*	I
Torpedo grass	*Panicum repens*	I
Tropical soda apple	*Solanum viarum*	I
Water hyacinth	*Eichhornia crassipes*	I

2.2.1 FNAI Natural Community Descriptions

2.2.1.1 Depression Marsh (6.9 acres)

Depression marsh, an herbaceous wetland community found in low flatlands, forms the characteristic pockmarked landscape seen on aerial photographs of the flat landscapes of the Florida peninsula. Depression marsh is usually characterized as a shallow, rounded depression in sand substrate with herbaceous vegetation and shrubs, often in concentric bands. These marshes also frequently form an outer rim around swamp communities such as dome swamps. They form when the overlying sands slump into depressions dissolved in underlying limestone. Depression marshes often burn with the surrounding landscape, and are seasonally inundated. Depression marshes typically occur in landscapes occupied by fire-maintained natural communities such as mesic flatwoods, dry prairie, or sandhill.

There is one depression marsh at POWEA. No trees or shrubs are present. Herbaceous vegetation includes broomsedge bluestem, beggarticks, spadeleaf, witch grass, dogfennel, American pokeweed, dotted smartweed, rustweed, knotroot foxtail, danglepod and Canada goldenrod.

Cattle/pasture usage disturbances are evident in the uplands that surround this community. These weedy species have invaded and persist in the depression marsh community. Depression marshes that exist in a sandhill matrix often have a highly variable hydroperiod that naturally facilitates the presences of "weedy" species. This factor in combination with past disturbances and fire suppression has created an excessively weedy community.

2.2.1.2 Mesic Flatwoods (1.98 acres)

The Mesic flatwoods natural community is the most widespread in Florida, covering the flat sandy terraces left behind by former high sea levels. Mesic flatwoods are characterized by an open canopy of tall pines and a dense, low ground layer of shrubs, grasses, and forbs. Longleaf pine is the principal canopy tree in northern and Central Florida, transitioning to predominately slash pine in south Florida. Soils are acidic, nutrient-poor, fine sands with upper layers darkened by organic matter. Drainage in this flat terrain can be impeded by a loosely cemented organic layer (spodic horizon) formed within several feet of the soil surface. The soils may be alternately xeric during dry periods, and saturated or even inundated after heavy rain events.

The POWEA contains a small area of atypical mesic flatwoods. The former canopy of longleaf pine has been replaced by invading sand pine and sand live oak. Tall shrub species are common and include live oak and sparkleberry. Short shrub cover is moderately dense and includes coastalplain staggerbush, wax myrtle, sand live oak, saw palmetto, and shiny blueberry. The herb cover is sparse to moderate and dominated by shortspike bluestem, threeawn, bottlebrush threeawn, whitehead bogbutton, shortleaf gayfeather, and yellow-eyed grass. No rare or invasive exotic species were observed in this community.

The small area that has been classified as mesic flatwoods at POWEA does not fit the classic definition. This community occurs on the northwest side of the depression marsh. The hydrology of this area is presumably fed by seepage and surface runoff. These conditions have created a mesic situation that supports a vegetation community most closely aligned with mesic flatwoods. This area should be allowed to burn simultaneously with the surrounding sandhill community. Historically this community would have had a greater percentage of herbaceous cover and less woody cover which may be restored with frequent growing season prescribed fires.

2.2.1.3 Mesic Hammock (10.94 acres)

Mesic hammock is a well-developed evergreen hardwood and/or palm forest, typically with a closed canopy of live oak. Mesic hammock may occur as "islands" on high ground within basin or floodplain wetlands, as patches of oak/palm forest in dry prairie or flatwoods communities, on river levees, or in ecotones between wetlands and upland communities. Historically, mesic hammocks were likely restricted to fire shadows, or other naturally fire-protected areas such as islands and peninsulas of lakes. Other landscape positions that can provide protection from the spread of fire are likely places for mesic hammock development,

including edges of lakes, sinkholes, other depressional or basin wetlands, and river floodplains. Although mesic hammock is not generally considered a fire-adapted community, some small patches of hammock occurring as islands within marshes or prairies may experience occasional low-intensity ground fires. Mesic hammocks occur on well-drained sands mixed with organic matter and are rarely inundated. High moisture is maintained by heavy shading of the ground layer and accumulation of litter. Where limestone is near the surface, rocky outcrops are common in mesic hammocks.

On POWEA, it appears that cattle were allowed into the mesic hammock in the past. This is evident by the cattle feeding station, fencing, and planting of bahiagrass in the vicinity. Much of the area that was historically mesic hammock was cleared of vegetation and planted with bahiagrass. These areas were classified as semi-improved pasture. Historically, the fires that carried through the surrounding sandhill would have entered the mesic hammock and kept the area sparsely vegetated with few trees and shrubs. Fire should be prescribed to the surrounding community and allowed to carry into the mesic hammock. Proper fire frequency and timing in the surrounding sandhill should be allowed to dictate the structure and vegetation composition of this community.

2.2.1.4 Pasture – Semi-improved (13.07 acres)

Semi-improved pastures are dominated by a mix of planted non-native or domesticated native forage species and native groundcover, due to an incomplete conversion to pasture, not regeneration. Semi-improved pastures have been cleared of a significant percentage of their native vegetation and planted in non-native or domesticated native forage species, but still retain scattered patches of native vegetation with natural species composition and structure (most often small areas of mesic flatwoods) among the pastured areas. The planted areas are usually dominated by bahiagrass and can resemble improved pastures. Seeding of bahiagrass can also occur within areas of native groundcover.

Historically at POWEA, this pasture community was occupied by both mesic hammock and sandhill communities. A large effort will be needed to return this community to its natural state. Removal of oaks and bahiagrass would be the first step in restoration at this site.

2.2.1.5 Ruderal (14.23 acres)

Ruderal sites display human disturbance and intervention, such as parking lots, buildings, roads, clearings, etc. These areas have little or no resemblance to the historic or surrounding natural plant communities. Plants common to these areas typically favor disturbed soils and are often represented by non-indigenous and invasive species.

Examples at POWEA include introduced bahiagrass, witch grass, and smutgrass. These occur on the area identified as ruderal on POWEA, which is a power line right of way that bisects the area. This utility corridor is well maintained and has the general appearance of a mowed field. This community should be frequently monitored due to its disturbed nature and high likelihood of harboring invasive species.

2.2.1.6 Sandhill (324.27 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 indiangrass, and a variety of forbs with many species of legumes and asters.

At POWEA, the sandhill canopy layer is generally moderately dense and includes longleaf pine, sand live oak, laurel oak, turkey oak, and live oak. Oaks dominate the sub-canopy; additional species include sand pine. Tall shrub cover is moderate (higher than typical sandhill in good condition) and includes laurel oak, bluejack oak, turkey oak, sand post oak, and tough bully. The varied short shrub layer includes Florida Indian-plantain, slimleaf pawpaw, littleleaf buckbrush, gopher apple, live oak, winged sumac, sand blackberry, saw palmetto, sparkleberry, and Darrow's blueberry. Herbaceous cover is diverse, but sparse to moderate and includes Elliott's bluestem, bluestem, wiregrass, coastalplain chaffhead, sandbur, coastalplain goldenaster, dogtongue wild buckwheat, fragrant eryngo, bearded skeletongrass, pinweed, shortleaf gayfeather, skyblue lupine, Florida spiny-pod, pricklypear, manyflower beardtongue, narrowleaf silkgrass, starry rosinweed, lopsided indiangrass, and hoary pea Vines are limited to muscadine.

Over 87 % of the land acreage at POWEA is classified as sandhill. The highest quality sandhill occurs in the southern portion of the property. Much of the herbaceous groundcover is intact there, while shrub and canopy cover is relatively low. The sandhill community in the northern half of the property generally has a denser woody component comprised of oaks and sand pine. Sand pines are not extremely fire tolerant and would not have persisted in this community under historical fire frequencies. Growing season prescribed fires need to be applied to this community at a 1-3 year fire return interval in order to reduce woody competition, promote herbaceous growth, and return this community to its historical fire tolerant pine and wiregrass dominated condition. Further management techniques may need to be incorporated to remove the large oaks and sand pines that may not be effected by prescribed fire. No matter what technique is used, soil disturbance

should be kept to an absolute minimum. Soil disturbance in this community allows for weedy and invasive exotic plant establishment.

2.2.2 Forest Resources

As described in detail above, the POWEA is dominated by the sandhill community type. The sandhill at POWEA contain longleaf pine, sand pine, and various oaks. Most of the area has been harvested for timber in the past. Currently, the FWC is working to restore the natural communities of the area with timber thinning, planting, prescribed burning, and other forest maintenance management actions.

The FFS completed a FWC Timber Assessment of the POWEA in August 2016 (Appendix 12.4). An updated timber assessment will be completed and incorporated into this Management Plan upon its completion. The FWC will continue to cooperate with the FFS on all actions that involve the timber resources of the POWMA.

2.3 Fish and Wildlife Resources

As noted earlier, a diversity of wildlife species is found on POWEA. The FWC maintains an inventory of fauna that occurs on the area. These species include mammals (Table 7), birds (Table 8), reptiles and amphibians (Table 9), invertebrates (Table 10), and exotic animals (Table 11).

Table 7: Mammal Species Observed at POWEA

Common Name	Scientific Name
Armadillo	*Dasypus novemcinctus*
Bobcat	*Lynx rufus*
Cotton mouse	*Peromyscus gossypinus*
Eastern cottontail rabbit	*Sylvilagus floridanus*
Florida mouse	*Podomys floridanus*
Golden mouse	*Ochrotomys nuttalli*
Gray fox	*Urocyon cinereoargenteus*
Gray squirrel	*Sciurus carolinensis*
Hispid cotton	*Sigmodon hispidus*
House mouse	*Mus musculus*
Pine vole	*Microtus pinetorum*
Raccoon	*Procyon lotor*
Sherman's fox squirrel	*Sciurus niger shermani*
Southeastern bat	*Myotis austroriparius*
Southern flying squirrel	*Glaucomys volans*
Virginia opossum	*Didelphis virginiana*
White-tailed deer	*Odocoileus virginianus*

Table 8: Bird Species Observed at POWEA

Common Name	Scientific Name
American crow	*Corvus brachyrhynchos*
American goldfinch	*Spinus tristis*
American kestrel	*Falco sparverius sparverius*
American redstart	*Setophaga ruticilla*

Common Name	Scientific Name
American robin	*Turdus migratorius*
American swallow-tailed kite	*Elanoides forficatus*
Bachman's sparrow	*Peucaea aestivalis*
Bald eagle	*Haliaeetus leucocephalus*
Bank swallow	*Riparia riparia*
Barn swallow	*Hirundo rustica*
Barred owl	*Strix varia*
Bay-breasted warbler	*Setophaga castanea*
Black vulture	*Coragyps atratus*
Black-and-white warbler	*Mniotilta varia*
Blackburnian warbler	*Setophaga fusca*
Blackpoll warbler	*Setophaga striata*
Black-throated blue warbler	*Setophaga caerulescens*
Black-throated green warbler	*Setophaga virens*
Black-whiskered vireo	*Vireo altiloquus*
Blue grosbeak	*Passerina caerulea*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Bobolink	*Dolichonyx oryzivorus*
Brewer's blackbird	*Euphagus cyanocephalus*
Broad-winged hawk	*Buteo platypterus*
Brown thrasher	*Toxostoma rufum*
Brown-headed cowbird	*Molothrus ater*
Brown-headed nuthatch	*Sitta pusilla*
Cape May warbler	*Setophaga tigrina*
Carolina chickadee	*Poecile carolinensis*
Carolina wren	*Thryothorus ludovicianus*
Cedar waxwing	*Bombycilla cedrorum*
Cerulean warbler	*Setophaga cerulea*
Chestnut-sided warbler	*Setophaga pensylvanica*
Chimney swift	*Chaetura pelagica*
Chipping sparrow	*Spizella passerina*
Chuck-will's-widow	*Antrostomus carolinensis*
Cliff swallow	*Petrochelidon pyrrhononta*
Common barn owl	*Tyto alba*
Common grackle	*Quiscalus quiscula*
Common ground dove	*Columbina passerina*
Common nighthawk	*Chordeiles minor*
Common yellowthroat	*Geothlypis trichas*
Cooper's hawk	*Accipiter cooperii*
Dark-eyed junco	*Junco hyemalis*
Downy woodpecker	*Picoides pubescens*
Eastern bluebird	*Sialia sialis*
Eastern kingbird	*Tyrannus tyrannus*
Eastern meadowlark	*Sturnella magna*
Eastern phoebe	*Sayornis phoebe*
Eastern screech owl	*Megascops asio*
Eastern wild turkey	*Meleagris gallopavo*
Eastern wood pewee	*Contopus virens*
European starling	*Sturnus vulgaris*
Field sparrow	*Spizella pusilla*

Common Name	Scientific Name
Florida sandhill crane	*Grus canadensis pratensis*
Gray catbird	*Dumetella carolinensis*
Gray-cheeked thrush	*Catharus minimus*
Great horned owl	*Bubo virginianus*
Great-crested flycatcher	*Myiarchus crinitus*
Hooded warbler	*Setophaga citrina*
House sparrow	*Passer domesticus*
House wren	*Troglodytes aedon*
Indigo bunting	*Passerina cyanea*
Kentucky warbler	*Geothlypis formosa*
Loggerhead shrike	*Lanius ludovicianus*
Louisiana waterthrush	*Parkesia motacilla*
Magnolia warbler	*Setophaga magnolia*
Marian's marsh wren	*Cistothorus palustris marianae*
Merlin	*Falco columbarius*
Mourning dove	*Zenaida macroura*
Northern bobwhite	*Colinus virginianus*
Northern cardinal	*Cardinalis cardinalis*
Northern flicker	*Colaptes auratus*
Northern harrier	*Circus cyaneus*
Northern mockingbird	*Mimus polyglottos*
Northern oriole	*Icterus galbula*
Northern parula	*Setophaga americana*
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Orange-crowned warbler	*Oreothlypis celata*
Orchard oriole	*Icterus spurius*
Ovenbird	*Seiurus aurocapilla*
Painted bunting	*Passerina ciris*
Palm warbler	*Setophaga palmarum*
Peregrine falcon	*Falco peregrinus*
Pileated woodpecker	*Dryocopus pileatus*
Pine siskin	*Spinus pinus*
Pine warbler	*Setophaga pinus*
Prairie warbler	*Setophaga discolor*
Prothonotary warbler	*Protonotaria citrea*
Purple finch	*Haemorhous purpureus*
Purple martin	*Progne subis*
Red-bellied woodpecker	*Melanerpes carolinus*
Red-eyed vireo	*Vireo olivaceus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Rock dove	*Columba livia*
Rose-breasted grosbeak	*Pheucticus ludovicianus*
Ruby-crowned kinglet	*Regulus calendula*
Ruby-throated hummingbird	*Archilochus colubris*
Rufous-sided towhee	*Pipilo erythrophthalmus*
Rusty blackbird	*Euphagus carolinus*
Savannah sparrow	*Passerculus sandwichensis*
Scarlet tanager	*Piranga olivacea*
Sharp-shinned hawk	*Accipiter striatus*

Common Name	Scientific Name
Short-tailed hawk	*Buteo brachyurus*
Solitary vireo	*Vireo solitarius*
Song sparrow	*Melospiza melodia*
Southeastern American kestrel	*Falco sparverius paulus*
Summer tanager	*Piranga rubra*
Swainson's thrush	*Catharus ustulatus*
Swamp sparrow	*Melospiza georgiana*
Tennessee warbler	*Oreothlypis peregrina*
Tree swallow	*Tachycineta bicolor*
Tufted titmouse	*Baeolophus bicolor*
Turkey vulture	*Cathartes aura*
Veery	*Catharus fuscescens*
Vesper sparrow	*Pooecetes gramineus*
Western kingbird	*Tyrannus verticalis*
Whip-poor-will	*Antrostomus vociferus*
White-eyed vireo	*Vireo griseus*
White-throated sparrow	*Zonotrichia albicollis*
Wood stork	*Mycteria americana*
Wood thrush	*Hylocichla mustelina*
Worm-eating warbler	*Helmitheros vermivorum*
Yellow warbler	*Setophaga petechia*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Yellow-billed cuckoo	*Coccyzus americanus*
Yellow-breasted chat	*Icteria virens*
Yellow-rumped warbler	*Setophaga coronata*
Yellow-throated vireo	*Vireo flavifrons*
Yellow-throated warbler	*Setophaga dominica*

Table 9: Reptile and Amphibian Species Observed at POWEA

Common Name	Scientific Name
Barking treefrog	*Hyla gratiosa*
Bullfrog	*Lithobates catesbeianus*
Central Florida crowned snake	*Tantilla relicta neilli*
Corn snake	*Pantherophis guttatus*
Easter garter snake	*Thamnophis sirtalis sirtalis*
Eastern coral snake	*Micrurua fulvius*
Eastern diamondback rattlesnake	*Crotalus adamenteus*
Eastern indigo snake	*Drymarchon couperi*
Eastern narrowmouth toad	*Gastrophryne carolinensis*
Eastern ribbon snake	*Thamnophis sauritus*
Eastern spadefoot toad	*Scaphiopus holbrookii*
Eastern tiger salamander	*Ambystoma t. tigrinum*
Florida brown snake	*Storeria victa*
Florida cricket frog	*Acris gryllus dorsalis*
Florida pine snake	*Pituophis melanoleucus mugitus*
Florida scarlet snake	*Cemophora coccinea coccinea*
Gopher tortoise	*Gopherus polyphemus*
Green anole	*Anolis carolinensis*
Green treefrog	*Hyla cinerea*
Greenhouse frog	*Eleutherodactylus planirostris*
Ground skink	*Scincella lateralis*

Common Name	Scientific Name
Little grass frog	*Pseudacris ocularis*
Narrow-striped dwarf siren	*Pseudobranchus axanthus axanthus*
Oak toad	*Anaxyrus quercicus*
Peninsula cooter	*Pseudemys concinna floridana*
Peninsula ribbon snake	*Thamnophis sauritus sackenii*
Peninsular crowned snake	*Tantilla relicta relicta*
Pig frog	*Lithobates grylio*
Pine woods snake	*Rhadinaea flavilata*
Pinewoods treefrog	*Hyla femoralis*
Short-tailed snake	*Lampropeltis extenuata*
Six-lined racerunner	*Cnemidophorus sexlineatus*
Southeastern five-lined skink	*Eumeces inexpectatus*
Southern black racer	*Coluber constrictor priapus*
Southern fence lizard	*Sceloporus undulatus undulatus*
Southern leopard frog	*Lithobates sphenocephalus utricularius*
Southern ringneck snake	*Diadophis punctatus punctatus*
Southern toad	*Anaxyrus terrestris*
Spring peeper	*Pseudacris crucifer*
Squirrel treefrog	*Hyla squirella*
Striped crayfish snake	*Regina alleni*
Tiger salamander	*Ambystoma tigrinum*
Yellow rat snake	*Elaphe obsoleta quadrivittata*

Table 10: Butterflies Observed at POWEA

Common Name	Scientific Name
Barred yellow	*Eurema daira*
Ceraunus blue	*Hemiargus ceraunus*
Common buckeye	*Junonia coenia*
Dainty sulphur	*Nathalis iole*
Fiery skipper	*Hylephila phyleus*
Giant swallowtail	*Papilio cresphontes*
Gray hairstreak	*Strymon melinus*
Gulf fritillary	*Agraulis vanillae*
Horace's duskywing skipper	*Erynnis horatius*
Little yellow	*Eurema lisa*
Long-tailed skipper	*Urbanus proteus*
Northern broken-dash	*Wallengrenia egeremet*
Pipevine swallowtail	*Battus philenor*
Sachem	*Atalopedes campestris*
Southern broken-dash	*Wallengrenia otho*
Southern dogface	*Zerene cesonia*
Whirlabout	*Polites vibex*
Zarucco duskywing skipper	*Erynnis zarucco*
Zebra swallowtail	*Eurytides marcellus*

Table 11: Exotic Animal Species Found at POWEA

Common Name	Scientific Name
Mammals	
Feral hog	*Sus scrofa*
Amphibians & Reptiles	
Cuban green anole	*Anolis porcatus*
Cuban treefrog	*Osteopilus septentrionalis*
Mediterranean gecko	*Hemidactylus turcicus*

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 POWEA has a very high mean wildlife value of 7.3 (Figure 8).

2.3.2 Imperiled Species

Nine imperiled animal species have been documented at the POWEA (Table 12). All abbreviations and status determinations were derived from *Florida's Endangered and Threatened Species List* published by FWC in May 2011. The FWC maintains the state list of animals designated as Federally-designated endangered or threatened, State-designated threatened, or State-designated species of special concern, in accordance with Rules 68A-27.003, and 68A-27.005, respectively, FAC, https://www.flrules.org/Default.asp.

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

On November 8, 2010, new threatened species rules approved by the FWC were implemented. All federally listed species that occur in Florida will now be included on Florida's list as federally-designated Endangered or federally-designated Threatened species. In addition, the state has implemented a listing process to identify species that are

not federally listed, but that may be at risk of extinction. These species will be called state-designated Threatened. All previous state-designated imperiled species were grandfathered on the list and are currently undergoing status reviews. The FWC will continue to maintain a separate Species of Special Concern category until all the former imperiled species have been reviewed and those species are either determined to be state-designated Threatened or removed from the list.

Table 12: Rare and Imperiled Wildlife Species Occurring on the POWEA

Common Name	Scientific Name	Status
Eastern indigo snake	*Drymarchon couperi*	FT
Florida mouse	*Podomys floridanus*	SSC
Florida pine snake	*Pituophis melanoleucus mugitus*	SSC
Florida sandhill crane	*Grus canadensis pratensis*	ST
Gopher tortoise	*Gopherus Polyphemus*	ST
Sherman's fox squirrel	*Sciurus niger shermani*	SSC
Short-tailed snake	*Lampropeltis extenuata*	ST
Southeastern American kestrel	*Falco sparveius Paulus*	ST
Wood stork	*Mycteria Americana*	FE

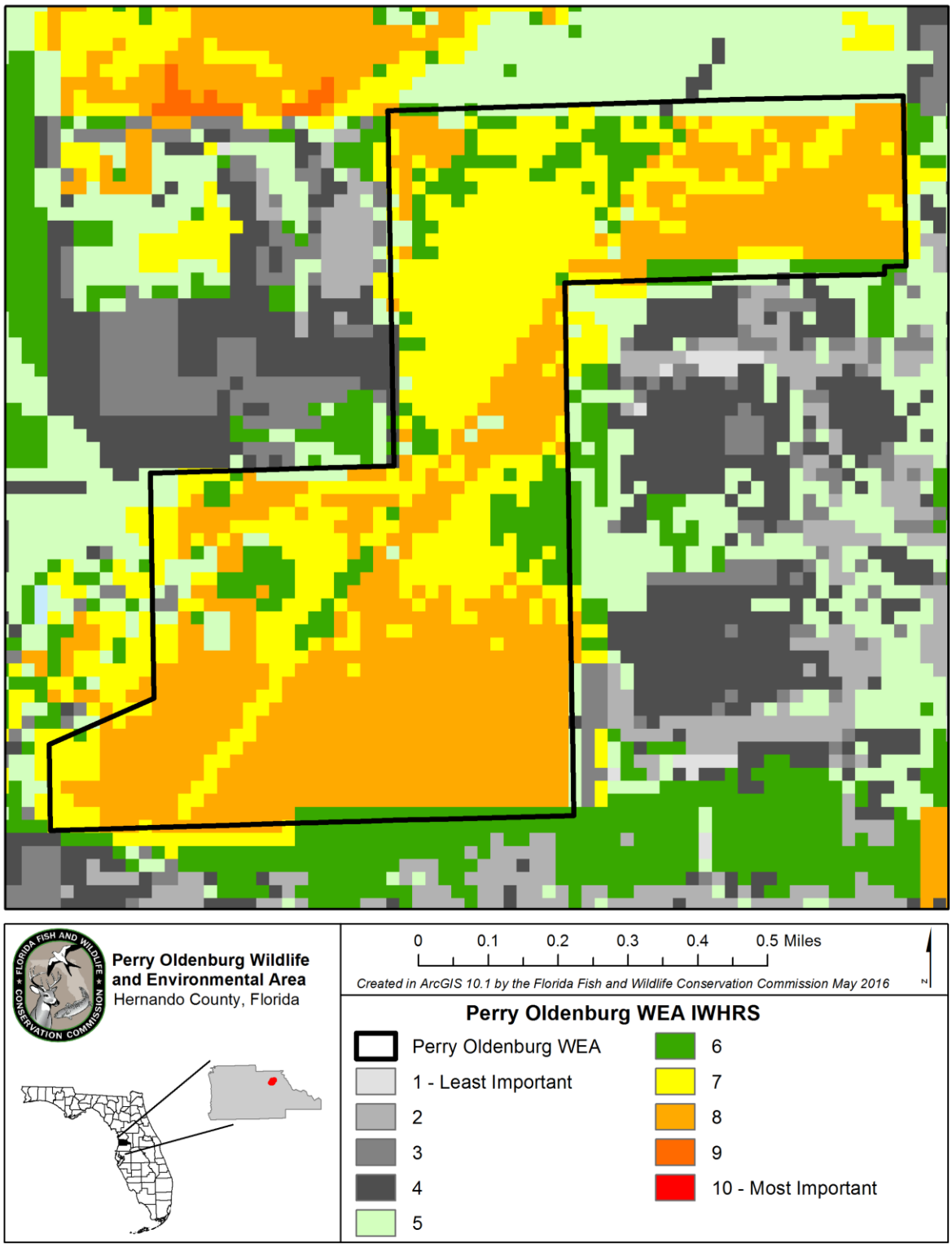


Figure 8: Integrated Wildlife Habitat Ranking System

2.3.3 FWC Wildlife Observations and FNAI Element Occurrences

FNAI assigns a rank to each "element" occurrence, which is an exemplary or rare component of the natural environment. As defined by FNAI, an "element" is any exemplary or rare component of the natural environment such as a species, natural community, bird rookery, 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. This ranking system was developed by The Nature Conservancy (TNC) and the Natural Heritage Program Network based on the element's global rank (element's worldwide status) or state rank (status of element in Florida). The FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

Known locations of FWC wildlife occurrences and FNAI element occurrences on POWEA from the most recent GIS databases of the respective agencies are displayed in Figure 9. Appendix 12.5 contains a letter from FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

2.4 Native Landscapes

As previously discussed, the POWEA is predominately composed of rolling sandhills. A depression marsh is located in the western portion of the area, and it is ringed by mesic hammock. All of the natural plant communities found on POWEA are described in Section 2.2 above.

