



A Management Plan for
Watermelon Pond Wildlife and Environmental Area
2019 - 2029

Alachua County, Florida



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



FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

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Lt. Governor

Noah Valenstein
Secretary

April 22, 2019

Mr. Thomas Houston
Florida Fish and Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, FL 32399-1600

RE: Watermelon Pond Wildlife and Environmental Area – Lease No. 4554

Dear Mr. Houston:

On **April 19, 2019**, the Acquisition and Restoration Council (ARC) recommended approval of the **Watermelon Pond Wildlife and Environmental Area** management plan. Therefore, Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves the **Watermelon Pond Wildlife and Environmental Area** management plan. The next management plan update is due April 19, 2029.

Pursuant to s. 253.034(5)(a), F.S., each management plan is required to “describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. Short-term goals shall be achievable within a 2-year planning period, and long-term goals shall be achievable within a 10-year planning period.” Upon completion of short-term goals, please submit a signed letter identifying categories, goals, and results with attached methodology to the Division of State Lands, Office of Environmental Services.

Pursuant to s. 259.032(8)(g), F.S., by July 1 of each year, each governmental agency and each private entity designated to manage lands shall report to the Secretary of Environmental Protection, via the Division of State Lands, on the progress of funding, staffing, and resource management of every project for which the agency or entity is responsible.

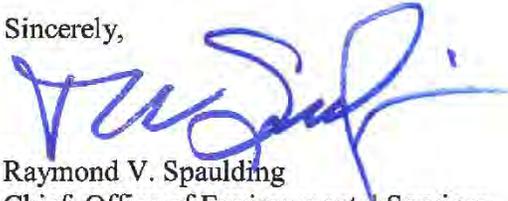
Pursuant to s. 259.036(2), F.S., management areas that exceed 1,000 acres in size, shall be scheduled for a land management review at least every 5 years.

Pursuant to s. 259.032, F.S., and Chapter 18-2.021, F.A.C., management plans for areas less than 160 acres may be handled in accordance with the negative response process. This process requires small management plans and management plan amendments be submitted to the Division of State Lands for review, and the Acquisition and Restoration

Council (ARC) for public notification. The Division of State Lands will approve these plans or plan amendments submitted for review through delegated authority unless three or more ARC members request the division place the item on a future council meeting agenda for review. To create better efficiency, improve customer service, and assist members of the ARC, the Division of State Lands will notice negative response items on Thursdays except for weeks that have State or Federal holidays that fall on Thursday or Friday. The Division of State Lands will contact you on the appropriate Friday to inform you if the item is approved via delegated authority or if it will be placed on a future ARC agenda by request of the ARC members.

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

Sincerely,



Raymond V. Spaulding
Chief, Office of Environmental Services
Division of State Lands
Department of Environmental Protection

**A Management Plan
for
Watermelon Pond Wildlife and Environmental Area**

Alachua County, Florida

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



June 2018

Approved 

Kipp Frohlich
Interim 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: Watermelon Pond Wildlife and Environmental Area
 Location: Alachua County, Florida
 Acreage Total: 1,287.59 acres
 Acreage Breakdown:

<u>Land Cover Classification</u>	<u>Acres*</u>	<u>Percent of Total Area</u>
Basin marsh	287.00	22.29%
Depression marsh	21.06	1.64%
Developed	1.75	0.14%
Improved pasture	152.40	11.84%
Pine plantation	46.37	3.60%
Restoration sandhill	290.82	22.59%
Road	59.78	4.64%
Sandhill	155.98	12.10%
Sinkhole	0.56	0.04%
Xeric hammock	271.91	21.12%

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

Lease/Management Agreement No.: 4554 (Appendix 12.1)

Use: Single _____ Management Responsibilities:
 Multiple X Agency FWC Responsibilities
LEAD, SUBLESSEE (Wildlife and Environmental Area, resource protection, law enforcement)

Designated Land Use: Wildlife and Environmental Area

Sublease (s): None

Encumbrances: None

Type Acquisition: Fish and Wildlife Habitat Program

Unique Features: Natural: Natural communities, sinkholes, Watermelon Pond

Archaeological/Historical: One lithics scatter.

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: 6,072 acres remaining in the Watermelon Pond Florida Forever Project (Figure 4).

Surplus Lands/Acreage: None

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

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

ARC Approval Date _____ BTITF Approval Date: _____

Comments: _____

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common 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	6
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	7
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	1, 7, Appendix 12.1
5	A map showing the approximate location and boundaries of the property, and the location of any structures or improvements to the property.	18-2.018 & 18-2.021	3-5, 66
6	An assessment as to whether the property, or any portion, should be declared surplus. <i>Provide information regarding assessment and analysis in the plan, and provide corresponding map.</i>	18-2.021	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. <i>Please clearly indicate parcels on a map.</i>	18-2.021	64, 65, 67
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	9
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)	4-7, 36-40
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	7-9, 11

Section B: Use Items

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	38, 39
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	36-40
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, 39
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	6, 7, 68
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	63, 77, Appendix 12.11

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	64, 65, 68
17	A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	259.032(10)	36-40
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	86
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 12.15
20	An assessment of the impact of planned uses on the renewable and non-renewable resources of the property, including soil and water resources, and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to compensate/mitigate damage caused by such uses, including a description of how the manager plans to control and prevent soil erosion and soil or water contamination.	18-2.018 & 18-2.021	13-38, 52-64, 71
21	*For managed areas larger than 1,000 acres, an analysis of the multiple-use potential of the property which shall include the potential of the property to generate revenues to enhance the management of the property provided that no lease, easement, or license for such revenue-generating use shall be entered into if the granting of such lease, easement or license would adversely affect the tax exemption of the interest on any revenue bonds issued to fund the acquisition of the affected lands from gross income for federal income tax purposes, pursuant to Internal Revenue Service regulations.	18-2.021 & 253.036	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 12.5
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	10, Appendix 12.3
25	The management prospectus required pursuant to paragraph (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	259.032(10)	Appendix 12.3
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. <i>Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.</i>	259.032(10)	10, Appendix 12.3
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	Appendix 12.3
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. <i>Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.</i>	253.034(5) & 259.032(10)	Appendix 12.3
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. <i>Include manager's replies to the team's findings and recommendations.</i>	259.036	50, Appendix 12.8
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	Appendix 12.8
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	Appendix 12.8

Section D: Natural Resources			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. <i>Use brief descriptions and include USDA maps when available.</i>	18-2.021	13-15, Appendix 12.4
33	Insert FNAI based natural community maps when available.	ARC consensus	17

34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	16-25, 32
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	13-36
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	34
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	34
38	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding fish and wildlife, both game and non-game, and their habitat.	18-2.018 & 18-2.021	26-33
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	26-33
40	The identification or resources on the property that are listed in the Natural Areas Inventory. <i>Include letter from FNAI or consultant where appropriate.</i>	18-2.021	16-25, 33 Appendix 12.6
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)	49-82
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.	↓	49-82
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.		71-81
42-C.	The associated measurable objectives to achieve the goals.		71-81
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. <i>Include fire management plans - they can be in plan body or an appendix.</i>		49-82
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.		82-84
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. <i>See footnote.</i>	253.034(5)	16-25

44	Sustainable Forest Management, including implementation of prescribed fire management		
44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).	18-2.021, 253.034(5) & 259.032(10) ↓	62, 63
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		76
44-C.	Measurable objectives (see requirement for #42-C).		76
44-D.	Related activities (see requirement for #42-D).		49-82
44-E.	Budgets (see requirement for #42-E).		82-84
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).	↓	56-58
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		73
45-C.	Measurable objectives (see requirement for #42-C).		73
45-D.	Related activities (see requirement for #42-D).		49-82
45-E.	Budgets (see requirement for #42-E).		82-84
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. <i>See footnote.</i>		253.034(5)
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	86
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).	↓	58, 59
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		74
48-C.	Measurable objectives (see requirement for #42-C).		74
48-D.	Related activities (see requirement for #42-D).		49-82
48-E.	Budgets (see requirement for #42-E).		82-84

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. <i>If yes, provide a list of the</i>		34

	<i>appropriate managing agencies that have been notified of the proposed plan.</i>	18-2.018 & 18-2.021	
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	34, 35
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	16-26
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034(5)	34, 35
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).	↓	62
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		76
53-C.	Measurable objectives (see requirement for #42-C).		76
53-D.	Related activities (see requirement for #42-D).		49-82
53-E.	Budgets (see requirement for #42-E).		82-84

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. <i>Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.</i>	18-2.018, 18-2.021 & per DHR's request	34
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	34
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	34, 63, 77, Appendix 12.11
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).	↓	63
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		77
57-C.	Measurable objectives (see requirement for #42-C).		77
57-D.	Related activities (see requirement for #42-D).		34, 63, 77, Appendix 12.11
57-E.	Budgets (see requirement for #42-E).		82-84

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

Section G: Facilities (Infrastructure, Access, Recreation)			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. <i>See footnote.</i>	253.034(5)	63-66
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).	↓	63-66, 81
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		77, 78
59-C.	Measurable objectives (see requirement for #42-C).		77, 78
59-D.	Related activities (see requirement for #42-D).		63-66, 77, 78
59-E.	Budgets (see requirement for #42-E).		82-84
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	37-39, 59-61, 63-66
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).	↓	37, 59-61, 81
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		74, 75
61-C.	Measurable objectives (see requirement for #42-C).		74, 75
61-D.	Related activities (see requirement for #42-D).		37, 59-61
61-E.	Budgets (see requirement for #42-E).		82-84

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
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	40-49
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	49-82

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)	82-84, Appendix 12.13
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)	82-84, Appendix 12.13
68	A statement of gross income generated, net income and expenses.	18-2.018	82-84, Appendix 12.13

*** = 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
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DHR	Division of Historical Resources
DSL	Division of State Lands
FAC	Florida Administrative Code
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
GIS	Geographic Information Systems
GPS	Global Positioning System
IMPP	Internal Management Policies and Procedures
IPCC	Intergovernmental Panel on Climate Change
IWHRS	Integrated Wildlife Habitat Ranking System
LAP	Landowner Assistance Program
LMR	Land Management Review
MAG	Management Advisory Group
NRCS	Natural Resources Conservation Service
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
ORV	Off-Road Vehicle
PASO	Public Access Services Office
USFWS	United States Fish and Wildlife Service
WCPR	Wildlife Conservation Prioritization and Recovery
WPWEA	Watermelon Pond Wildlife and Environmental Area

1 Introduction and General Information

Located in southwestern Alachua County, the Watermelon Pond Wildlife and Environmental Area (WPWEA) provides vital habitat for the gopher tortoise and other wildlife while providing a unique experience for outdoor enthusiasts. Trails weave through a variety of habitats, providing a nice mix of scenic vistas that change with the seasons. Water levels in ponds and associated wetlands vary seasonally, so the populations of wading birds and other wetland wildlife are highly variable. The observant visitor can view breeding populations of the rare southeastern American kestrel in the summer. Blooming wildflowers blanket the area, especially in the fall. Spring offers opportunities to see migratory songbirds. Fox squirrels, gopher tortoises and other resident sandhill species are regularly spotted year-round.

The WPWEA is managed by the Florida Fish and Wildlife Conservation Commission (FWC) for the conservation of imperiled and common wildlife, and for fish and wildlife-based public outdoor recreation. The area is managed to conserve and restore natural wildlife habitat, while providing high-quality opportunities for wildlife viewing, hunting, horse-back riding, bicycling, and hiking.

1.1 Management Plan Purpose

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

This Management Plan is submitted for review to the Acquisition and Restoration Council (ARC) acting on behalf of the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) of the State of Florida through the Florida Department of Environmental Protection's (DEP) Division of State Lands (DSL), in compliance with paragraph seven of Lease No. 4554 (Appendix 12.1) and pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of DSL. Terms (Appendix 12.2) used in this Management Plan describing management activities and associated measurable goals and objectives conform to those developed for the Land Management Uniform Accounting Council Biennial Land Management Operational Report.

1.1.1 FWC Planning Philosophy

The FWC’s planning philosophy includes emphasizing management recommendation consensus-building among stakeholders and input from user groups and the general public at the beginning of the planning process. The FWC engages stakeholders by convening a Management Advisory Group and solicits additional input from user groups and the general public at a public hearing (Appendix 12.3). 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 WPWEA Management Plan (Sections 5 – 8).

Further management planning input is received through Land Management Reviews (LMR) conducted every five years, which includes a review of the previous Management Plan, as well as a field review of WPWEA. The LMR report (Section 5.1, Appendix 12.8) provides FWC staff with important information and guidance provided by a diverse team of land management auditors, and communicates the recommendations of the LMR team to FWC so they may be adequately addressed in this Management Plan, and thus guide the implementation of the LMR team recommendations on WPWEA.

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

1.2 Location

As mentioned above, WPWEA is located 18 miles southwest of Gainesville in the southwestern corner of Alachua County (Figures 1 and 2). The area is situated within the city limits of Newberry approximately 4.5 miles south of the intersection of U.S. 27 and State Road 26. The main entrance to the WPWEA is located at the northeast corner of the area on SW 250 Street where there is also a parking area. Additional designated entrances are located at the county-owned Watermelon Pond Park at the end of SW 250 Street, and on SW 282 Street (County Road 337) on the west side of the WPWEA. As shown in Figure 3, the 1,287-acre WPWEA lies within Sections 32 and 33 in Township 10 South, Range 17 East and Section 4 in Township 11 South, Range 17 East.

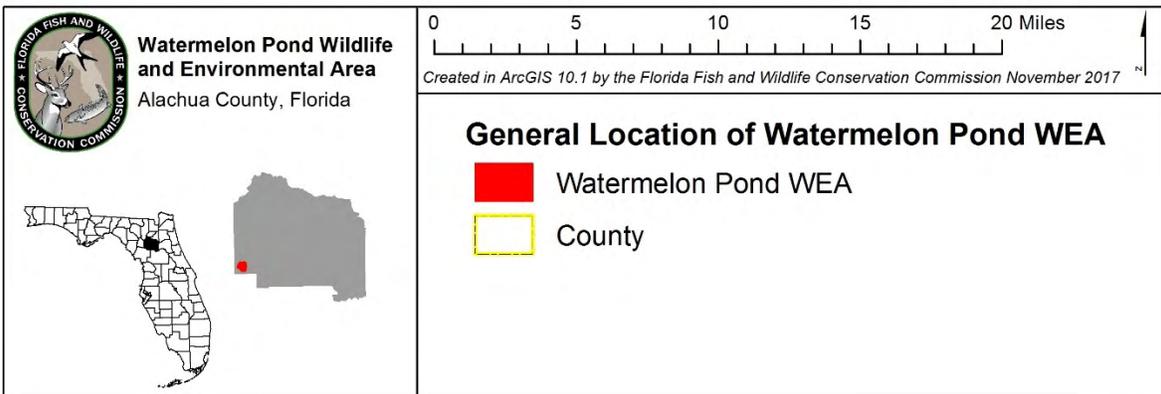
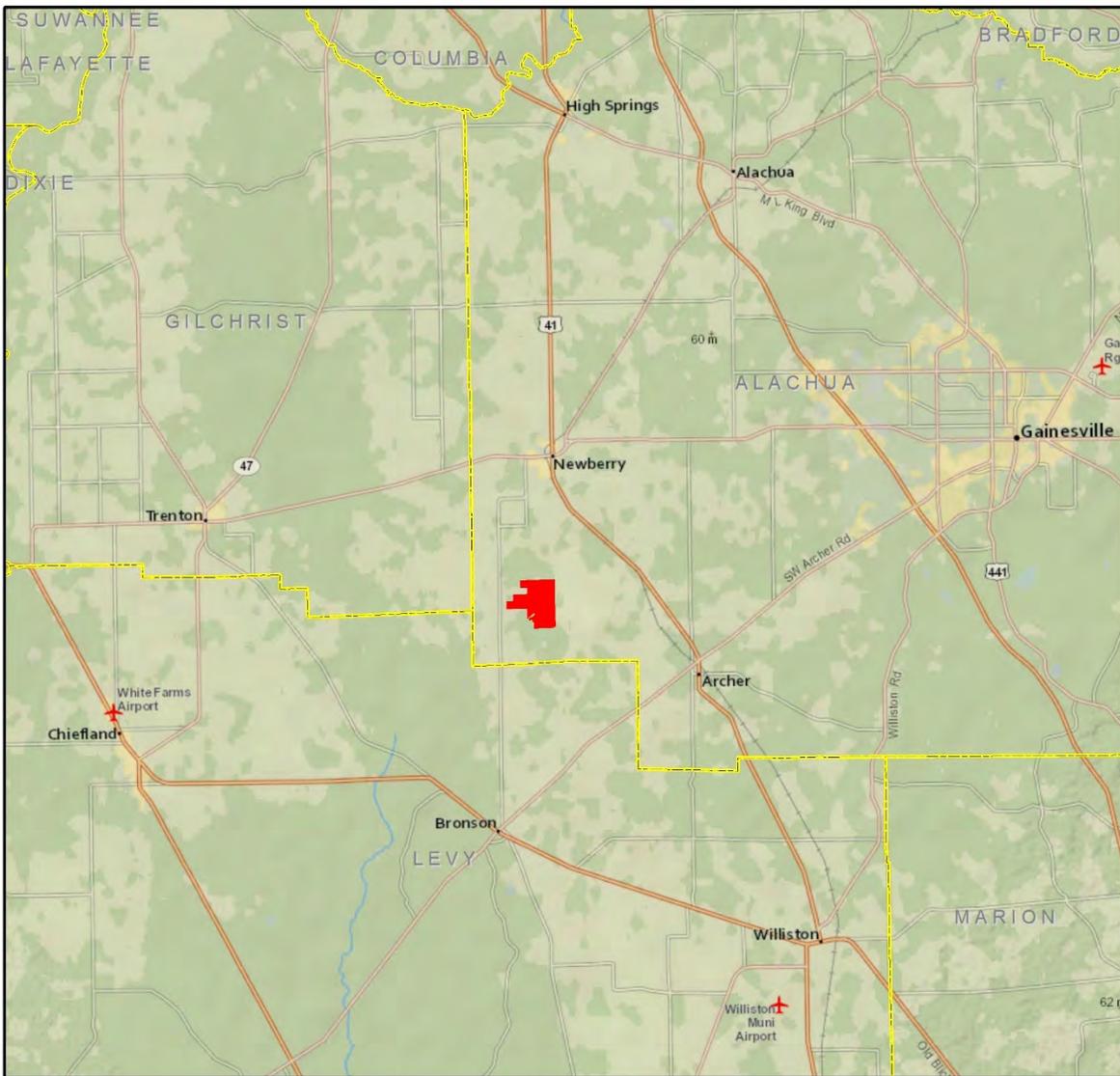