2.5 Water Resources

The POWEA does not contain any lakes or streams. However, a small depression marsh is located near the main entrance in the western portion of the area. The POWEA is situated within the Withlacoochee River drainage basin (Figure 10).

All surface waters of the State are classified by DEP according to designated uses as described in Chapter 62-302.44 FAC. The surface waters of POWEA 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 DEP to afford the highest protection to Outstanding Florida Waters (OFW) and Outstanding National Resource Waters (Chapter 62-302.700 FAC). At this time, however, no portions of POWEA are designated as OFW. POWEA is not adjacent to any aquatic preserve.

2.6 Beaches and Dunes

There are no beach or dune resources on the POWEA.

2.7 Mineral Resources

There are no known commercial mineral deposits on the POWEA.

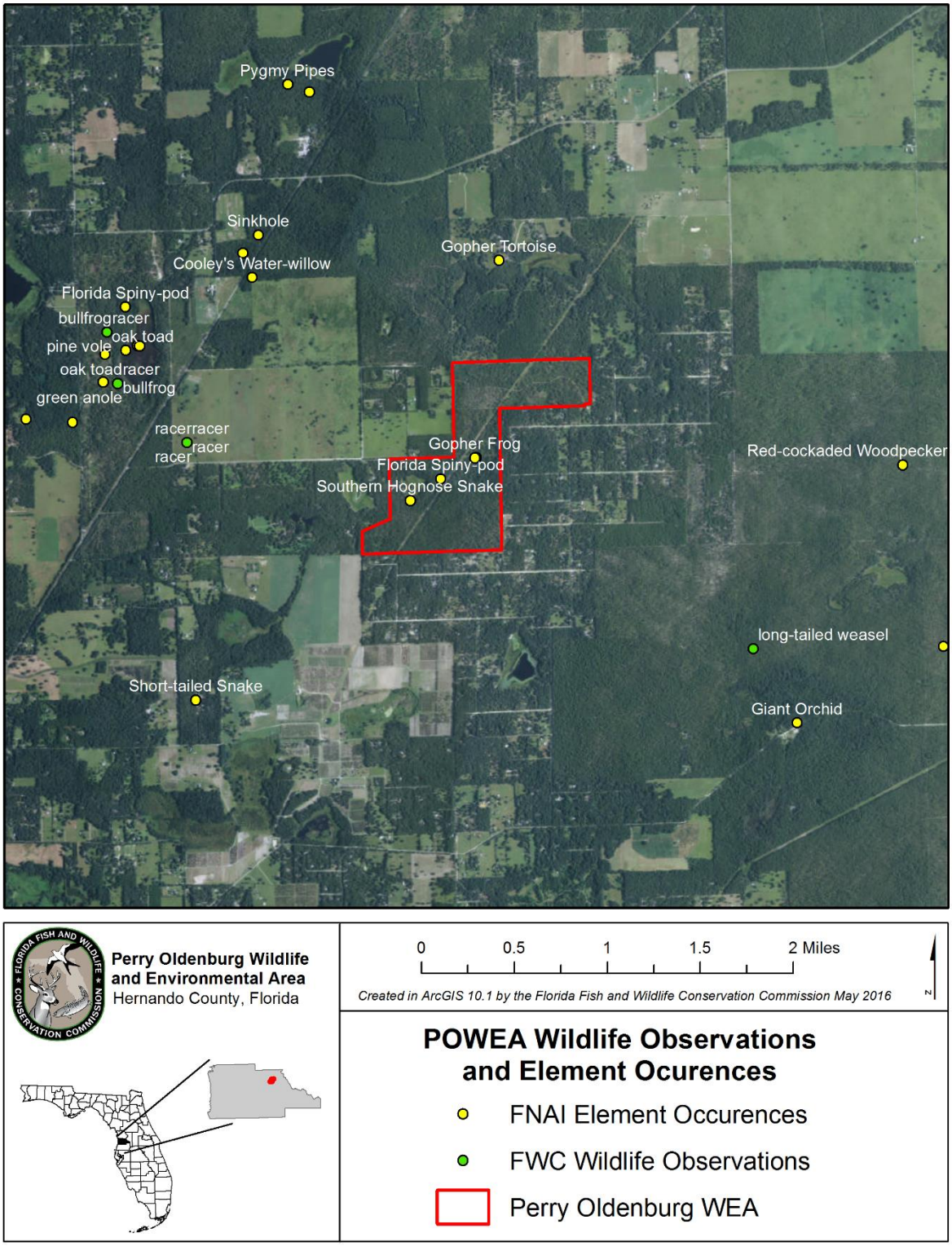


Figure 9: FNAI Element Occurrences and FWC Wildlife Observations

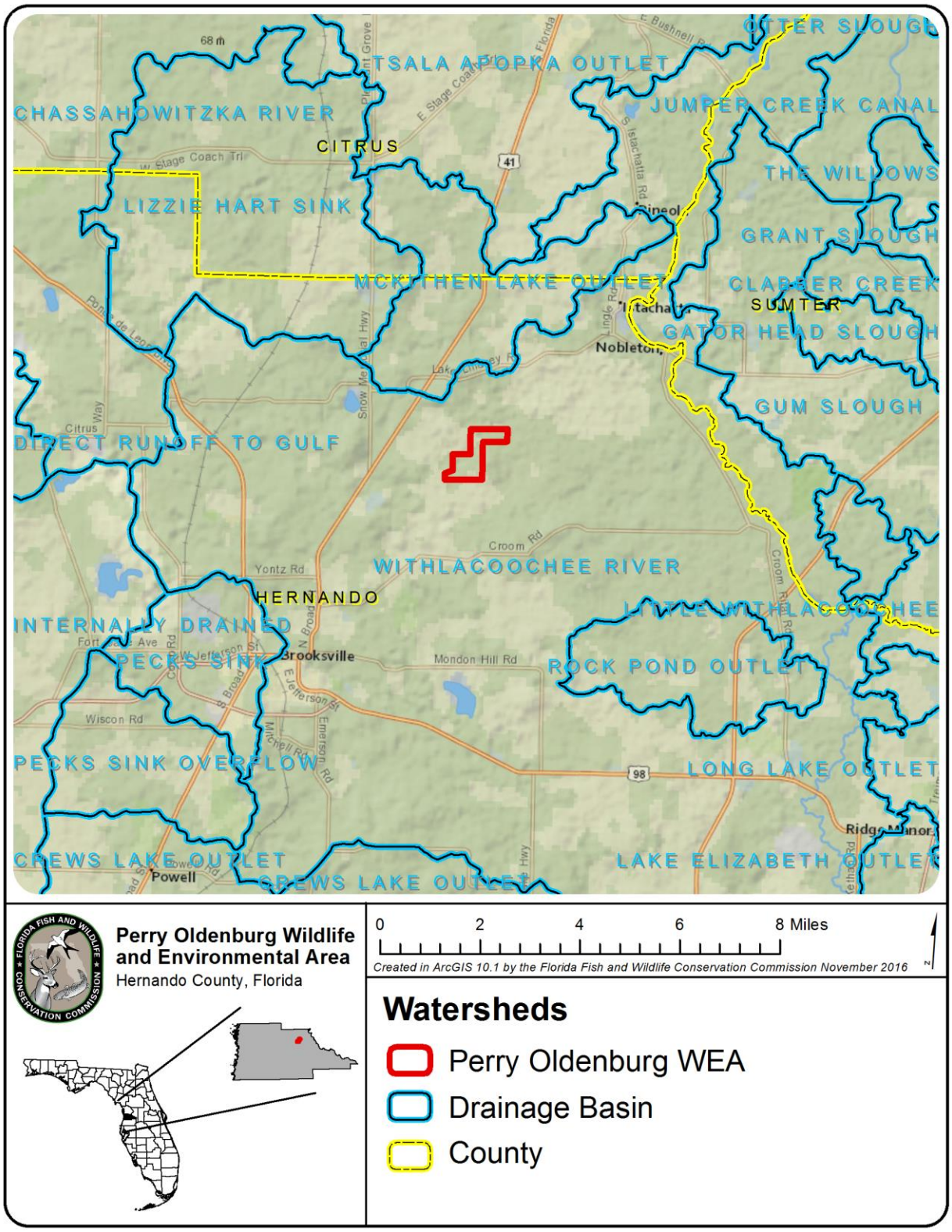


Figure 10: POWEA Water Resources

2.8 Historical Resources

Currently, no historical resources have been identified on the POWEA according to the Florida Department of State's Division of Historical Resources (DHR) Master Site File. The POWEA has never been subjected to a systematic, professional archaeological and historical survey; however, Section 6.9 includes an objective that calls for FWC to coordinate with DHR to assess the need for a survey. The DHR observations and recorded site files are divided into five categories: archaeological sites, resource groups, historic structures, historic bridges, and historic cemeteries. It should be noted that within a five mile radius of POWEA, 44 archaeological sites, 18 historic structures, six resource groups, four historical cemeteries and three historic bridges are recorded in the site file. The archaeological sites range in age from Middle Archaic (beginning as far back as 7,000 years ago) up through 20th century historic archaeological sites. These sites include campsites, building remains, a cistern, and farmsteads. The historic structures nearby are primarily associated with the Civil Conservation Corps (CCC) and date from the 1930's. The resource groups listed in the site file include roads, railways, a historic district and a landscape. The four historic cemeteries were established in the mid-to-late 1800's.

2.9 Scenic Resources

The POWEA offers beautiful scenery across its sandhill-covered landscape. Additionally, a 1.5 mile loop hiking trail allows visitors to view the POWEA's dome swamp and explore the area's mesic hammock. The natural communities found at POWEA are described in Section 2.2 of this Management Plan.

3 Uses of the Property

3.1 Previous Use and Development

Thousands of years before Europeans arrived, Native Americans hunted, fished, and gathered wild plants throughout Florida. Historical research indicates that thousands of years ago, Native Americans were mining the limestone formations in Florida for chert, a flint-like stone that was chipped into tools. These early people lived by hunting small and large animals and gathering wild plants.

The climate was much drier than today, the portion of the Florida peninsula above sea level was much larger, and the springs, lakes, rivers, and wetlands that greeted Spanish explorers were nonexistent. Instead there were open grassy prairies, scrub oaks, and pine forests. Water holes were critical to the survival of people and the animals—mammoths, horses, and bison—they hunted.

Though some land alteration occurred during this period, 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, as well as horses 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 throughout much of the central Florida peninsula through most of the European settlement era from the 16th through 20th centuries. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th centuries that major settlement and more extensive alteration of the landscape in the area began with the widespread use of more intensive agriculture such as row cropping, silviculture, and associated development.

Prior to FWC acquisition of the area, most of what is now the POWEA experienced timber harvesting activities, although much of the area is now covered by mature stands of forest dominated by longleaf pine. Previous pine tree plantings on POWEA indicate a portion of the area may have been managed for silviculture operations as well. Other previous land uses on POWEA included rangeland cattle grazing, and the remnants of a shed and other debris near the northwestern corner suggests poultry production may have also previously occurred on the area.

3.2 Current Use of the Property

Currently, POWEA is managed for the conservation and protection of fish and wildlife habitat and fish and wildlife based public outdoor recreation. A wide range of operational and resource management actions are conducted on POWEA each year including activities such as prescribed burning; wildlife habitat restoration and improvement; invasive 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 due to the diversity of bird species that have been observed at POWEA. The diversity of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, biking, sightseeing, and horseback riding. Due to the proximity of population centers in Hernando County, public use can be expected to increase as public awareness of opportunities increases.

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 POWEA, and contribute to the overall economy for this region of Florida. If the current maximum visitation level of 44 visitors per day were achieved, a total of 16,060 visitors per year could be expected. If the

area were at carrying capacity, FWC economic analysis estimates indicate that the POWEA could potentially generate an estimated economic impact of $1,834,855 for the State and the central region of Florida. This estimated annual economic impact would aid in the support or creation of an estimated 32 jobs. However, it should be noted that the current visitation rates for the area are estimated to be far below the area's established carrying capacity.

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

Further revenue generating potential of the POWEA will depend upon future uses to be approved in the management plan. Additional revenue from environmental lands such as the POWEA might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly and economically developed without impacting the area's natural resources. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. The long-term values of ecosystem services to local and regional land and water resources, and to human health, through the protection of air and water quality are expected to continue to be significant. The legislature appropriates funds for land management.

3.3 Single- or Multiple-use Management

POWEA will be managed under the multiple-use concept as a Wildlife and Environmental Area. POWEA 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 POWEA 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 POWEA. 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 12.6). 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:

	Approved	Conditional	Rejected
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		✓	
Off-road vehicle use			✓
Preservation of historical resources	✓		
Primitive camping		✓	
Protection of imperiled species	✓		
Shooting sports park	✓		
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation	✓		

3.3.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on POWEA 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, the ARC and the Board of Trustees prior to any incompatible use or linear facility being authorized on the POWEA.

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate 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 POWEA (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 FWC is the lead manager, FWC evaluates and identifies recommended areas for a potential surplus designation by DSL, ARC, and the Board of Trustees. This evaluation consists of Geographic Information Systems (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, 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 POWEA by FWC has determined that all portions of the area are being managed and operated for the original purposes of acquisition, and remain integral to the continued conservation of important fish and wildlife resources, and continue to provide quality fish and wildlife resource based public outdoor recreational opportunities. Therefore, no portion of the POWEA is recommended for potential surplus review.

4 Accomplished Objectives from the 1997 POWEA Management Plan

This section is dedicated to reporting the extent to which the Objectives described in the 1997 POWEA Management Plan (pages 35 - 38) were successfully completed. Accomplishments for POWEA 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 1997 POWEA Management Plan describe the planned activities for POWEA during this period (Table 13). The degree to which FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

Table 13: Objectives Accomplished from the 1997 POWEA Management Plan

Goal 1: Promote habitat conditions most critical to meeting the life history requirements of the gopher tortoise.	**Percent Accomplished**
Objective 1: Utilize prescribed burning to enhance habitat for the gopher tortoise. *Comment: FWC has implemented prescribed burning on the area and is maintaining the recommended burning rotation for sandhill on 80% of the area and is conducting selective timer thinning harvesting to substantially reduce the over-stocked densities of encroaching hardwoods in order to maintain the established basal area threshold for sandhill and implement prescribed burning on the remainder of the area.*	80%
Objective 2: Initiate hardwood control on sites where hardwood establishment or invasion threatens to reduce gopher tortoise habitat quality. *Comment: FWC has completed selective timber thinning harvesting to substantially reduce over-stocked densities of hardwood to aid in habitat improvement on 60% of the area. FWC is continuing to implement hardwood control on the area.*	60%
Objective 3: Develop a gopher tortoise population monitoring program to alert managers of major population changes. *Comment: FWC has completed a gopher tortoise survey on the area and will continue to monitor the gopher tortoise population as recommended in the WCPR Strategy.*	100%
Goal 2: Introduce management actions that will maintain the integrity of the sandhill community.	**Percent Accomplished**
Objective 1: Initiate control/treatment actions to reduce cogongrass infestations. *Comment: FWC has initiated cogongrass treatments and other invasive plant treatments on 130 acres and is continuing these treatments as necessary.*	100%
Objective 2: Utilize prescribed burning to maintain the health, vigor, and composition of sandhill vegetation. *Comment: FWC has implemented prescribed burning on the area and is maintaining the recommended burning rotation on 80% of the area and is working to substantially reduce encroaching hardwoods through selective timber harvesting in order to implement prescribed burning on the remainder of the area to work toward achieving DFCs set through OBVM for the area's habitats.*	80%
Goal 3: Provide for management actions that may enhance habitat and populations of other sandhill wildlife where such activities are compatible with the management mission of POWEA.	**Percent Accomplished**
Objective 1: Take into consideration other habitat features at POWEA, such as Circle Pond and Scarborough Hammock, to promote habitat features for the gopher frog and Sherman's fox squirrel, respectively. *Comment: FWC has completed selective timber harvests on the area that will benefit fox squirrels along with other sandhill species, and will continue as necessary to enhance habitat on this management unit.*	100%
Objective 2: Utilize wooden nest structures as a method to enhance nesting by Southeastern kestrel. *Comment: FWC maintains three kestrel nest boxes on the area and monitors those boxes on an annual basis.*	100%

Goal 4: Apply the practice of controlled burning under a variable regime of intensity, frequency and seasonality to further the management mission at POWEA.	**Percent Accomplished**
Objective 1: Reduce fuel loads to acceptable levels in order to minimize habitat damage from both wildfire and planned prescribed burns. *Comment: FWC has implemented prescribed burning on the area and is maintaining the recommended burning rotation on 80% of the area and is working to substantially reduce encroaching hardwoods through selective timber harvesting in order to implement prescribed burning on the remainder of the area.*	80%
Objective 2: Control hardwood invasion on sandhill sites. *Comment: FWC has completed selective timber thinning harvesting to substantially reduce over-stocked densities of hardwood to aid in habitat improvement on 60% of the area. FWC is continuing to implement hardwood control on the area.*	60%
Objective 3: Use prescribed burning to facilitate cogongrass control. *Comment: FWC's ongoing prescribed burning management actions aid the control cogongrass. However, in order to effectively control cogongrass, FWC also uses herbicide treatments to accomplish the ongoing control of cogongrass on POWEA.*	100%
Objective 4: Apply prescribed burning under a frequency and seasonality regime that contributes towards maintenance of the sandhill plant and wildlife community. *Comment: FWC has implemented prescribed burning on the area, including the use of growing season burns, and is maintaining the recommended burning rotation for sandhill on 80% of the area and is conducting selective timber thinning harvesting to substantially reduce the over-stocked densities of encroaching hardwoods in order to maintain the established basal area threshold for sandhill and implement prescribed burning on the remainder of the area.*	100%
Goal 5: Apply the practice of controlled burning in a manner that is safe, cost effective, and consistent with the management mission at POWEA.	**Percent Accomplished**
Objective 1: Continue contractual burning services with the Florida Forest Service. *Comment: FWC continues to cooperate with FFS, who routinely assists with implementing prescribed burning on the area. In addition to utilizing FFS, FWC routinely contracts with a private vendor to accomplish prescribed burning goals for the area.*	100%
Objective 2: Provide fire training to management personnel *Comment: FWC staff participating in implementing prescribed burning are required to complete fire training certification.*	100%
Objective 3: Ensure that FWC management personnel have adequately acquainted contract personnel with job specifications, particularly in regards to fireline plowing and controlled burning activities. *Comment: FWC has developed comprehensive contract management criteria and controls to ensure prescribed burning is implemented consistent with professional fire safety standards and resource management practices.*	100%
Objective 4: Refer to FFS decision making on issues concerning the application of fire and the potential threat to health and property. *Comment: FWC continues to cooperate with FFS, who routinely assists with implementing prescribed burning on the area to ensure prescribed burning is*	100%

implemented consistent with professional fire safety standards and resource management practices.	
Goal 6: Apply the practice of controlled burning as a tool to achieve desired wildlife and community management objectives.	**Percent Accomplished**
Objective 1: Develop a burn schedule procedure that alters the timing and seasonality of burning. *Comment: FWC has implemented prescribed burning on the area, including the use of growing season burns, and is maintaining the recommended burning rotation for sandhill on 80% of the area and is conducting selective timber thinning harvesting to substantially reduce the over-stocked densities of encroaching hardwoods in order to maintain the established basal area threshold for sandhill and implement prescribed burning on the remainder of the area.*	100%
Objective 2: Develop and implement a burn evaluation procedure that can be utilized by managers to assess burn results and refine burn strategies when necessary. *Comment: FWC has implemented OBVM on the area, which includes monitoring protocols to identify selected vegetation parameters to achieve desired future conditions.*	100%
Objective 3: Minimize soil disturbances caused by firelines. *Comment: FWC continues to implement professional fire safety standards and resource management practices in conducting prescribed burning on the area.*	100%
Goal 7: Prevent all wildfire from causing personal injury or offsite property damage.	**Percent Accomplished**
Objective 1: Any application of fire at POWEA must be consistent with a burn plan approved by the FFS. *Comment: FWC continues to cooperate with FFS, who routinely assists with implementing prescribed burning on the area to ensure prescribed burning is implemented consistent with professional fire safety standards and resource management practices. In addition, FWC will develop a Prescribed Burning Plan for the area to guide and manage ongoing prescribed burning on the area that will be incorporated in the updated management plan.*	100%
Objective 2: In the event of a wildfire, defer all decision making regarding fire suppression to the FFS incident commander. *Comment: FWC continues to cooperate with FFS, who routinely assists with implementing prescribed burning on the area to ensure prescribed burning is implemented consistent with professional fire safety standards and resource management practices.*	100%
Goal 8: Utilize contractual services as a means to achieve cost effectiveness in management situations that require either large pools of manpower, specialized training or expertise, or reliance on heavy equipment and machinery.	**Percent Accomplished**
Objective 1: Ensure that all contractors have been adequately briefed regarding job specifications and contract requirements. *Comment: FWC has developed comprehensive contract management criteria and controls to ensure prescribed burning, exotic species control and other contracted operational resource management activities are implemented consistent with resource management practices, goals, and objectives.*	100%
Objective 2: Advise all contractors of resource management objectives at POWEA, and attempt to identify actions or situations where contractors might be in conflict with these objectives.	100%

Comment: FWC has developed comprehensive contract management criteria and controls to ensure prescribed burning, exotic species control and other contracted operational resource management activities are implemented consistent with resource management goals, and objectives.	
Goal 9: Reduce cogongrass plant infestations to levels that can be adequately controlled through regular maintenance herbicide applications performed by program personnel.	**Percent Accomplished**
Objective 1: Monitor exotic plant infestations on an annual basis. *Comment: FWC utilizes invasive plant management contracts including systematic surveys and treatment, and continues to monitor and treat exotic species utilizing contractors and FWC staff.*	100%
Objective 2: Contract with qualified herbicide application companies to treat cogongrass infested areas twice annually. *Comment: FWC staff conduct cogongrass treatments on an annual basis and utilizes contractors as needed.*	100%
Objective 3: Inform adjoining property owners of the resource problems associated with exotic plants and obtain landowner cooperation for including private lands in a control program. *Comment: FWC continues to contact and communicate with adjacent landowners about the ongoing deleterious impacts of exotic plants on the natural ecology. Additionally, FWC will develop an Optimal Conservation Planning Boundary which will identify lands adjacent to POWEA that are important for the continued management and conservation of wildlife on the area and in the vicinity.*	100%
Goal 10: Maintain native tree and herbaceous cover at levels consistent with listed wildlife management goals.	**Percent Accomplished**
Objective 1: Utilize fire thinning to maintain pine stands at a density of 35 basal area. *Comment: FWC has determined fire thinning is not a viable pine management tool. FWC utilizes selective timber harvesting to thin and maintain pine forest at the recommended basal-area for sandhill on the area.*	0%
Objective 2: Perform wildlife stand improvement including use of herbicides and selective tree cutting to reduce canopy closure by hardwoods. *Comment: FWC has completed hardwood removal and habitat improvement on 60% of the area. FWC is continuing to implement hardwood control on the area.*	60%
Goal 11: Insure that increased demands for recreational use access do not conflict with listed wildlife management goals.	**Percent Accomplished**
Objective 1: Coordinate with LE for patrol and enforcement of adopted rules. *Comment: FWC LE routinely patrols the area to conduct ongoing law enforcement activities.*	100%
Objective 2: Install and maintain appropriate signage to inform the public of accepted uses, rules, and regulations. *Comment: FWC has installed and maintains two kiosks to inform the public of accepted uses, rules, and regulations.*	100%
Goal 12: Increase public understanding of listed species needs and opportunities.	**Percent Accomplished**
Objective 1: Install educational signs and kiosks that explain complex topics such as mitigation, controlled burning, and listed species habitat needs.	100%

Comment: FWC has installed and maintains two kiosks to educate the public about the purposes of acquiring the area and ongoing resource management activities.	
Goal 13: Provide non-consumptive, recreational opportunities that feature wildlife.	**Percent Accomplished**
Objective 1: Create watchable wildlife viewing opportunities such as food plots. *Comment: FWC has determined that enhancing and managing more open sandhill landscape provides quality wildlife viewing opportunities on POWEA. Consequently, the use of food plots is unnecessary.*	0%
Objective 2: Develop baseline amenities such as nature trail, pamphlets, rules, information, etc. *Comment: FWC has developed a 1.5 mile loop trail and associated pamphlet at POWEA.*	100%
Goal 14: Develop broader constituency support for the FWC Mitigation Park Program.	**Percent Accomplished**
Objective 1: Coordinate with conservation organizations and universities to promote access to POWEA and encourage volunteer work programs. *Comment: FWC has a volunteer program and volunteers are regularly utilized to achieve management objectives.*	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 POWEA is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources. In conjunction with this primary emphasis, it is FWC's intent to provide quality fish and wildlife resource based public outdoor recreational opportunities on POWEA. 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

Pursuant to Chapter 259.036, FS, the DEP-DSL is required to "cause periodic management reviews to be conducted" on Board of Trustees conservation lands to determine if they "are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032." However, as previously discussed, title to the POWEA is held by the FWC and, therefore, no land management review (LMR) is statutorily required for the area. As a result, no LMR has been conducted for the POWEA.

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 POWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of POWEA. 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 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 focal fish and wildlife species, monitoring protocols are established through 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 FWC's Public Access and Wildlife Viewing

program, and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.3). Historical resources (Section 5.9) will be monitored with guidance from the DHR, should any be located on the area.

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 POWEA 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, Public Access and Wildlife Viewing, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of POWEA, 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 POWEA, FWC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of disturbed areas. Restoration may be achieved on disturbed areas by the re-introduction of fire, restoring historic hydrological conditions and/or the use of mechanical or chemical forest management techniques as appropriate. Retention of the native old growth component of forests, while also providing for natural regeneration, remains an important consideration. POWEA has high-quality native communities including sandhill, mesic hammock, and depression marsh that FWC will continue to manage and protect. On disturbed upland sites, FWC intends to initiate ground cover and natural community restoration.

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

5.3.1 Objective-Based Vegetation Management

The FWC uses a comprehensive resource management approach to managing 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 FWC management.