Figure 1: General Location of Watermelon Pond WEA

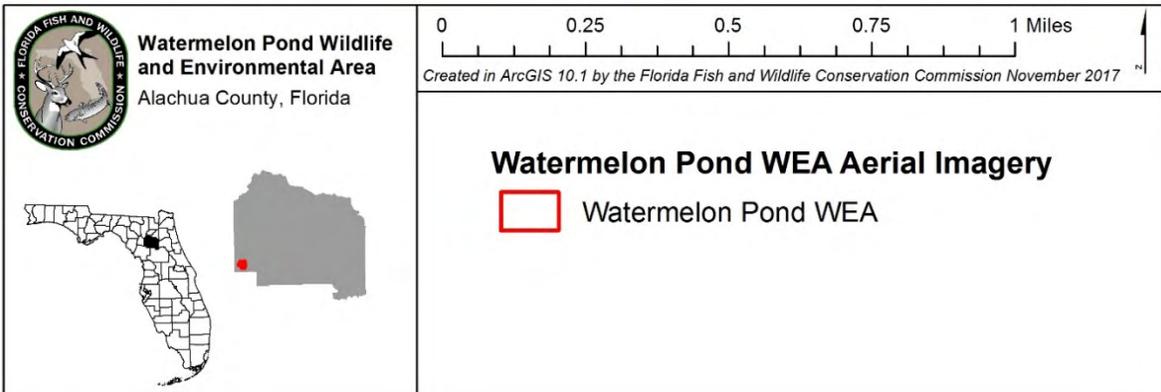
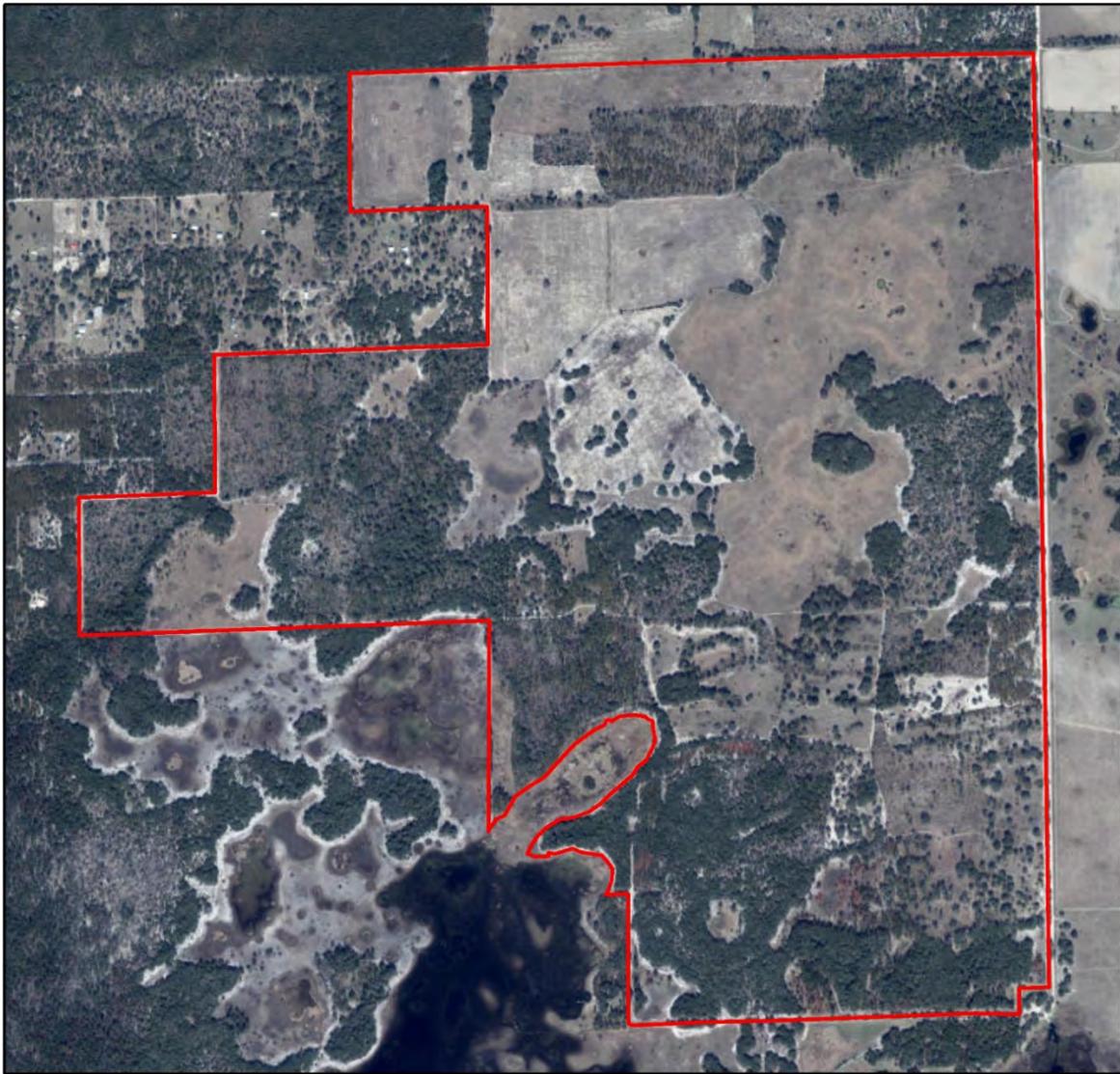


Figure 2: WPWEA Boundary and Aerial Imagery

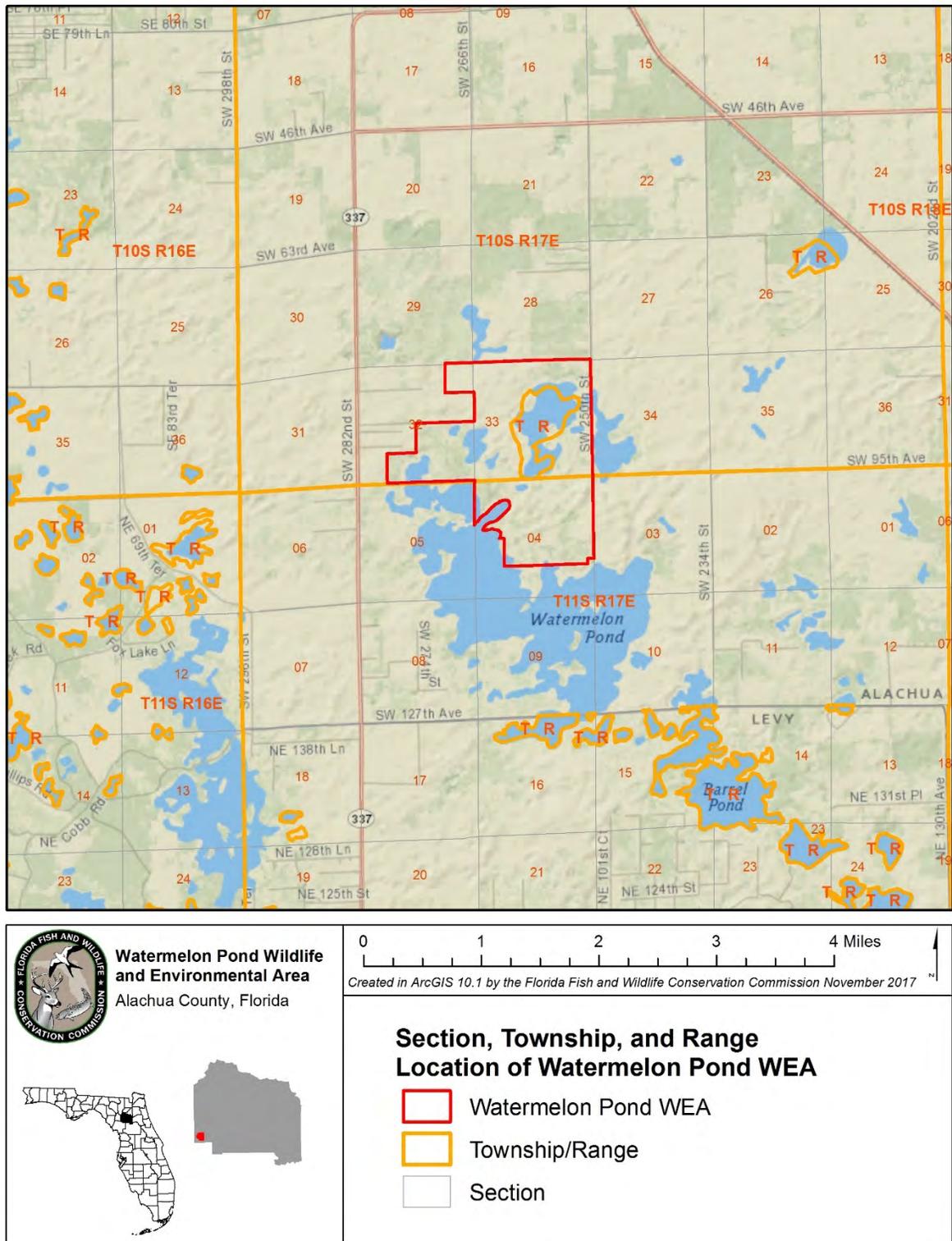


Figure 3: Section, Township, and Range Location of WPWEA

1.3 Acquisition

1.3.1 Purpose for Acquisition of the Property

The WPWEA is an important and integral component of the FWC's programs serving to conserve gopher tortoise habitat along with other fish and wildlife resources. The FWC will manage the area as a gopher tortoise mitigation park for natural resource conservation, restoration, and resource-based public outdoor recreation within a multiple-use gopher tortoise habitat management regime. In accordance with acquisition through the Fish and Wildlife Habitat Program, the FWC will manage WPWEA in accordance with its statutory and administrative authority to acquire and manage lands important to fish and wildlife. Management goals will primarily emphasize conservation of fish and wildlife resources, under general guidance of the FWC agency strategic plan.



Part of the WPWEA overlaps the Watermelon Pond Florida Forever Project. The Florida Forever Five-year Plan indicates the following purpose for state acquisition of the Watermelon Pond Florida Forever Project: "In southwestern Alachua County, the original landscape of dry longleaf-pine sandhills pocked with marshes and lakes, important for wildlife, has been much reduced by agriculture and encroaching ranchettes. The Watermelon Pond project will conserve part of

this original landscape for plants, for wildlife such as fox squirrels, scrub jays, and sandhill cranes, for the protection of the groundwater supply of the county, and for the public to enjoy for years to come."

1.3.2 Acquisition History

The WPWEA is owned by the citizens of the State of Florida. Title is held by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees). The initial acquisition of all 1,287 acres of WPWEA was made in 2007 using FWC's Fish and Wildlife Habitat Program funds.

1.4 Management Authority

The FWC is the designated lead managing agency for WPWEA under the authority granted by Lease Number 4554 from the Board of Trustees agent, DSL. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870 of the 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

The 50-year Board of Trustees' Lease Agreement Number 4554 with FWC directs FWC to “manage the leased premises only for the conservation and protection of natural and historical resources and resource-based, public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), FS...” The lease agreement further directs FWC to “implement applicable Best Management Practices for all activities under this lease in compliance with paragraph 18-2.018(2)(h), FAC, which have been selected, developed, or approved by lessor, lessee, or other land managing agencies for the protection and enhancement of the leased premises.”

1.6 Title Interest and Encumbrances

As State-owned lands, title to WPWEA is vested in the Board of Trustees (Governor and Cabinet). In February 2008, DSL, as staff to the Board of Trustees, entered into Lease Agreement Number 4554, a 50-year lease agreement, granting FWC management authority for WPWEA. There are no known encumbrances to the property.

1.7 Proximity to Other Public Conservation Lands

The WPWEA is located in the vicinity of an extensive network of conservation lands, including lands managed by the Suwannee River Water Management District (SRWMD), DEP, Alachua County, and many others (Figure 4). A unit of the Goethe State Forest, managed by the Florida Forest Service (FFS) is adjacent to WPWEA's southeastern boundary. Several Florida Forever projects, including the remaining acreage of the Watermelon Pond Florida Forever Project, are also located nearby.

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

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

Table 1: Florida Forever Projects Within 15 Miles of WPWEA

Project Name	Remaining Acres
Longleaf Pine Ecosystem	10,780
Southeastern Bat Maternity Caves	594
Watermelon Pond	5,072

Table 2: Conservation Lands Within 15 Miles of WPWEA

State of Florida	Managing Agency
Bell Ridge Longleaf Wildlife and Environmental Area	FWC
Circle Pines Farm Agricultural and Conservation Esmt.	FFS
Dudley Farm Historic State Park	DEP
Goethe State Forest	FFS
Hogtown Creek Woods	University of Florida
Natural Area Teaching Laboratory	University of Florida
Nature Coast State Trail	DEP
Paynes Prairie Preserve State Park	DEP
San Felasco Hammock Preserve State Park	DEP
Trillium Slope	University of Florida
Water Management District	Managing Agency
City of Newberry Conservation Easement	SRWMD
Fowlers Bluff Conservation Area	SRWMD
Upper Waccasassa Conservation Area	SRWMD
County/City	Managing Agency
Barr Hammock Preserve	Alachua County
Broken Arrow Bluff Nature Park	City of Gainesville
Clear Lake Nature Park	City of Gainesville
Cofrin Nature Park	City of Gainesville
Devil's Hammock	Levy County
Forest Nature Park	City of Gainesville
Frederick and Spalding Conservation Easement	Alachua County
Green Acres Park	City of Gainesville
Hull Road Conservation Area	City of Gainesville
John Mahon Nature Park	City of Gainesville
Kanapaha Botanical Gardens	Alachua County
Lake Kanapaha	Alachua County
Loblolly Woods Nature Park	City of Gainesville
Pinkoson Tract	City of Gainesville
Robertson Conservation Easement	Alachua County
Split Rock Conservation Area	City of Gainesville
Sugarfoot Prairie Conservation Area	City of Gainesville
Terwilliger Pond Conservation Area	City of Gainesville
Wacahoota	City of Gainesville
Watermelon Pond Park	Alachua County
Watermelon Pond Preserve - Ferran	Alachua County
Watermelon Pond Preserve - Gladman	Alachua County
Watermelon Pond Preserve - King	Alachua County
Watermelon Pond Preserve - Metzger	Alachua County

Public/Private Conservation Organization	Managing Agency
Ashton Biological Preserve	Ashton Biodiversity Research and Preservation Institute, Inc.
Blues Creek Ravine	Alachua Conservation Trust
Herzog Cave Preserve	Alachua Conservation Trust
Historic Haile Homestead	Alachua Conservation Trust
Kanapaha Prairie	The Conservation Fund
Saarinen Preserve	Alachua Conservation Trust
Warren Cave	National Speleological Society

1.8 Adjacent Land Uses

The land uses adjacent to the WPWEA are largely rural in character. Nearby lands were experiencing an increase in development until the market down-turn in 2007, which significantly slowed development in the area. Many properties in the area remain in agricultural use and will likely continue to be used as ranch and recreational lands into the foreseeable future.

Most of WPWEA is located within the City of Newberry (1,234 acres) with the remainder in unincorporated Alachua County (52 acres). The area located within the City of Newberry is zoned A (Agricultural) with an Agricultural land use, which allows for a maximum

development of one unit per five acres. The portion within the County is zoned A (Agricultural) with a Rural/Agricultural land use allowing a maximum development of one unit per five acres. Alachua County’s future land use plan allows subdividing tracts in



rural areas only if access is provided to a paved roadway meeting county standard. Adjacent lands are either in the City of Newberry or within the County and fall under the same land use and zoning designations as the WPWEA. Development projects in the area that compete with or influence the WPWEA include the proposed Bluebird Pines subdivision that will include 33-three plus acre lots. Another proposed subdivision just

south of Newberry in Alachua County will have 19-three to four acre lots. There is a 635-acre parcel known as the Metzger tract east of WPWEA that was acquired by Alachua County via the Alachua County Forever Program. The majority of the Metzger tract consists of improved pasture, and it serves as a significant habitat and buffer to WPWEA. There are active gopher tortoise burrows and documented burrowing owls on this adjacent property.

The immediate area of WPWEA includes Horseshoe Pond and Watermelon Pond. There is a county maintained park at the end of S.W. 250th Street south of the WPWEA boundary with a public boat ramp for accessing Watermelon Pond. The WPWEA abuts the county park and includes frontage on Watermelon Pond along the southern boundary of the area.

The U.S. Census Bureau estimates that in 2015 there were 259,964 people living in Alachua County, 17,119 people in Gilchrist County, and 39,832 people in Levy County. The University of Florida's Bureau of Economic and Business Research's medium-range population projection indicates that by 2030 there will be 283,076 people living in Alachua County, 19,023 people in Gilchrist County, and 44,051 people in Levy County.

1.9 Public Involvement

The FWC conducted a Management Advisory Group (MAG) meeting in Gainesville, Florida on January 10, 2018 to obtain input from both public and private stakeholders regarding management of WPWEA. 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 12.3. Further, a public hearing, as required by Chapter 259.032(10), FS, was held in Gainesville on February 22, 2018, to solicit input and comment from the general public regarding this Management Plan. The report of that hearing is also contained in Appendix 12.3. 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.

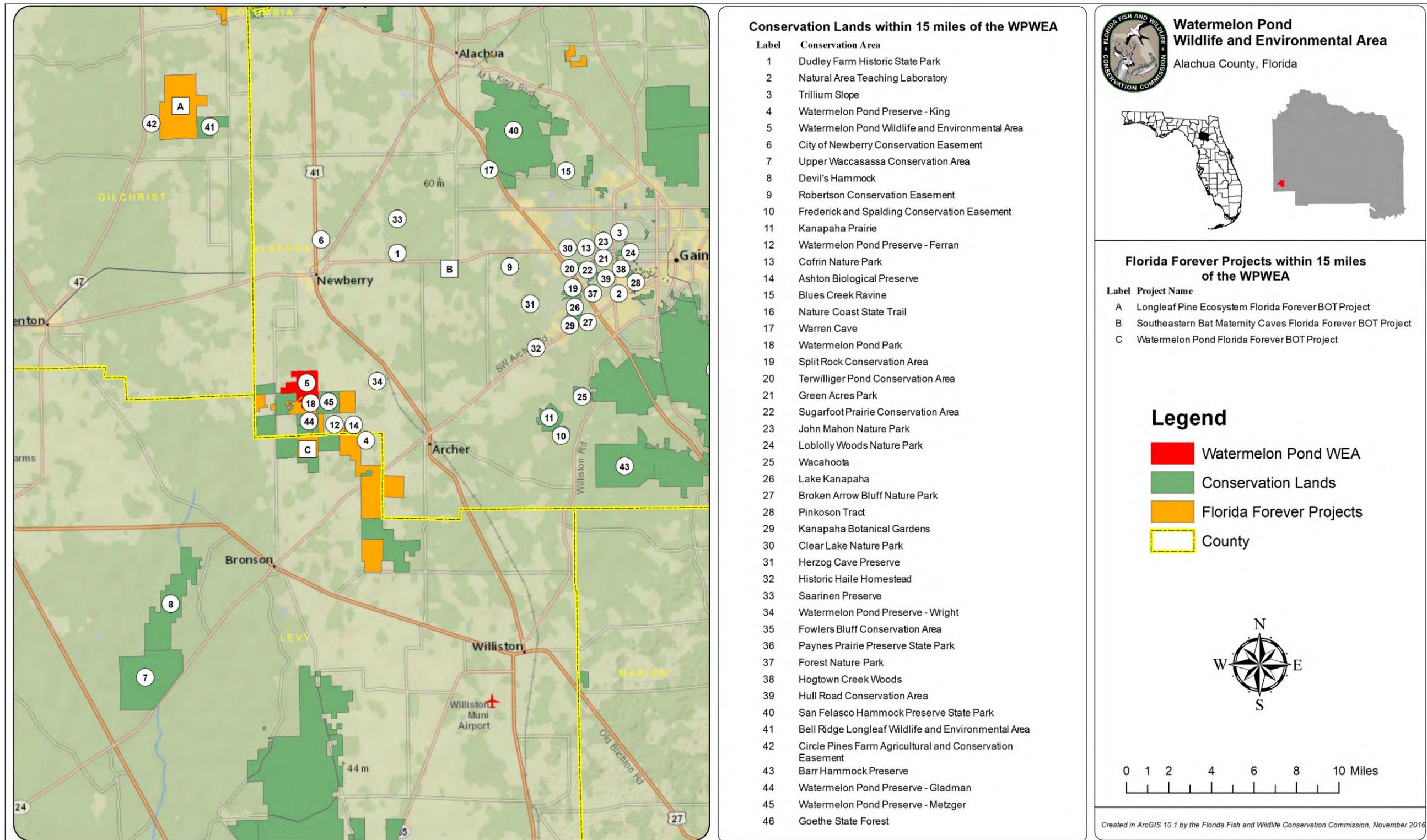


Figure 4: Nearby Conservation Lands and Florida Forever Projects

2 Natural and Historical Resources

2.1 Physiography

2.1.1 Climate

The climate of Alachua County, like most of Florida, is humid and subtropical. The average annual maximum temperature for the City of Gainesville is 79.9°F. The average minimum annual temperature is 57.6°F. January is the coldest month, with an average maximum temperature of 66.5°F, and an average minimum temperature of 42.7°F. Average total annual precipitation is 49.9 inches, during which period average total precipitation was highest during the month of June (7.03 in) and lowest in November (1.98 in). The wet season normally extends from June through September, while the dry season normally extends from October through May.

2.1.2 Topography

The land within WPWEA is relatively flat, however, there are noticeable elevation changes on the area. Elevation within WPWEA ranges from approximately 55 to 75 feet above mean sea level, with the lower elevations being found in the WPWEA's basin marshes.

2.1.3 Soils

The United States Department of Agriculture's Natural Resources Conservation Service (NRCS) data were used to identify the WPWEA's soil types and soil depth to water table. Eight soil map units described in the soil survey of the WPWEA are distributed as shown in Figure 5. The primary soil types found on the area include Candler fine sand, 0 to 5 percent slopes (48% of the area), Chipley sand (17%), and Tavares sand (13%). Analysis of the depth to water table for soil units occurring within WPWEA are also provided in Figure 6. The NRCS defines a soil unit as: "a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey." Soil map units may contain multiple soil components, which are given names that are unique identifiers. Soil series descriptions may be found in Appendix 12.4.

2.1.4 Geologic Conditions

The WPWEA is located in the western plains region of Alachua County. This region is characterized by karst topography (springs, caves, and sinkholes) and occasional hills. There are also flat-bottomed lakes and prairies. The western plains region has low relief with elevations ranging from about 50 to 80 feet above mean sea level. This plain is generally devoid of stream channels but is dotted with sinks and limerock pits. While the Ocala Limestone is essentially near the surface, many of the old sinks have become filled with sand, clayey sand, and sandy clay.

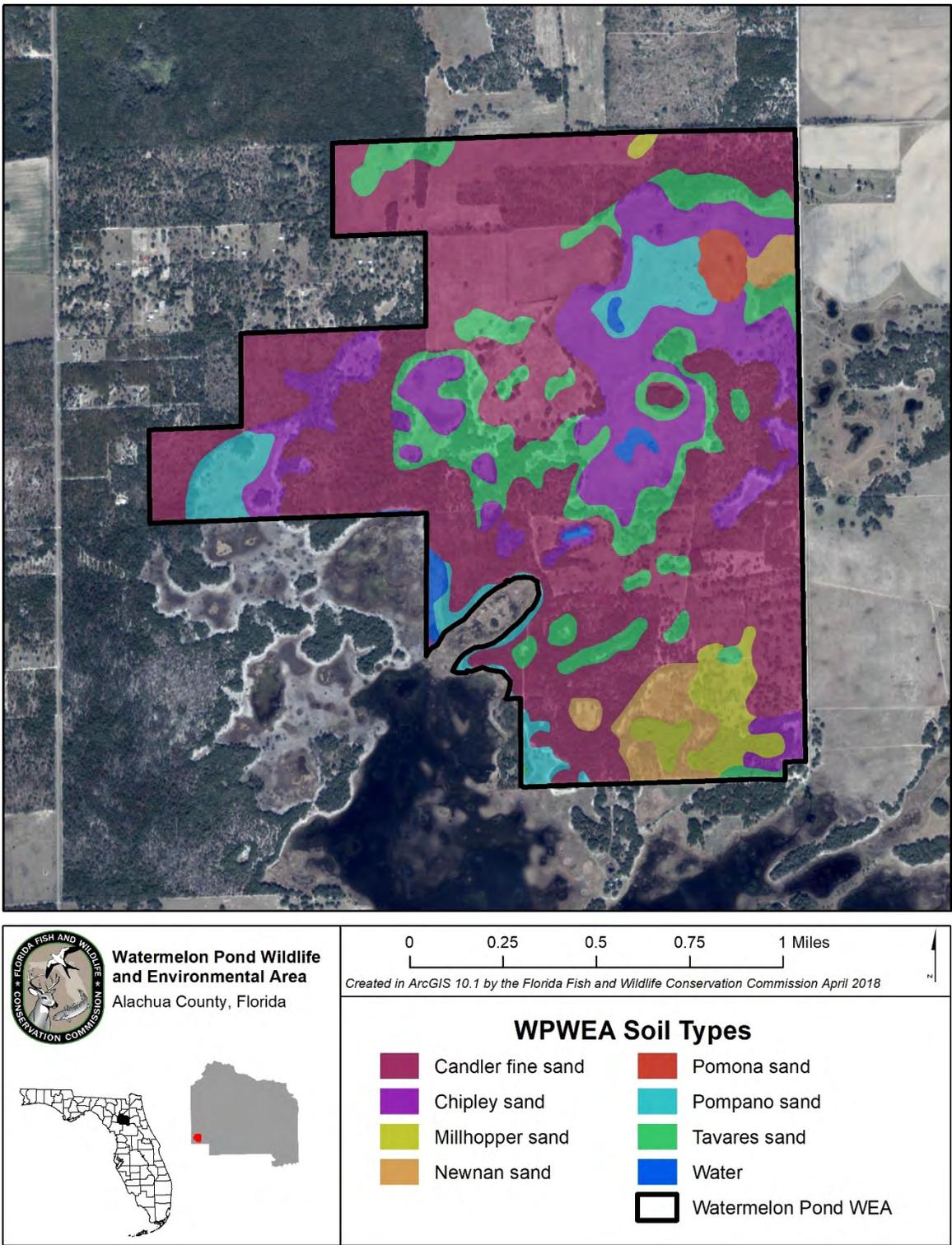


Figure 5: WPWEA Soil Types

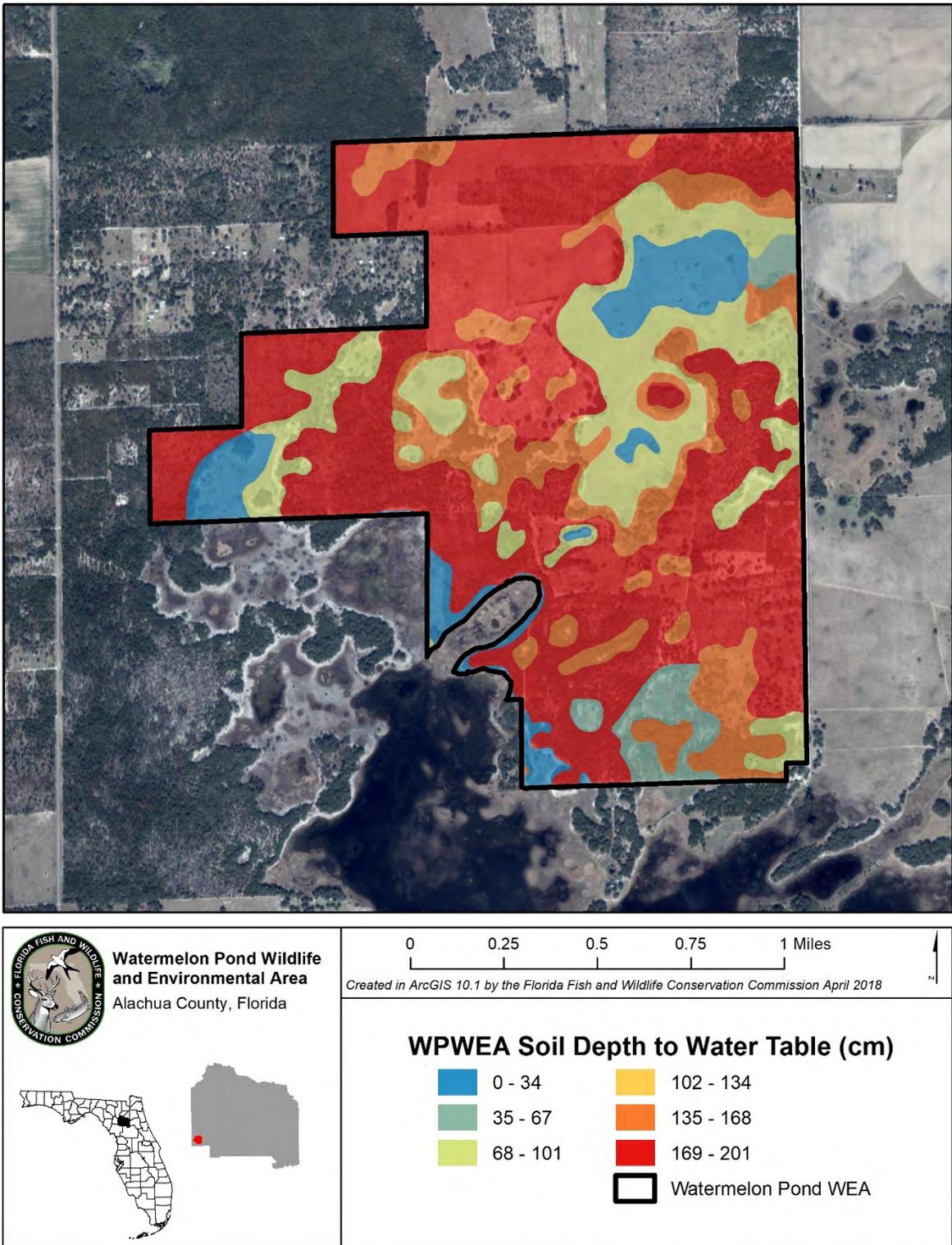


Figure 6: WPWEA Soil Depth to Water Table

2.2 Vegetation

The WPWEA is situated on the north bank of Watermelon Pond in a region that is characterized by a vast landscape of sandhill, pine plantations, and agricultural fields. The FWC has completed natural and anthropogenic community mapping of the WPWEA through the services of the Florida Natural Areas Inventory (FNAI). Through this work, FNAI has identified and mapped a total of eight plant communities within the WPWEA.

The plant communities located on the WPWEA are listed in Table 3 and shown in Figure 7. These communities are described in section 2.2.1. Native and rare plant species known to occur on the WPWEA are listed in Tables 4 and 5, respectively. Table 6 lists the exotic/invasive plant species found on the area and the Florida Exotic Pest Plant Council (FLEPPC) category for each species.

Table 3: Plant Communities Found at WPWEA

Community Type	GIS Acres	Percentage
Basin marsh	287.00	22.29%
Depression marsh	21.06	1.64%
Developed	1.75	0.14%
Improved pasture	152.40	11.84%
Pine plantation	46.37	3.60%
Restoration sandhill	290.82	22.59%
Road	59.78	4.64%
Sandhill	155.98	12.11%
Sinkhole	0.56	0.04%
Xeric hammock	271.91	21.12%

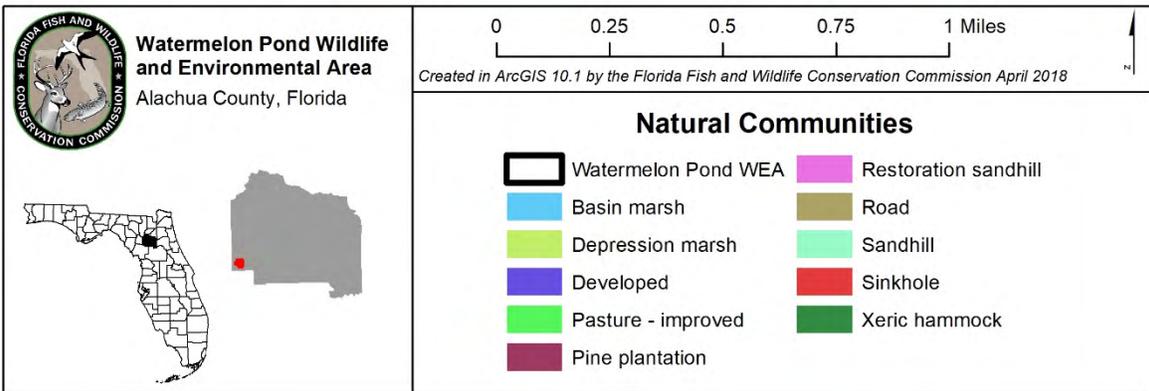
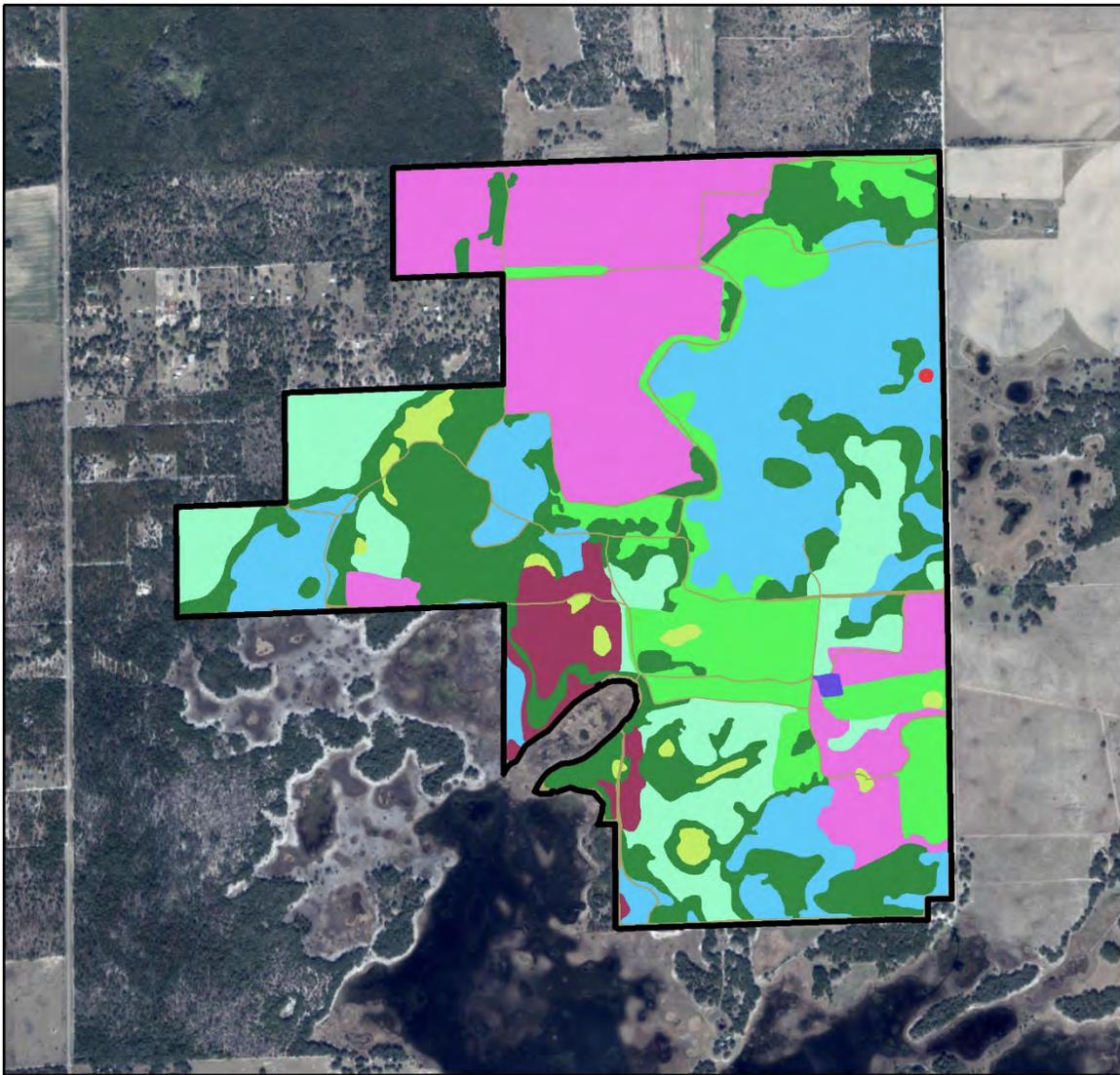