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

After natural communities have been mapped, FWC land managers will identify those natural communities that will influence and guide management decisions, known as the actively managed natural communities. Through OBVM monitoring, FWC collects data on a number of specific vegetation attributes that provide insight about the condition of the natural community. Because 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 the 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 provides FWC staff with baseline data indicating natural community structure, distribution, and condition on the area. Comparing the subsequent monitoring results to desired future conditions, provides important operational information on a natural community's vegetation structural status at a given point in time

and trend over time. Using this information, managers can evaluate, adjust and modify their management practices to meet the stated objectives. By comparing natural community mapping products through the years, managers can track progress in moving altered communities to functioning natural communities.

5.3.2 Prescribed Fire and Fire Management

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

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

The FWC employs a fire management regime to increase both species and habitat diversity and will continue a prescribed burning program on the POWEA in accordance with vegetative management objectives. As fire moves across a landscape, some areas carry fire better than others. Areas with higher vegetative fuel loads typically burn more evenly and with greater intensity. Areas with lower vegetative fuel loads or wetland areas inundated with water 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.

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.

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

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

The transitional areas between two adjacent but different vegetative cover types, such as forests and wetlands, are known as ecotones. With the possible exception of wildfire suppression, mechanical soil disturbance in ecotones will be avoided in order to protect habitats for important rare species that often occur between flatwoods and riparian drainages. Silvicultural site preparation and creation of firebreaks are avoided when possible in these zones. Additionally, fires are allowed to burn into the edges of marshes, swamps and other wetlands in order to maintain these habitats. Once fuel loads have been reduced and a more open appearance has returned, vegetative management objectives will likely dictate a fire return interval that averages 1-4 years, preferably during the spring and early summer months.

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

During the previous 10-year planning period, 100% of the area's fire adapted communities have been treated with prescribed fire. Approximately 80% of the fire-adapted communities are within the recommended fire return intervals. As detailed in the goals and objectives in Section 6 below, 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 POWEA are discussed in more detail below.

5.3.3 Habitat Restoration

The FWC has completed extensive habitat restoration work on POWEA. Mulching was conducted during fiscal year 2007-08 on 100 acres. In fiscal year 2009-10, selective cutting was conducted on a total of 85 acres. Mowing of unburnt woody vegetation occurred during fiscal year 2011-12, which consisted of 12 acres. Mowing and tree cutting was conducted on

2.11 acres during fiscal year 2013-14. During fiscal year 2014-15, 72.45 acres of sandhill saw herbaceous shredding. Logging operations were conducted on the area in 2016 in an effort to reduce the density of pines in select areas and to remove some larger oaks from the sandhill community.

In addition to the prescribed burning activities described above, the FWC has established OBVM management prescriptions, associated monitoring and has implemented resource management regimes, including prescribed burning, mechanical treatments, exotic plant species treatments, etc., on the sandhill community on the area. Continuing habitat management activities on POWEA will focus on enhancing natural communities, maintaining recommended fire return intervals for fire adapted communities, 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 habitats in the mesic hammock in order to restore this area to an earlier successional condition. Exotic species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for POWEA are described in Section 6 below.

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

5.4.1 Fish and Wildlife

Due to the variety of natural communities, a diversity of associated wildlife, including rare, imperiled, common game, and non-game species, can be found on POWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted in Section 2.2 above, sandhill is the predominant natural community represented at POWEA. Other natural communities that are less represented on the area include depression marsh, mesic hammock, and mesic flatwoods.

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

Wildlife management 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 Focal Species: Wildlife Conservation Prioritization and Recovery

The FWC has identified the need to: 1) demonstrate optimal wildlife habitat conservation on FWC-managed lands; 2) develop science-based performance measures to evaluate management; 3) recover imperiled species; and 4) prevent future imperilment of declining wildlife species. To help meet these needs, the FWC uses a comprehensive resource management approach to managing FWC-managed areas. Restoring the form and function of Florida's natural communities is the foundation of this management philosophy. The FWC uses OBVM to monitor how specific vegetative parameters are responding to FWC management, and uses the WCPR program to ensure management is having the desired effect on wildlife.

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

The WCPR program helps FWC take a proactive, science-based approach to species management on FWC-managed lands. This approach assesses information from statewide potential habitat models and Population Viability Analysis, 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 focal species. Staff combines these assessments with area-specific management considerations to develop a wildlife 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 establishes monitoring protocols to verify progress towards meeting the objectives. By providing 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 http://myfwc.com/media/1515251/Threatened-Endangered-Species.pdf), as well as select focal species found on the area.

In summary, for FWC-managed areas, the WCPR program helps assess imperiled and focal wildlife species needs and opportunities, prioritize what FWC does for imperiled and focal 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, FWC will facilitate fulfilling the needs of focal and imperiled wildlife species on POWEA. In the long-term, by implementing these strategies on FWC-managed lands and continuing to assess wildlife species' needs, 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 five surveys for gopher tortoise, which also documented the presence of Florida mice and gopher frogs. The FWC also monitored two American kestrel nest boxes. Other wildlife monitoring includes documenting observations of imperiled wildlife, including Sherman's fox squirrel, Florida mice, gopher frogs, and American swallow-tailed kites. These imperiled species projects, along with other ongoing imperiled species management activities, will continue to be implemented in accordance with the POWEA WCPR Species Management Strategy.

5.4.3 Focal Species Selection and Management

The FWC held a WCPR workshop for the Brooksville Area WEAs, which include Chinsegut WEA, Janet Butterfield Brooks WEA, and POWEA, in June 2012. After incorporating input from a review by experts, the WCPR Strategy was reviewed and approved in March 2013. Using statewide landcover-based habitat models, the POWEA WCPR Strategy identifies 17 focal species as having potential habitat on the area. Of the focal species identified as having habitat on the area, the POWEA WCPR Strategy provides measurable objectives or recommends some level of monitoring for gopher frog, eastern indigo snake, Florida pine snake, gopher tortoise, American swallow-tailed kite, Bachman's sparrow, brown-headed nuthatch, Cooper's hawk, Florida sandhill crane, northern bobwhite, southeastern American kestrel, southern bald eagle, Florida mouse, and Sherman's fox squirrel. Striped newt, red-cockaded woodpecker, and southeastern myotis were identified as limited opportunity species, because the POWEA contains very limited habitat and little opportunity to manage for those species.

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 POWEA. 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.

Exotic and invasive plant species known to occur on the POWEA and treated annually by FWC include Caesar's weed, cogongrass, and torpedo grass. Exotic and invasive plant species have been identified as occurring at varying densities on approximately 40 acres of the POWEA. However, the FWC's methodology for determining the number of acres "infested" with invasive 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 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 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 POWEA 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.

An exotic animal species of concern on the POWEA 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). The FWC will consult with other regional natural resource managing agencies and private landowners to coordinate feral hog control measures as necessary. Trapping is one measure that may be implemented to augment ongoing feral hog control efforts and to further reduce the natural community damage and degradation caused by this species.

Currently, maintenance and control of invasive exotic plant species (Table 6) continues to be a significant management challenge at POWEA. During the previous 10-year planning period, FWC continued to implement extensive exotic and invasive species control and maintenance activities throughout POWEA. These included exotic plant species treatments on a total of 340 acres within areas classified as infested, resulting in an overall 95% of POWEA currently being in a maintenance condition. An estimated 89% of POWEA remains classified in an infested condition, thus requiring continued intensive treatments. The FWC will continue to focus control and maintenance activities on areas identified as having invasive 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 POWEA are further detailed in Sections 6 and 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 FWC, every effort is made to comply with the Americans with Disabilities Act (ADA, Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA[4] 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 POWEA. To accomplish this, FWC will work with recreational stakeholders and the general public to develop a Recreation Master Plan for POWEA that will be used to further design and develop appropriate infrastructure that will support the recreational use of the area by the general public. This Recreation Master Plan will include planning for parking, trail design, and area resource interpretation.

5.6.3 Public Access Carrying Capacity

Baseline carrying capacities for users on FWC-managed lands are established by conducting a site specific sensitivity analysis using available data for the site. The intent of the carrying capacity analysis is to minimize wildlife and habitat disturbance and provide the experience of being "immersed in nature" that visitors to FWC-managed areas desire. Carrying capacities are just a first step; management of recreational use requires a means of monitoring visitor impacts. Responding to these impacts may require adjusting 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, FWC has determined that POWEA

can currently support 44 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 POWEA 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 POWEA is home to a variety of resident wildlife found within its sandhills, mesic hammock, and other natural communities. The POWEA's rural location creates outstanding wildlife viewing opportunities. The observant visitor may view gopher tortoise, Southeastern American kestrel, wood stork, and other species of wildlife.

5.6.5 Hunting

Hunting is prohibited on the POWEA. However, hunting opportunities are offered on nearby public lands.

5.6.6 Fishing

There are no bodies of water at POWEA that can support fish populations. Therefore, fishing opportunities are limited on the area.

5.6.7 Trails

5.6.7.1 Hiking

The FWC has established a 1.5 mile-long loop hiking trail through the mesic hammock and flatwoods around the depression marsh. Additionally, the Florida National Scenic Trail (FNST) extends across the northern portion of the area.

5.6.7.2 Bicycling

Bicycling is prohibited on the POWEA. However, bicycling opportunities are offered on nearby public lands.

5.6.7.3 Equestrian

Equestrian use is prohibited on the POWEA. However, horseback riding opportunities are offered on nearby public lands.

5.6.8 Camping

Camping is prohibited on the POWEA. However, camping opportunities are offered on nearby public lands.

5.6.9 Geocaching

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

It is the policy of the FWC to allow placement of geocaches only in those locations that do not present the potential for resource damage, user conflicts, or threats to the safety of the activity participants. The placement of geocaches on FWC-managed lands is governed by specific guidelines. These guidelines may be found on the following FWC website: http://myfwc.com/media/1074886/FWC_Geocache_Guidelines.pdf .

5.6.10 Environmental Education

5.6.10.1 Interpretation

The POWEA offers an interpretive kiosk to educate visitors about the natural resources found on the area. Also, an area website is maintained to provide educational information, as well as information about recreational opportunities.

5.6.10.2 Programs

No regularly occurring educational or recreational programs are currently taking place at POWEA. Area staff conduct various programs on occasion upon request as feasible. The nearby Chinsegut Conservation Center also conducts occasional programs at POWEA.

To facilitate wildlife viewing recreational opportunities on the area, FWC has continued to establish and maintain hiking trails and interpretive kiosks. During the previous 10-year planning period, FWC completed several public access, recreational, and facility improvements on POWEA, including developing a new trail and installing new signage. Further planned public access facility improvements are detailed in Section 6 below. Ongoing public access and recreational opportunity management challenges are addressed in Section 7 below. In addition, the FWC will continue to implement public access, recreational, and educational opportunities on the area in accordance with the POWEA Recreational Master Plan upon its development and approval.

5.7 Hydrological Preservation and Restoration

As previously discussed, the POWEA is located within the Withlacoochee River watershed. Only minor hydrologic alterations have occurred on the area. A limited amount of erosion has been observed on the POWEA, but this is limited to a small area near the eastern boundary. The FWC will conduct or obtain an onsite hydrological and risk assessment to identify potential hydrology restoration needs on the POWEA.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of POWEA was conducted by the Florida Forest Service in August 2016 (Appendix 12.4). The management of timber resources is considered in the context of the Timber Assessment and the overall land management goals and activities.

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

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

5.9 Historical Resources

Procedures outlined by DHR will be followed to preserve the historical sites of POWEA. The FWC will consult with DHR in an attempt to locate any additional historical features on the area. In addition, FWC will ensure management staff has DHR Archaeological Resources Monitoring training. The FWC will refer to and follow 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, FWC will contact professionals from DHR for assistance prior to any ground-disturbing activity on POWEA.

To date, the DHR Master Site File indicates no known historic sites on POWEA. The FWC will submit subsequently located historic sites on POWEA to 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 POWEA include an entrance facility and hiking trail (Figure 11). Additionally, the FNST crosses a portion of the area.

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).

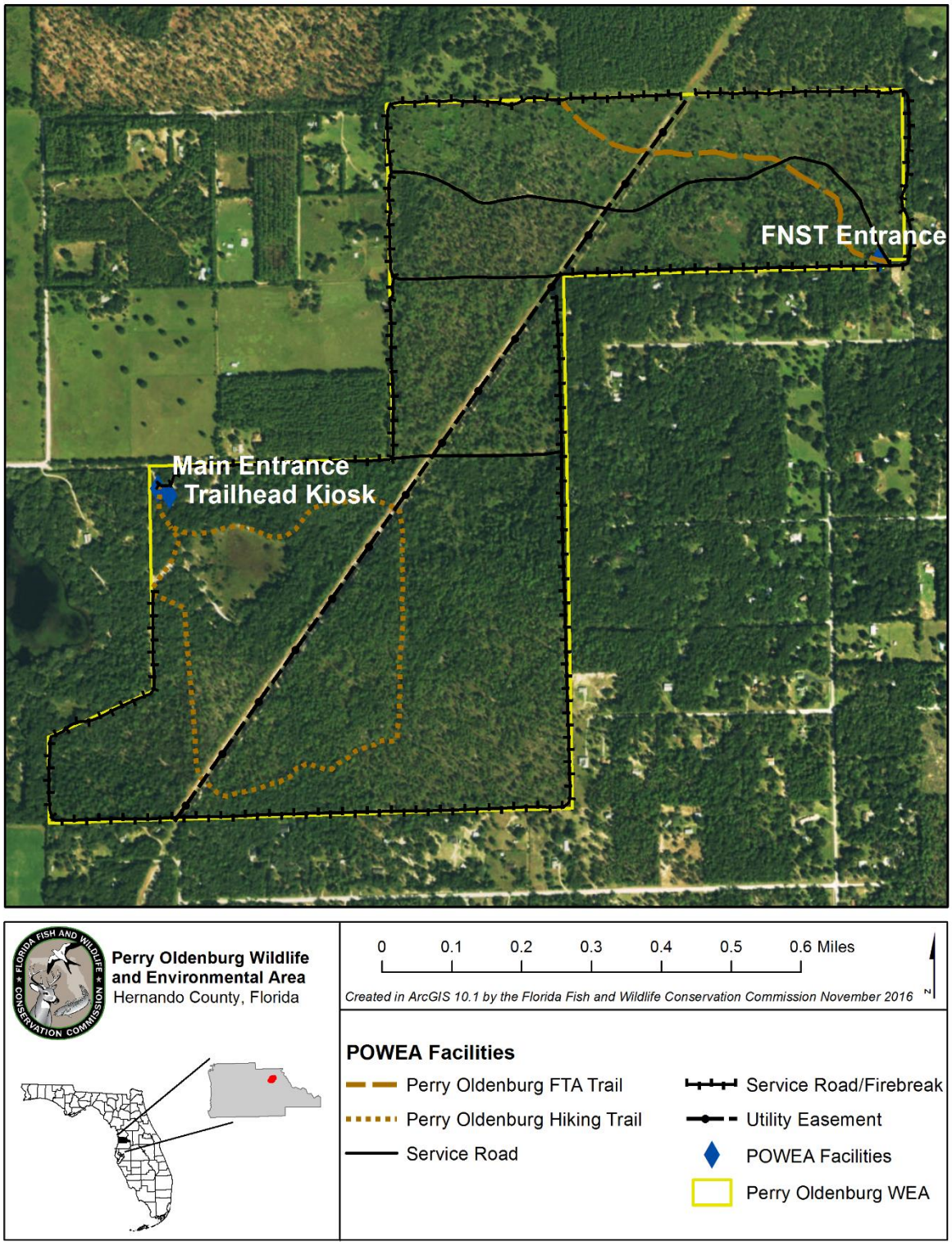


Figure 11: POWEA Facilities

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

5.11.2 Optimal Conservation Planning Boundary

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

The OCPB provides the basis for development of a broader CAS for POWEA. 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.

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 not identified any acres of potential additions or privately held inholdings for POWEA. Upon completion of the CAS, 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 POWEA, 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 POWEA must have prior approval by FWC.

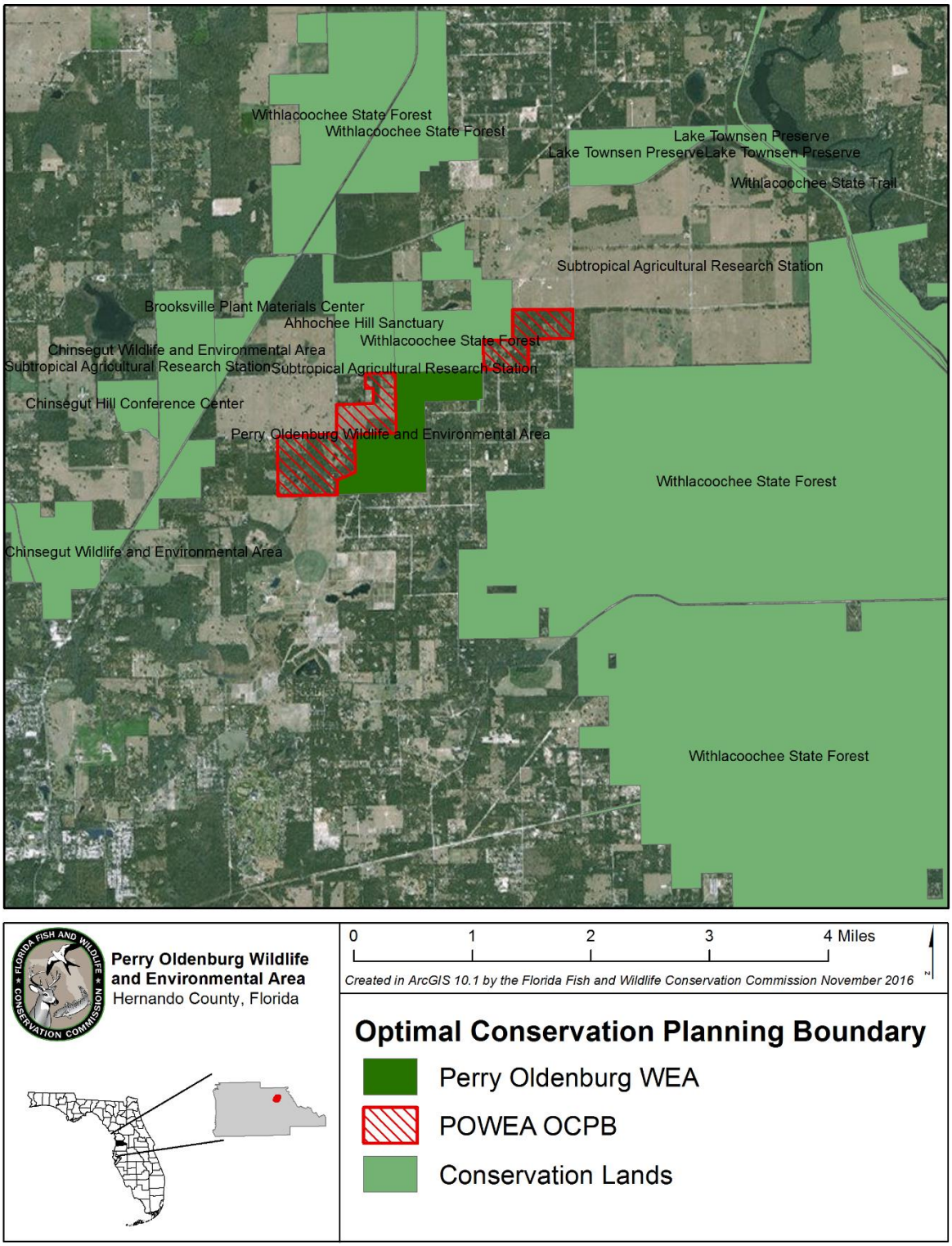


Figure 12: POWEA Optimal Conservation Planning Boundary

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of POWEA. 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 DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources document (Appendix 12.7) are followed with regard to any ground-disturbing activities. In addition, the FFS assists FWC by providing technical assistance on forest resource management. Also, FWC cooperates and consults with the SWFWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of POWEA.

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 POWEA. Such activities are considered allowable uses only when undertaken intermittently for short periods of time, and in a manner that does not impede the management and public use of POWEA, 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 POWEA. 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 FWC to DSL and ARC for approval consideration prior to authorization.

5.13.3 Apiaries

Currently, there are no apiaries operating on POWEA. The use of apiaries is conditionally approved for POWEA, and is deemed to be consistent with purposes for acquisition, is in compliance with the Conceptual State Lands Management Plan, and is consistent with the FWC agency mission, goals, and objectives as expressed in the agency Strategic Plan and priorities document (Appendix 12.6). However, location, management, and administration of apiaries on POWEA are be guided by the FWC Apiary Policy (Appendix 12.8.1). The FWC Apiary Policy must be followed with regards to site location, management, and administration of apiaries. The FWC Apiary Policy requires apiary sites to be at least ½ mile from the area boundary. According to the POWEA Apiary Assessment (Appendix 12.8.2), no portion of POWEA are more than ½ mile from the area boundary. Therefore, it has been determined that there are no suitable apiary sites at POWEA.

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, 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, 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 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, FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, 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.

Elements of climate change that may potentially affect POWEA include saltwater intrusion from sea level rise, more frequent and more potent storm events, alteration of vegetation reproductive cycles, and changes in the fire regime. The results of a Sea Level Affecting Marsh Model for the POWEA shows habitats that may potentially be impacted. The low-lying coastal habitats, such as salt marsh and hardwood swamp natural communities on nearby areas are projected to face the most direct and dramatic impacts of climate change, particularly from a projected rising sea level and from the projected increased frequency and intensity of coastal storms.[12, 13, 14, 15] The effects of sea level rise in the recent past have been observed on the nearby Chassahowitzka Wildlife Management Area; cabbage palms have been dying on coastal islands due to salinity increases. The potential loss of habitat may result in the loss of species using that habitat, including migrating and nesting birds. Storm events also cause considerable physical damage to native vegetation along vulnerable shorelines, impacting nesting habitat for sea life and shorebirds. The projected rise in sea levels may decrease the availability and abundance of prey for wading birds that forage in shallow waters on the expansive tidal flats of the Gulf Coast. Climate change may amplify and hasten these effects, potentially at rates that exceed the normal resiliency of plant communities to recover, shift or adapt accordingly.[16, 17] Projected salt water intrusion into the subsurface freshwater lens from potential sea level rise and saltwater inundation

of surface freshwaters from storm surges may alter coastal ecosystems and freshwater marshes, possibly resulting in more salt-tolerant aquatic plant communities.
To address the potential impacts of climate change on the POWEA, Goals and Objectives have been developed as a component of this Management Plan (Section 6.12). 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 POWEA 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 POWEA. 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 Conduct prescribed burning on 100 acres of fire-adapted communities per year.

6.1.2 Maintain 300 acres (80% of fire adapted communities) within a 2 - 3 year target fire return interval.

6.1.3 Contract with FNAI to update maps of historic and current natural communities.

6.1.4 Develop and implement prescribed burn plan.

6.1.5 Conduct habitat/natural community restoration activities including mechanical/chemical treatment on 10 acres.

6.1.6 Conduct timber harvesting for the purposes of habitat restoration on 300 acres.

6.1.7 Continue to implement OBVM program.

6.1.8 As described in the WCPR Strategy, apply appropriate resource management actions to move towards achieving OBVM desired future conditions on approximately 350 acres of gopher tortoise habitat and maintain the habitat in this condition.

Long-term

6.1.9 Continue to conduct prescribed burning on 130 acres of fire-adapted communities per year.

6.1.10 Continue to maintain 360 acres (100% of fire adapted communities) within 2-3 year target fire return interval.

6.1.11 Continue to implement OBVM program.

6.1.12 Continue to conduct habitat/natural community improvement on 10 acres per year.

6.1.13 Continue to conduct habitat/natural community restoration activities on 10 acres.

6.1.14 As described in the WCPR Strategy, continue to apply appropriate management actions to move towards achieving OBVM desired future conditions on approximately 350 acres of gopher tortoise habitat and maintain the habitat in this condition.

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

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

Short-term

6.2.1 Continue to implement the WCPR strategy.

6.2.2 Monitor four imperiled and focal species (gopher tortoise, southeastern American kestrel, Bachman's sparrow, and brown-headed nuthatch).

6.2.3 As described in the WCPR Strategy, maintain and monitor at least two functional southeastern American kestrel nest boxes within suitable habitat. Annually assess habitat conditions around nest boxes and adjust land management actions accordingly to ensure continued suitability.

6.2.4 Continue to collect opportunistic wildlife species occurrence data, including listening for Bachman's sparrows and brown-headed nuthatches while conducting kestrel monitoring.

Long-term

6.2.5 Continue to implement WCPR strategy by managing identified habitats and monitoring identified species.

6.2.6 Continue to monitor four imperiled and focal species (gopher tortoise, southeastern American kestrel, Bachman's sparrow, and brown-headed nuthatch).

6.2.7 As described in the WCPR Strategy, conduct a gopher tortoise survey in 2020 and repeat every five years.

6.2.8 As described in the WCPR Strategy, continue to maintain and monitor at least two functional southeastern American kestrel nest boxes within suitable habitat. Annually assess habitat conditions around nest boxes and adjust land management actions accordingly to ensure continued suitability.

6.2.9 As described in the WCPR Strategy, evaluate habitat suitability on POWEA and install additional southeastern American kestrel nest boxes where appropriate.

6.2.10 Continue to collect opportunistic wildlife species occurrence data, including listening for Bachman's sparrows and brown-headed nuthatches while conducting kestrel monitoring.

6.2.11 Update the WCPR Strategy.

6.3 Exotic and Invasive Species Maintenance and Control

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

Short-term

6.3.1 Annually treat at least 70 acres of FLEPPC Category I and Category II invasive exotic plant species including air potato, alligator weed, Caesar's weed, camphor tree, chinaberry, Chinese tallow, Chinese wisteria, cogongrass, coral ardisia, elephant ear, lantana, mimosa, paper mulberry, rosary pea, skunk vine, sword fern, torpedo grass, tropical soda apple, water hyacinth.

6.3.2 Continue to monitor for occurrences of exotic animal and plant species and implement control measures, as necessary.

Long-term

6.3.3 Continue to annually treat at least 70 acres of FLEPPC Category I and Category II invasive exotic plant species including air potato, alligator weed, Caesar's weed, camphor tree, chinaberry, Chinese tallow, Chinese wisteria, cogongrass, coral ardisia, elephant ear, lantana, mimosa, paper mulberry, rosary pea, skunk vine, sword fern, torpedo grass, tropical soda apple, water hyacinth.

6.3.4 Continue to monitor for occurrences of exotic animal and plant species and implement control measures, as necessary.

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

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

Short-term

6.4.1 Continue to collect opportunistic wildlife occurrence data on the area.

Long-term

6.4.2 Continue to maintain and enhance a wildlife and plant inventory.

6.4.3 Continue to collect opportunistic wildlife occurrence data.

6.4.4 Install wildlife-friendly fencing along the boundary of POWEA.

6.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

6.5.1 Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 44 visitors per day.

6.5.2 Continue to provide two kiosks, a website, and an area brochure for interpretation and education.

6.5.3 Develop one new interpretive/education program (trail map).

6.5.4 Maintain/design/develop two miles of designated trails and 1.3 miles of undesignated trails.

6.5.5 Continue to coordinate with Chinsegut Conservation Center coordinator to conduct educational and interpretive programs on the area.

6.5.6 Continue to coordinate with other educational user groups such as astronomy groups, Audubon, and FNST for environmental education and interpretive programs on the area.

6.5.7 Continue to cooperate with United States Forest Service (USFS) and the Florida Trail Association (FTA) on FNST issues.

6.5.8 Develop a Recreation Master Plan.

6.5.9 Monitor trails annually for visitor impacts.

Long-term

6.5.10 Continue to maintain public access and recreational opportunities to allow for a recreational carrying capacity of 44 visitors per day.

6.5.11 Continue to provide two kiosks, a website, and an area brochure and trail map for interpretation and education.

6.5.12 Continue to coordinate with Chinsegut Conservation Center coordinator to conduct educational and interpretive programs on the area.

6.5.13 Continue to coordinate with other educational user groups such as astronomy groups, Audubon, and FNST for environmental education and interpretive programs on the area.

6.5.14 Continue to cooperate with USFS and FTA on FNST issues.

6.5.15 Implement the Recreation Master Plan.

6.5.16 Monitor trails annually for visitor impacts.

6.5.17 Reassess recreational opportunities every three years.

6.5.18 Cooperate with other agencies, Hernando County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.

6.5.19 Continue to identify partnerships that could provide for environmental educational programs and outreach.

6.6 Hydrological Preservation and Restoration

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

Short-term

6.6.1 Conduct or obtain a site hydrological assessment to identify potential hydrology restoration needs.

Long-term

6.6.2 Implement the results of the hydrological assessment to restore natural hydrologic condition and functions as feasible.

6.7 Forest Resource Management

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

Short-term

6.7.1 Contract for the development of a Forest Management Strategy.

6.7.2 Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

Long-term

6.7.3 Implement a Forest Management Strategy including reforestation, harvesting, and prescribed burning activities based on restoration and maintenance needs of the natural communities and other goals established for management of POWEA.

6.7.4 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 the historical resources of the POWEA.

Short-term

6.8.1 If determined to be necessary by DHR, contract for a historical resources survey.

6.8.2 Submit updates of any historical resources found at POWEA to DHR for inclusion in their Master Site file.

6.8.3 Ensure management staff has DHR Archaeological Resources Monitoring training.

6.8.4 Follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for the management of historical resources.

Long-term

6.8.5 Continue to Coordinate with DHR for cultural resource management guideline staff training.

6.8.6 Submit updates of any historical resources found at POWEA to DHR for inclusion in their Master Site file.

6.8.7 Continue to follow DHR's Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties for the management of historical 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.

Short-term

6.9.1 Continue to maintain two facilities including the main entrance and the FNST foot entrance.

6.9.2 Maintain two miles of designated trails, 1.3 miles of undesignated trails, and 4.2 miles of firebreaks existing on site (as applicable).

6.9.3 Monitor trails and infrastructure biannually for visitor impacts.

Long-term

6.9.4 Monitor trails and infrastructure biannually for visitor impacts.

6.9.5 Continue to maintain two facilities including the main entrance and the FNST entrance.

6.9.6 Continue to maintain two miles of designated trails, 1.3 miles of undesignated trails, and 4.2 miles of firebreaks existing on site.

6.9.7 Improve or repair two facilities (Main entrance and FNST entrance), and 0.5 miles of designated trails existing on site (as applicable).

6.9.8 Evaluate the feasibility of improving 1.5 miles of the entrance road and improve it if appropriate to improve access to POWEA.

6.10 Land Conservation and Stewardship Partnerships

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

Short-term

6.10.1 Identify potential important wildlife habitat, landscape-scale linkages, wildlife corridors, and operational/resource management needs.

6.10.2 Identify and develop conservation stewardship partnerships.

6.10.3 Identify and pursue conservation acquisition needs.

6.10.4 Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for FWC's LAP and Land Acquisition Programs.

6.10.5 Develop a Conservation Action Strategy.

6.10.6 Contact and inform adjoining landowners about the FWC LAP to pursue non-acquisition conservation stewardship partnerships.

6.10.7 Determine which parcels should be added to the FWC acquisition list.

6.10.8 Identify potential non-governmental organization partnerships and grant program opportunities.

6.10.9 Determine efficacy of conducting an adjacent landowner's assistance/conservation stewardship partnership workshop.

6.10.10 Identify potential conservation easements donations.

6.10.11 Evaluate and determine if any portions of POWEA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

6.10.12 Coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel as appropriate and compatible with the conservation of POWEA.

Long-term

6.10.13 To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for POWEA as appropriate and necessary.

6.10.14 Continue to identify and develop conservation stewardship partnerships.

6.10.15 Continue to identify and pursue conservation acquisition needs.

6.10.16 Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC OCPB and for the FWC LAP and Land Acquisition Program.

6.10.17 Continue to propose nominations of selected properties as additions to the FWC acquisition list.

6.10.18 Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.

6.10.19 As feasible, continue to periodically contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy, and coordinate landowner assistance/conservation stewardship partnership workshops as deemed appropriate.

6.10.20 Coordinate and conduct landowner assistance/conservation stewardship partnership workshop(s) as necessary and appropriate.

6.10.21 Continue to identify potential conservation easements donations.

6.10.22 Continue to evaluate and determine if any portions of POWEA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.

6.10.23 Continue to coordinate and cooperate with Department of Defense military branches to allow for training opportunities for military personnel as appropriate and compatible with the conservation of POWEA.

6.11 Cooperative Management and Special Uses

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

Short-term

6.11.1 Continue to cooperate with Hernando County on comprehensive adjacent land use planning issues or concerns.

6.11.2 Continue to cooperate with adjacent land owners with prescribed burning, exotic species control, and other management issues as needed.

Long-term

6.11.3 Continue to cooperate with Hernando County on comprehensive adjacent land use planning issues or concerns.

6.11.4 Continue to cooperate with adjacent land owners with prescribed burning, exotic species control, and other management issues as needed.

6.12 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 POWEA.

Long-term

6.12.1 Coordinate with FWC Fish and Wildlife Research Institute Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the POWEA.

6.12.2 Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the POWEA.

6.12.3 Incorporate appropriate climate change adaptation strategies into the WCPR for POWEA.

6.12.4 As appropriate, update the POWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of POWEA's fire-adapted habitats.

6.12.5 As science, technology, and climate policy evolve, educate natural resource management partners and the public about the agency's policies, programs and efforts to study, document and address potential climate change; assess the need to incorporate public education about climate change into FWC's public education curriculum.

6.13 Research Opportunities

Goal: Explore and pursue cooperative research opportunities.

Long-term

6.13.1 Explore and pursue cooperative research opportunities through universities, Fish and Wildlife Research Institute, etc.

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

6.13.3 Continue to assess the need for and pursue research and environmental education partnership opportunities as appropriate.

7 Resource Management Challenges and Strategies

The following section identifies and describes further management needs and challenges associated with POWEA 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: A complete boundary survey of POWEA is lacking.

7.1.1 Strategy: Explore the feasibility of contracting for boundary survey.

7.2 Challenge: Currently, the POWEA is understaffed for both land management and law enforcement.

7.2.1 Strategy: Continue to seek approval for additional funding for appropriate staffing levels.

7.2.2 Strategy: Seek approval for one FTE staff position dedicated for the POWEA.

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

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

7.4 Challenge: FWC currently does not have the funding and capability to monitor, interpret, and analyze groundwater resources.

7.4.1 Strategy: Work with the SWFWMD to conduct a hydrological assessment for the POWEA

7.4.2 Strategy: Coordinate with the SWFWMD to obtain expertise and resources for placement of monitoring devices, collection, and analysis of data.

7.4.3 Strategy: Contract for water quality assessments as feasible.

7.5 Challenge: Insufficient habitat exists within the POWEA for the long-term conservation of far-ranging species that have been documented or are expected to occur on the POWEA, such as the Eastern indigo snake, and Sherman's fox squirrel. In addition, increased development and urbanization surrounding POWEA isolates the property from other suitable wildlife habitat and poses a risk to the area becoming an isolated island of habitat.

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

7.6 Challenge: The POWEA is not a well-known recreation destination.

7.6.1 Strategy: Cross-promote the POWEA with other regional public conservation lands.

7.6.2 Strategy: Work with county tourism boards to promote the POWEA as a recreation destination.

7.6.3 Strategy: Cooperate with various user groups such as Audubon and North American Butterfly Association to educate potential users about POWEA's many recreational offerings.

7.7 Challenge: Illegal access and use has occurred on the area.

7.7.1 Strategy: Coordinate with FWC Law Enforcement to control unauthorized access.

7.7.2 Strategy: Request additional funding for increased law enforcement staff.

7.7.3 Strategy: Increase communication with Law Enforcement to have an enhanced knowledge of the area and law enforcement issues.

7.8 Challenge: Currently there are densities of exotic species on adjacent lands providing an extensive source of seed that disperses throughout and onto the POWEA.

7.8.1 Strategy: Coordinate with the local Cooperative Invasive Species Management Area (CISMA), University of Florida cooperative extension office, FWC's Uplands Invasive Plant Species Section, FWC's Landowner Assistance Program, and private organizations to obtain resources to control and manage exotic invasive plants on adjacent properties and the area.

7.8.2 Strategy: Cooperate with adjacent landowners on exotic species control and on obtaining funding to aid in exotic species management on adjacent private lands.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of POWEA. This cost estimate was developed using data developed by FWC and other cooperating entities, and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from the LATF 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 mitigation, may be sought to supplement existing funding.

The cost estimate below (Tables 14 and 15), although exceeding what 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 POWEA. Cost estimate categories are those currently recognized by FWC and the Land Management Uniform Accounting Council. More information on these categories, as well as the Fiscal Year 2016-2017 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.9.

Table 14: Perry Oldenburg WEA Management Plan Cost Estimate
Maximum expected one year expenditure

Resource Management	Expenditure	Priority
Exotic Species Control	$28,847	(1)
Prescribed Burning	$31,100	(1)
Cultural Resource Management	$0	(1)
Timber Management	$3,018	(1)
Hydrological Management	$0	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$180,916	(1)
Subtotal	**$243,880**	
Administration		
General administration	**$7,369**	(1)
Support		
Land Management Planning	$8,705	(1)
Land Management Reviews	$0	(3)
Training/Staff Development	$3,007	(1)
Vehicle Purchase	$87,817	(2)
Vehicle Operation and Maintenance	$7,426	(1)
Other (Technical Reports, Data Management, etc.)	$4,300	(1)
Subtotal	**$111,255**	
Capital Improvements		
New Facility Construction	$141,026	(2)
Facility Maintenance	$32,237	(1)
Subtotal	**$173,263**	
Visitor Services/Recreation		
Info./Education/Operations	**$7,775**	(1)
Law Enforcement		
Resource protection	**$347**	(1)
Total	**$543,890***	

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

*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.

Table 15: Perry Oldenburg WEA Management Plan Cost Estimate
Ten-year projection

Resource Management	Expenditure	Priority
Exotic Species Control	$253,453	(1)
Prescribed Burning	$273,244	(1)
Cultural Resource Management	$0	(1)
Timber Management	$26,517	(1)
Hydrological Management	$0	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$1,589,545	(1)
Subtotal	**$2,142,759**	
Administration		
General administration	**$64,747**	(1)
Support		
Land Management Planning	$76,486	(1)
Land Management Reviews	$0	(3)
Training/Staff Development	$26,417	(1)
Vehicle Purchase	$309,032	(2)
Vehicle Operation and Maintenance	$65,245	(1)
Other (Technical Reports, Data Management, etc.)	$37,782	(1)
Subtotal	**$514,961**	
Capital Improvements		
New Facility Construction	$407,353	(2)
Facility Maintenance	$283,233	(1)
Subtotal	**$690,586**	
Visitor Services/Recreation		
Info./Education/Operations	**$68,316**	(1)
Law Enforcement		
Resource protection	**$3,049**	(1)
Total	**$3,484,418***	

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

*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 FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as "conditional" items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as "rejected" represent those for which FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

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

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

impractical or where providing such access would change the fundamental character of the facility being provided).

Uses planned for POWEA are in compliance with the Conceptual State Lands Management Plan and its requirement for "balanced public utilization," and are in compliance with the mission of FWC as described in its Agency Strategic Plan (Appendix 12.6). 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 POWEA in compliance with Chapter 388.4111 F.S. (Appendix 12.10). The Arthropod Control Plan was developed in cooperation with the local Hernando County arthropod control agency. This Management Plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Hernando County, Florida (Appendix 12.11).

11 Endnotes

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[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.

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[8] Parmesan, C. 2006. Ecological and evolutionary responses to recent climate change. Annual Review of Ecology, Evolution, and Systematics 37:637-669.

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[15] Mann, M.E. and K.A. Emanuel. 2006. Atlantic Hurricane Trends Linked to Climate Change. Eos Trans. AGU 87: 233-244.

[16] Stanton, E.A. and F. Ackerman. 2007. Florida and Climate Change: The Costs of Inaction. Tufts University Global Development and Environment Institute and Stockholm Environment Institute–US Center, Tufts University, Medford, MA.

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12 Appendices

12.1 Lease Agreement

DIVISION LOG # 3042 AGREEMENT NUMBER

AGREEMENT ROUTING REVIEW FORM

CONTRACTOR BOT / FWC MITIGATION PARK - PERRY OLDENBURG

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

PROJECT TITLE PERRY OLDENBURG WEA – MITIGATION PARK

ORIGINATOR/CONTACT D. JERMYN PHONE 488-3831 DIV./OFFICE/MAIL 10

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

___EXPENDITURE** ___REVENUE X AGREEMENT ___EASEMENT/DEED ___LEASE (INCLUDES WMA OR FMA LEASES)

AGREEMENT BEGINNING DATE/EXECUTION 12/18/89 END DATE INDEFINITE OPTION FOR___YEARS

TOTAL CONTRACT AMOUNT $_____ PAYMENT AMOUNT $_____

BILLING PERIODS: ___MONTHLY ___QUARTERLY ___ANNUALLY ___OTHER_____

BUILDING INSURANCE TO BE INCURRED BY THE COMMISSION(LEASES) ___NO ___YES (Notify Property Administrator)

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

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

Certified Minority: ___Yes ____No ____Not Available ___Not Appl. Minority Category _____ (See reverse side for options)

Commodity Code_____ Federal Funds: Agcy _____ CFDA _____

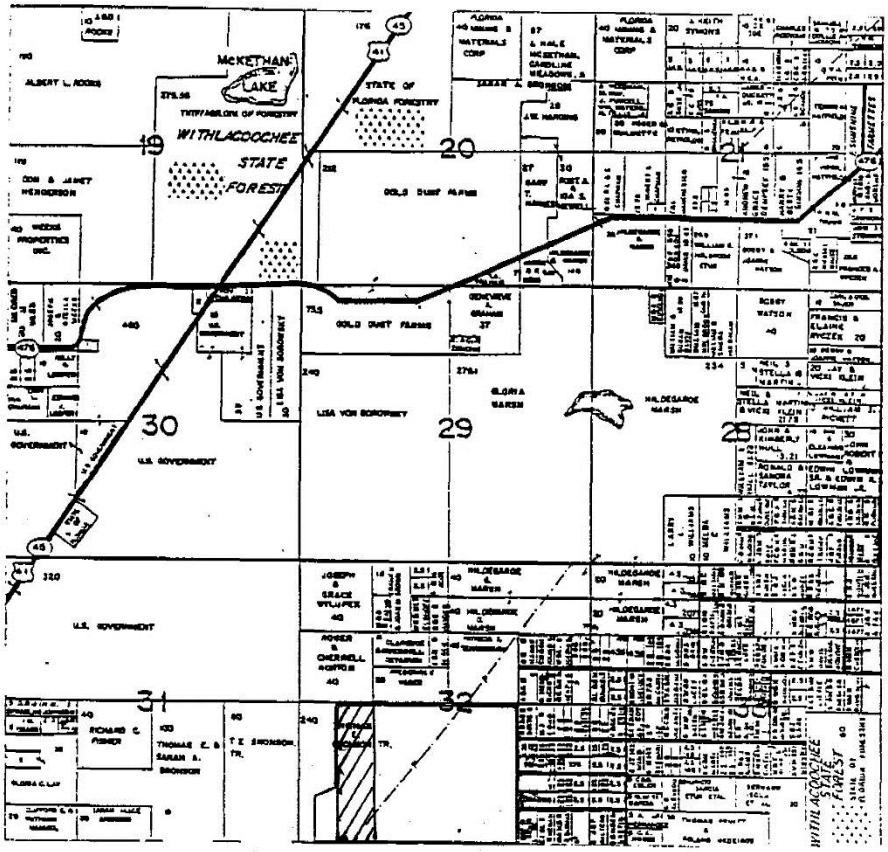
Routing Order for Approval	Approval (Signature)	Date	Comments
1. Project Leader		12/23/09	Budget Sheet is available upon request by external sources. ___ Yes ___ No
2. Budget Director (Expenditure Only)			Budget Authority: __ Existing __ New
3. Div./Reg./Inst./Off. Dir./Section Leader			
4. Contracts Administrator			
5. Legal			
6. Accounting			Funds Availability: ___ Yes ___ No
7. Exec./Div./Reg./Inst./Off. Dir. **review (check below).**			
__ 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**			
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

1/14/10

Perry Oldenburg
Mitigation Park

TWP 21 S. RNG. 20 E.
SOUTHWEST QUARTER
HERNANDO CO., FLORIDA



M&A	ENVIRONMENTAL AND GROUNDWATER SERVICES		Missimer & Associates, Inc.
	DRN. BY:	DWG NO.	DATE: July 1, 1992
	PROJECT NAME: Bronson Property		NUMBER: TE1-777

FIGURE 1. REGIONAL LOCATION MAP

Perry Oldenburg Mitigation Park

Contents

Location Map

Legal Description

Survey

Action Required

Establishment Order (Amend Existing Order)

Figure 2. Parcel Acquisition Map for Oldenburg Mitigation Park
(values equal mitigation dollars paid for each parcel)

(4.2)

Address

004386

90 FEB -7 [illegible] FEB 21 1990

This instrument was prepared by: R.C. McClymonds
Name SIRKIN & McCLYMONDS, P.A.
Address 7900 Red Road, Suite 25
SOUTH MIAMI, FLORIDA 33143

Grantee S.S. No. _____
Name
Grantee S.S. No. _____
Name

[Space above this line for recording data.]

WARRANTY DEED (STATUTORY FORM — SECTION 689.02, F.S.)

This Indenture, made this 18th day of December, 1989, **Between**
THE TRUST FOR PUBLIC LAND, a charitable nonprofit California corporation,

of the County of Leon, State of Florida, grantor*, and
FLORIDA GAME AND FRESH WATER FISH COMMISSION, an agency of the State of Florida,
whose post office address is 620 South Meridian Street, Tallahassee 32399-1600
of the County of LEON., State of Florida, grantee*,

Witnesseth that said grantor, for and in consideration of the sum of
Ten and No/100 ($10.00) ---------- Dollars,
and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's heirs and assigns forever, the following described land, situate, lying and being in Hernando County, Florida, to-wit:

The West 1/2 of the North 1/2 of the Northeast 1/4 of Section 32, Township 21 South, Range 20 East, of the Public Records of Hernando County, Florida, containing 40.54 acres, more or less.

SUBJECT TO: Conditions, restrictions, limitations, reservations and easements of record, if any.

Documentary Tax Pd $ .55
Intangible Tax Pd $ _____
Karen Nicolai Clerk of Circuit Ct
Hernando County, Florida
By Tracey Crem D.C.

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

*"Grantor" and "grantee" are used for singular or plural, as context requires.

In Witness Whereof, grantor has hereunto set grantor's hand and seal the day and year first above written.
Signed, sealed and delivered in our presence:

Elizabeth M Fawcett
Eleanor S. Hrnyez

THE TRUST FOR PUBLIC LAND (Seal)
By: Don Morrow (Seal)
_____ (Seal)
_____ (Seal)

#2

55

s Instrument Prepared by:
rvey A. Abrams, Regional Counsel

RUST FOR PUBLIC LAND
2 Beard St.
llahassee, FL 32303

erty Appraisers Parcel Identification (Folio) Number(s):

tee(s) S.S.#(s):

0 1957

Documentary Tax Pd. $ .55
Intangible Tax Pd. $ —
Karen Nicolai, Clerk of Circuit Ct.
Hernando County, Florida
By ____ D.C.

O.R. 774 PG 1923

SPACE ABOVE THIS LINE FOR PROCESSING DATA — SPACE ABOVE THIS LINE FOR RECORDING DATA

This Warranty Deed *Made and executed the* 27th *day of* February *A. D.* 1990 *by* THE TRUST FOR PUBLIC LAND, a charitable non-profit corporation.

a corporation existing under the laws of California *and having its principal place of business at* 322 Beard Street, Tallahassee, FL 32303 *hereinafter called the grantor, to*

FLORIDA GAME AND FRESH WATER FISH COMMISSION, an agency of the State of Florida.

whose postoffice address is
620 South Meridian Street, Tallahassee, FL 32399-1600
hereinafter called the grantee:

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

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

The East 1/2 of the North 1/2 of the Northeast 1/4 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, containing 40.54 acres more or less.

Conveyed to GFC, not State of FL.
No 253.03 exceptions.

Together *with* *wise appertaining.*

To Have and

And *the grantor h* *simple; that it has good* *rants the title to said la* *and that said land is fre*

SEAL)

Fee simple

Full Warranty

Secretary

The Trust for Public Land

ed, sealed and delivered in the presence of:

Hans A. Abrams

By

(#3)

EXHIBIT "A"

LEGAL DESCRIPTION

A portion of the NW 1/4 of the NW 1/4 of Section 33, Township 21 South, Range 20 East, Hernando County, Florida, being more particularly described as follows:

COMMENCE at the Northwest corner of said Section 33, thence North 89°37'41" East, along the North boundary line of said Section 33, a distance of 877.00 feet; thence South 00°08'55" East, a distance of 1341.30 feet to the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33; thence South 89°36'07" West, along the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 877.35 feet to the West boundary line of the NW 1/4 of said Section 33; thence North 00°08'02" West, along the West boundary line of the NW 1/4 of said Section 33, a distance of 1341.70 feet to the POINT OF COMMENCEMENT.

023003

#4

74495 T-43720 Legal Description(continued)

A portion of the NW 1/4 of the NW 1/4 of section 33, Township 21 South, Range 20 East, Hernando County, Florida, being more particularly described as follows:

COMMENCE at the NW corner of said Section 33, thence North 89° 37' 41" East, along the North boundary line of the NW of 1/4 of said Section 33, a distance of 877.00 feet for a POINT OF BEGINNING,

thence continue North 89° 37' 41" East, along the North boundary line of the NW 1/4 of said Section 33, a distance of 393.46 feet,

thence South 00° 09' 22" East, being 60.00 feet West of and parallel to the East boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 1281.12 feet,

thence South 89° 36' 07" West, being 60.00 feet North of and parallel to the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 165.35 feet,

thence South 00° 08' 23" East, a distance of 60.00 feet to the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33,

thence South 89° 36' 07" West, along the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 228.26 feet,

thence North 00° 08' 55" West, a distance of 1341.30 feet to the POINT OF BEGINNING.

AND

An easement for ingress and egress being more particularly described as follows:

Commence at the Northeast corner of the NW 1/4 of the NW 1/4 of said Section 33, thence South 00° 09' 22" East, along the East boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 1341.09 feet to the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, thence South 89° 36' 07" West, along the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 165.37 feet for a POINT OF BEGINNING,

thence continue South 89° 36' 07" West, along the South boundary line of the NW 1/4 of the NW 1/4 of said Section 33, a distance of 60.00 feet,

thence North 00° 08' 23" West, a distance of 60.00 feet,

thence North 89° 36' 07" East, a distance of 60.00 feet,

thence South 00° 08' 23" East, a distance of 60.00 feet to the POINT OF BEGINNING.

(Continued)

Legal Description (continued)

AND

An easement for ingress and egress over the East 60.00 feet of the West 1/2 of the following described parcel:

Parcel No. 184, of Forest Hills, an unrecorded subdivision of Hernando County, Florida, said Parcel being more particularly described as:

Commencing at the Southwest corner of the SE 1/4 of SE 1/4 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, go thence North 00° 02' 02" West a distance of 3469.45 feet, thence South 89° 36' 57" East, a distance of 2352.17 feet to the POINT OF BEGINNING, continue
thence South 89° 36' 57" East, a distance of 331.07 feet,
thence North 00° 32' 48" East, a distance of 567.23 feet,
thence North 89° 41' 06" West, a distance of 330.73 feet,
thence South 00° 34' 53" West, a distance of 566.84 feet to the POINT OF BEGINNING.

EXCEPTING therefrom the Southerly 25.00 feet thereof to be used for road right-of-way purposes.

EXHIBIT "A"

Parcel A Legal Description

A portion of the SW 1/4 of the NE 1/4 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, being more particularly described as follows:

Commence at the NW corner of said SW 1/4 of the NE 1/4 for a POINT OF BEGINNING; thence N 89 degrees 00'25" E, along the North boundary line of said SW 1/4 of the NE 1/4, a distance of 1318.24 feet; thence S 00 degrees 10'53" E, along the East boundary line of said SW 1/4 of the NE 1/4, a distance of 11.45 feet to the North Boundary line of the unrecorded Forest Hills Subdivision; thence S 88 degrees 30'35" W, along said North boundary line, a distance of 38.85 feet; thence S 00 degrees 44'12" E, along the West boundary line of said Forest Hills Subdivision, a distance of 658.17 feet; thence S 89 degrees 02'31" W, a distance of 1285.21 feet to the West boundary line of said SW 1/4 of the NE 1/4; thence N 00 degrees 13'43" W, along the West boundary of said SW 1/4 of the NE 1/4, a distance of 669.23 feet to the POINT OF BEGINNING.