Figure 7: Natural Communities Found at WPWEA

Table 4: Native Plant Species Found at WPWEA

Common Name	Scientific Name
Adam's needle	<i>Yucca filamentosa</i>
American beautyberry	<i>Callicarpa americana</i>
American holly	<i>Ilex opaca</i>
American pokeweed	<i>Phytolacca americana</i>
Ballmoss	<i>Tillandsia recurvata</i>
Beaksedge	<i>Rhynchospora</i> sp.
Big carpetgrass	<i>Axonopus furcatus</i>
Blackroot	<i>Pterocaulon pycnostachyum</i>
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>
Bluejack oak	<i>Quercus incana</i>
Bracken fern	<i>Pteridium aquilinum</i>
Broomsedge	<i>Andropogon</i> sp.
Carolina desertchicory	<i>Pyrrhopappus carolinianus</i>
Carolina laurelcherry	<i>Prunus caroliniana</i>
Carolina redroot	<i>Lachnanthes caroliana</i>
Cat greenbrier	<i>Smilax glauca</i>
Coastalplain chaffhead	<i>Carphephorus corymbosus</i>
Coastalplain honeycomb-head	<i>Balduina angustifolia</i>
Cogtongue wild buckwheat	<i>Eriogonum tomentosum</i>
Common persimmon	<i>Diospyros virginiana</i>
Coontie	<i>Zamia pumila</i>
Dwarf huckleberry	<i>Gaylussacia dumosa</i>
Earleaf greenbrier	<i>Smilax auriculata</i>
Eastern poison oak	<i>Toxicodendron pubescens</i>
Elliott's bluestem	<i>Andropogon gyrans</i>
Everlasting	<i>Gamochoaeta</i> sp.
Falsefennel	<i>Eupatorium leptophyllum</i>
Flatsedge	<i>Cyperus</i> sp.
Florida betony	<i>Stachys floridana</i>
Florida greeneyes	<i>Berlandiera subacaulis</i>
Florida rosemary	<i>Ceratiola ericoides</i>
Fringed bluestar	<i>Amsonia ciliata</i>
Gallberry	<i>Ilex glabra</i>
Hercules' club	<i>Zanthoxylum clava-herculis</i>
Hoarypea	<i>Tephrosia</i> sp.
Laurel oak	<i>Quercus laurifolia</i>
Little bluestem	<i>Schizachyrium scoparium</i>
Live oak	<i>Quercus virginiana</i>
Loblolly pine	<i>Pinus taeda</i>
Longleaf pine	<i>Pinus palustris</i>

Table 4: Native Plant Species Found at WPWEA

Common Name	Scientific Name
Longleaf threeawn	<i>Aristida palustris</i>
Lopsided indiagrass	<i>Sorghastrum secundum</i>
Lovegrass	<i>Eragrostis</i> sp.
Maidencane	<i>Panicum hemitomom</i>
Meadowbeauty	<i>Rhexia</i> sp.
Milkpea	<i>Galactia</i> sp.
Muscadine	<i>Vitis rotundifolia</i>
Myrtleleaf St. John's wort	<i>Hypericum myrtifolium</i>
Narrowleaf silkgrass	<i>Pityopsis graminifolia</i>
Oblongleaf twinflower	<i>Dyschoriste oblongifolia</i>
Panic grass	<i>Panicum</i> sp.
Pineland scalypink	<i>Stipulicida setacea</i>
Pinewoods milkweed	<i>Asclepias humistrata</i>
Pineywoods dropseed	<i>Sporobolus junceus</i>
Pricklypear	<i>Opuntia humifusa</i>
Purple passion-flower	<i>Passiflora incarnata</i>
Purple thistle	<i>Cirsium horridulum</i>
Queen-devil	<i>Hieracium gronovii</i>
Queensdelight	<i>Stillingia sylvatica</i>
Rabbitbells	<i>Crotalaria rotundifolia</i>
Redtop panicum	<i>Panicum rigidulum</i>
Rockrose	<i>Helianthemum</i> sp.
Rosin weed	<i>Silphium</i> sp.
Roughfruit scaleseed	<i>Spermolepis divaricata</i>
Sand blackberry	<i>Rubus cuneifolius</i>
Sand cordgrass	<i>Spartina bakeri</i>
Sand live oak	<i>Quercus geminata</i>
Saw palmetto	<i>Serenoa repens</i>
Shiny blueberry	<i>Vaccinium myrsinites</i>
Silver croton	<i>Croton argyranthemus</i>
Slash pine	<i>Pinus elliotii</i>
Slender flattop goldenrod	<i>Euthamia caroliniana</i>
Slimleaf pawpaw	<i>Asimina angustifolia</i>
Smartweed	<i>Polygonum</i> sp.
Southern umbrellasedge	<i>Fuirena scirpoidea</i>
Spanish moss	<i>Tillandsia usneoides</i>
Sparkleberry	<i>Vaccinium arboreum</i>
Switchgrass	<i>Panicum virgatum</i>
Threeawn	<i>Aristida</i> sp.
Tread softly	<i>Cnidocolus stimulosus</i>

Table 4: Native Plant Species Found at WPWEA

Common Name	Scientific Name
Turkey oak	<i>Quercus laevis</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Virginia dwarfdandelion	<i>Krigia virginica</i>
Ware's hairsedge	<i>Bulbostylis warei</i>
Water oak	<i>Quercus nigra</i>
Wavyleaf noseburn	<i>Tragia urens</i>
Wild olive	<i>Osmanthus americanus</i>
Winged sumac	<i>Rhus copallinum</i>
Wiregrass	<i>Aristida stricta</i> var. <i>beyrichiana</i>
Witchgrass	<i>Dichantheium</i> sp.
Woolly pawpaw	<i>Asimina incana</i>
Yankeeweed	<i>Eupatorium compositifolium</i>
Yellow jessamine	<i>Gelsemium sempervirens</i>
Yellow pondlily	<i>Nuphar advena</i>

Table 5: Imperiled Plants Found at WPWEA

Common Name	Scientific Name	Status
Coontie	<i>Zamia spp.</i>	CE
Florida spiny-pod	<i>Matelea floridana</i>	SE
Giant orchid	<i>Orthochilus ecristatus</i>	ST
Piedmont joint grass	<i>Coelorachis tuberculosa</i>	ST
Sandhill spiny-pod	<i>Matelea pubiflora</i>	SE
Scrub stylisma	<i>Stylisma abdita</i>	SE

Status Key: SE = State Endangered, ST = State Threatened, CE = Commercially Exploited

Table 6: Exotic/Invasive Plant Species Documented at WPWEA

Common Name	Scientific Name	FLEPPC
Bahiagrass	<i>Paspalum notatum</i>	
Bermudagrass	<i>Cynodon dactylon</i>	
Camphortree	<i>Cinnamomum camphora</i>	I
Centipedegrass	<i>Eremochloa ophiuroides</i>	
Chinese tallow	<i>Triadica sebifera</i>	I
Hairy indigo	<i>Indigofera hirsuta</i>	
Japanese climbing fern	<i>Lygodium japonicum</i>	I
Mimosa	<i>Albizia julibrissin</i>	I
Natalgrass	<i>Melinis repens</i>	I
Sheep sorrel	<i>Rumex acetosella</i>	

Table 6: Exotic/Invasive Plant Species Documented at WPWEA

Common Name	Scientific Name	FLEPPC
Tropical soda apple	<i>Solanum viarum</i>	I

2.2.1 FNAI Plant Community Descriptions

2.2.1.1 Basin Marsh (287 acres)

Basin marsh is an herb-dominated community that occurs in large, often irregularly shaped depressions. Basin marshes are regularly inundated freshwater herbaceous wetlands that may occur in a variety of situations, but in contrast to depression marshes, are not small or shallow inclusions within a fire-maintained natural community. Plant species composition is heterogeneous, both within and between marshes, but can generally be divided into submersed, floating-leaved, emergent, and grassy zones from deepest to shallowest portions; shrub patches may be present within any of these zones.

Basin marsh at WPWEA contains zones of vegetation based on the water depth and the associated amount of peat accumulation. Basin marshes in this region undergo extreme water fluctuations annually as well as year to year. The majority of the basin marsh at WPWEA does not contain permanent water and is typically vegetated with a sparse cover of short grasses. Disturbances to this community include exclusion of fire, altered hydrology, and seeding of pasture grasses. Despite these disturbances, the community as a whole still generally resembles its historic conditions.

The basin marsh community does not contain a canopy, but scattered pines including longleaf pine and loblolly pine are infrequent. Shrubs are extremely sparse to nonexistent in most areas and infrequently include Florida rosemary, common persimmon, myrtleleaf St. John's wort, loblolly pine, live oak, winged sumac, sand blackberry, and sparkleberry. Basin marsh at WPWEA is an herb dominated community. Blue maidencane, broomsedge, big carpetgrass, bahiagrass, sand cordgrass, and earleaf greenbrier often colonize the upper reaches of the marsh. Falsefennel, Virginia maidencane, and smartweed are typically found in the lower marsh areas. Herbaceous covers are typically greater than 50% cover, but variability does occur throughout the area.

2.2.1.2 Depression Marsh (21 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.

The depression marsh community of WPWEA lacks a canopy, but infrequently contains scattered trees including loblolly pine and live oak. Shrubs are also uncommon and are typically found along the outer edges of the marsh. Common shrubs include Florida rosemary, myrtleleaf St. John's wort, longleaf pine, loblolly pine, live oak, sand blackberry, sparkleberry, and shiny blueberry. The herbaceous layer of the depression marsh community includes blue maidencane, broomsedge, longleaf threeawn, big carpetgrass, witchgrass, falsefennel, southern umbrellasedge, and pineland scalypink. The distinction between depression marsh and basin marsh is made by size and shape. The species composition at this site is nearly identical with exception of species found in deep water areas of basin marsh.

2.2.1.3 Improved Pasture (152 acres)

Improved pastures have been cleared of their native vegetation. They are dominated by planted, non-native plant species, and they contain evidence of current or recent cultural activities such as mowing or grazing.

At WPWEA, improved pasture areas often have a limited amount of native vegetation present, but lack the representative species assemblage of the historic community. Historically, these areas were converted from sandhill, basin marsh, and xeric hammock to improved pasture. Scattered longleaf pine and live oak are the only canopy representatives in this community. Shrubs are sparse and dominated by sand blackberry. Additional shrub species include woolly pawpaw, common persimmon, Carolina laurelcherry, sand live oak, live oak, winged sumac, and Hercules' club. Bahiagrass and bermudagrass are the dominant herb and forms a dense carpet across this community. Additional herbaceous species found in the improved pasture include pinewoods milkweed, Florida greeneyes, purple thistle, rabbitbells, oblongleaf twinflower, yankeeweed, everlasting, and roughfruit scaleseed. Earleaf greenbrier was the only vine documented and was observed infrequently in pastures.

2.2.1.4 Pine Plantation (46 acres)

Pine plantations are tracts of planted pines including loblolly pine, slash pine, sand pine, or longleaf pine in a variety of silvicultural stages. Typically, pine plantations are planted in dense narrow rows, often bedded in low-lying areas, to produce pulpwood and other timber products for maximum revenue potential. Depending on the density of tree plantings, they are generally characterized by a sparse to non-existent understory of shrubs and plants, creating a monoculture community.

At WPWEA, pine plantation has been created in areas that were formerly sandhill and basin marsh communities. The basin marsh plantings typically occur in the upper most areas of the marsh that would have been open in the past and allowed for easy pine

plantation establishment. In a few locations, it appears that pines have been planted in what used to be former pasture, as evident by a groundcover of bahiagrass.

Both slash pine and longleaf pine have been planted and dominate the canopy of this community. Sand live oak and live oak are also infrequently observed in the canopy stratum. Shrubs are typically sparse, but can be dense to moderately dense in areas. Common shrubs include common persimmon, gallberry, pricklypear, slash pine, longleaf pine, sand live oak, bluejack oak, turkey oak, water oak, live oak, winged sumac, sand blackberry, sparkleberry, shiny blueberry, Adam's needle, coontie, and Hercules' club. Sand blackberry is by far the most common shrub associate. Herbs are typically sparse and include blue maidencane, broomsedge, flatsedge, sand cordgrass, and maidencane in the converted basin marsh areas. Pine plantation located on former sandhill areas contains fringed bluestar, broomsedge, threeawn, wiregrass, Florida greeneyes, witchgrass, lovegrass, dogtongue wild buckwheat, yankeeweed, redtop panicum, bahiagrass, and wavyleaf noseburn in the herbaceous layer. Yellow jessamine and earleaf greenbrier are commonly observed vines in the pine plantations of WPWEA.

2.2.1.5 Restoration Sandhill (291 acres)

Restoration sites display human disturbance and intervention, such as former clearings, pastures, row crop fields, and pine plantations. Restoration efforts are underway to restore these areas to sandhill, however they do not yet resemble a typical sandhill community.

Restoration sandhill areas at WPWEA were previously improved pastures and pine plantations. Scattered longleaf pine, live oak, and Hercules' club are infrequently found within this community. Groundcover species currently found in these areas are sand blackberry in association with yankeeweed, slender flattop goldenrod, everlasting, hairy indigo, Virginia dwarfdandelion, bahiagrass, purple passion-flower, American pokeweed, Carolina desertchicory, sheep sorrel, and roughfruit scaleseed. The FWC is working intensively to return these areas to sandhill.

2.2.1.6 Sandhill (156 acres)

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

Sandhill at WPWEA contains some isolated areas of high quality sandhill, but the majority of this community is fire excluded and woody encroached. The distinction between sandhill

and xeric hammock is based on the amount of hardwoods contained within any given area. If an area was dominated by hardwoods with characteristic groundcover species absent or nearly absent it was classified as xeric hammock. The sandhill and xeric hammock of this site have generally undisturbed soils. The large longleaf pine age class in scattered sandhill and former sandhill areas of the site is also worth noting.

The canopy of the sandhill community contains longleaf pine, sand live oak, laurel oak, bluejack oak, turkey oak, and live oak. The density of the canopy is highly variable, but typically not closed. Most closed canopy situations have been categorized as xeric hammock. Some areas of sandhill contain no pine species due to past logging activities. The shrub layer of the sandhill community includes woolly pawpaw, American beautyberry, Florida rosemary, dwarf huckleberry, pricklypear, sand live oak, laurel oak, bluejack oak, turkey oak, live oak, sand blackberry, saw palmetto, winged sumac, sparkleberry, and shiny blueberry. The herb layer was typically diverse and moderately dense in areas with an open canopy and less so in more hardwood encroached areas. Common species include Elliott's bluestem, broomsedge, threeawn, wiregrass, pinewoods milkweed, coastalplain honeycomb-head, Florida greeneyes, Ware's hairsedge, coastalplain chaffhead, tread softly, silver croton, witchgrass, centipedegrass, yankeeweed, queen-devil, narrowleaf silkgrass, bracken fern, blackroot, little bluestem, rosinweed, lopsided indiangrass, pineywoods dropseed, pineland scalypink, hoarypea, and wavyleaf noseburn. Epiphytes were uncommon, but Spanish moss was present on larger oaks. Vines were common and included yellow jessamine, earleaf greenbrier, and cat greenbrier.

2.2.1.7 Sinkhole (1/2 acre)

Sinkholes are generally characterized as cylindrical or conical depressions with steep walls with exposed limestone. This community can also be sand-lined, with, or without a seasonal water table at the surface. This depends on the age and development of the sink.

Three examples of the sinkhole community exist at WPWEA. These sinkholes are fairly small and lack significant herbaceous vegetation and exposed limestone. Due to the size and landscape position of this community, fire would have carried across and through these locations under historic conditions. This community is vulnerable to erosion and other general soil disturbances.

At WPWEA, the vegetation of this community primarily occurs around the sinkhole rim and upper portions of this community. Woody vegetation includes live oak in tree and shrub form. Groundcover is very sparse and includes earleaf greenbrier, broomsedge, big carpetgrass, falsefennel, and yellow pondlily. Spanish moss was commonly found in the overhanging live oaks above this community. No rare or invasive exotic species were documented.

2.2.1.8 Xeric Hammock (272 acres)

Xeric hammock is an evergreen forest found on well-drained sandy soils. The low canopy is typically closed and usually dominated by sand live oak. An emergent canopy of pine may be present. Xeric hammock typically develops where fire-exclusion allows for the establishment of the oak canopy. This may occur naturally when the area has significant barriers to fire, or more commonly, as the result of human intervention. In these areas, xeric hammock can form extensive stands or can occur as small patches within or near sandhill or scrub. Xeric hammock can also occur on high islands within flatwoods, or on a high, well-drained ridge within a floodplain. Xeric hammock also can occur on barrier islands and in other coastal environs as an advanced successional stage of scrub.

Very small areas of xeric hammock are evident on the 1937 aerial photography around some of the larger marsh communities at WPWEA. These hammocks also look very thin, without dense canopies. A total of 88 acres of xeric hammock were delineated based on the historic aerial photography. Currently, 330 acres of xeric hammock are present. A total of 241 acres of sandhill has been lost to hammock encroachment due to fire exclusion.

The canopy of the xeric hammock community includes longleaf pine, sand live oak, laurel oak, turkey oak, and live oak. This canopy is often closed and dense, which excludes groundcover species. Shrubs are dense to moderately dense and include slimleaf pawpaw, woolly pawpaw, American beautyberry, Florida rosemary, common persimmon, American holly, wild olive, sand live oak, turkey oak, live oak, winged sumac, sand blackberry, saw palmetto, sparkleberry, coontie, and Hercules' club. The herbaceous layer often includes sparse remnant sandhill species that have tolerated the shaded condition and include broomsedge, wiregrass, witchgrass, yankeeweed, redbtop panicum, panic grass, switchgrass, bahiagrass, American pokeweed, narrowleaf silkgrass, bracken fern, lopsided indiagrass, and hoary pea. The epiphytic layer of the xeric hammock community commonly includes ballmoss and Spanish moss. Vines are common and include yellow jessamine, Virginia creeper, earleaf greenbrier, cat greenbrier, eastern poison oak, and muscadine.