O.R. 790 PG 0754

#6

EXHIBIT "A"

LEGAL DESCRIPTION: PARCEL B

A portion of the SW 1/4 of the NE 1/4 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, being more particularly described as follows:

Commence at the NW corner of said SW 1/4 of the NE 1/4; thence S 00°13'43" E, a distance of 669.23 feet for a POINT OF BEGINNING; thence N 89°02'31" E, a distance of 1285.21 feet to the West boundary line of unrecorded Forest Hills Subdivision; thence S 00°44'12" E, along said West boundary line, a distance of 669.98 feet; thence S 89°04'36" W, along the South boundary line of said SW 1/4 of the NE 1/4, a distance of 1291.14 feet; thence N 00°13'43" W, along the West boundary line of said SW 1/4 of the NE 1/4, a distance of 669.24 feet to the POINT OF BEGINNING.

SUBJECT TO a 100 foot wide easement to Florida Power Corporation as recorded in O.R. Book 16, Page 331, Public Records of Hernando County, Florida.

The above described parcel contains 19.80 acres, more or less.

#7

EXHIBIT A

PARCEL A

A portion of the South 1/2 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, being further described as follows:

Commence at the Southwest corner of said Section 32; thence N 89°08' 17" E, along the South boundary line of the Southwest 1/4 of said Section 32, a distance of 2165.17 feet for a POINT OF BEGINNING; thence, continue along the South boundary line of the Southwest 1/4 of said Section 32, N 89°08'17" E, a distance of 488.73 feet to the Southeast corner of the Southwest 1/4 of said Section 32; thence N 89°18'28" E along the South boundary line of the Southeast 1/4 of said Section 32, a distance of 1314.74 feet to the Southeast corner of the Southwest 1/4 of the Southeast 1/4 of said Section 32; thence N 00°44'12" W, along the West boundary line of the unrecorded plat of Forest Hills, as established, a distance of 2677.85 feet to a point intersecting the North boundary line of the Southeast 1/4 of said Section 32, said point lying S 89°04'36" W, a distance of 25.97 feet from the Northeast corner of the Northwest 1/4 of the Southeast 1/4 of said Section 32; thence S 89°04'36" W, along the North boundary line of the Southeast 1/4 of said Section 32, a distance of 1291.14 feet to the Northeast corner of the Southwest 1/4 of said Section 32; thence continue S 89°04'36" W, along the North boundary line of the Southwest 1/4 of said Section 32, a distance of 488.70; thence S 00°13'48" E, a distance of 2672.21 feet to the Point of Beginning.

The above described parcel contains 110.000 acres, more or less.

O.R. 875 PG 1777

#8

O.R. 928 PG 1535

DESCRIPTION:

A portion of the South 1/2 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, being further described as follows:

Commence at the Southwest corner of said Section 32; thence N 89°08' 17" East along the South boundary line of the Southwest 1/4 of said Section 32, a distance of 2002.14 feet for a POINT OF BEGINNING; thence leaving said South boundary line, N 00° 13'48" W, a distance of 2672.04 feet to the North boundary line of the Southwest 1/4 of said Section 32; thence N 89°04'36" E, along said North boundary line, a distance of 163.03 feet; thence leaving said North boundary line, S 00°13'48" E, a distance of 2672.21 feet to the South boundary line of the Southwest 1/4 of said Section 32; thence S 89°08'17" W, along said South boundary line, a distance of 163.03 feet to the POINT OF BEGINNING.

Said parcel contains 10.00 acres, more or less.

EXHIBIT B

1. Easement to Florida Power Corporation recorded in Official Records Book 16, Page 329, Public Records of Herando County, Florida.

RECEIVED
PROPERTY

[redacted]

73 N. Broad St. Brooksville, FL 34601
Ph. (904) 796-1137

Chief: A. Hobbs	Revision	Date	By
By: B. Foley			
ed By: R. Powell			

Boundary Survey of 10-Acre Parcel lying in the South 1/2 of Section 32, Township 21 South, Range 20 East, Hernando County Florida. (See Sheet 1 of 2 for Survey)

#9

DESCRIPTION:

A portion of the South 1/2 of Section 32, Township 21 South, Range 20 East, Hernando County, Florida, being further described as follows:

Commence at the Southwest corner of said Section 32; thence N 89°08' 17" E, along the South boundary line of the Southwest 1/4 of said Section 32, a distance of 1839.10 feet for a POINT OF BEGINNING; thence leaving said South Boundary line, N 00°13'48" W, a distance of 2671.86 feet to the North Boundary line of the Southwest 1/4 of said Section 32; thence N 89° 04'36" E, along said North boundary line, a distance of 163.04 feet; thence leaving said North Boundary line, S 00°13'48" E, a distance of 2672.04 feet to the South boundary line of the Southwest 1/4 of said Section 32; thence S 89°08'17" W, along said South boundary line, a distance of 163.04 feet to the POINT OF BEGINNING.

Said contains 10.00 acres, more or less.

12.2 Public input

12.2.1 Management Advisory Group Meeting Results

Perry Oldenburg Wildlife and Environmental Area (POWEA)
Management Advisory Group (MAG)
Consensus Meeting Results

May 25th, 2016 in Brooksville, 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 *May 25th, 2016* at Southwest Florida Water Management District Office, in Brooksville, Florida in Hernando County. The ideas found below were provided by stakeholders for consideration in the 2016 - 2026 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:

Rank	# of Votes	Score	Idea	
1.	[10]	[33]	24.	**Increase educational programs, including citizen science, STEM, and interpretative signage/materials (including Gopher tortoise ecology and Sandhill communities)** Increase citizen science programs, STEM activities, and other educational and volunteer opportunities. Consider install education signage. Also include information for gopher tortoise and purpose of acquisition, and increase education specifically involving Sandhill communities.
2.	[8]	[24]	17.	**Continue to cooperate and maintain relationships with neighbors, partnering agencies, stakeholder groups, FTA, and other public and private entities.** This makes management issues easier and more manageable. The neighbors are around the area more often, and if there are good relationships with neighbors, they then can provide information that assist with management. Communication also makes things like notification of burns easier. Also, communication and cooperating with other areas involving special projects and other habitat needs can be beneficial.
3.	[7]	[20]	31.	**Continue to utilize prescribed fire to promote native plant communities, create an annual burn plan, and a system for neighbor notification.** Looking at optimal fire return interval, and determine existing and potential imperiled species fire needs. Implement prescribed burn plan, including informing neighbors, and utilizing fire to improve and promote native communities.
4.	[6]	[18]	5.	**Control exotic and invasive plants and animals.** This includes reducing exotic and invasive species such as mimosa and cogon grass, which also assists adjacent landowners control their exotics.

Rank	# of Votes	Score	Idea	
5.	[5]	[11]	7.	**Evaluate, maintain and manage low impact access.** People shouldn't be driving on the property and there shouldn't be any permanent facilities. We should be keeping the area special and not turn it into a park. Based on the purpose of the property, evaluate further recreational opportunities and account for increased traffic, and assess the needs for things such as to install places for shade, signage, social media, recycle cans, etc.
6.	[4]	[11]	6.	**Preserve, maintain, and enhance habitat for threatened and endangered species.**
7.	[3]	[8]	23.	**Manage and restore native plant communities for extant wildlife.** Develop a plan to identify restoration needs, and potential recommendations on how to deal with those needs. Continue to capture several activities involving land management.
8.	[2]	[2]	8.	**Protection of natural ecosystems for education and research.** Help conduct research and gain a better understanding of what we have on the area. We can also bring students for educational purposes.
9.	[2]	[8]	22.	**Increase public awareness of POWEA, including updating the website and literature..** Most people are unaware of the area's existence and why it is there. Use the outlets we can to inform the public, and also provide information such as an explanation that the area is a mitigation site, not a recipient site. Ensure literature and website are up to date.
10.	[1]	[1]	12.	**Continue to monitor rare and imperiled species.** Continue monitoring programs and routine surveys, to continue to implement these practices.
11.	[1]	[3]	19.	**Consider hydrology impacts of management activities.** We need to conduct a environmental impact analysis for management activities that are done on site. Hydrology is an example of these impacts, since this impact is most visible to neighboring communities.

Four items of equal rank:

Rank	# of Votes	Score	Idea	
12.	[1]	[4]	1.	**Manage timber resources for wildlife.** Reduce basal area to an appropriate level for wildlife, and initiating hardwood control.
12.	[1]	[4]	10.	**Maintain the Florida National Scenic Trail.** There is currently a temporary trail on the area, in the future we would like to get it to the point to put the trails back in where they originally were. Part of that is making sure the areas are blazed so they are not putting in the trail during burns.
12.	[1]	[4]	38.	**Maintain patrols and response to control illegal activities.** Managing boundaries and illegal activities and access, communicating with neighbors who also observe and can report illegal activities.
12.	[1]	[4]	40.	**Assess resource benefits provided by the area.** Difficulty of convincing the public of the importance of acquired conservation lands, so evaluating what benefits the area provides, for informational purposes, for decision makers.

Two items of equal rank:

16.	[1]	[5]	16.	**Institute 10 year plant and animal inventory.** Having an understanding of what is coming in and out, and what used to be there and what is there now.
16.	[1]	[5]	27.	**Institute use metrics.** Historically and presently it has been difficult to justify preservation of property. If we can get a handle on how it is being used, how often, the diversity of usage, and the benefits of the area, in order to communicate its importance. Also, evaluate an establishment of a sign in box.

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.

Rank	# of Votes	Score	Idea	
	[]	[]	14.	**Identify wildlife carrying capacity.** Wildlife management is important, this area has the potential of wildlife spreading. There needs to be a plan for overpopulations occurring of certain exotic wildlife, such as feral hogs and implementing a plan for wildlife populations in general.
	[]	[]	18.	**Assess the feasibility of a RCW (Red-cockaded woodpecker) colony.** Not necessarily putting RCW into the area, but if at some point it becomes reasonable to put RCW on the area, make sure we are prepared to do that.
	[]	[]	21.	**Establish a certification agreement for FNST with USFS/FWC.**
	[]	[]	26.	**Assess infrastructure needs.** Looking at education programs and field trips, over the next 10 years and assess if there is a need for additional structures based on other activities.
	[]	[]	28.	**Maintain connectivity for wildlife.**
	[]	[]	32.	**Consider Great Florida Birding Trail designation.**
	[]	[]	33.	**Evaluate potential revenue generation.** Consider looking into how revenue can be obtain, through timber, or user fees, etc.
	[]	[]	36.	**Establish optimum boundary.**
	[]	[]	41.	**Evaluate potential of a volunteer program.**

Perry Oldenburg Wildlife and Environmental Area
MAG Meeting Participants

Name	**Affiliation**
Active Participants	
Matthew Koenig	FWC Area Biologist
Lt. Kevin Grover	FWC Law Enforcement
Jeanene A. Fisher	Adventure Club
Wes Calhoun	Florida Trail Association
Laurie Campbell	Adjacent Private Landowner
Bernard Bathauer	Audubon Society
Alfredo B. Lorenzo	Florida A&M University
Wilbur Priest	Florida Forest Service
Mikel Renner	Florida Native Plant Society
Keith Morin	Department of Environmental Protection
Jim King	Hernando County Planning Department
Supportive Participants	
Jeff McGrady	FWC Habitat and Species Conservation (HSC), Regional Biologist
Victor Echaves	FWC HSC, District Biologist
Luis Gonzalez	FWC HSC, Landowner Assistance Program
Tom M. Matthews	FWC Office of Public Access and Wildlife Viewing Services (OPAWVS)
Heather Young	FWC HSC, Species Conservation Planning
Invited but Unable to Attend	
Will Van Gelder	Southwest Florida Water Management District
James Adkins	Hernando County Commissioner (Chairman)
Mike Wisenbaker	Division of Historical Resources
Dan Oliver	Natural Resources Conservation Service
Dan Hipes	Florida Natural Areas Inventory
Ricky Lackey	National Wild Turkey Federation
Jason Burton	FWC- Division of Hunting and Game Management
David Telesco	FWC Florida Black Bear
Dan Sullivan	FWC HARP Program Coordinator
David Johnson	FWC WHM Assistant Section Leader
Linda King	FWC – Invasive Plant Management
John Fury	Division of Freshwater Fisheries Management
Beth Stys	FWC FWRI Climate Change
Kristen Sommers	FWC – Exotic Species Selection
Steve Rockwood	FWC - Aquatic Habitat Conservation and Restoration
Brain Barnett	FWC—Transportation Project Coordinator
Terry Gilbert	FWC—Transportation Project Coordinator
FWC Planning Personnel	

Gary Cochran	Land Conservation and Planning Administrator
Lance Jacobson	Land Conservation and Planning, Lead Planner and Facilitator
Dylan Imlah	Recorder

12.2.2 Public Hearing Report

PUBLIC HEARING REPORT

FOR THE

PERRY OLDENBURG WILDLIFE AND ENVIRONMENTAL AREA

HELD BY THE

PERRY OLDENBURG WILDLIFE AND ENVIRONMENTAL AREA MANAGEMENT ADVISORY GROUP AND THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

JUNE 28th, 2016 – HERNANDO COUNTY, FLORIDA

The following report documents the public input that was received at Perry Oldenburg Wildlife and Environmental Area (POWEA) Management Advisory Group's (MAG) public hearing for the update to the Management Plan for POWEA that was held at 7:00-9:00 PM, on June 28th, 2016 at the Lake House, a Hernando County Parks and Recreation facility, in Hernando County, in Spring Hill, Florida.

POWEA Management Advisory Group Introduction:

The meeting was introduced by Ms. Laurie Campbell, a POWEA Management Advisory Group participant, who represented the POWEA MAG. Ms. Campbell indicated that she was one of 11 stakeholders that attended the Florida Fish and Wildlife Conservation Commission (FWC) facilitated POWEA MAG meeting held on May 25th, 2016. Ms. Campbell stated that the Draft Management Plan was being presented tonight by FWC staff, and that hardcopies of the draft plan and the POWEA MAG meeting report were available at the front door for the public's review. Ms. Campbell thanked everyone for attending and then introduced Mr. Gary Cochran, Land Conservation and Planning Administrator, FWC, to facilitate and coordinate the presentation of an overview of POWEA, FWC's planning process, and the draft components of the POWEA Draft Management Plan.

Presentation on an Overview of POWEA 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 POWEA, 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 POWEA 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 POWEA, including a description of the natural communities, data about POWEA visitors, revenue and economic benefits generated for the state and region by the area, wildlife species, recreational opportunities found on the area, surrounding conservation lands, surrounding Florida Forever Program Land Acquisition Projects, acquisition history, etc. He also explained FWC's planning process for the management of the public conservation land and asked if there were any questions regarding that process.

Questions, Answers and Discussion on the POWEA 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 POWEA, and not to discuss area hunting, fishing and use regulations since, as was noted earlier, FWC has a separate process for input on hunting and fishing regulations.

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

Hi, I am just wondering how many gopher tortoises are on the area? And what is the population like on Perry Oldenburg right now?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

There was a group gopher tortoise study done not too long ago, I do not have that information on hand at the moment. It is easily in the hundreds of gopher tortoises.

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

How much space do you think you would have to expand if the city or county were to bring in some?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Even though it is a mitigation park, it is not an active recipient site. Gopher tortoises are not being added to the area.

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

It's full?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

It is not necessarily full. It never received tortoises in the first place.

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

So it's naturally occurring?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Yes.

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

So it is not going to be a recipient site?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

No, it likely will not be a gopher tortoise recipient site unless there is some decline in the population there. The way these sites were acquired were for a functional, viable habitat at the time of acquisition to replace gopher tortoise habitat impacted elsewhere. So there are, were and still are healthy populations there that are intact. Generally, gopher tortoises that are relocated and transferred to other recipient sites, those sites have been determine to have a very low or non-existent gopher tortoise population.

Public Response: The same unidentified member of the audience continued this line of comments and questions:
That is interesting. So, in other words, this site was acquired in 1995 and it already had this native population of gopher tortoises on it?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Yes, that is why it was acquired. It met the criteria under the mitigation program to offset and mitigate for impacted gopher tortoise habitat.

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

So whatever conditions that existed on that piece of property at that time, evidently it was good for gopher tortoises?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

It had a formal evaluation process. We had to have a field review and a gopher tortoise survey, before we acquired it. There is a whole protocol of acquisition evaluation criteria before one of these sites are acquired for mitigation.

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

So they selected those places, they lived in Perry Oldenburg exactly the way it was, exactly the way it was in 1995, although we cannot channel the gopher tortoises, evidently they were happy there. They chose that as there space.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

There was an existing population, but that doesn't mean that the habitat was in the condition that it needs to be in.

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

Presentation of the POWEA Draft Management Plan:

At this point, Mr. Matt Koenig, the POWEA Area Biologist/Manager began the presentation of the POWEA Draft Management Plan. Mr. Koenig then completed and concluded the presentation of the POWEA Draft Management Plan.

Questions and Comments on the POWEA Draft Management Plan Presentation:

Mr. Jacobson asked if there were any comments or questions from the public regarding the 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.

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

We have met Matthew before, and some of you may know that I am very opposed to prescribed burning and timber harvesting. I wonder when you do timber harvesting, I wasn't aware that you were doing that already in Perry Oldenburg, how do you advertise that, is that just a legal notice in a newspaper?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

It is not advertised at all.

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

Who do you contact then to do timber harvesting?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We solicit bids from private contractors.

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

That is what I meant, bids.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We have invitation to bid. We post that online on MyFloridaMarketPlace. Basically, any contractor that is interested provides a quote and the lowest quote wins the product.

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

Lowest quote; in other words, you pay them?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

In some cases we pay them and in some cases they pay us. It depends on what kind of timber their taking, whether they are taking pines or oaks, and what they are doing with that timber and the quality of that timber. It varies.

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

Do they clear cut?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Absolutely not. They do selected thinning for wildlife exclusively, that is the goal of the thinning operation.

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

Do gopher tortoises, Florida mice, scrub jay and deer, do they all eat acorns?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Gopher tortoises do not eat acorns. But deer –

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

Wait a minute, all the literature will go against you on that one. It says here juvenile gopher tortoises eat lots of acorns.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

They primarily eat grasses or other herbaceous vegetation.

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

They eat that too and acorns. I know you are a highly educated person, I know that you would know that.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

I will defer to any of the other biologist in the room.

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

Then what I am reading is wrong. Every source I have read is wrong. And Florida mice, do they

not eat acorns?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

They eat seeds and –

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

They eat thousands of acorns? And the scrub jays will eat a thousand a season?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

They are no scrub jays on Perry Oldenburg, it is not scrub habitat. So that is not relevant to this area.

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

Deer?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Deer will absolutely eat acorns. Also, you have to take into consideration the seasonality of acorns. Deer have to survive for the entire year. So they need to eat during the spring and the summer when acorns are not actively being produced.

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

I understand that. I see that it is the highest quality of a protein source, I mean is like a seven on a scale of one to ten. Acorns are like a nine. That could sustain human beings.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Yes, but acorns are not available for the entire year. So you need diversity of structure and habitat with herbaceous vegetation.

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

I see on the list that there is some mesic hammock on the area?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

There is a small section of mesic hammock on the north end of Circle Pond near a depression marsh. It is very small and damp.

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

Could you not preserve that small area as a distinct habitat in and of itself, when you're going to take say, up to three hundred other acres?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

If it is identified as mesic hammock it will be left as it is.

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

It has been defined in your own paper as mesic hammock.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We do not attempt to try to convert other natural community types to sandhill that are identified as mesic habitat and that are naturally occurring.

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

When you come in the entryway there, that is a beautiful section to us at least.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

That is identified as ruderal habitat, so it is old pastures.

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

Would you leave it in that condition or are you going to burn that section also?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

The ruderal habitat probably won't get burned. In the future it might be restored slowly by planting additional pines or doing some kind of treatment there.

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

Yes, we think we noticed and effort to plant there sometimes.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Nothing has ever been planted in that ruderal area.

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

But anyway, I think you mentioned something about red-cockaded woodpecker. You said it's difficult to get them to come in. We live on 10 acres just north of Perry Oldenburg. We are loaded with red-cockaded woodpeckers, they are all over the place, and we live in a mixed pine woods.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

To me it is highly unlikely, red-cockaded woodpeckers are a federally protected species.

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

I'm sorry I mean pileated. I don't know how many red-cockaded woodpeckers exactly, I did at least see a pair of red-cockaded woodpeckers on the side of my tree with my binoculars. So they do exist. They are in upland hardwood pine mixed forest too. I mean they are not exclusively in one area because we did see them in our yard. But you are right that was only a pair.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

I think it would be highly unlikely that you saw red-cockaded woodpeckers, it may be a different type of wood pecker maybe a red belly.

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

I could be wrong, but the patching on the back is so distinctive.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Yes, they are all very similar.

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

I had my bird book right there, but I could be wrong. They are not exclusive to one habitat. Again, you mentioned alternate strategies, is there something else that can be done to a habitat besides prescribed burning?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We can do broadcast herbicide applications which are very expensive. We can also do mechanical treatments such as selective thinning or shredding of smaller oaks.

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

I think you have tried to describe this to me before. You physically put up a barricade for every gopher tortoise burrow?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We do not barricade them, we put up flagging ribbon.

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

Something to say "Don't go here."

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Correct.

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

Does that go on for the length of the burrow, there is not a chance that the mechanicals will come in and crush the burrows?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

No, we tie on the flagging from one tree that goes across the burrow and is tied around another tree, and that marks to the operator of the machine not to go over there. They stay at least 15 feet away from that area.

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

That's good. You said something about "GPSing" the tortoises or their burrows?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We take a GPS waypoint of their burrow and then we upload that information in the computer and it creates a map of all the burrows on site. Not necessarily the amount of gopher tortoises because only 60% of the burrows are occupied at one time. So it is not an indication of the amount of tortoises, it is an indication of the number of burrows.

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

So you know where the burrows are and you protect them all?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Yes, well, we try to protect them all as best as we can. Some of the burrows are difficult to see if there is thick vegetation. We try to protect every single one of them, but our goal is not to save every tortoise, it is to manage the population of tortoises.

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

I understand that there is about 1.2 million gopher tortoises in the state of Florida.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

That I don't know that number off the top of my head.

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

I had a hard time finding the figure. The numbers just aren't there. But I found a website that seems reputable that had that number; the website was affiliated with the Forestry Service.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

That would be a tough number to come up with.

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

That's a large number, almost as large as our alligator population. 1.25 million. It's a lot.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

I wouldn't be able to say with certainty if that is correct.

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

I was just looking at the gopher tortoise population as a whole, forgive me, I will find the source. Thank you for answering, I appreciate that.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

You are welcome.

Public Question 3: An unidentified member of the audience provided the following comments and questions:

What kind of climate change do you except to happen in the next 10 years?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

At the workshop we mostly discussed sea level rise, that's the biggest concern right now. But that's not going to impact Perry Oldenburg as much as a coastal property like Chassahowitzka WMA because it's farther inland. The effects of climate change on Perry Oldenburg are going to be altered rainfall. Maybe rainfall might be more infrequent, and when it does happen it's an issue. That's going to stress out the plants that are there, it's going to alter humidity and disrupt prescribed burning. It's just going to present a whole set of challenges.

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

What can you do about that?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

There's not a lot that we can proactively do other than continue to monitor these changes and develop, basically, threshold triggers that will tell us when the change is occurring, and then from there we can alter our management strategies to accommodate for those changes. So maybe we might burn at a different time of year, or maybe summer burns are no longer safer than winter burns or something like that.

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

I live out there too, and where it's been burned, all the way up 19, is a disgusting mess, there are pines and palmetto palms.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Where on 19?

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

Chassahowitzka.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

What's your crossroad off of 19?

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

The high school.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Chassahowitzka would be across the street from the high school. That is an area that had never been burned before. When we first burned there it was a little more challenging, a ton of fuels in there. It got a little hot, but it's nothing that their people can't account for. For the next burn it's going to be much nicer, much more manageable than it is now.

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

Was that part of the Land O' Lakes fire that led to the houses?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

No. No, this was a prescribed fire that happened in 2013. It had nothing to do with the Land O' Lakes fire.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

I might add. It's important to know when we're talking about prescribed burning,, obviously,

everyone is entitled to have reasons for their feelings regarding the appropriateness of it, and whether they support it or not. But a critical factor is whenever we have fire adapted communities in Florida, and we know where those are, that traditionally they're maintained over eons through natural wildfires and natural fires that course through the landscape. They will burn whether we conduct prescribed burning or not. So, one of the important reasons for continuing to conduct prescribed burning, on those landscapes that we can do it on, is that the prescribed burning is controlled, and therefore it's a slow moving burn across the landscape. It's not a catastrophic wildfire. You're reading about some of the wildfires in California, or the ones that occurred in Canada recently, where they destroyed tens of thousands, hundreds of thousands, of acres in some of the really large parts that occur out west. If the larger landscapes of natural lands that we have left are not continually prescribe burned, we don't maintain that habitat in its natural condition or as close as we can to it, it is absolutely inevitable that, at some point in time, we will have a wildfire in the area. It'll become a catastrophic wildfire that will consume the entire landscape and maybe surrounding homes and other lands.

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

When was the last time we had a fire that was set by lighting?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

We have them all the time.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

There were two in 2015. They're typically immediately put out by the Florida Forest Service before they get out of hand. One of them, in 2015, was about 5 acres in size before the Florida Forest Service put a line around it and put it out. But the other one was a naturally caused fire that just struck a pine tree, it lit a small area less than a quarter acre in size, and then ran until the storm immediately put it out.

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

Usually rainfall is part of a storm – you know, lightning – so that makes sense.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Yeah. But it happens very frequently.

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

This all confuses me to no end. I can't understand, if the turtles and the birds are already there and happy, why do you have to babysit them? Where is all this money coming from?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

The reason we need to do controlled burns is, like Gary said, to prevent a catastrophic wildfire in the woods.

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

Just in case.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Not just in case –

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

I get it. I get it now.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

So, we burn them under a controlled environment so that they don't get out of hand and destroy property and endanger human lives. That's why we control burn. So, you're other point, where the money comes from, it comes from public trusts.

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

How does it get into public trusts?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Our funding for the management of our Wildlife Environmental Areas, like Perry Oldenburg, and our Wildlife Management Areas throughout the state comes from, what is known as, the State Wild Land Acquisition Trust Fund. This fund is appropriated by the Florida Legislature. Those funds are a direct result of an excised tax, or a tax on documentary stamps. Documentary stamps are, for those that are not familiar with them in the audience, they're a stamp that's put on every document that's reported in every county in Florida in the county public records, whether that be deeds or other types of real estate transactions, mortgages, etc. Any type of document that's reported through public records. Those counties charge a certain fee for a documentary stamp tax and then the state has, traditionally, for more than thirty years,

dedicated a percentage of that, not all of it, but a percentage of those funds to go to both the acquisition and management of conservation lands.

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

Is that Florida Forever?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

That is a funding source for Florida Forever, as well as for land management funding. FWC also receives some funding from the US Fish and Wildlife Service that comes in the form –

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

Say that again?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

From the US Fish and Wildlife Service.

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

The US, ok.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Every state fish and game agency in the nation, by an act of law in congress, receives a percentage of their funding for the state fish and game agencies to run their state's fish and wildlife agencies at the state level from an excised tax on boating fuels, motor fuels, or marine boats, and for firearms, ammunition, and other things that are deemed to be outdoor related sports activities. So that's an excised tax. Anybody buys, say, fuel to go with or an outboard motor for a recreation boat or, like I said, ammunition or guns or fishing gear, anything that's considered to be outdoor sporting equipment, there's a very small tax on that. Then that's distributed across the fifty states for a federal grant and aid, as a federal promise to maintain and manage fish and wildlife. So we do receive some federal funds as well, but most of our funding comes from the Land Acquisition Trust fund, which is, again, appropriated by the Florida Legislature.

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

So, alternately, it's tax payers' money. The only place the government gets money is from people.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Sure, it's all tax payers' money.

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

So it's all tax payers. And, by the way, those documentation stamps also fund Section 8 housing.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

They fund a variety of things, yes ma'am. Just one part of the percentage of it goes toward land acquisition and conservation management.

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

You mentioned the geological restoration plan. How much of the hydrology has been studied so far and is it insight that there's some change from the historic?

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

No, none of the hydrology has been studied to my knowledge at this stage.

FWC Response: Mr. Victor Echaves, POWEA District Biologist, responded:

We like to go through a process. We see an issue, we hire an independent contractor and they do a hydrological assessment. We've done Chassahowitzka, Hilochee, and a whole bunch of other areas, and when an issue arises, like you said, if our knowledge is very limited in that area, we would have some creeks and lakes with some issue and we'll do a critical assessment at this point in time. We'll see red flags and do an assessment.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Generally an assessment will have a series of management recommendations. So in areas that have eroding, we would suggest culverts to divert water somewhere to prevent problems. We generally follow the recommendations.

FWC Response: Mr. Victor Echaves, POWEA District Biologist, responded:

In Chinsegut we had some issues. Some wetland dried up. We had some erosion that we hadn't seen in the past. So that's a red flag. We'll do an assessment, and in return we receive

recommendations on how to fix this and that on an annual basis.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

I'll add just a little bit to that too. The hydrological assessments, as Matt and Victor both said, we do those on every single area we manage across the state and we're just now beginning to roll those in. They're part of a resource background and baseline inventory profile that we develop for every one of our areas. So, just as Matt talked about earlier, and Lance, we conducted natural communities mapping on the area to determine the general historic and the existing native plant communities in the area. We develop a soils profile analysis of the area and various other baseline resource information. Species reporting of the plants and animals out there, and a hydrological assessment is one part of that understanding of the baseline resources of the area. So that is the reason we require them for every area. Again, in this case, we're not aware of any existing issues. It's a high and dry sandhill sight so we're not expecting any, but we want to have that assessment just to make sure that we have the correct understanding of the hydrology in and around the area as part of our baseline information resource.

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

Well I'm also asking, I'm the Hernando County (inaudible) and I was monitoring that site for about six years. Please don't treat it because it's really anomalous. It's this really unique sight and when we wanted to offer (inaudible). But I'm doing PHD research related to my geology (inaudible) research to enhance the hydrological studies. Because it's unusual; it's not like a lot of the places in the sandhill region which is what I study. So it has a special interest to me.

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Thank you.

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

Please don't underestimate it. It's a really neat sight. I've seen things out there I've not seen anywhere.

FWC Response: Mr. Victor Echaves, POWEA District Biologist, responded:

Such as?

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

It's generally dry. But it does this thing, most sandhills, there's not clay or anything holding

water so more of it drains. When it doesn't drain, when it's not dry, is when the Florida aquifer rises into it. So moving water rises up, not down. That's the characteristic. That site's a little bit different. Usually sights that do drain quickly, they don't rise very quickly, they fall very quickly. This one does the opposite. It acts part time like a sandhill and part time like a wetland, so it's the opposite, which is why we stopped monitoring it. One day I went out there, it was right after a tropical storm and there was water in it. I was excited because there was no water a few weeks earlier. The exciting thing was there were all these little plumes of water, thirty or so. Probably the water was moving so quickly it was forcing air out of the limestone. I've not seen that before.

FWC Response: Mr. Victor Echaves, POWEA District Biologist, responded:

If we could get your contact information afterwards.

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

I'll send you the reports. And I have plant lists I've collected.

Public Question 5: An unidentified member of the audience provided the following comments and questions:

Hi I'm from the Florida Native Plant Society and I'm also a Florida Master Naturalist. I'm so glad to hear about what you've found. I haven't been out there recently, but I have been to the site a few times. Once, a field trip with the Florida Natural Masters program from Pinellas County, that sometimes uses it. During that trip the leaders did point out that, although yes it appears mostly to be sandhill, there's a whole section that is one of those ephemeral wetlands, the "sometimes" wetlands, and it has all kinds of interesting things in it. I guess I'm excited to hear that one of our fellow members here, who is an expert, is going to give advice and assistance. It's a great spot and I'm happy you're studying it. It's really a neat place.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

It's also very well maintained, even though it is fire excluded. Fire hasn't been on there in twenty years probably, yet it is still very well maintained.

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

Yeah there's are edges of wetland that are disconnected from fire, because Brazilian pines are creeping into it, so there are not many exotics.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

One of the biggest problems we face with exotics and invasive plants is cogon grass. There's a

lot of exotics that aren't particularly invasive, such as in an area that is cow pasture. We deal with exotics like tropical soda apple and cogon grass, that can be an issue, but they are not as big of a threat.

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

This may be outside of the scope, but this is specific to Perry Oldenburg. I was wondering if you knew, of all the forests found in Hernando County, what percentage have been exposed to prescribed burns?

FWC Response: Mr. Gary Cochran, Land Conservation and Planning Administrator, responded:

Most state owned conservation lands that are managed by our agency, and our sister agencies, there is a continued concerted effort to restore prescribed fires to the land scape, in order to maintain those fire adapted communities and to prevent catastrophic wildfires that we know will occur if those communities are not, at some point, maintained.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

We try to only introduce fire to fire adapted communities. If it's a non-fire adapted community like Hydric Hammock or a swamp, we don't attempt to burn those, we'd never consider burning them. We're looking to burn sandhill, scrub, open pine, those types of landscapes mostly.

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

Public Testimony on the POWEA Draft Management Plan:

Two 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 POWEA Draft Management Plan, and called the first speaker to the podium.

Public Testimony 1: Shirley Miketinac provided the following public testimony:

Just some general comments. I only have a five minute speech prepared, as usual. But, basically I know you've complained of a lack of participation with plans. You see you have a few interested individuals here, but mostly forestry people and wildlife people. What I would suggest again is I believe this should have been held out at Chinsegut Nature Center, as small as it is. This was a thirty mile drive for us, and we live in the neighborhood, to get here and a thirty mile drive back. If it had been done in that neighborhood I think you would might have gotten a better participation. Maybe not, people just don't care, what can I say? But, also I would think that putting out some sort of flyer to the neighborhood. We went around the neighborhood on a

weekend and talked to a few folks out there and they hadn't heard of it. Some people live there and still didn't know what was there and that's part of the problem. We did hand out some of the duplicated legal notices to put in the paper. Nobody reads the legal notices. That's not really good enough to get people out. I always suggest in the future, if at all possible, when you do these, to put it in the facility nearest to the neighborhood. Nearest to where those people live, who are the greatest stakeholders. It would be much appreciated. Just as far as the signage out there. How can we find it? We're looking for Perry Oldenburg, we've lived there for forty years in that neighborhood and never knew it was there until we saw a legal notice in the paper. We tried to find it and found Deer Run Rd. There should be a sign out on 41.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

There was a sign there, not on 41, but at the end of Deer Run Rd. Recently it was shot up and it fell down.

FWC Response: Mr. Tom Matthews, Recreation Planner for the Office of Public Access and Wildlife Viewing Services, responded:

We've been trying to get signs on 41 for Chinsegut for years now. The big issue is in the legislation that enabled DOT to put up signage for public events, FWC is not included in that statute. So we have to go to DOT and do site studies. There are certain minimum standards, like minimum visitation, hours you're open, having restrooms, this whole list of facilities that you have to have in order to put a sign. So we keep trying but we've been unsuccessful.

Public Response: Shirley Miketinac continued this line of comments and questions:

I appreciate that. That answers why there's no sign at all out there. What would be most helpful, even if it's a hand drawn sign, is when you get to Deer Ln. you have four dirt roads to choose from.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

That's where the sign I was talking about was vandalized.

Public Response: Shirley Miketinac continued this line of comments and questions:

As you continue with this, a sign there would be most helpful because we don't know which of those four dirt roads to take.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

You're absolutely right.

Public Response: Shirley Miketinac continued this line of comments and questions:

We lucked out and picked the right one. Now, of course, you just explained the heavy mechanicals in there destroyed that road. But we made it. Then there's no parking. So if you want to continue, I didn't see those things in the plan.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

That's absolutely in progress. They're going to line off that whole road and we can access –

Public Response: Shirley Miketinac continued this line of comments and questions:

And we would appreciate that, if that were written into the plan. As you said, this is still an open plan. This is still a draft and those things I think would be the main goals to work to where you want to be to get people in there.

FWC Response: Mr. Matt Koenig, POWEA Area Biologist, responded:

Absolutely.

Public Response: Shirley Miketinac continued this line of comments and questions:

Thank you. One of my main concerns is that I hate to see any one portion of a habitat destroyed. I am sincerely begging you to leave some small portions there, and not to burn all of this, because I still uniquely believe that the oak trees have a place in this whole scheme of things in nature. That they were put on Earth for a reason. Everything can't be all pine habitat. We, if nothing else, need the shade. I'll go over this another time, but I went through at least five sources that list acorns as a staple food for gopher tortoises. I have the names and lists and I'll give them to you. I don't know why we disconnect on that, and you don't believe that they could possibly use that, where, back where we have them under oak trees on our property. They do exist in other places. I just hope that you'll maintain that mesic hammock, keep it and protect that part of the habitat also. It's not just beauty. I believe God provides different trees for different reasons and that they all have a purpose here on this Earth. If you try to narrow it down to just one type then I think you're limiting animal life, food sources, just the diversity of life you can have. I know it's easy to get into that vain of thinking, "pine trees, this is what we have to do. We burn this off and have pines trees." I know I'm this strange person coming here, and that you're university trained, but let me get inside your head every now and again and say maybe we need to rethink a few of these strategies. Do something a little bit differently, sometimes. Maybe, just listen to the people out there who would like to see this be a little bit different, be a mixed situation and not make it always for the habitat. You know the hikers on the trail, you need that little bit of change in scenery, you need that diversity that God gave us with all these different trees and not limit it to one species. I ask from the bottom of my heart that you consider that when you make your strategies for this, and every place that you work. Again, I want to say to, I go back to Dr. Baker, I know he's from Wyoming but he's a fire ecologist. I think he thinks out of the box which is why I connect with him, and why you wouldn't connect with him. He talks about the history of big fires that he's seen by going back and studying the fire ecology of looking at past records from the 1800s. Because they only happened maybe 50 to 300 years and that was

appropriate to manage and do everything you needed to do to bring back the forests. Not every 2 to 3 years. But I know you have to keep the oaks grown in. So you have to continually burn and once you start the process you can't stop. Every 2 or 3 years you have to keep doing it to keep this habitat maintained to keep this, what you call "pristine" and I call "barren," condition. So, again, it's just a different way of thinking. It's not a given science. There are people who will stand on the other side of this who are scientists, ecologists, and PHDs in the field, who disagree with you. That's hard to get around because, in the state of Florida, you won't find them. You can't find anything online that will tell you anything other than what you're preaching and telling us. I care about this Earth. I care about the ecology and all the animals and all the trees. It's the biggest thing to me in my whole life. We've lived in this area for forty years. We've watched Chinsegut change. We hope that you'll continue to conserve parts of it for us and for the animals. Thank you for listening.

Public Testimony 2: Pat Miketinac, provided the following public testimony:

We've talked briefly about the road and I'm glad you're addressing that. It's pretty much been destroyed by those logging trucks. While I've been thinking about that, rather than having a road, could you have a parallel road all the way for passenger cars? Then it won't get so beat up because it is rutted to where, if you tried to straddle it, there's a chance your car would stall. But passenger cars won't do that on other unpaved roads. So just another thought, let the logging trucks keep beating that up, because, what's going to happen? Then a separate road along-side it, you wouldn't have to worry about passenger cars. As far as the parking, I didn't really see a designated parking area, maybe you could kind of define that a little better with ropes and stuff. I couldn't really tell where to park out there, so that would help. Also we know that gopher tortoises will thrive without fires. We've had a burrower that's over thirty years on our own property that we've been monitoring, that's never been burned. We have a mix of hardwoods and pines. He said that before you acquired the property that there was a thriving population there before it was burned. So burning for the purpose of protecting the gopher tortoise just doesn't make sense. Thank you.

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

No other speakers offered further comments.

Then Mr. Jacobson declared the public hearing adjourned.

12.3 Soil Series Descriptions

The following are the USDA's descriptions of the soil units found at the POWEA:

12.3.1 Arredondo fine sand, 0 to 5 percent slopes.

This is a level to gently sloping, well-drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray fine sand about 8 inches thick. The subsurface layer is about 46 inches thick. The upper 6 inches is light yellowish-brown fine sand, the next 27 inches is brownish yellow fine sand, and the lower 13 inches is very pale brown fine sand. The upper 8 inches of the subsoil is reddish yellow fine sand, the next 7 inches is strong brown loamy fine sand, the next 11 inches is yellowish brown sandy clay, and below that to a depth of 99 inches is mixed yellowish red and strong brown sandy clay loam.

Included with this soil in mapping are similar soils that have plinthite content of more than 5 percent. Also included are small areas of Candler, Kendrick, Lake, and Sparr soils. Included soils make up about 18 percent of any one mapped area.

This soil has low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Permeability is rapid in the sur- face and subsurface layers and moderate or moderately rapid in the subsoil. Natural fertility is low.

12.3.2 Arredondo fine sand, 5 to 8 percent slopes.

This is a sloping, well-drained soil on uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark grayish brown fine sand about 3 inches thick. The subsurface layer is about 49 inches thick. In sequence from the top, the upper 6 inches is yellowish brown fine sand, the next 26 inches is brownish yellow fine sand, and the lower 17 inches is very pale brown fine sand. The upper 3 inches of the subsoil is strong brown loamy fine sand. The next 20 inches is strong brown sandy clay loam and sandy clay over reddish yellow loamy sand that extends to a depth of 80 inches or more.

Included with this soil in mapping are similar soils that have plinthite content of more than 5 percent and similar soils that have slopes of less than 5 percent or more than 8 percent. Also included are small areas of Candler, Kendrick, Lake, and Sparr soils. In some small areas, the soil is moderately eroded. Included soils make up about 20 percent of any mapped area.

This soil has low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate or moderately rapid in the subsoil. Natural fertility is low.

12.3.3 Candler fine sand, 0 to 5 percent slopes.

This is a level to gently sloping, excessively drained soil in very large to small areas on uplands. Typically, the surface layer is dark grayish brown fine sand about 4 inches thick. The subsurface layer is fine sand to a depth of about 48 inches. The upper 5 inches is brown, the next 11 inches is light yellowish brown, and the next 28 inches is brownish yellow. Below a depth of 48 inches is very pale brown fine sand containing lamellae of brown loamy fine sand about 1/16 to 1/8-inch-thick and 1to 4 inches long.

Included with this soil in mapping are small areas of Arredondo, Astatula, Lake, and Tavares soils. Also included are similar soils that have slopes of more than 5 percent. Included soils make up about 5 percent of any mapped area.

This soil has very low available water capacity in the upper 48 inches and low available water capacity below that depth. Permeability is very rapid in the upper 48 inches of the profile and rapid below. Natural fertility is low. The water table is below a depth of 80 inches.

12.3.4 Candler fine sand, 5 to 8 percent slopes.

This is an excessively drained, sloping soil on side slopes in sand- hill areas on uplands. Slopes are smooth to concave.

Typically, the surface layer is dark brown fine sand about 6 inches thick. The fine sand subsurface layer ex- tends to a depth of more than 80 inches. The upper 21 inches is yellowish brown; the next 33 inches is brownish yellow; the next 12 inches is very pale brown; and the lower part, between depths of 72 to 80 inches or more, is pale brown fine sand that has lamellae of strong brown loamy fine sand about 1/16 to 1/8-inch-wide and 1 to 4 inches long.

Included with this soil in mapping are small areas of Astatula, Tavares, and Arredondo soils. Also included are Candler soils that have slopes of less than 5 percent or 8 to 12 percent. An area of severely eroded soils is also included in this mapping unit. This area is about 200 acres in size and is just south of the Hernando-Citrus County line and about 1 mile southwest of U.S. Highway 19. Special blowout symbols are used on the soil map to show this area. Included soils make up less than 10 percent of any mapped area.

The water table is normally below a depth of 80 inches. This soil has very low available water capacity in the upper 72 inches and low available water capacity below that depth. Permeability is very rapid in the upper 72 inches of the soil and rapid below. Natural fertility is low.

12.3.5 Floridana Variant loamy fine sand.

This is a level, very poorly drained soil in depressions and along poorly defined drainageways. Slopes are smooth to concave and are less than 2 percent.

Typically, the surface layer is about 15 inches thick. The upper 8 inches is black loamy fine sand, and the lower 7 inches is very dark gray fine sand. The subsurface layer is about 7 inches thick. The upper 3 inches is dark grayish brown fine sand, and the lower 4 inches is light gray fine sand. The subsoil is grayish brown sandy clay loam to a depth of about 42 inches and fine sandy loam with pockets of loamy sand to a depth of about 59 inches. Below that is gray sandy clay.

Included with this soil in mapping are similar soils in which the surface and subsurface layers are less than 20 inches thick. Also included are similar soils in which plinthite content in the subsoil is more than 5 percent. Small areas of Blichton and Kanapaha soils were also included. Included soils make up about 10 percent of any mapped area.

In most years, under natural conditions, the water table is above the surface for 6 months or more. Floridana Variant soils have medium available water capacity and medium natural fertility. Permeability is rapid in the sur- face layer, moderate to moderately rapid in the upper part of the subsoil, and slow below.

12.3.6 Sparr fine sand, 0 to 5 percent slopes.
This is a level to gently sloping, poorly drained soil on seasonally wet, sandy areas on uplands. Slopes are smooth to concave.

Typically, the surface layer is dark gray fine sand about 5 inches thick. The subsurface layer is about 56 inches thick. The upper 4 inches is brown fine sand, the next 21 inches is yellowish brown fine sand, and the lower 31 inches is very. pale brown fine sand. The subsoil is light yellowish brown fine sandy loam to a depth of about 64 inches and light brownish gray sandy clay loam to a depth of about 80 inches.

Included with this soil in mapping are similar soils in which plinthite content in the subsoil is more than 5 per- cent. Also included are small areas of Arredondo, Kanapaha, Nobleton, and Tavares soils. Included soils make up about 15 percent of any mapped area.

This soil has a water table perched on the loamy materials for 1 to 4 months during most years. This soil has low available water capacity in the surface and sub- surface layers and medium to high available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.

12.4 Forest Resources

TIMBER ASSESSMENT

PERRY OLDENBURG WILDLIFE ENVIRONMENTIAL AREA

PREPARED BY:
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August 29, 2016

PURPOSE

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

BACKGROUND

LOCATION

The POWEA is located about six miles northeast of Brooksville in Hernando County. The Withlacoochee River is about four miles to the east of the area. The POWEA is located in Sections 32 and 33, Township 21 South, Range 20 East. The designated entrance to the POWEA is located at the intersection of Deer Run Road and Government Road about 1.25 miles east of U.S. Highway 41. There are 24 federal, state, county and private conservation lands within 15 miles of POWEA.

HISTORY

The original 120 acre parcel of POWEA was acquired by the Trust for Public Land (TPL) in December of 1990. That parcel was conveyed to the Game and Fresh Water Fish Commission (FWC) July of 1990. Additionally, TPL acquired a 40-acre tract and a 208 acre tract within what is now POWEA which were conveyed to FWC in February 1991 and March 1995, respectively. The POWEA acquisition was completed under an interagency Memorandum of Understanding (MOU) that involved the Southwest Florida Regional Planning Council, the TPL, Florida Defenders of the Environment, and the FWC. This MOU was developed to provide an offsite mitigation alternative to land development interests and provided a template for the Mitigation Park Program. Presently POWEA totals 380 acres.

PAST TIMBER MANAGEMENT

See *POWEA Timber Management Table* below for summary of treatments conducted on POWEA from 2003-2016.

PERRY OLDENBURG WEA TIMBER MANAGEMENT HISTORY

Start Date	End Date	Activity Type	Contractor	Management Units
1/15/2003	2/7/2003	LLP Planting (400 TPA) 68.5 acres	R.A. Burke	7, 8, 9, 10, 11
3/1/2007	3/15/2007	Physical/Mechanical		6, 7, 8, 9, 10, 11
5/12/2008	6/6/2008	Physical/Mechanical		2, 4, 5, 9, 10, 11
11/17/09	11/20/09	Physical/Mechanical		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
12/17/09	12/18/09	Wiregrass Planting (660 Plugs/acre) 68.8 acres		4, 5, 8, 10, 11

4/27/2010	6/10/2010	Physical/Mechanical		3, 4, 5, 6, 7, 8, 9, 10, 11
5/25/2010	6/3/2010	Chemical		1, 3, 5, 6, 7, 8, 9, 10, 11
8/9/2010		Chemical		2, 4, 8, 10
2/24/2011	2/24/2011	Prescribed Burn		8, 9, 10, 11
9/27/2011	9/30/2011	Chemical	Randel's Landclearing	7, 8, 9, 10, 11
9/27/2011	9/30/2011	Chemical	Randel's Landclearing	4, 5, 6, 7, 8, 9, 10, 11
10/3/2011	10/26/11	Chemical	Randel's Landclearing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
10/3/2011	10/26/11	Chemical	Randel's Landclearing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
12/21/11	12/21/11	Prescribed Burn		5, 6
1/19/2012	1/26/2012	Physical/Mechanical		6
7/6/2012	7/12/2012	Physical/Mechanical		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
9/11/2012	9/14/2012	Physical/Mechanical		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
10/24/12	11/8/2012	Chemical	Naturchem, Inc.	3, 4, 5, 6, 7, 8, 9, 10, 11
12/7/2012	12/10/12	Chemical	Randel's Landclearing	1, 2, 4, 7, 8
8/30/2013	8/30/2013	Physical/Mechanical		10
11/20/13		Chemical		
5/27/2014	5/28/2014	Chemical	Progressive Solutions, LLC	1, 2, 4, 6
8/11/2014	8/13/2014	Chemical		2
8/11/2014	8/14/2014	Chemical		6, 10
9/16/2014	9/30/2014	Chemical	Santa Cruz Construction	6, 7, 8, 9, 10, 11
10/1/2014	10/10/14	Chemical	Santa Cruz Construction	6, 7, 8, 9, 10, 11
11/1/2014	11/20/14	Chemical		2, 3, 5, 6, 8, 9, 10, 11
12/1/2014	1/16/2015	Physical/Mechanical	Ron's Tractor Mowing	8, 9, 10, 11
1/1/2015	1/27/2015	Physical/Mechanical		6, 8, 9, 11
4/21/2015	4/21/2015	Chemical		3, 7, 8
6/16/2015	6/16/2015	Chemical		1, 2, 3, 5, 6, 8, 9, 10, 11
6/22/2015	6/25/2015	Chemical		4, 7, 8, 9, 10, 11
7/3/2015	7/9/2015	Chemical		9, 11
7/9/2015	7/9/2015	Chemical		8, 10
8/17/2015	8/25/2015	Chemical		3, 4, 5, 6, 7, 8, 9, 10, 11
11/25/15	11/25/15	Chemical		2, 5, 6, 8, 9, 10, 11
12/29/15	12/29/15	Chemical		6, 9, 11
1/6/2016	1/6/2016	Chemical		9, 11

FY 2015-2016
Approximately 143 acres of longleaf pine, sand pine and hardwoods have been thinned under the current *Skeedaddle 15/16 Timber Sale*. This sale is located in all of the units of POWEA. To date the sale has removed 1,528.86 tons of timber and generated a total of $14,303.69 in revenue for the state. This sale totals 284 acres on POWEA and the remaining acres are comprised of sand pine and hardwoods that are under contract to be cut and ground. This sale contract will expire on 1/28/17.

PRESCRIBED BURN UNITS
Local resource managers have designated Burn Units on POWEA. These Burn Units are numbered 1-11 and range in size from12 to 77 acres. These Burn Units will be used within the timber assessment when identifying timber management recommendations. See *POWEA Prescribed Burn History Table* below for details.

PERRY OLDENBURG Rx BURN HISTORY			
Start Date	**End Date**	**Activity Type**	**Burn Units**
4/1/2007		Prescribed Burn	4, 5, 6, 7, 8
9/1/2007		Prescribed Burn	5, 6
9/1/2007		Prescribed Burn	1, 2, 3, 4, 5, 7
2/9/2008		Prescribed Burn	1, 2, 3, 4, 7, 8, 9, 10
2/10/2008		Prescribed Burn	8, 9, 10, 11
4/1/2008		Prescribed Burn	2, 3, 5, 6, 8, 9, 10, 11
6/14/2010		Prescribed Burn	7, 8
6/15/2010		Prescribed Burn	1, 2, 3, 4
6/16/2010		Prescribed Burn	7, 8, 9, 10
2/24/2011	2/24/2011	Prescribed Burn	8, 9, 10, 11
12/21/11	12/21/11	Prescribed Burn	5, 6
1/2/2013	1/2/2013	Prescribed Burn	8, 10
9/11/2013	9/11/2013	Prescribed Burn	5, 6
3/11/2014		Prescribed Burn	7
4/3/2014	4/3/2014	Prescribed Burn	3, 5
3/4/2015	3/4/2015	Prescribed Burn	8, 9, 10, 11
4/9/2015	4/9/2015	Prescribed Burn	1, 6

GOALS

FWC'S mission statement for POWEA: "*It shall be the primary management missions at POWEA to manage plant communities and public use in a manner that gives first consideration to the habitat needs and life history requirements of the gopher tortoise*."