2.2.2 Imperiled Plants

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

The FWC manages the lands in the WMA/WEA system using a proactive natural community focused approach. As applied by FWC, natural resource management starts by classifying lands into distinct natural communities. The FWC then conducts management activities to maintain or enhance each communities’ structure and function. Land

management that has a positive influence on natural community conditions benefits the species occurring in these habitats.

FNAI conducted a rare and listed plant survey of WPWEA in 2012 and identified five imperiled plant species on the area. Of these, three are state endangered, and two are state threatened (Table 5). The protections afforded plants that occur on conservation lands, in conjunction with management actions that include exotic plant removal and prescribed fire, will continue to maintain and enhance habitat for these and other rare plants. As such, these species should persist under planned management on WPWEA.

In addition to the imperiled plants, one plant State listed as commercially exploited is known to occur on WPWEA (Table 5). The FWC will continue to monitor the known occurrences of these species, and report any illegal collection to the appropriate authorities.

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

2.2.3 Forest Resources

As described in detail above, the WPWEA contains several plant communities containing timber resources, including sandhill, xeric hammock, and pine plantation. Some portions of the area have experienced timber harvesting 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 an updated Timber Assessment for the WPWEA in May 2018 (Appendix 12.5). The FWC will continue to cooperate with the FFS on all actions that involve the timber resources of the WPWEA.

2.3 Fish and Wildlife Resources

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

The FWC maintains an inventory of fauna occurring on the WPWEA listed in the following tables, including mammals (Table 7), birds (Table 8), and reptiles and amphibians (Table 9). In addition to the species listed in the tables below, one exotic wildlife species has been documented on the WPWEA (feral hog).

Table 7: Mammal Species Observed at WPWEA

Common Name	Scientific Name
Big brown bat	<i>Eptesicus fuscus</i>
Bobcat	<i>Felis rufus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Eastern cotton tail	<i>Sylvilagus floridanus</i>
Eastern pipistrelle	<i>Pipistrellus subflavus</i>
Eastern woodrat	<i>Neotoma floridana</i>
Evening bat	<i>Nycticeius humeralis</i>
Florida mouse	<i>Peromyscus floridanus</i>
Hipsid cotton rat	<i>Sigmodon hispidus</i>
Hoary bat	<i>Lasiurus cinereus</i>
Least shrew	<i>Cryptotis parva</i>
Oldfield mouse	<i>Peromyscus polionotus</i>
Red bat	<i>Lasiurus borealis</i>
Seminole bat	<i>Lasiurus seminolus</i>
Sherman's fox squirrel	<i>Sciurus niger shermani</i>
Southeastern bat	<i>Myotis austroriparius</i>
Southern flying squirrel	<i>Glaucomys volans</i>
Striped skunk	<i>Mephitis mephitis</i>
Virginia possum	<i>Didelphis virginiana</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Yellow bat	<i>Lasiurus intermedius</i>

Table 8: Bird Species Observed at WPWEA

Common Name	Scientific Name
American crow	<i>Corvus brachyrhynchos</i>
Bachman's sparrow	<i>Aimophila aestivalis</i>
Barn swallow	<i>Hirundo rustica</i>
Black vulture	<i>Coragyps atratus</i>
Black-and-white warbler	<i>Mniotilta varia</i>
Blue grosbeak	<i>Guiraca caerulea</i>
Blue jay	<i>Cyanocitta cristata</i>
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Chimney swift	<i>Chaetura pelagica</i>
Common flicker	<i>Colaptes auratus</i>
Common ground dove	<i>Columbina passerina</i>
Common screech owl	<i>Otus asio</i>
Downy woodpecker	<i>Picoides pubescens</i>

Table 8: Bird Species Observed at WPWEA

Common Name	Scientific Name
Eastern bluebird	<i>Sialia sialis</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Eastern meadowlark	<i>Sturnella magna</i>
Eastern screech owl	<i>Megascops asio</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
Florida burrowing owl	<i>Athene cunicularia floridana</i>
Florida sandhill crane	<i>Antigone canadensis pratensis</i>
Gray catbird	<i>Dumetella carolinensis</i>
Great blue heron	<i>Ardea herodias</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Great horned owl	<i>Bubo virginianus</i>
House wren	<i>Troglodytes aedon</i>
Little blue heron	<i>Florida caerulea</i>
Loggerhead shrike	<i>Lanius excubitor</i>
Mississippi kite	<i>Ictinia mississippiensis</i>
Mourning dove	<i>Zenaida macroura</i>
Northern bobwhite	<i>Colinus virginianus</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Northern harrier	<i>Circus cyaneus</i>
Northern mockingbird	<i>Mimus polyglottos</i>
Northern parula	<i>Parula americana</i>
Osprey	<i>Pandion haliaetus</i>
Palm warbler	<i>Setophaga palmarum</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Pine warbler	<i>Setophaga pinus</i>
Prairie warbler	<i>Setophaga discolor</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Sandhill crane	<i>Grus canadensis</i>
Southeastern American kestrel	<i>Falco sparverius paulus</i>
Summer tanager	<i>Piranga rubra</i>
Swallow-tailed kite	<i>Elanoides forficatus</i>
Tufted titmouse	<i>Parus bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
Wild turkey	<i>Meleagris gallopavo osceola</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>

Table 9: Reptile and Amphibian Species Observed at WPWEA

Common Name	Scientific Name
American alligator	<i>Alligator mississippiensis</i>
American bullfrog	<i>Lithobates catesbeianus</i>
Barking tree frog	<i>Hyla gratiosa</i>
Central Florida crowned snake	<i>Tantilla relicta neilli</i>
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>
Eastern coral snake	<i>Micrurus fulvius</i>
Eastern corn snake	<i>Pantherophis guttatus</i>
Eastern diamondback	<i>Crotalus adamanteus</i>
Eastern fence lizard	<i>Sceloporus undulatus</i>
Eastern hognose snake	<i>Heterodon platirhinos</i>
Eastern mud turtle	<i>Kinosternon subrubrum</i>
Eastern narrowmouth toad	<i>Gastrophryne carolinensis</i>
Eastern ratsnake	<i>Pantherophis alleghaniensis</i>
Eastern spadefoot	<i>Scaphiopus holbrookii</i>
Florida cooter	<i>Pseudemys floridana</i>
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>
Gopher frog	<i>Rana capito</i>
Gopher tortoise	<i>Gopherus polyphemus</i>
Green anole	<i>Anolis carolinensis</i>
Green tree frog	<i>Hyla cinerea</i>
Ground skink	<i>Scincella lateralis</i>
Oak toad	<i>Anaxyrus quercicus</i>
Peninsula mole skink	<i>Plestiodon egregius onocrepis</i>
Pinewoods tree frog	<i>Hyla femoralis</i>
Redbelly snake	<i>Storeria occipitomaculata</i>
Scarlet snake	<i>Cemophora coccinea</i>
Six-lined racerunner	<i>Aspidoscelis sexlineata</i>
Slender glass lizard	<i>Ophisaurus attenuatus</i>
Southeastern five-lined skink	<i>Plestiodon inexpectatus</i>
Southern black racer	<i>Coluber constrictor priapus</i>
Southern hognosed snake	<i>Heterodon simus</i>
Southern leopard frog	<i>Lithobates sphenoccephalus</i>
Southern toad	<i>Anaxyrus terrestris</i>
Squirrel tree frog	<i>Hyla squirella</i>
Yellow-bellied slider	<i>Trachemys scripta</i>

2.3.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1) determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The IWHRS (2009) indicates that WPWEA has a mean wildlife value of 5.3 (Figure 8).

2.3.2 Imperiled Fish and Wildlife

Six imperiled animal species have been documented at WPWEA (Table 10). All abbreviations and status determinations were derived from *Florida's Endangered and Threatened Species List* published by FWC in January 2017. The FWC maintains the state list of animals designated as Federally-designated endangered or threatened, State-designated endangered or threatened, or State-designated species of special concern, in accordance with Rules 68A-27.003, and 68A-27.005, respectively, FAC.

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

At its November 2016 Commission meeting, FWC approved Florida's Imperiled Species Management Plan (<http://myfwc.com/wildlifehabitats/imperiled/plan/>), which included changes to the listing status for many wildlife species. Subsequent rule changes (68A-27.003 and 68A-27.005 FAC) reflecting changes came into effect in January 2017. All federally listed species that occur in Florida are included in Florida's Endangered and Threatened Species list (<http://myfwc.com/media/1515251/threatened-endangered-species.pdf>) as federally-designated Endangered or federally-designated Threatened. Species that are not federally listed, but which have been identified by FWC as being at some level of risk of extinction, are listed as state-designated Threatened. Additionally, FWC continues to maintain a separate Species of Special Concern category. This category was reviewed as part of Florida's Imperiled Species Management Plan, with the majority of the species previously contained within the category either being removed from Florida's Endangered and Threatened Species list due to conservation success, or had their status changed to state-designated Threatened.

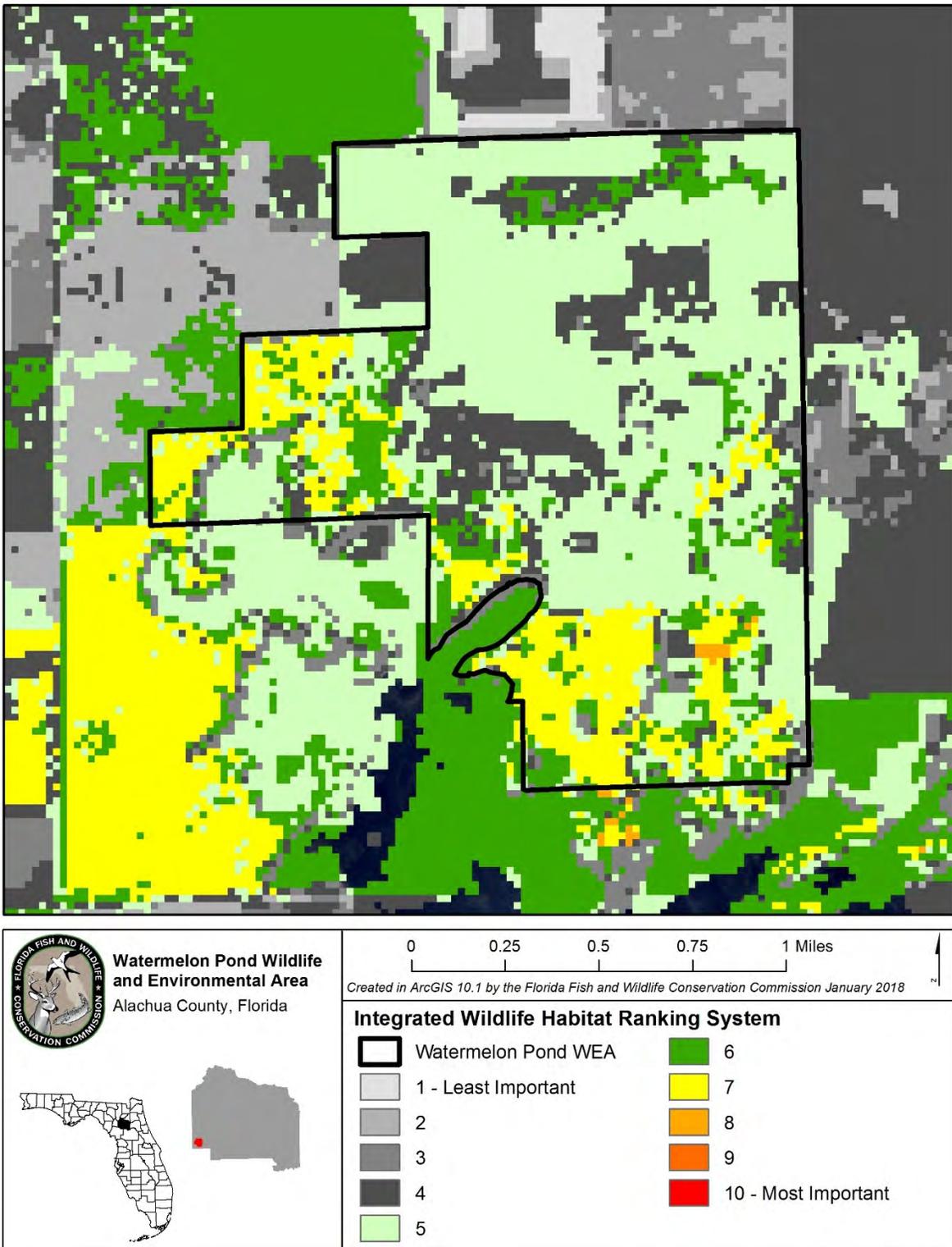


Figure 8: Integrated Wildlife Habitat Ranking System

Table 10: Rare and Imperiled Wildlife Species Observed at WPWEA

Common Name	Scientific Name	Status
Birds		
Florida sandhill crane	<i>Antigone canadensis pratensis</i>	ST
Little blue heron	<i>Egretta caerulea</i>	ST
Southeastern American kestrel	<i>Falco sparverius paulus</i>	ST
Reptiles		
Eastern indigo snake	<i>Drymarchon couperi</i>	ST
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	ST
Gopher tortoise	<i>Gopherus polyphemus</i>	ST

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” can include a number of features such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological features. 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 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 observations and FNAI element occurrences on the WPWEA from the most recent GIS databases of the respective agencies are displayed in Figure 9. Appendix 12.6 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 landscape of the WPWEA contains xeric hammock, depression marsh, sandhill, basin marsh, sink holes, and other communities. These communities are described in detail in section 2.2.1.

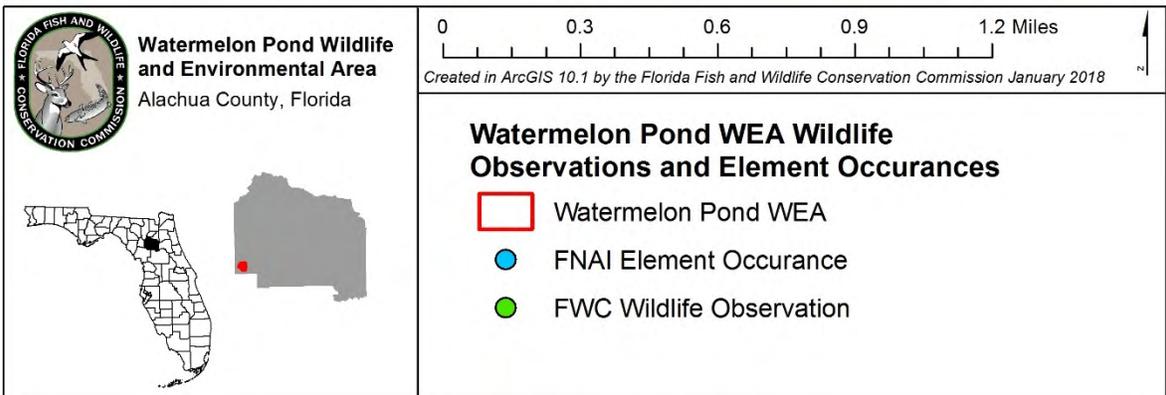
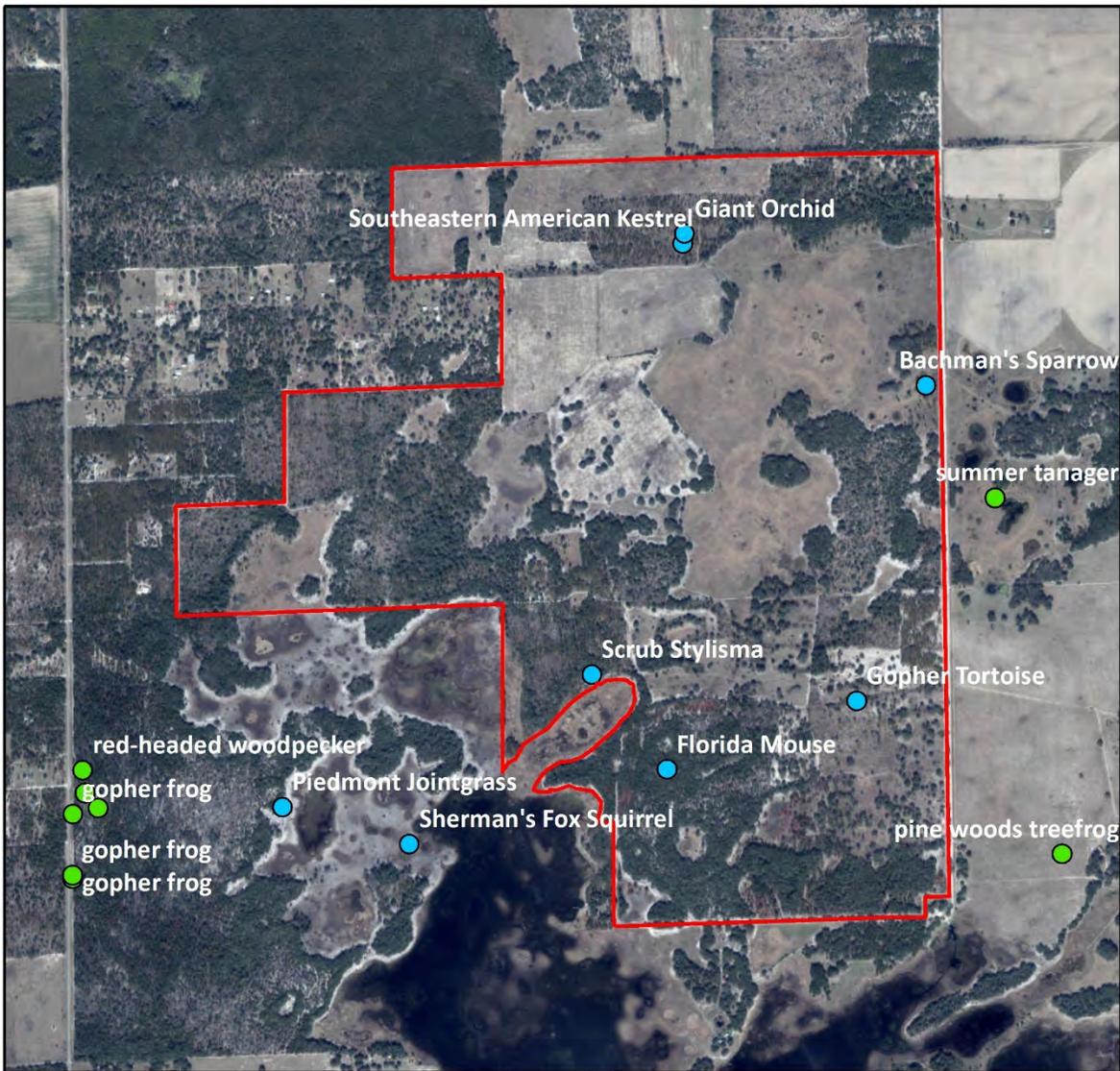


Figure 9: FWC Wildlife Observations and FNAI Element Occurrences at WPWEA

2.5 Water Resources

The WPWEA is named for Watermelon Pond, a large basin marsh that forms much of the southern boundary of WPWEA. Water levels within the pond are heavily dependent on rainfall, and a majority of the pond bottom can become exposed during extended dry periods. A boat launch is available at Alachua County's Watermelon Pond Park, which is adjacent to the WPWEA. Within the boundary of WPWEA is another basin marsh referred to as Horseshoe Pond. This depression marsh is heavily vegetated, and is often dry. All of WPWEA is within the watershed of the Little Waccasassa River (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 WPWEA 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). No portions of WPWEA are designated as OFW. No degradation of water quality, other than that allowed in subsections Chapter 62-4.242(2) and (3) FAC, is permitted in these OFW, notwithstanding any other DEP rules that may allow water quality lowering.