GOPHER TORTOISE MANAGEMENT
POWEA was specifically purchased to provide for gopher tortoise habitat. By managing the property for this specific species, other wildlife species will benefit, due to the gopher tortoise being a keystone species. Specific parameters were defined to create optimal conditions for tortoise habitats in Florida (Gopher Tortoise Management Plan. FWC. 2007). A summary of those parameters;

- Canopy covers less than 60% and an herbaceous groundcover of at least 50%.
- Prescribed fire should be applied every 5 years or less and managed for appropriate seasons and frequency.
- Management and restoration of pines, hardwoods and herbaceous groundcover through mechanical and chemical control should be considered to enhance degraded habitat.

In addition to protecting wildlife, POWEA conserves a portion of the sandhill vegetative community within the Withlacoochee River watershed. Another purpose of the POWEA project is to provide quality public outdoor, natural resource-based recreational opportunities for the public to enjoy.

OBJECTIVES

The objective of prescribed fire will be achieved using frequent, low to medium intensity fires, to maintain these communities in a healthy condition. Longleaf pine (*Pinus palustris)* (LLP) is the most desirable of the pine tree species to be planted to assure a vigorous ecosystem. These hardy pine seedlings can be prescribe burned within one to two years after planting without suffering severe losses. This ability to withstand fire at a very young age differentiates LLP from other pine species. Slash pine (*Pinus elliottii*) (SP) regeneration must be protected from fire for up to10 years or more depending on fuel loading. This delay in reintroducing fire can have a negative impact on fire dependent plants and animals from the ecosystem. Planting LLP seedlings helps minimize disruption of the prescribed fire cycle.

Reforestation objective will be achieved in multiple ways. Natural regeneration of pine stands will be encouraged whenever possible. However some units may have an inadequate seed source and will likely require artificial regeneration in some instances. LLP seedlings occur naturally in dense stands that are thinned out over a period of years by competition with each other for growing space. To simulate this process, LLP seedlings are densely planted in openings at 600 to 726 trees per acre and later thinned out through timber harvests when they get too crowded. LLP seedlings from a nearby Withlacoochee State Forest seed source are available from the Florida Forest Service's Andrews Nursery in Chiefland.

Ground cover restoration objective should be conducted on areas of POWEA where native species have been removed and disturbed (sandhills, flatwoods and pasture communities). POWEA has areas of sandhill where there is adequate native groundcover. These areas could be used as a seed source for restoration of the disturbed areas. In order for restoration of groundcover to take place hardwood and exotic species removal and control will need to be conducted.

The gopher tortoise parameters and FWC's management mission for POWEA makes the objective of reestablishment of native ecosystems a high priority. Timber management is a valuable tool in the restoration and maintenance of forested ecosystems. Efforts will be made to reestablish native species at densities and compositions believed to have existed prior to site alteration. Historically, LLP was the most prevalent pine species in many areas due to the frequency of naturally occurring wildfires. Planting of LLP seedlings in existing openings will help reintroduce this valuable species to these disturbed mesic flatwoods and sandhill communities. Likewise, group selection cuts in areas overstocked with pine overstory or hardwood midstory will provide opportunities to reestablish LLP and native groundcover naturally, along with the added benefit of creating wildlife openings.

EXISTING CONDITIONS

ECOLOGICIAL COMMUNITIES

In 2007, Florida Natural Areas Inventory (FNAI) mapped the current natural community types on POWEA

and generated a report. Six communities were identified;

- Depression Marsh (6.9 acres)
  - Mesic Flatwoods (1.98 acres)
  - Mesci Hammock (10.94 acres)
  - Pasture-Semi-Improved (13.07 acres)
  - Ruderal-Power Lines (14.23 acres)
  - Sandhill (321.44 acres)

For the purpose of this timber assessment, only the mesic flatwoods, pasture-semi-improved, and sandhill communities will be evaluated. These communities currently have merchantable timber or could be restored and managed in the future for merchantable timber.

SOILS

The U. S. Department of Agriculture Natural Resource Conservation Service (NRCS) publishes soil series profiles. The following tables are summary of the most prevalent soils for selected FNAI community type.

- **SANDHILL SOIL TYPES**

Arredondo fine sand	**0-5% slopes,**
Arrendondo fine sand	**5-8% slopes**
Candler fine sand	**0-5% slopes**
Candler fine sand	**5-8% slopes**

MESIC FLATWOODS SOIL TYPE

Sparr fine sand	**0-5% slopes**

PASTURE SEMI-IMPROVED SOIL TYPES

Arredondo fine sand	**0-5% slopes**
Candler fine sand	**0-5% slopes**
Floridana variant loamy fine sand	**n/a**
Sparr fine sand	**0-5% slopes**

The following are general observations observed within the FNAI community type and Burn Units on POWEA. See *Timber Assessment Map* for location of burn units and natural communities described below.

SANDHILL (321.44 acres), BURN UNITS (1, 2, 3, 5, 6, 7, 8, 9, 10, 11)

The sandhill and mesic flatwoods together comprise approximately 88% of the total acreage on POWEA. The sandhill community is a natural stand of even aged, mature LLP, comprised of sawtimber and chip n saw size products. The average canopy height is 60 feet. Basal area averages 27 square feet per acre. The calculated Site Index for these sites is 70 for LLP with a base age of 50. 68.5 acres in portions of Units 7,8,10 and 11 were planted with containerized LLP at 400 trees per acre in 2003. 68.8 acres in portions of Units 4,5,10 and 11 had wiregrass plugs planted at 660 plugs per acres in 2009.

MESIC FLATWOODS (1.98 acres) BURN UNIT 4

The mesic flatwoods community is a natural stand of even aged, mature slash pine (SP) and sand pine *(Pinus clausa)* (SD) comprised of sawtimber and chip n saw size products. The average canopy height is 77. Basal Area for this site averages 30 square feet per acre. The calculated Site Index is 60 for SP with a base age of 25. The mesic flatwoods are a very small component of the community types present on

POWEA and have uncharacteristic features of normal mesic flatwoods community. For future timber management it would be reasonable to include the mesic flatwoods within the sandhill community.

PASTURE -SEMI-IMPROVED (13.07 acres) BURN UNIT 4
Disturbed community type dominated by a mix of planted non-native or domesticated native forage species and native groundcover, due to an incomplete conversion to pasture. The semi-improved pasture has been cleared of a significant percentage of the native vegetation and planted in non-native or domesticated native forage species, but still retain scattered patches of native vegetation. Live oak (*Quercus virginiana*) is the primary canopy, sub-canopy and tall shrub species. Other shrubs include water oak (*Quercus nigra*) and saw palmetto (*Serenoa repens*). Herbaceous native plants like American beautyberry *Callicarpa americana*, goldenrod (*Euthamia sp).* and blackberry (*Rubus sp.)* are found in ground cover. The planted areas are dominated by bahiagrass (*Paspalum notatum*) and can resemble improved pastures. Seeding of bahiagrass can also occur within areas of native groundcover. Skunk vine (*Paederia foetida*) and rosary pea (*Abrus precatorius*), both invasive exotic pest plants were present in the groundcover/understory and should be treated and eradicated completely from POWEA

GENERAL TIMBER MANAGEMENT GUIDELINES

Note: Any timber harvest, site preparation, seedling planting, or other timber management activity will adhere to Florida's Silviculture Best Management Practices Standards, available online. In addition, all known historical and archeological sites will also be protected.

A useful measurement of tree stocking and density is basal area (BA) per acre. BA is the cross sectional area (in square feet) of a tree measured four and one-half feet above the ground. The diameter of individual trees measured at this height is referred to as its diameter breast height (DBH). Fully stocked pine stands have enough trees per acre of a size large enough to utilize the growing space without causing over-crowding. LLP and SP stands with 70 to 100 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 BA. For example: It takes 357 evenly spaced, six-inch DBH trees to equal 70 sq. ft. BA. Whereas, only 89 twelve-inch DBH trees per acre equal the same 70 sq. ft. BA. BA 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 adequate sunlight for native grasses to be maintained.

Natural communities are dynamic things. A stand of scattered mature trees has not looked exactly as it does today throughout its existence. In natural, pine dominated forest systems trees die because they become old and less able to withstand insect and disease attack. SP has a life expectancy of about 100 years, whereas LLP can easily live for over 200 years. Bark beetles might invade a weakened tree then multiply and kill some of its neighbors. Lightning strikes and windstorms do the same thing. Thus, holes of various sizes are continuously being created in the canopy. These openings allow full sunlight to reach the forest floor. In addition, lightning caused fires burn away leaf litter and expose bare mineral soil. The bare soil and canopy openings permit large numbers of sun loving pine seedlings to become established and grow straight and tall.

Where naturally occurring fire has kept the understory open, pine seedlings become established in these canopy holes at very high densities. It is not uncommon to have ten to twenty thousand seedlings per acre in scattered openings. Recurrent wildfires and competition for sunlight, moisture, and nutrients favor the strongest, fastest growing pine saplings. The rest die off continually over the life of a stand of trees until the trees mature and another opening is created that replaces the survivors with young seedlings again. The result is an uneven aged stand where each group of trees created by a canopy opening is about the

same age. However, the stand as a whole is a mosaic of clusters that have different ages and densities. The long-term BA will fluctuate around a constant figure depending on soil productivity (as low as 20 sq. ft. on extremely poor sites up to 80 sq. ft. on highly productive sites). The ultimate goal of ecologically based timber management is to mimic these natural processes and still be able to harvest trees that are destined to die anyway. The challenge is to capture the value of the timber while minimizing any negative impact on the system as a whole.

Thinning type harvests in pine stands help maintain the health and vigor of the stand by removing weak, diseased and deformed trees. Enough co-dominant trees are removed during thinning to insure crown retention and continued growth in the remaining trees. To create uneven aged pine stands, group selection openings are cut during thinning activities. These openings allow young trees to become established by seed falling from nearby trees or by planting seedlings. Since pine seedlings require direct sunlight to grow, all trees within the opening must be removed. However, to minimize the visual impact, openings can be as small as one-half acre. For natural regeneration, the minimum width of the openings is about two to three chains (1 chain=66ft.). Lack of cover followed by dense stands of young pine trees created by large openings can become impediments to animal foraging and migration patterns. For example: To prevent saplings growing in these openings from becoming barriers to RCW flight patterns, group selections should not exceed five acres in size.

Combined acreage of all openings cut within a stand during each thinning is kept to no more than five to ten percent of the total stand acreage. Since each stand only gets thinned every ten-plus years, over- harvesting of old-growth trees is avoided and a steady supply of young trees is ensured. For example: suppose that today there is a stand of 20 year-old pine trees. Every 10 years 95% of a stand gets thinned to keep the canopy open and 5% clearcut to allow regeneration of young pines. At the end of the tenth cutting cycle (100 years from now) 50% of a stand would have 120+ year-old trees and 50% would range from seedlings to 100 year-old trees. If the cutting cycle is extended to 20 years (which is more likely on poorer soils) and 10% is cut for openings, the age distribution at the end of 100 years is the same as for the 10 year cycle.

Planting activities, group selection openings, hardwood control measures, and natural regeneration in thin stands will produce young tree stands of various sizes. A well stocked stand of young pine trees will usually require the removal of weak, diseased, and some overcrowded trees beginning by the age of 15 to 20 years. By this time, the crowns have grown together and ground cover begins to get shaded out and hardwoods begin to compete with the shade intolerant pine seedlings. Harvesting a portion of the timber maintains healthy pine growth and provides sunlight to the forest floor. Trees removed in the thinning process can be sold to generate revenue to be used in other land management projects. Likely markets for early thinnings from pine stands currently include pulpwood, fence posts and landscape mulch.

Due to shading effects, trees grown in tight spacing produce fewer and smaller lower limbs. The shedding of the lower limbs makes them more desirable for fence posts and later, more valuable products. Planting at least 500 seedlings per acre also helps insure the marketability of the pine trees and increases future management options.

The need for second and later thinnings will depend on how low the BA was taken in the first thin and successive growth rate. If the BA is reduced to 50 to 70 sq. ft. in the first cut, another harvest will probably be needed in ten to fifteen years. Trees removed from the second and succeeding operations produce ever more valuable products and therefore more money. Current market conditions have some second thinning products worth at least five times as much as the original wood that was cut. Third thinning trees can be worth twice as much as the second thin. All of this revenue can be generated and still have a stand of pine trees and a healthy ecosystem.

Timber Management Recommendations

SANDHILLS (321.44 acres)

BURN UNITS 1& 2
These units are currently part of the *Skeedaddle 15/16 timber sale*. The harvest prescription for these units is to remove all sand pines, live oaks, laurel oaks and water oaks greater than two inches DBH within the sale area. However, leave unharmed one twelve inches DBH or larger hardwood specimen per acre and all sand post oaks, elms, hickories and cedars. Thin LLP to approximately 30 to 40 sq. ft. BA per acre. LLP trees to be removed include diseased, deformed, suppressed, and forked trees as well as a portion of the intermediate and co-dominant trees to reach the target BA. In all thinning areas, where available, favor larger, more mature LLP as leave trees. In areas without mature pines, leave a mixture of size classes to achieve the desired BA. Trees to be left should be healthy LLP with good crowns.

These units should be prescribed burned no sooner than 12 months following completion of harvest. Waiting to burn will allow time for the residual trees in the stand that may have been stressed to recover. It will also give logging debris time to decompose. This burn will consume logging debris and help cycle nutrients to the soil giving the residual stand a boost. The lower canopy cover and reduction of woody midstory created by the thinning should create conditions favorable to herbaceous groundcover and LLP regeneration. These units should be placed back on regular prescribed burn rotation once adequate seedling survival has been achieved. These units have merchantable timber and should be reassessed for next thinning in ten years

BURN UNITS 3, 5, 6, & 7
These units have been thinned as part of the *Skeedaddle 15/16 Timber Sale*. These units should be prescribed burned 12 months following the harvest. The reduced canopy cover and reduced woody midstory resulting from the thinning should create conditions favorable for herbaceous groundcover and LLP regeneration. These units should be placed back on regular prescribed burn rotation once adequate seedling survival has been achieved. These units have merchantable timber and should be reassessed for next thinning in ten years.

BURN UNITS 8, 9, 10 & 11
These units have dense pockets of hardwood regeneration and midstory growth resulting from previous chemical and mechanical treatments. Some areas have pockets of mature LLP at adequate stocking, but pine regeneration and herbaceous groundcover is lacking due to hardwood competition. The western portion of Burn Unit 8 and the northern portions of Burn Units 10 and 11 have 13 year old planted LLP. Though there were pockets of higher BA in the natural and planted pines that could have been thinned, they were too small acreage and inconsistent across these units for the logger to cut under the current *Skeedaddle 15/16 Timber Sale.* The hardwood under story and midstory in these units need to be removed to allow LLP regeneration and herbaceous groundcover to grow. Either a mechanical treatment such as mowing (Brown tree cutter, a gyro-trac with a fecon mulching head or hydro-axe) or Chemical treatment with herbicides (liquid Velpar, Chopper or Accord) are options. 12 months after the hardwoods are either mechanically or chemically treated a prescribed burning should be applied to consume any hardwood litter and kill new hardwood sprouts. Once these stands are controlled of hardwood competition they can be better assessed of their herbaceous groundcover and pine regeneration status. Areas not naturally regenerating should be planted with LLP seedlings and native herbaceous groundcover (wiregrass) so that fire can continue to be applied and carry across the units to keep hardwoods from re-establishing in the understory. These units can be reassessed for merchantable timber 10 years after planting or natural regeneration has taken place.

MESIC FLATWOODS (1.98 acres)

BURN UNIT 4
This unit is still under the current *Skeedaddle 15/16 Timber Sale.* The harvest prescription for this unit is to remove all sand pines, live oaks, laurel oaks and water oaks greater than two inches DBH within the sale area. However, leave unharmed one twelve inches DBH or larger hardwood specimen per acre and all sand post oaks, elms, hickories and cedars. Thin SP to approximately 30 to 40 sq. ft. BA per acre. SP trees to be removed include diseased, deformed, suppressed, and forked trees as well as a portion of the intermediate and co-dominant trees to reach the target BA. In thinning area, where available, favor larger, more mature SP as leave trees. In areas without mature pines, leave a mixture of size classes to achieve the desired BA. Trees to be left should be healthy SP with good crowns. 12 months after the harvest a prescribed burn should be applied to consume logging debris and kill new hardwood sprouts. Once this stand is controlled of hardwood competition it can be better assessed of herbaceous groundcover and pine regeneration status. If no natural regeneration is found, then planting LLP seedlings and native herbaceous groundcover (wiregrass) should be implemented so that fire can continue to be applied and carry across the unit to keep hardwoods from re-establishing in the understory. This unit has merchantable timber and should be reassessed for next thinning in ten years after planting or natural regeneration has taken place.

LONG RANGE
Many factors affect the need for and timing of future thinnings. These include initial planting density, number of trees surviving to merchantable size, crown closure (ground cover shading), and live crown ratio below 40%. As soon as the trees achieve crown closure, thin the stand to 50 to 70 sq. ft. BA by removing first the weak, diseased, and suppressed trees. At the same time, enough of the co-dominant trees should be removed to reach the proper spacing. Thinning to as low as 40 sq. ft. BA to insure open, grassy stands is reasonable. The thinning process is repeated every time the stand approaches 100 sq. ft. BA or ground cover begins to be shaded out.

SALVAGE SALES
On occasion, small volumes of wood may need to be removed due to fire, windstorm, insect or other damage. The decision whether or not to harvest the affected timber will depend on the threat to the surrounding stands and the volume/value of the trees involved. For example, small, isolated lightning-strike beetle kills are a natural part of a healthy ecosystem and normally would not be cut. However, if a drought caused the insect infestation to spread, the infected trees and a buffer zone might have to be removed. *Note: due to forest health and timber market factors, it is recommended contacting the FFS Forester as soon as possible.* Many times a salvage sale may be added to an existing sale in order to expedite the removal of dead and dying trees.

REFORESTATION

NATURAL REGENERATION (ONLY USED WITH MATURE, CONE BEARING TREES)
When a good seed crop is anticipated (flowerer or cone crop counts) units should be burned in the winter or early growing season prior to seed fall to prepare a good seed to soil contact(see site preparation below). Once 1,000 or more seedlings per acre have seeded in, established and growing, withhold fire from the stand for at least two to three years. For longleaf seedlings, this will be until the majority has entered the "grass stage." If height growth has begun, then timing of reintroduction of prescribed fire into regenerated stands will depend on seedling height growth and fuel loads. Generally, 400 or more trees per acre should be at least head-high in light fuels before the stand is burned. With short trees and heavier fuels, the first burn might have to be accomplished at night to prevent excessive scorch and mortality. These stands can probably be returned to the normal rotation following the first post-establishment burn, if fuels are light and fire frequent enough. *Note: LLP is a sporadic seed producer, producing seed*

anywhere from annually to once every twenty years. See artificial regeneration methods, if more consistent and quicker results are required.

- **ARTIFICIAL**

LLP has a more open crown with fewer limbs than SP. As a result, LLP has a tendency to not shade out ground cover as quickly as SP. The following recommendations are designed to generate the highest possible revenue stream while maintaining healthy ground cover.

To minimize damage from reproduction weevils, do not plant pine seedlings where pine stumps are present until at least one growing season has passed since the harvest. In areas where native ground cover is to be restored, consider planting pine seedlings immediately after sowing the seed and packing of the soil. This should help reduce losses due to moisture competition from established grasses during dry weather. Follow the fire regime described above.

SITE PREPARATION

Prescribed fire may be used to prepare the planting site for hand planting or machine planting. Burn in the fall to provide access for planters, reduce groundcover competition (short term), hardwood control, and allow adequate sunlight to the ground. Negative aspects of fall burning include lack of suitable habitat for wildlife until the spring growing season, and if not performed under the correct weather conditions, scorching of mature pine over-story can occur.

Mowing and roller chopping have also been used for site preparation; these techniques allow sunlight to reach the germinating seed or planted seedlings. Negative impacts include mowed/chopped debris on the ground, which can inhibit good soil to seed contact, and potentially the buildup of too much fuel for burning that can be damaging to new seedlings. Mowing "selects" for grasses, but like disking, roller chopping selects for forbs resulting in reduced fine fuels and soil disturbance of native groundcover.

A word of caution about artificially planted LLP tubelings. To ensure survival of relatively high price containerized stock, some form of herbicidal control may be necessary. Competition from grasses for soil moisture during hot, dry weather can cause severe losses of young seedlings. Applying a contact herbicide such as Roundup either in 2 foot wide strips or in spots can control these grasses. The herbicide should be applied far enough in advance of planting time so the grasses have time to "brown up" and indicate where to plant the seedlings. A release treatment of herbicide can be applied after planting to aid in the new seedlings survival. Once seedlings have started root growth apply a 6 ft. band over planted rows in mid-April to mid-May, with 2oz OustXP + 24oz Velpar L for herbaceous weed control (wiregrass is tolerant). This could be used for example if the site prep could not be completed before planting. If the site has extra dense hardwoods that need to be controlled apply a broadcast foliar spray in June to October, 40-48 oz Chopper Gen2 + 2-3 qts Accord XRT II. Alternatively a spring treatment with Velpar L 2-6 qts could be applied to treat the hardwoods to allow the seedlings adequate growth before regular prescribed burning can resume. Some units may require a combination of chemical then prescribed burn or mowing/chopping then prescribed burn in order to prepare the site for planting and ensure good survival in the subsequent years.

HAND PLANTING

Hand planting of containerized (tubeling) LLP seedlings is one option for reestablishment in areas where an inadequate number of seed trees exist. Tubeling LLP can be planted in winter or summer, thereby extending the planting season. Plant approximately 600 bare root seedlings per acre at varying spacing, but averaging 6' X 12' overall. Due to the increased likelihood of survival and higher cost of containerized seedlings, as few as 500 seedlings per acre can be planted (8' X 11'). Still, for fear of not being able to reestablish essential grasses, land managers may insist on planting less than the recommended number of

pine seedlings overall. To ameliorate these concerns, 400 seedlings per acre can be hand planted in small, irregularly shaped clusters (2 to 5 acres) with 2 to 5 chains between clusters. If machine planting is employed, plant 3 to 5 curved rows (9' X 12'). Leave 2 to 5 chains unplanted between sets of rows. The entire area can be inoculated with native grass seed prior to planting the LLP seedlings. However, tremendous cost savings can be made by only sowing the area between tree plantings and relying on these areas to seed the rest over time.

MACHINE PLANTING
Meander planting containerized LLP seedlings at an average spacing of 6' X 12' yields about 600 trees per acre. It is more difficult to vary the spacing and make the planting look random with machine planting. This is due primarily to the inability of tree planters to make sharp turns and still pack the soil around the seedlings roots. Tight turns are also hard on the planter's bearings. The desired effect can be obtained by gradually curving the planting rows and varying the distance between and within the rows. Another way to create the random look is to locate the planting rows twice as far apart as normal (averaging approximately 24'). Then, plant a second set of rows at some angle approaching 90 degrees to the first set of rows spaced about the same distance apart.

Again competition for soil moisture during dry weather can cause heavy losses of seedlings and waste of planting costs. Where grass is thick, it is best to either herbicide strips as described above or use a combination planter/scalper to plant the seedlings. The scalper should be set to no more than 2 to 3 inches deep and 18 to 24 inches wide. These settings will minimize soil disturbance and maintain continuity of fuels for future prescribed burns, but the seedlings will have a decent chance of survival.

GROUND COVER RESTORATION

Pasture-Semi-Improved (13.07 acres)

BURN UNIT 4
According to the FNAI Mapping Report, historically this pasture community was occupied by both mesic hammock and sandhill communities. Removal the exotic plants skunk vine and rosary pea should be first priority. Then removal of oaks and bahiagrass could be carried out as part of restoration of the sandhill community Portions being restored to mesic hammock should retain some live oaks but remove the exotic plants and grasses.

The ground cover on portions of POWEA has been severely impact by past management practices. This is true primarily in the semi-improved pasture located in the NW corner, near the park entrance. Native grasses were partially replaced by imported varieties like bahiagrass that usually will not burn during the natural lightning-induced fire season.

Reestablishment of native groundcovers can be extremely expensive. Many methods have been tried with varying degrees of success. The following describes an alternative method to the expensive direct planting of containerized seedlings. It has worked on similar sites across the region. To get the ground ready to accept the seed, improved pastures often require multiple treatments with high priced herbicides. One or more passes with a heavy disc usually follow the herbicide applications. Depending on the ground cover pastures may only need a single disking and one or no herbicide spraying prior to seeding. The pasture site on POWEA has an oak canopy that would need to be removed or thinned to allow enough sunlight for native groundcover and pine seedlings to grow and fires to carry across the ground.

Undisturbed donor sites are chosen that have similar soil types as the area to be re-vegetated. The southern portion of burn unit 5 has been identified by the Area Biologist to have good native ground

cover and could possibly used as a donor site. Sites are burned at the right time (usually spring to early summer) to produce viable seed from a broad spectrum of native plants. Mechanical harvesters are used to gather the seeds. More than one trip maybe required, over a period of weeks, and with the machine set at different heights to get seeds from all of the species found at the donor site. This precious cargo is hauled to the treatment site and scattered across the field using a hay blower. Some form of roller, light disc or packer should then be used to insure close contact with the soil. Results vary, but if everything goes well, at least some of each species becomes established. Following the planting with well-timed prescribed burns should stimulate seed production in the newly established vegetation and further spread each species.

PRESCRIBED FIRE

Frequent lightning induced fires are natural to most Florida's natural communities. Prior to European settlement, they occurred at regular intervals of one to five years. Without fire, native habitats would probably have turned into densely shaded hardwood hammocks. Introduction of effective fire suppression in the mid-1900's resulted in thick stands of saw-palmetto and subsequent loss of other grassy and herbaceous ground covers. Use of prescribed fire is essential to the maintenance of open healthy, pine-dominated ecosystems.

POWEA appears to have a good burn history according to FWC records from 2003 to 2016 (See *POWEA Prescribed Burn History Table*). Most Burn Units are receiving burns within the 2-3 year fire frequency recommend for sandhills. It is recommended that this frequency is maintained. One suggestion would be to consider adjusting the season of burning (growing or dormant). Which season to burn in depends on the objectives of the burn. Dormant season; fuels reduction, wildlife management (some), and duff removal in fire suppressed units. Growing Season; stimulate herbaceous seeding, site prep for planting, kill woody vegetation, and gopher tortoise habitat.

Caution must be exercised when reintroducing fire into these systems, as desirable as burning is. Survival of seedlings (expensive, newly planted seedlings or time intensive, natural seedlings) as well as valuable mature timber depends on timing and careful execution of burns. To prevent damage to delicate root systems and avoid smoky duff fires, be sure that there is adequate moisture in any organic matter thicker than approximately one inch. In stands with heavy duff layers, try to burn no more than one inch of duff at a time on approximately two to three-year intervals. At least the first burn should be at nighttime, during the dormant season after the seedlings have reached six feet or more in height and there is enough needle litter to carry the fire. If ground fuels are not too heavy, succeeding burns can be switched to the growing season.

Grassy fueled fires produce less lingering smoke than woody fuels. Mechanical or chemical treatments followed by frequent prescribed burns should stimulate grasses and decrease the amount of woody understory. Burn Units; 3, 5, 6, and 7 have the best groundcover conditions with good mix of grasses and forbs and minimum woody plants at POWEA. Burn Units; 1, 2, 8,9,10 and 11 have large concentrations of oaks in the midstory, shading out the grasses and forbs as well as pine regeneration. Burn Unit 4 has degraded groundcover throughout. It has some exotic grasses and native groundcover in the semi-improved pasture and depression marsh. There is a woody understory in the mesic hammock and mesic flatwoods.

ACCESS

There are no paved roads on POWEA. There is a disked fireline around the boundary of the property that doubles as a service road for pickups. Most of the 'boundary service road' would provide marginal access

to a logging truck due to the brush clearance and sandy soils. There is a power line right of way that diagonally bisects the property SW to NE. This is covered in grass and is suitable for pickups and logging trucks to travel on giving access to the majority of the property. POWEA can be accessed by the public taking 2 roads, 1.25 miles from U.S. Highway 41. Deer Run Road is a two lane black toped road that intersects with Government Road, which is lime rocked.

POWEA has adequate road access for routine resource management that requires a pickup or ATV. Some improvements to roads may need to be made specifically when conducting a timber sale or planting. The nature of the sandhill soil can make repeated driving of heavy equipment on roads prone to rutting of deep sand making traction difficult. Depending on the weather, additional material may be needed to be brought in to help gain traction in these sandy areas.

SUMMARY

In rapidly urbanizing areas of the state, public lands are often the only refuges for native plant and animal communities. Restoring and maintaining these ecosystems is an important function of land managers. Saleable timber is a byproduct of good ecosystem management. Carefully designed timber harvests protect water quality; create openings in the tree canopy allowing sunlight to reach the forest floor, promoting herbaceous growth and pine regeneration. These clearings and their ecotones are favorite spots used by gopher tortoises and other wildlife for feeding, resting, mating, nesting and rearing of offspring. Mechanical equipment involved in timber harvests helps reduce dense understory vegetation such as palmetto, gallberry and undesirable hardwoods. The added sunlight allows new pine seedlings to become established in their native ecosystems and grow to replace trees killed by lightning, insects or disease. This fuels reduction allows for the introduction of prescribed fire easier, safer and more effective.

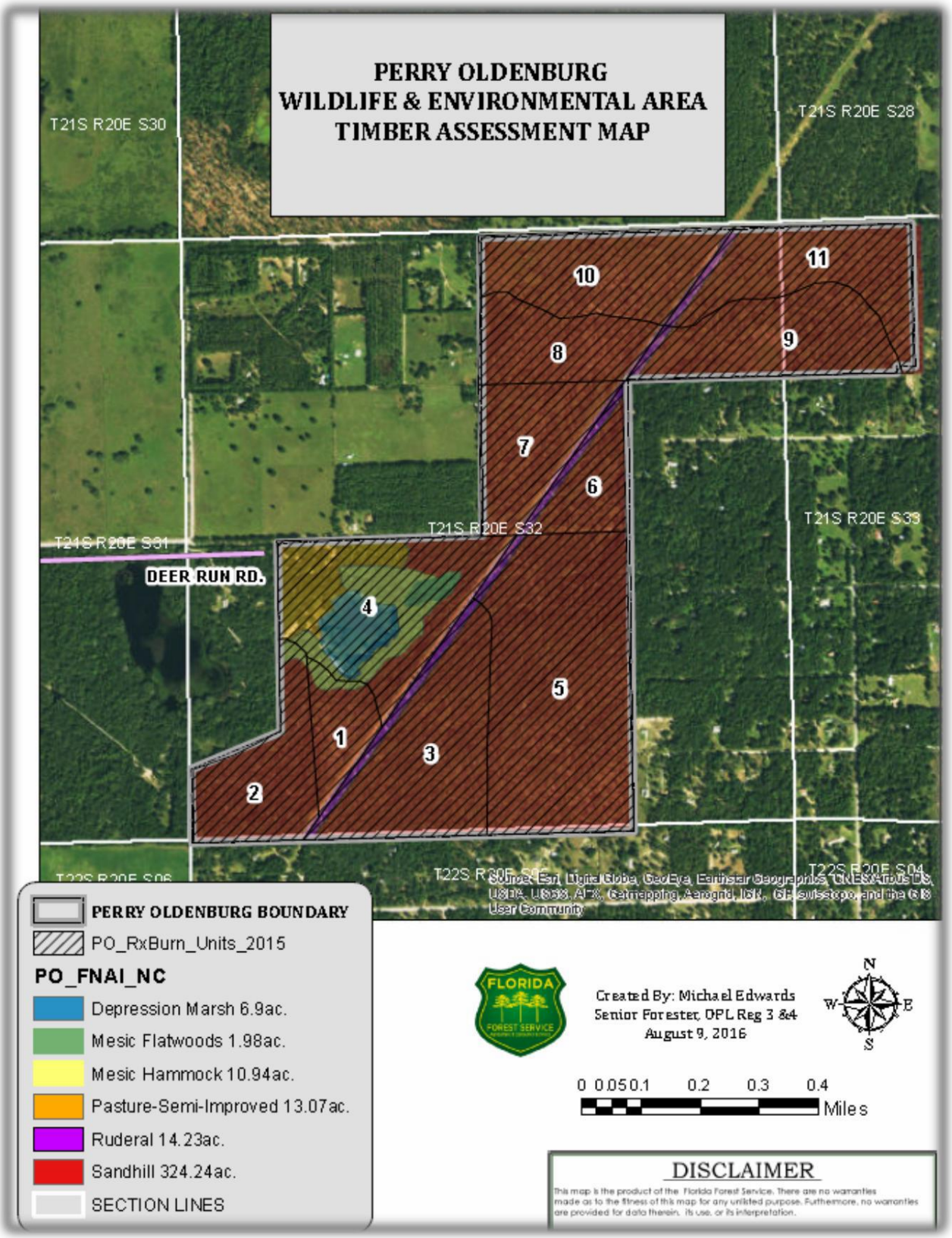
Land managers for POWEA have expressed a desire to restore native groundcover especially in improved pastures. Just as important to these natural communities is the reestablishment of vertical structure provided by trees and the reintroduction of periodic fires. Needle litter from growing pines helps carry these frequent, low intensity burns. In all restoration scenarios, the exact methods and final results will be guided by the best available ecological information to conserve biodiversity of the affected habitats.

Markets in central Florida for pine timber thinning have been strong and relatively stable for several years now. Likely purchasers of forest products from POWEA include a small piling/pole/post mill, and four mulch/shaving mills. POWEA is located toward the southern end of the pulpwood markets. Georgia Pacific Palatka Mill more than 100 miles to the NE. The cost of hauling the trees to large, north Florida mills has a tendency to reduce stumpage prices. This situation affects early thinnings more so than harvests in more mature stands.

Successful timber sales may require timing to match the market. POWEA is a dry site available year round for logging. While 50 miles SE there is Green Swamp WMA, which has a historically wet season reducing logging access to ¾ or even ½ the year long. The over abundance of wood on the market (along with other economic factors) has depressed wood prices in the region. When Florida's flatwoods are flooded POWEA's sandhill site will be very attractive to timber buyers. These circumstances allow local land managers to take advantage of the opportunity to sell timber products that otherwise might be hard to sell. The secret to timing the markets is to be flexible about when stands need to be cut and keeping up with market factors throughout the state.

Clearly, managing trees for timber as part of the overall management strategy is worthwhile for many reasons. Timber sale revenues can relieve the long-term burden on taxpayers for much needed management activities. As general revenue funds become more difficult to secure, revenues generated from sale of

timber thinnings can be used to pay for habitat restoration, pine reestablishment, and the comprehensive Management Plan.


PERRY OLDENBURG
WILDLIFE & ENVIRONMENTAL AREA
TIMBER ASSESSMENT MAP
T21S R20E S30
T21S R20E S28
T21S R20E S32
T21S R20E S33
T21S R20E S31
DEER RUN RD.
T22S R20E S06
T22S R20E S04
1
2
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8
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10
11
Source: Esri, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, GP, Swisstopo, and the GIS User Community
PERRY OLDENBURG BOUNDARY
PO_RxBurn_Units_2015
PO_FNAI_NC
Depression Marsh 6.9ac.
Mesic Flatwoods 1.98ac.
Mesic Hammock 10.94ac.
Pasture-Semi-Improved 13.07ac.
Ruderal 14.23ac.
Sandhill 324.24ac.
SECTION LINES
FLORIDA
FOREST SERVICE
Created By: Michael Edwards
Senior Forester, OPL Reg 3 &4
August 9, 2016
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Miles
DISCLAIMER
This map is the product of the Florida Forest Service. There are no warranties made as to the fitness of this map for any unlisted purpose. Furthermore, no warranties are provided for data therein, its use, or its interpretation.

12.5 FNAI Element Occurrence Data Usage Letter

FLORIDA
Natural Areas
INVENTORY

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

12.6 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.

12.7 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. 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:

Deena S. Woodward
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) 245-6425
Toll Free: (800) 847-7278
Fax: (850) 245-6435

12.8 Apiaries

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

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

Contracts

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

Pricing of Apiary Site(s)

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

Pricing examples:

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

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

Bear Depredation Control at Apiary Site(s)

Beekeepers are required to consult with the WMA/WEA Area Biologist to see if electric fencing is required for their apiary sites. If the Area Biologist requires electric fencing then the Beekeeper shall construct and maintain electric fences for each apiary site. Numerous electric fence designs have been used to varying success and FWC as a courtesy provides an electric fence technical information bulletin with each Agreement. This bulletin is attached in order to assist the Beekeeper and/or provide a design that has been proven to be reasonable effective.

SUBJECT MATTER REFERENCES

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

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

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

Attachments

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

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

_____

Division Director or Designee

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

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

WITNESSETH

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

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

2. The COMMISSION Agrees:

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

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

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

3. The USER Agrees:

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

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

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

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

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

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

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

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

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

j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than $300,000 for bodily injury and $100,000 for property damage for each occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the

insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.

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

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

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

4. The parties mutually agree:

a. This Agreement is not transferable.

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

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

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

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

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

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

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

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

This Area Intentionally Left Blank

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

_____
USER SIGNATURE

Date: _____

_____
Witness

_____
Witness

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

_____
Mike Brooks, Section Leader
Terrestrial Habitat Conservation and Restoration

Date: _____

Approved as to form and legality

_____
Commission Attorney

Date: _____

AGREEMENT
ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

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

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

Understanding Electric Fencing

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

Components of Electric Fencing

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

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

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

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

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

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases. Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use

actual grounded wires within the fence to enhance the grounding system. The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

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

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

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same

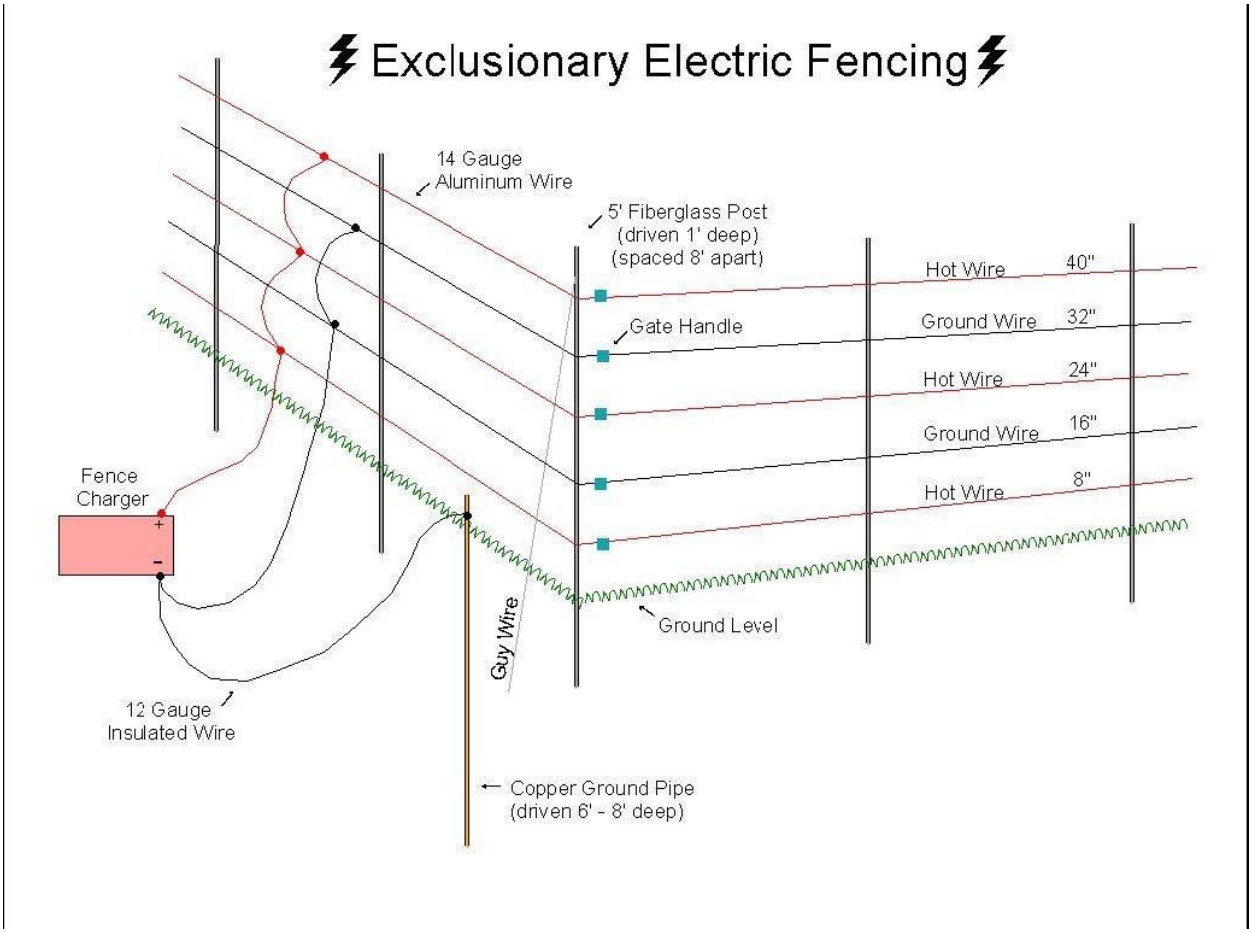
depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and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

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

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

LITERATURE CITED

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



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.

12.8.2 POWEA Apiary Assessment

Perry Oldenburg Wildlife & Environmental Area (WEA) Apiary Assessment

In accordance with the Division of Habitat & Species Conservation's Apiary Policy issued by the Terrestrial Habitat Conservation and Restoration Section (Sept 1, 2010), the following guidelines were used to determine whether Perry Oldenburg WEA should consider apiaries in its Management Plan.

1. Apiary sites should be situated at least ½ mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site.

2. Sites should be relatively level, fairly dry, and not prone to flooding when bees would be normally present.

3. Sites should be accessible by roads which allow for reasonable transfer of hives to the site by vehicle.

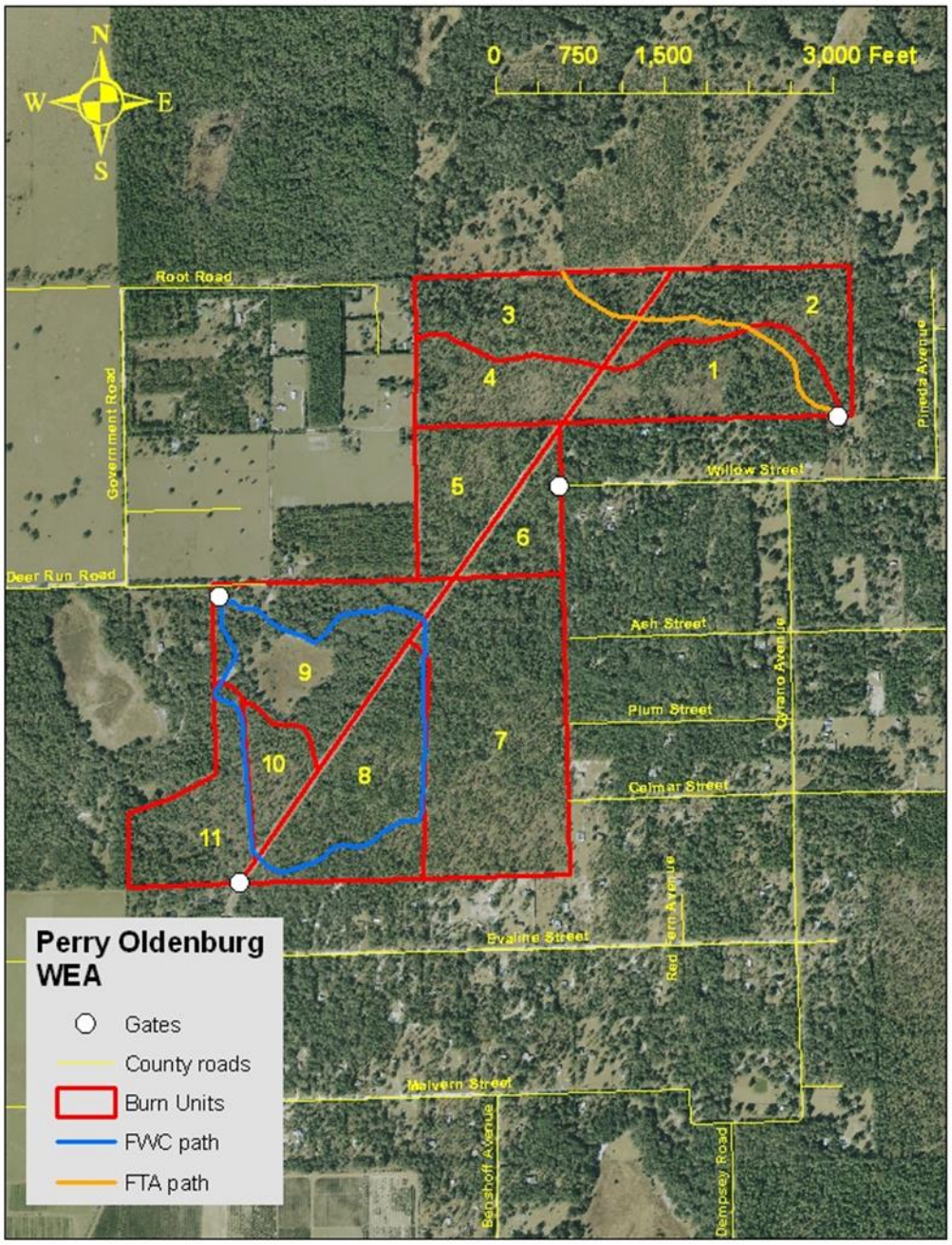
4. If a site is to be located near human activity, then the apiary site should be located at a minimum of 150-200 yards from the edge of that activity.

5. It is preferable to have apiary sites located adjacent to or off roads whenever possible.

6. FWC Area Biologist shall select apiary sites and the site shall not require excessive vegetation clearing or ground disturbance (including fill).

Based on the following analysis as required in the policy, area staff identified zero sites with the potential to be suitable apiary locations on Perry Oldenburg WEA.

1. Upon review of Perry Oldenburg's GIS mapping files, it was determined that no parts of the WEA are more than ½ mile from the property boundary. As such no suitable sites were identified and no further analysis was conducted.


N
W
E
S
0
750
1,500
3,000 Feet
Root Road
Government Road
Deer Run Road
Willow Street
Pineda Avenue
Ash Street
Plum Street
Orlando Avenue
Calmar Street
Evaline Street
Red Fern Avenue
Malvern Street
Benishoff Avenue
Dempsey Road
1
2
3
4
5
6
7
8
9
10
11
Perry Oldenburg WEA
Gates
County roads
Burn Units
FWC path
FTA path

12.9 Operation Plan Fiscal Year 2016 – 2017

Activity	Title	Man Days	Salary	Fuel Cost	Other	Total	Units
100	Administration	9.00	$1,961.82	$76.50	$500.00	$2,538.32	0
101	Project inspection	0.00	$0.00	$0.00	$0.00	$0.00	0
104	Budget/purchasing/accounting	0.00	$0.00	$0.00	$0.00	$0.00	0
200	Resource Management	1.00	$217.98	$8.50	$44,500.00	$44,726.48	1
204	Resource planning	14.00	$3,051.72	$119.00	$0.00	$3,170.72	0
206	Prescribed burning - growing season	10.00	$2,179.80	$85.00	$500.00	$2,764.80	50
207	Prescribed burning - dormant season	25.00	$5,449.50	$212.50	$1,000.00	$6,662.00	100
208	Firebreaks	5.00	$1,089.90	$42.50	$500.00	$1,632.40	7
212	Exotic plant control (chemical)	10.00	$2,179.80	$85.00	$2,000.00	$4,264.80	5
235	Vegetation and plant surveys	0.00	$0.00	$0.00	$0.00	$0.00	0
250	Monitoring and assessments	3.00	$653.94	$25.50	$0.00	$679.44	0
289	Native vegetation management (mechanical)	9.00	$1,961.82	$76.50	$500.00	$2,538.32	0
923	FEM -- vehicles/equipment	5.00	$1,089.90	$42.50	$1,000.00	$2,132.40	1
928	FEM -- fences	9.00	$1,961.82	$76.50	$70,000.00	$72,038.32	4
All totals		100.00	$21,798.00	$850.00	$120,500.00	$143,148.00	168

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

12.10 Arthropod Control Plan

CHARLES H. BRONSON
COMMISSIONER

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

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

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

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

Name of Designated Land:

Perry Oldenburg Wildlife Environmental Area

Is Control Work Necessary: ☒ Yes ☐ No

Location:
West of Withlacoochee State Forest (Croom WMA), East of US 41, North of Evaline Street, South of Root Road

Land Management Agency:
Florida Fish and Wildlife Conservation Commission

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain:
Before any treatment is done we need to define and verify the problem by using surveilance measures.

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:

DACS-13668 07/08

Arthropod Species for Which Control is Proposed:
Aedes vexans, Ae. infirmatus, Ae. atlantics, Anopheles crucians, An. quadrimaculatus.

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ☐ Yes ☒ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☒ No

Other biological controls that might be used:

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☒ Bti

☒ Bs

☒ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name: Mosquito dunks, Altosid

☒ Ground ☐ Aerial

Rate of application: Label rates.

Method of application: Hand distribution, truck-mounted spraying.

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Page 2 of 4

Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒ No

Ground adulticiding ☐ Yes ☒ No

Please specify the following for each adulticide:

Chemical or common name: NA

Rate of application: NA

Method of application: NA

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.

Adulticidng will only be used while the area is declared by the State Health Department as Medical Emergency.

Proposed Notification Procedure for Control Activities:
Notify the land user by phone or fax, notify the public by advertising in newspapers and County news channel.

Records:

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

☒ Yes ☐ No

Records Location: Hernando County Mosquito Control Department, 1525 E.Jefferson St, Brooksville, FL 34601.

How long are records maintained:
Three years.

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Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed?
No.

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed:
No.

Include proposed operational schedules for water fluctuations:
No.

List any periodic restrictions, as applicable, for example peak fish spawning times.
No.

Proposed Modification of Aquatic Vegetation:
No.

Land Manager Comments:
Notify FWC when larvaciding application will be conducted.

Arthropod Control Agency Comments:

D J B. J... 2/27/14
Signature of Lands Manager or Representative Date

... 2/11/13
Signature of Mosquito Control Director / Manager Date

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Page 4 of 4

12.11 Hernando County Letter of Compliance with Local Government Comprehensive Plan

DEPARTMENT OF PLANNING AND ZONING SERVICES
COMPREHENSIVE & LAND USE PLANNING • ENVIRONMENTAL PLANNING • TRANSIT
20 NORTH MAIN STREET • ROOM 262 • BROOKSVILLE, FLORIDA 34601
P 352.754.4057 • F 352.754.4420 • W www.HernandoCounty.us

July 24, 2017

Mr. Lance Jacobson, Conservation Planner
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
620 S. Meridian St
Tallahassee, FL 32399

Re: Perry Oldenburg WEA Management Plan Compliance Review, Hernando County, Florida

Dear Mr. Jacobson,

The Planning Department finds the Perry Oldenburg WEA Management Plan to be consistent with the goals, policies and objectives of the Hernando County Comprehensive Plan and applicable Statutes. The WEA is designated as Conservation on the County's Future Land Use Map and is zoned Conservation District (CV).

The Perry Oldenburg WEA supports prime habitat for gopher tortoise, other State listed species, and allows for passive, resource based public recreation compatible with its management and resource objectives. This area is a benefit to Hernando County. The Plan is comprehensive and proactive with detailed scientific methodology for adaptive management.

Thank you for the opportunity to review and comment on the Perry Oldenburg WEA Management Plan. Please contact Dawn Velsor, Lead Environmental Planner, for any additional assistance.

Sincerely,

Ronald Pianta, AICP
Assistant County Administrator

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