2.6 Beaches and Dunes

The WPWEA does not contain any beach or dune resources.

2.7 Mineral Resources

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

2.8 Historical Resources

The Florida Department of State's Division of Historical Resources (DHR) Master Site File observations are broken down into five categories: sites, structures, resource groups, historic bridges, and historic cemeteries. There is one historical site recorded in the DHR Master Site File within the boundary of the WPWEA (AL05714). This site consists of scattered ceramics. It is possible that there are archaeological sites on the WPWEA that have not yet been recorded in the DHR Master Site File. As a result, the FWC will continue to work with the DHR to document any historical or archaeological sites as necessary and feasible. All Master Site File recordings, assessments, and preservation strategies will be coordinated with the DHR.

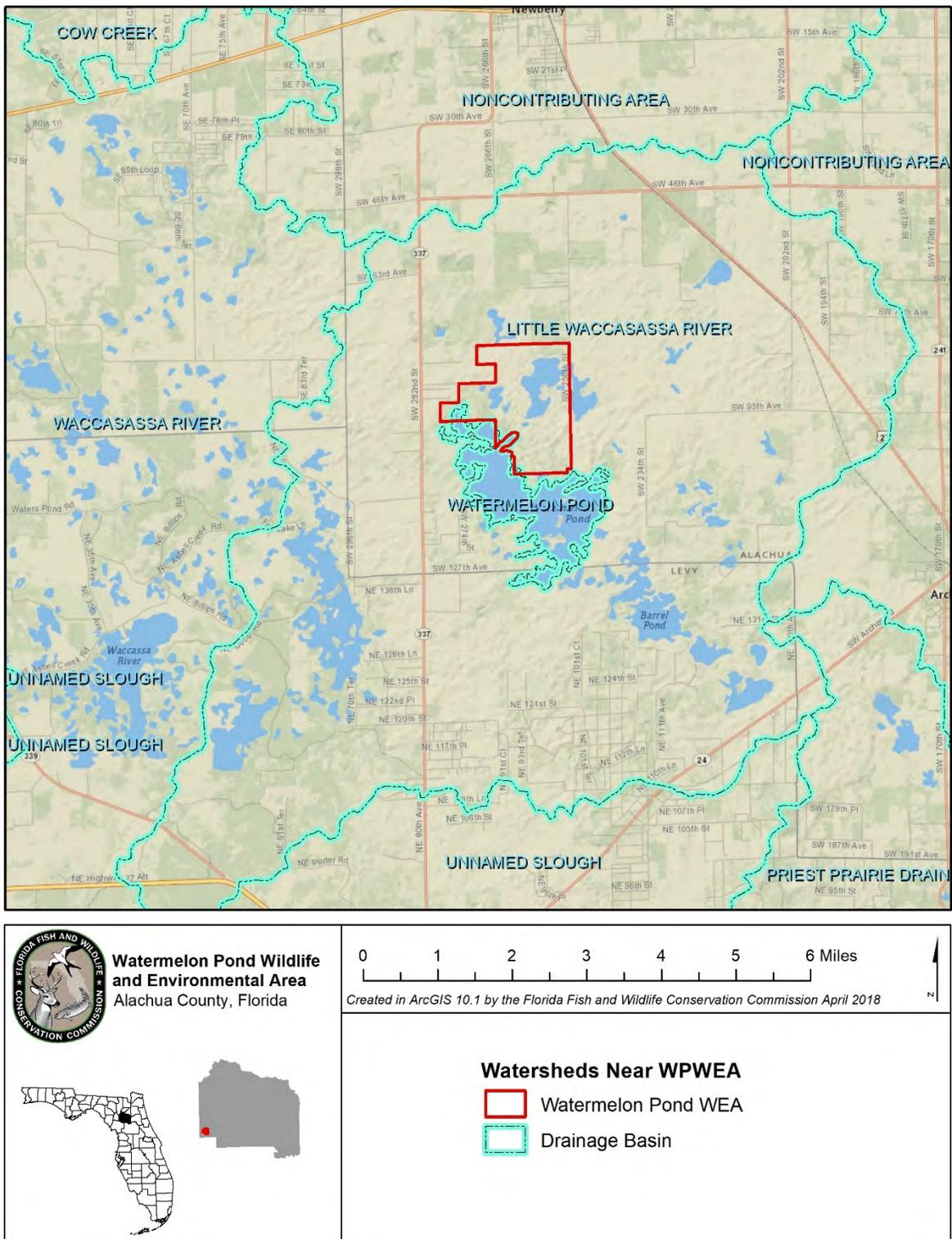


Figure 10: WPWEA Water Resources

2.9 Scenic Resources

The collection of vegetative communities found at WPWEA make the area a scenic venue for hiking, horseback riding, and wildlife viewing. Small rises in the WPWEA's pastures offer scenic vistas across much of the area, while a stand of mature live oak provides a picturesque, shaded picnic area. WPWEA also offers visitors the opportunity to view Watermelon Pond.

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. Evidence of Native American presence in the vicinity of the WPWEA dates back to at least 900 A.D. 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 was not 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, citrus production, silviculture, and associated development. The region also saw large amounts of turpentine production, and a number of longleaf pines on WPWEA contain the "cat-faced" scars that were made in their trunks to collect the resin required to produce the turpentine.



While the portion of Alachua County surrounding Gainesville has become heavily populated, the portion of the county around WPWEA has remained a rural, agricultural area. Prior to acquisition by the State of Florida, much of what is now WPWEA was

primarily used for grazing and other agricultural uses such as row crops. Such past grazing practices have impacted natural resources such as soil, vegetation, and water.

Prior to 1972, WPWEA appears to have primarily consisted of agricultural lands, wooded areas, and open water/wetland areas. By 1982, a wooded area in the northern portion of WPWEA had been converted to cropland, and two structures may have been present. During the period 1971 - 1982, water levels in wetlands on WPWEA decreased. Most recently, WPWEA was an active cattle ranch with improved pasture. A small area on WPWEA was formerly managed by FWC as a dove field.

3.2 Current Use of the Property

Currently, WPWEA 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 WPWEA 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. Hunting continues to be a popular recreational activity on WPWEA. The area also offers excellent opportunities for bird watching. The diversity of vegetation not only harbors a variety of bird species but also provides good opportunities for mammalian wildlife viewing. Other uses include hiking, photography, biking, sightseeing, and horseback riding.

Due to the proximity of population centers in Alachua County, public use can be expected to increase as public awareness of opportunities increases. The WPWEA is open to the public 365 days per year. The FWC administers hunts in the fall and spring for various game species including small game, deer, turkey, and feral hogs, which occur on approximately 50 days per year.

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 WPWEA, and contribute to the overall economy for this region of Florida. If the current maximum visitation level of 219 visitors per day were achieved, a total of 79,935 visitors per year could be expected. If the area were at carrying capacity, FWC economic analysis estimates indicate that the WPWEA could potentially generate an estimated economic impact of \$9.1 million for the State and the north-central region of Florida. This estimated annual economic impact would aid in the support or creation of an estimated 159 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 WPWEA will depend upon future uses described in this Management Plan. Additional revenue from environmental lands such as the WPWEA might include sales of various permits and recreational user fees and ecotourism activities, if such projects could be feasibly developed. The annual area regulations can be consulted to clarify the necessary and required permits, fees, and regulations. Additionally, the long-term value of ecosystem services, including the protection of air and water quality functions, are considered to be significant to local and regional land and water resources, as well as human health.

3.3 Single- or Multiple-use Management

WPWEA will be managed under the multiple-use concept as a Wildlife and Environmental Area. WPWEA 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 WPWEA 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 WPWEA. 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 12.7). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as "Rejected" are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management:

	<u>Approved</u>	<u>Conditional</u>	<u>Rejected</u>
Apiaries		✓	
Astronomy		✓	
Bicycling	✓		
Cattle grazing		✓	
Citrus or other agriculture			✓
Ecosystem services and maintenance	✓		
Ecotourism		✓	
Environmental Education	✓		
First-responder training		✓	
Fishing		✓	
Geocaching		✓	
Hiking	✓		
Horseback riding	✓		
Hunting		✓	
Linear facilities			✓
Military training		✓	
Preservation of historical resources	✓		
Primitive camping		✓	
Protection of imperiled species	✓		
Off-road vehicle use			✓
Shooting sports park		✓	
Soil and water conservation	✓		
Timber harvest		✓	
Wildlife observation	✓		

3.3.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on WPWEA 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 WPWEA.

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 WPWEA (Sections 5 -8). 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 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 WPWEA 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 good fish and wildlife resource based public outdoor recreational opportunities. Therefore, no portion of the WPWEA is recommended for potential surplus review.

4 Accomplished Objectives from the WPWEA Management Plan 2010 – 2020

This section is dedicated to reporting the extent to which the Objectives described in the WPWEA Management Plan 2010 – 2020 (pages 57 – 62) were successfully completed. Accomplishments for WPWEA 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 2010 – 2020 WPWEA Management Plan describe the planned activities for WPWEA during this period. The degree to which FWC was able to accomplish the planned activities during this period is reflected as **Percent Accomplished** for each associated Objective.

Objectives Accomplished from the 2010 Watermelon Pond WEA Management Plan

Goals and Objectives	Percent Accomplished
Goal 1: Habitat Restoration and Improvement: Improve extant habitat and restore disturbed areas.	
Objective 1: Develop and implement contract to survey and map exotic plants. <i>Comment: Exotic plant surveying and mapping was completed in 2009.</i>	100%
Objective 2: Reintroduce prescribed fire to fire-adapted natural communities (~ 300 acres/year). (January 2010 – January 2012) <i>Comment: Approximately 292 acres were burned per year.</i>	97%
Objective 3: In accordance with the WPWEA Restoration Plan, initiate natural community habitat restoration activities on 50 acres of former agricultural fields. Initiate hardwood removal and habitat restoration activities on 100 acres of pinelands. (January 2010 – January 2012). <i>Comment: FWC has initiated restoration efforts on 86 acres of former pasture and 342 acres of pineland.</i>	100%
Objective 4: Pursuant to OBVM strategies, continue to use seasonally prescribed fire on approximately 300 acres a year within a one to three-year fire return interval on fire-adapted natural communities. (January 2012 – January 2020) <i>Comment: FWC conducted prescribed burning on approximately 288 acres per year.</i>	96%
Objective 5: Continue restoration activities on 50 acres of former agricultural fields. Continue hardwood removal and habitat restoration activities on 100 acres of pinelands. (June 2012 – January 2020) <i>Comment: FWC has continued restoration efforts on 86 acres of former pasture and 342 acres of pineland.</i>	100%
Objective 6: Develop and implement OBVM strategies. (January 2012 - January 2020) <i>Comment: OBVM strategies were developed in 2010 and they continue to be implemented on the area.</i>	100%

Objective 7: Conduct a mechanical thinning (i.e., harvest) of overstocked stand of mixed-pine and hardwoods (~40 acres). (January 2013 – January 2015) <i>Comment: FWC solicited bids from contractors to conduct pine and hardwood thinning, however, no bids were submitted.</i>	0%
Goal 2: Public Access and Recreational Opportunities: Provide public access and recreational opportunities.	
Objective 1: Complete an inventory of recreational opportunities and basic recreational assessment. (January 2010 – June 2011) <i>Comment: FWC developed a Recreation Master Plan for WPWEA in November 2012.</i>	100%
Objective 2: Construct one visitor contact kiosk at access point. (January 2010- June 2011) <i>Comment: The kiosk was constructed in 2010</i>	100%
Objective 3: Develop and distribute interpretive publications. (June 2010 – June 2012) <i>Comment: FWC distributes a hunt brochure and maintains a website for WPWEA.</i>	100%
Objective 4: Cooperate with other agencies, counties, cities, stakeholders, and regional landowners to investigate regional recreational trail development opportunities. (January 2010 – January 2012) <i>Comment: FWC has worked with FFS to connect the WPWEA trails to the trail network at Goethe State Forest.</i>	100%
Objective 5: Design and develop a system of multi-use trails. (January 2010 – June 2011) <i>Comment: FWC has developed over 7 miles of multi-use trails on WPWEA. Additionally, these trails connect to a network of trails at Goethe State Forest.</i>	100%
Objective 6: Determine the feasibility of establishing public hunting opportunities. (January 2010 – June 2011) <i>Comment: FWC currently offers hunting opportunities at WPWEA, including archery, small game, waterfowl, and youth turkey hunts.</i>	100%

<p>Objective 7: Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 76 opportunities per day of which a seasonal hunting carrying capacity of 26 hunters per day is included. (January 2010 – January 2012) <i>Comment: The public access and recreational opportunities found at WPWEA allow for a recreational carrying capacity that is greater than 76 people per day.</i></p>	100%
<p>Objective 8: Continue to provide five interpretive/education programs (i.e., website, kiosk, interpretive panel, trail brochure/recreation guide, bird list, website). (April 2010 – April 2011) <i>Comment: FWC continues to provide a website, kiosk, interpretive panel, trail brochure, and a bird list for WPWEA.</i></p>	100%
<p>Objective 9: Monitor trails annually for visitor impacts. (January 2012 - January 2020) <i>Comment: FWC continues to monitor trails annually.</i></p>	100%
<p>Objective 10: Maintain multi-use trails biannually. (January 2012 – January 2020) <i>Comment: FWC continues to maintain trails regularly.</i></p>	100%
<p>Objective 11: Reassess recreational opportunities every three years. (April 2012 – April 2020) <i>Comment: FWC continues to reassess recreational opportunities at WPWEA.</i></p>	100%
<p>Objective 12: Assess potential of wildlife viewing site overlooking Watermelon Pond. Construct an observation structure if warranted. (January 2012 – January 2016) <i>Comment: FWC evaluated the idea of constructing a wildlife viewing site overlooking Watermelon Pond. FWC intends to construct a viewing platform at watermelon pond in the next planning cycle.</i></p>	100%
<p>Goal 3: Hydrological Preservation and Restoration: Protect water quality and quantity, restore hydrology to the extent feasible, and maintain the restored condition.</p>	
<p>Objective 1: Conduct or obtain a site assessment/study to identify potential hydrology restoration needs. (January 2010 – January 2012) <i>Comment: A hydrologic assessment for WPWEA was completed in 2013.</i></p>	100%

<p>Objective 2: Implement hydrological restoration plan. (January 2012 – January 2020) <i>Comment: Few hydrological issues were found on WPWEA. The biggest hydrological issues facing the area are caused by a road and berm located outside the area. FWC will work with adjacent land owners to address these issues.</i></p>	100%
<p>Goal 4: Sustainable Forest Management: Manage timber resource conservation through a stewardship ethic that embraces sustainable forest management practices.</p>	
<p>Objective 1: Prepare a Timber Management Plan. (January 2010 – January 2012) <i>Comment: Timber management recommendations were completed by FFS in 2009</i></p>	100%
<p>Objective 2: Implement Timber Management Plan objectives. (January 2012 – April 2020) <i>Comment: In cooperation with FFS, FWC has worked to implement the objectives of the Timber Management Plan. Pine harvests have been delayed to the lack of bids described above.</i></p>	100%
<p>Objective 3: Continue to consult with the Division of Forestry or a professional forestry consultant regarding sustainable forest management activities as appropriate. (January 2012 – January 2020) <i>Comment: FWC continues to work with FFS to identify and administer timber harvests.</i></p>	100%
<p>Goal 5: Capital Facilities and Infrastructure: Develop the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.</p>	
<p>Objective 1: Design and develop a system of multi-use trails totaling approximately 8.7 (i.e., six miles equestrian trail, 2.7 miles hiking trail) miles. (January 2010 – June 2011) <i>Comment: Over seven miles of trails have been developed on WPWEA, which also connect to a seven-mile loop trail on Goethe State Forest. To minimize habitat fragmentation and wildlife disturbance, equestrian, bicycling, and hiking trails were consolidated into a single multi-use trail network.</i></p>	100%
<p>Objective 2: Contract to have abandoned irrigation well closed. (January 2010 – January 2012) <i>Comment: FWC has obtained quotes from contractors. Work is expected to be completed during the next planning cycle.</i></p>	25%

Objective 3: Construct one facility (primary entrance sign, public parking area, and kiosk). (January 2010 – June 2011) <i>Comment: The entrance facility was completed in 2010</i>	100%
Objective 4: Maintain one facility (primary entrance sign, public parking area, and kiosk). (June 2011 – January 2012) <i>Comment: FWC continues to maintain the entrance facility.</i>	100%
Objective 5: Maintain 8.7 miles of trails. (June 2011 – January 2012) <i>Comment: Over seven miles of trails have been developed on WPWEA, which also connect to a seven-mile loop trail on Goethe State Forest. To minimize habitat fragmentation and wildlife disturbance, equestrian, bicycling, and hiking trails were consolidated into a single multi-use trail network.</i>	100%
Objective 6: Monitor trails and infrastructure biannually for visitor impacts. (January 2012 - January 2020) <i>Comment: FWC continues to monitor trails and infrastructure.</i>	100%
Objective 7: Maintain 8.7 miles of multi-use trails biannually. (January 2012 – January 2020) <i>Comment: Over seven miles of trails have been developed on WPWEA, which also connect to a seven-mile loop trail on Goethe State Forest. To minimize habitat fragmentation and wildlife disturbance, equestrian, bicycling, and hiking trails were consolidated into a single multi-use trail network.</i>	100%
Objective 8: Develop a site plan and construct a work and storage pole barn. (January 2014 – January 2016) <i>Comment: FWC has constructed a work and storage facility on the area.</i>	100%
Objective 9: Maintain approximately seven miles of boundary fence, three gates, and associated signage. (January 2012 – January 2020) <i>Comment: FWC continues to maintain the WPWEA perimeter fence, gates and signs.</i>	100%
Objective 10: Continue to maintain one facility (primary entrance sign, public parking area, and kiosk). (January 2012 – January 2020) <i>Comment: FWC continues to maintain the entrance facility.</i>	100%

Goal 6: Cultural and Historical Resources: Protect, preserve, and maintain the cultural resources of the WPWEA.	
Objective 1: Cooperate with Division of Historical Resources (DHR) to assess the need for a comprehensive cultural resource survey. (January 2010 – January 2012) <i>Comment: FWC contacted DHR to determine the need to conduct a cultural resource survey. At the time, WPWEA was a low priority for a survey, but a survey will likely be conducted in the next planning cycle.</i>	100%
Objective 2: Continue to monitor, protect, and preserve as necessary one identified site (#AL04817, a prehistoric lithic scatter). (January 2010 – January 2012) <i>Comment: The site located on WPWEA (AL 05714) is monitored annually.</i>	100%
Objective 3: Cooperate with DHR in designing site plans for development of infrastructure. (January 2012 – January 2020) <i>Comment: FWC coordinates with DHR while developing site plans for future infrastructure projects. Additionally, the area biologist has completed DHR's ARM training.</i>	100%
Objective 4: Cooperate with DHR to manage and maintain known existing cultural resources. (January 2012 – January 2020) <i>Comment: FWC continues to cooperate with DHR in the management of cultural resources found at WPWEA.</i>	100%
Objective 5: Continue to monitor, and protect and preserve as necessary one identified site. (January 2012 – January 2020) <i>Comment: The site located on WPWEA (AL 05714) is monitored annually.</i>	100%
Goal 7: Imperiled Species Habitat Maintenance, Enhancement, Restoration, or Population Restoration: Maintain, improve, or restore imperiled species populations and habitats.	
Objective 1: Conduct a herpetological species survey. (January 2010 – June 2012) <i>Comment: FWC completed a herpetological species survey in 2012.</i>	100%

<p>Objective 2: Conduct a mammalian species survey. (January 2012 – June 2014) <i>Comment: Sampling was conducted on four management units at WPWEA in 2012. Additionally, FWC conducted a bat survey on the area.</i></p>	50%
<p>Objective 3: Conduct an avian species survey. (January 2012 – June 2014) <i>Comment: One survey was completed in conjunction with Audubon, however it was not a systematic survey. A Bachman’s sparrow survey has also been completed.</i></p>	25%
<p>Objective 4: Continue to monitor gopher tortoise populations every five years. (January 2012 - January 2020) <i>Comment: FWC completed gopher tortoise surveys in 2006 and 2015.</i></p>	100%
<p>Objective 5: Develop and implement a WCPR strategy for focal and listed species. (January 2012 – January 2014) <i>Comment: The WCPR Strategy for WPWEA was completed in November 2012.</i></p>	100%
<p>Objective 6: In accordance with the development of WCPR strategies for focal and listed species, conduct appropriate baseline species inventories. (January 2014 – January 2020) <i>Comment: FWC completed surveys for gopher tortoise, gopher frogs, striped newt, and southeast American kestrels. Surveys were partially completed for Florida mouse.</i></p>	75%
<p>Objective 7: Implement WCPR strategies for selected imperiled species. (January 2014 – January 2020) <i>Comment: The WCPR Strategy for WPWEA was completed in November 2012.</i></p>	100%
<p>Goal 8: Research Opportunities: Explore and pursue cooperative research opportunities.</p>	
<p>Objective 1: Explore and pursue cooperative research opportunities through Universities and/or Florida Fish and Wildlife Research Institute. (January 2012 – January 2020) <i>Comment: FWC has worked with the University of Florida regarding herbicide research to assist with Sandhill restoration at WPWEA, as well as with Cornell University regarding bird migration monitoring.</i></p>	100%

Goal 9: Conservation Acquisition and Stewardship Partnerships: Enhance wildlife conservation, resource and operational management through development of an optimal boundary that identifies potential important wildlife habitat, landscape-scale linkages, wildlife corridors, operational/resource management and access needs by continuing to identify and pursue acquisition needs and conservation stewardship partnerships.

Objective 1: Develop and maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for FWC’s Landowner Assistance and Land Acquisition Programs. (January 2010 – January 2012)	100%
Objective 2: Develop a Conservation Action Strategy. (January 2010 – January 2012)	100%
Objective 3: Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship partnerships. (January 2010 – January 2012) <i>Comment: FWC staff regularly interact with multiple adjoining landowners and talk with them about the voluntary Landowners Assistance Program.</i>	100%
Objective 4: Determine which parcels should be nominated for addition to the FWC acquisition list. (January 2010 – January 2012) <i>Comment: FWC developed an optimal conservation planning boundary for WPWEA, however at this time no parcels have been identified for nomination to the FWC Additions and Inholdings list.</i>	100%
Objective 5: Identify potential non-governmental organization partnerships and grant program opportunities. (January 2010 – January 2012)	100%
Objective 6: Determine efficacy of conducting an adjacent landowner’s assistance/conservation stewardship partnership workshop. (January 2010 – January 2012)	100%
Objective 7: To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed optimal boundary for WPWEA as deemed necessary. (January 2012 – January 2020)	100%

Objective 8: Continue to maintain a GIS shapefile and other necessary data to facilitate nominations from the FWC optimal boundary for the FWC Landowner Assistance Program and for the Land Acquisition Program. (January 2012 – January 2020)	100%
Objective 9: Continue to determine which nominated parcels should be added to the FWC acquisition list. (January 2012 – January 2020) <i>Comment: FWC developed an optimal conservation planning boundary for WPWEA, however at this time no parcels have been identified for nomination to the FWC Additions and Inholdings list.</i>	100%
Objective 10: Propose nominations of selected properties as additions to the FWC acquisition list. (January 2012 – January 2020) <i>Comment: FWC developed an optimal conservation planning boundary for WPWEA, however at this time no parcels have been identified for nomination to the FWC Additions and Inholdings list.</i>	0%
Objective 11: Pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow. (January 2012 – January 2020) <i>Comment: FWC developed an optimal conservation planning boundary for WPWEA, however at this time no parcels have been identified for nomination to the FWC Additions and Inholdings list.</i>	100%
Objective 12: Periodically (at least every three to five years) continue to contact and meet with adjacent landowners for willingness to participate in the Conservation Action Strategy. (January 2012 – January 2020) <i>Comment: FWC staff regularly interact with multiple adjoining landowners and talk with them about the voluntary Landowners Assistance Program.</i>	100%
Objective 13: Coordinate landowner assistance/ conservation stewardship partnership workshop as deemed appropriate. (January 2012 – January 2020)	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 WPWEA 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 WPWEA. The FWC will utilize the best available data, guidelines, natural resource management practices, and recreational management practices to achieve these outcomes in accordance with the original purposes for acquisition. Furthermore, as noted earlier, the management activities described in this section are in compliance with those of the Conceptual State Lands Management Plan.

5.1 Land Management Review

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

A land management review of the WPWEA was conducted in August of 2016, and the results of that review and FWC responses to recommendations are included as Appendix 12.8. It was determined that the WPWEA is being managed in accordance with the purposes for acquisition and that management practices, including public access, are in compliance with the management plan.

5.2 Adaptive Management

Adaptive management is "learning by doing";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 WPWEA.

5.2.1 Monitoring

A well-developed monitoring protocol is also one of the principal, required criteria for the management of WPWEA. 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 5.5.1) 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 Services Office (PASO), and work in conjunction with the establishment and adjustment of public access carrying capacities (Section 5.6.3). Historical resources (Section 5.9) are monitored with guidance from DHR.

5.2.2 Performance Measures

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

5.2.3 Implementation

The WPWEA Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of

management programs (OBVM, WCPR, PASO, Recreation Master Plans, etc.) underway to accomplish needed conservation actions that are planned to manage the natural resources of WPWEA, 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 WPWEA, 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. WPWEA has high-quality native communities including sandhill and basin 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 WPWEA. 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 WPWEA 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 1-3 years, preferably during the spring and early summer months.

In addition to the general prescribed fire management guidelines described above, an area-specific Prescribed Fire Plan will be developed and implemented for WPWEA. 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, 97% of the area's fire adapted communities have been treated with prescribed fire. Approximately 97% of the fire-adapted communities are currently 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 WPWEA are discussed in more detail below.

5.3.3 Habitat Restoration

Historically, the land that now comprises WPWEA predominately consisted of basin marsh and sandhill natural community types. Previous landowners used the area for agricultural and silvicultural purposes, and hundreds of acres of sandhill were converted to pastures and pine plantations. Additionally, fire was excluded from the remaining sandhill areas, allowing those areas to become xeric hammock due to increased growth of hardwood species. Since the State of Florida acquired the area, FWC has worked to restore the native habitat of the WPWEA. The FWC has removed hardwoods from and reintroduced fire to xeric hammocks at WPWEA that were historically sandhill habitat. Pine plantations have been thinned through logging operations, and fire has been reintroduced to those areas as well. Restoration of the WPWEA's pasture areas has been challenging due to the exceptionally sandy soils found in those areas and the persistence of bermudagrass. The FWC intends to plant longleaf pine and reintroduce fire to the areas that are currently pastures, and then augment the groundcover as necessary in the future.

In addition to prescribed burning activities, FWC employs OBVM, with established desired future conditions and periodic natural community monitoring, to track restoration progress by structural attributes. Natural communities on WPWEA that may undergo some level of habitat restoration include sandhill and basin marsh. Continuing habitat management activities on WPWEA 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 xeric hammocks in order to restore these areas to an earlier successional condition. Such treatments should be followed up by prescribed fire to limit hardwood growth. Exotic species control is more extensively discussed in Section 5.5, below. Further specific habitat management and improvement objectives planned for WPWEA 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 WPWEA. In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted above, the collection of natural communities found on WPWEA are imperative to the wildlife found on the area.

The size and natural community diversity of WPWEA 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, WPWEA provides resources critical to many migratory birds including waterfowl, passerines, raptors and others. Habitats important to migratory species will be protected, maintained, or enhanced.

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

Wildlife monitoring emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. The FWC will continue to 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 manage wildlife habitat. 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 which are the focus of the WCPR program. Staff combines these assessments with area-specific management considerations to develop a Species Management Strategy for the area. Each Strategy contains area-specific measurable objectives for managing priority species and their habitat, prescribes management actions to achieve these objectives, and identifies monitoring protocols to verify progress towards meeting the objectives. By providing 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 WCPR 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 WPWEA. 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.

The FWC completed a WCPR Species Management Strategy (WCPR Strategy) for WPWEA in November 2012 (Appendix 12.9). Using statewide landcover-based habitat models, the WPWEA WCPR Strategy identifies 17 species as having potential habitat on WPWEA. Of the focal species identified as having habitat on the area, the WPWEA Strategy provides measurable objectives and recommends some level of monitoring for Bachman's sparrow, brown-headed nuthatch, Florida mouse, gopher frog, gopher tortoise, Southeastern American kestrel, and striped newt.

During the previous planning period, the FWC conducted imperiled and focal species surveys for gopher tortoises and Florida mice. The FWC also monitored nine southeastern American kestrel nest boxes. These imperiled species projects, along with other ongoing imperiled species management activities, will continue to be implemented in accordance with the WPWEA WCPR Species Management Strategy.

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 WPWEA. 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 WPWEA and treated annually by FWC include camphor tree, Japanese climbing fern, natal grass, and tropical soda apple. Exotic and invasive plant species have been identified as occurring at varying densities on approximately 278 acres of the WPWEA. 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 WPWEA 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 at WPWEA 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). While hogs have not yet caused significant damage to the WPWEA, the FWC will consult with other regional natural resource managing agencies and private landowners to coordinate feral hog control measures as necessary. Feral hog populations are controlled by hunts during the archery and small game seasons.

Currently, maintenance and control of invasive exotic plant species (Table 6) continues to be a significant management challenge at WPWEA. During the previous 10-year planning period, FWC continued to implement extensive exotic and invasive species control and maintenance activities throughout WPWEA. These included exotic plant species treatments on a total of 278 acres within areas classified as infested, resulting in an overall 98% of WPWEA currently being in a maintenance condition. An estimated 2% of WPWEA 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 WPWEA 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 ADA⁴ where:

1. Compliance will cause harm to historical resources, or significant natural features and their characteristics.
2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.
3. Compliance would not be feasible due to terrain or prevailing construction practices.

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

5.6.2 Recreation Master Plan

The FWC has adopted a comprehensive approach to the planning and administration of fish and wildlife resource based public outdoor recreational opportunities for WPWEA. To accomplish this, FWC will work with recreational stakeholders and the general public to develop a Recreation Master Plan for WPWEA 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 WPWEA can currently support 219 visitors per day. However, an objective to improve and expand public access resulting in an increase of the public access carrying capacity to 240 visitors per day has been proposed in Section 6.4 of this Management Plan. It is important to note that public access carrying capacities are not developed to serve as a goal for expanding the public use of a particular area to match the established carrying capacity. Rather, they are developed to establish maximum thresholds for public use of the respective area in order to protect the natural and historical resources on WPWEA 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 WPWEA is home to a variety of wildlife found within its sandhill and other natural communities. These communities provide outstanding wildlife viewing opportunities. The observant visitor may see white-tailed deer, southeastern American kestrel, gopher tortoise, and many other species of wildlife.

5.6.5 Hunting

Hunting is a popular activity at WPWEA. The area hosts hunters during archery and small game seasons in the fall and for a youth turkey hunt in the spring.

5.6.6 Fishing

Fishing is permitted at the WPWEA. However, the limited water resources on the area do not support substantial fish populations.

5.6.7 Boating

The water resources found at the WPWEA are not able to support boating or paddling opportunities. A boat launch located on Alachua County's Watermelon Pond Park at the end of SW 250th Street provides boaters access to Watermelon Pond.

5.6.8 Trails

Currently, the WPWEA offers 7.37 miles of multi-use trails, which are shared by hikers, bicyclists, and equestrian users. The main entrance to WPWEA on SW 250th Street serves as a trailhead and features a picnic area, informational kiosk, and a parking area that includes ample horse trailer parking. Another trailhead exists at the Watermelon Pond Park at the end of SW 250th Street. Additionally, the WPWEA trails are connected to approximately seven miles of trail at the adjacent Goethe State Forest. The FFS maintains a trailhead for these trails on SW 282nd Street.

The trails at WPWEA wind through most of the plant communities found on the area as well as along the north edge of Watermelon Pond, and they offer users an excellent opportunity to view WPWEA's wildlife. Portions of WPWEA are quite sandy, which makes the trail more difficult for some users in certain places, but the gentle rolling hills found at WPWEA make for a pleasant and unique trail experience.

5.6.9 Camping

Camping is not permitted at WPWEA.

5.6.10 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](http://myfwc.com/media/1074886/FWC_Geocache_Guidelines.pdf).

5.6.11 Environmental Education

5.6.11.1 Interpretation

The WPWEA offers an interpretive kiosk to educate visitors about the natural resources found on the area and the actions undertaken by FWC to manage the area.

5.6.11.2 Programs

No regularly occurring educational or recreational programs are currently taking place at WPWEA. Area staff conduct various programs on occasion upon request, as feasible. Past programs included a “Bio-Blitz” where community members visited WPWEA to collect observation data for the area’s vegetation and wildlife.

To facilitate wildlife viewing recreational opportunities on the area, FWC has continued to establish and maintain trails, kiosks, and other recreation facilities. During the previous 10-year planning period, FWC completed several public access, recreational, and facility improvements on WPWEA, including improving the main entrance and parking area. 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 WPWEA Recreation Master Plan upon its development and approval.

5.7 Hydrological Preservation and Restoration

As previously discussed, WPWEA lies within the Waccasassa River watershed. A hydrological assessment has been conducted at WPWEA (Appendix 12.10). This assessment revealed that only minor hydrologic alterations have occurred on the area in the past. However, some major alterations are located immediately adjacent to WPWEA which impede the natural flow of surface water at WPWEA.

5.8 Forest Resource Management

A Timber Assessment of the timber resources of WPWEA will be conducted by the Florida Forest Service, or a contracted professional forester. The management of timber resources will be 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 WPWEA. 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 WPWEA.

To date, the DHR Master Site File indicates one known historic site on WPWEA. The FWC will submit subsequently located historic sites on WPWEA to DHR for inclusion in their Master Site File. While the historic site on WPWEA has not been identified as meeting the DHR's special criteria for annual monitoring and reporting; FWC will continue to monitor the site that is located on the area on a rotating, regular basis.

5.10 Capital Facilities and Infrastructure

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

access, recreational potential, hydrology, or other resource and operational management objectives.

Current capital facilities and infrastructure on WPWEA include the main entrance, the south entrance, the shop compound, the Watermelon Pond overlook bench, and a picnic 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).

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 WPWEA. Although the OCPB provides the basis for potential future voluntary, willing-seller conservation acquisitions, it is designed to function primarily as a conservation planning boundary. The

OCPB identifies surrounding lands and natural resources that may be important to the continued viability of fish and wildlife populations in the region. As they are currently managed, these lands appear to contribute to regional conservation and may support conservation landscape linkages.

5.11.3 Conservation Action Strategy

The CAS 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/> .

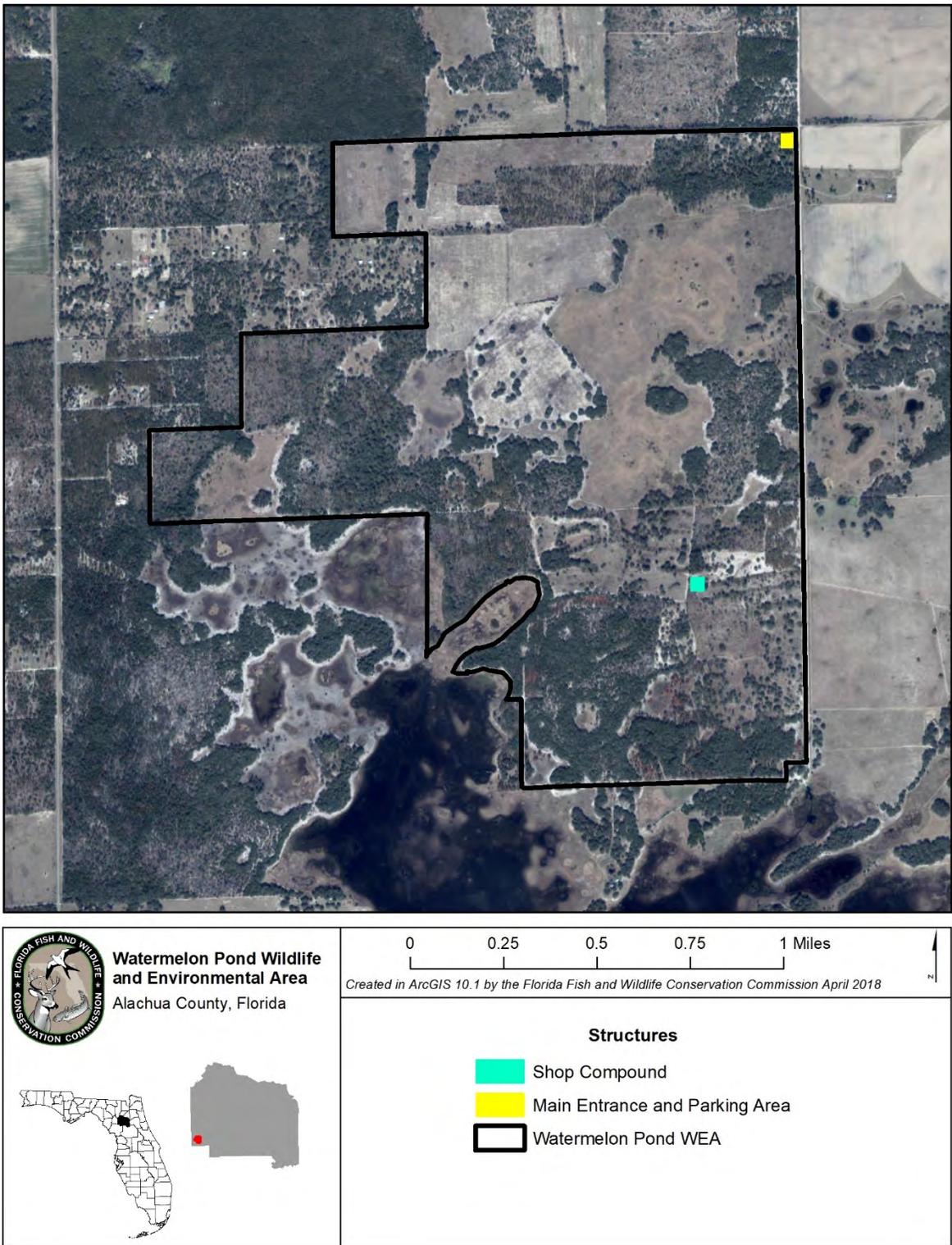


Figure 11: WPWEA Structures

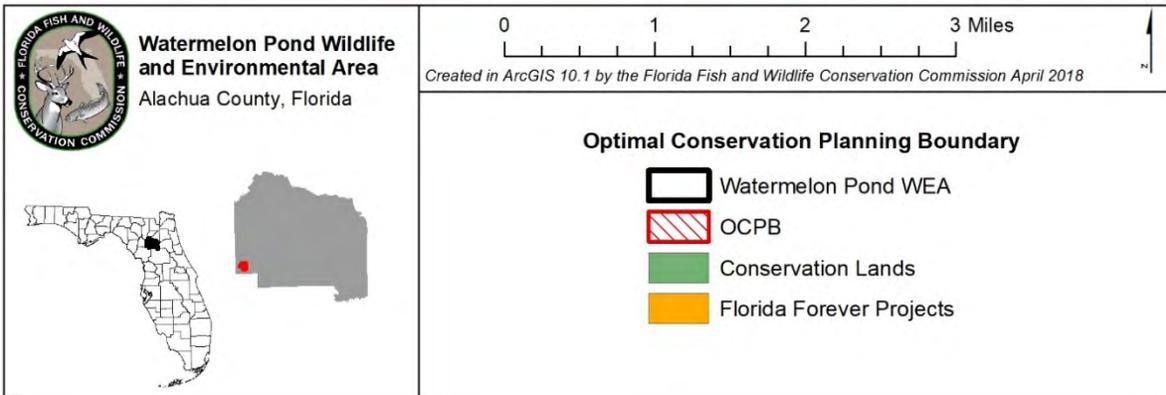
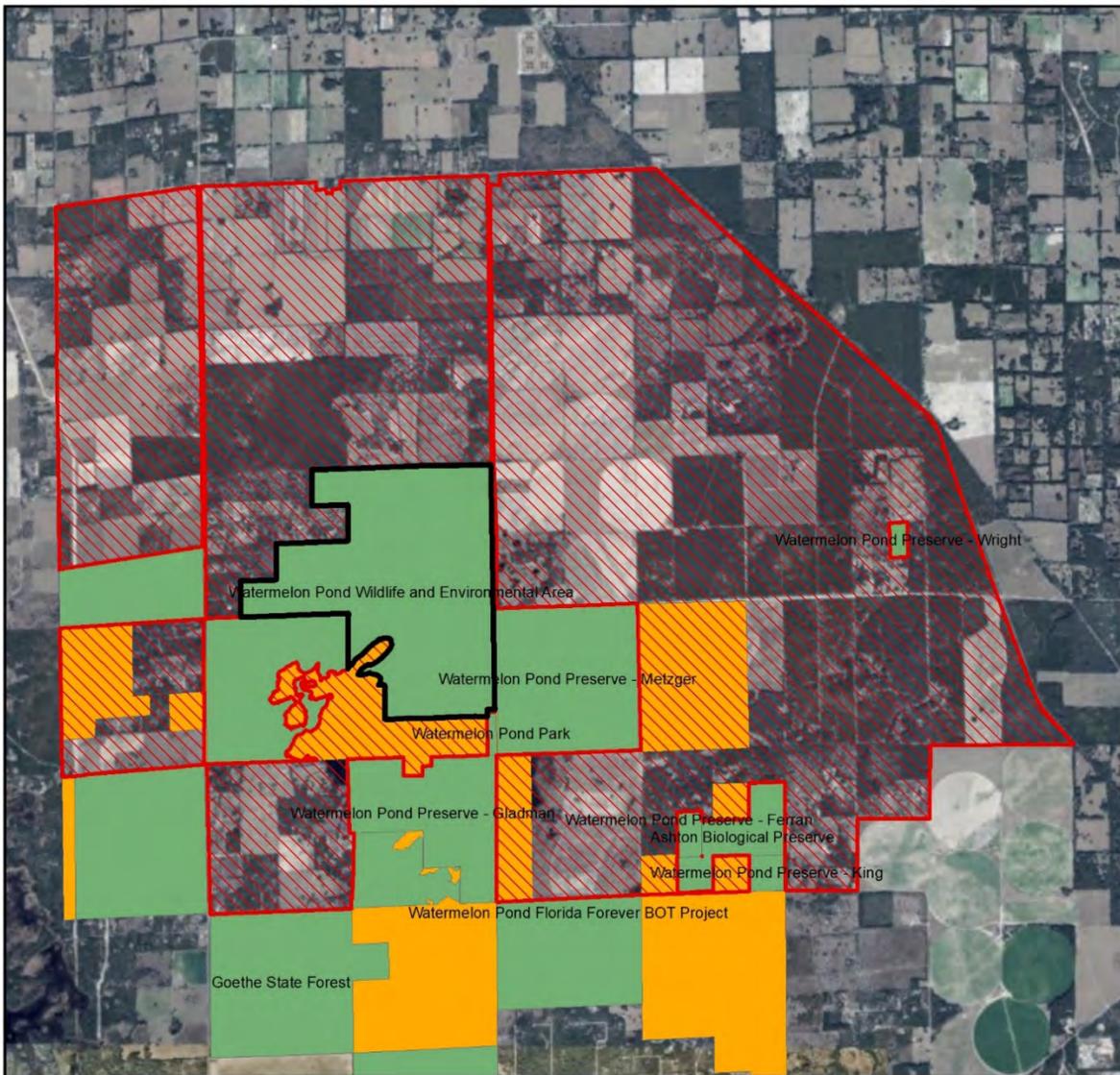


Figure 12: Optimal Conservation Planning Boundary

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5.11.4 FWC Florida Forever Additions and Inholdings Acquisition List

Currently, there are two parcels included on the FWC Florida Forever Additions and Inholdings list for the WPWEA (Appendix 12.16). These parcels total 216.5 acres. Additionally, 5,696 acres of the Watermelon Pond Florida Forever project remain to be acquired. 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 WPWEA, 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 WPWEA must have prior approval by FWC.

5.13 Cooperative Management and Special Uses

5.13.1 Cooperative Management

The FWC is responsible for the overall management and operation of WPWEA as set forth in the lease agreement with the Board of Trustees. In keeping with the lease agreement, and in order to conduct its management operations in the most effective and efficient manner, the FWC cooperates with other agencies to achieve management goals and objectives described in this management plan. These include cooperating with DHR to ensure the requirements of the Management Procedures Guidelines - Management of Archaeological and Historical Resources document (Appendix 12.11) 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 SRWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of WPWEA.

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 WPWEA. 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 WPWEA, 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 WPWEA. 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 WPWEA, and apiary feasibility analysis for the area (Appendix 12.12) has determined there are no suitable sites on WPWEA.

However, use of apiaries is conditionally approved for WPWEA, 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 12.7). Location, management, and administration of apiaries on WPWEA will be guided by the FWC Apiary Policy (Appendix 12.12). The FWC Apiary Policy will be followed with regards to site location, management, and administration of apiaries.

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 WPWEA include more frequent and more potent storm events, alteration of vegetation reproductive cycles, and changes in the fire regime. Florida's low-lying coastal habitats, such as salt marsh and hardwood swamp natural communities 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 Big Bend 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 WPWEA, 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 WPWEA 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 WPWEA. 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 350 acres of fire adapted communities (sandhill, restoration sandhill, pine plantation, basin marsh, and depression marsh) per year.
- 6.1.2** Maintain 954 acres of fire adapted communities (100%) within 1-3 year target fire return interval.

- 6.1.3** Update prescribed burn plan.
- 6.1.4** Update timber assessment.
- 6.1.5** Conduct habitat/natural community improvement on 50 acres per year including hardwood and shrub reduction.
- 6.1.6** Continue habitat/natural community restoration activities including longleaf pine reforestation on 50 acres.
- 6.1.7** Conduct timber stand improvement for the purposes of habitat restoration on 12 acres.

Long-term

- 6.1.8** Continue to conduct prescribed burning on 350 acres of fire adapted communities (sandhill, restoration sandhill, pine plantation, basin marsh, and depression marsh) per year.
- 6.1.9** Continue to maintain 954 acres of fire adapted communities (100%) per year within 1-3 year target fire return interval.
- 6.1.10** Continue to implement prescribed burn plan.
- 6.1.11** Continue to conduct habitat/natural community improvement and maintenance on 50 acres per year.
- 6.1.12** Continue to conduct habitat/natural community restoration activities on 50 acres.
- 6.1.13** Implement recommendations received in updated timber assessment.
- 6.1.14** Update natural community mapping at 5-year intervals.
- 6.1.15** Continue implementation of OBVM monitoring.



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

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

Short-term

- 6.2.1** Continue to implement WCPR Strategy by managing identified habitats and monitoring identified species.
- 6.2.2** Monitor five imperiled and focal species (Bachman's sparrow, Southeastern American kestrel, and gopher tortoise).
- 6.2.3** Continue to collect opportunistic wildlife species occurrence data, including for the seven imperiled species observed at WPWEA.
- 6.2.4** Continue to maintain and monitor southeastern American kestrel nest boxes, and replace as necessary to ensure consistent availability of nest boxes.

Long-term

- 6.2.5** Continue to implement WCPR Strategy by managing identified habitats and monitoring identified species.
- 6.2.6** Continue to monitor imperiled and focal species as prescribed in the current or updated WCPR Strategy.
- 6.2.7** Continue to collect and record opportunistic wildlife species occurrence data, including for the seven imperiled species observed at WPWEA.
- 6.2.8** Update WCPR Strategy by 2022.
- 6.2.9** Continue to maintain and monitor southeastern American kestrel nest boxes, and replace as necessary to ensure consistent availability of nest boxes.

6.3 Other Wildlife (Game and Non-game) Habitat Maintenance, Enhancement, Restoration, or Population Restoration.

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

Short-term

- 6.3.1** Continue to collect opportunistic wildlife species occurrence data.
- 6.3.2** Continue to maintain and monitor bat boxes.

6.3.3 Continue to maintain habitat amenable to deer, turkey, and northern bobwhite.

Long-term

6.3.4 Continue to collect opportunistic wildlife species occurrence data.

6.3.5 Continue to maintain and monitor bat boxes.

6.3.6 Continue to maintain habitat amenable to deer, turkey, and northern bobwhite.

6.4 Exotic and Invasive Species Maintenance and Control

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

Short-term

6.4.1 Continue to monitor and treat the area for FLEPPC Category I and Category II invasive exotic plant species including tropical soda apple, mimosa, Japanese climbing fern, camphor trees, and natal grass.

6.4.2 Implement control measures for feral hog as needed and appropriate.

Long-term

6.4.3 Continue to monitor for FLEPPC Category I and Category II invasive exotic plant species and treat accordingly.

6.4.4 Contract to conduct survey and mapping of invasive exotic plant species.

6.4.5 Continue to implement control measures for feral hog as needed and appropriate.

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 219 visitors per day.

6.5.2 Continue to provide website, kiosks, and a trail brochure for interpretation and education.

6.5.3 Maintain 7.37 miles of marked trails.

6.5.4 Continue to provide hunting opportunities.

- 6.5.5** Cooperate with other agencies, Alachua County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.
- 6.5.6** Continue to identify partnerships that could provide for environmental educational programs and outreach.
- 6.5.7** Update the Recreation Master Plan.
- 6.5.8** Monitor trails annually for visitor impacts.
- 6.5.9** Evaluate the need for a visitor counter.
- 6.5.10** Cooperate with the volunteer program manager to identify citizen science and stewardship needs.

Long-term

- 6.5.11** Construct an observation platform overlooking Watermelon Pond.
- 6.5.12** Maintain public access and recreational opportunities to allow for a recreational carrying capacity of 240 visitors per day.
- 6.5.13** Continue to provide a website, kiosk, trail brochure, and bird list for interpretation and education.
- 6.5.14** Continue to maintain 7.37 miles of marked trails and develop up to one mile of new trails.
- 6.5.15** Reroute trails off firebreaks and roads as feasible and appropriate.
- 6.5.16** Monitor trails annually for visitor impacts.
- 6.5.17** Reassess recreational opportunities every five years.
- 6.5.18** Continue to provide hunting opportunities for deer, turkey, small game and feral hogs.
- 6.5.19** Cooperate with other agencies, Alachua County, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.
- 6.5.20** Continue to identify partnerships that could provide for environmental educational programs and outreach.
- 6.5.21** Cooperate with the volunteer program manager to identify citizen science and stewardship needs.

6.5.22 Work with Alachua County and the Florida Department of Transportation to install directional signage along roadways.

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** Continue to look for opportunities to address recommendations included in completed hydrology assessment as appropriate.
- 6.6.2** Continue to cooperate with the Suwannee River Water Management District and DEP for the monitoring of surface and ground water quality and quantity.

Long-term

- 6.6.3** To enhance natural hydrological functions, continue to look for opportunities to address recommendations included in completed hydrology assessment as appropriate.
- 6.6.4** Continue to cooperate with the Suwannee River Water Management District and DEP for the monitoring of surface and ground water quality and quantity.

6.7 Forest Resource Management

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

Short-term

- 6.7.1** Cooperate with FFS to update the WPWEA Timber Assessment.
- 6.7.2** Consult with the FFS or a professional forestry consultant regarding forest management activities as appropriate.

Long-term

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

6.7.5 Evaluate the need to complete a timber inventory and management plan.

6.8 Historical Resources

Goal: Protect, preserve and maintain historical resources.

Short-term

6.8.1 Ensure all known sites are recorded in the Florida Division of Historical Resources Master Site file.

6.8.2 Continue to cooperate with DHR to manage and maintain the one known existing historical resource at WPWEA.

6.8.3 Continue to monitor, protect, and preserve as necessary one identified site.

6.8.4 As necessary, cooperate with DHR in designing site plans for development of infrastructure.

6.8.5 Continue to coordinate with DHR for archaeological resource management guideline staff training.

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

Long-term

6.8.7 Cooperate with DHR in designing site plans for development of infrastructure.

6.8.8 Continue to monitor, protect, and preserve as necessary the one identified site.

6.8.9 Coordinate with DHR for cultural resource management guideline staff training as necessary.

6.8.10 Continue to coordinate with DHR to conduct a cultural resource survey.

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

6.9 Capital Facilities and Infrastructure

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

Short-term

- 6.9.1** Continue to maintain five facilities on the area including the main entrance, Watermelon Pond overlook bench, south entrance, shop compound, and picnic area.
- 6.9.2** Maintain 7.37 miles of existing trails on the area.

Long-term

- 6.9.3** Monitor trails and infrastructure annually for visitor impacts.
- 6.9.4** Continue to maintain five facilities.
- 6.9.5** Continue to maintain 7.37 miles of trails existing on site.
- 6.9.6** Construct a kiosk, viewing platform, and up to one mile of new trails.
- 6.9.7** Improve up to one mile of existing trails on the area.

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 WPWEA 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 WPWEA.

Long-term

- 6.10.13** To minimize fragmentation of the area, continue to identify strategic parcels to revise the completed OCPB for WPWEA 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. Continue to propose nominations of selected properties as additions to the FWC acquisition list.
- 6.10.17** Continue to pursue acquisition of parcels added to the FWC acquisition list as acquisition work plan priorities and funding allow.
- 6.10.18** 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.
- 6.10.19** Coordinate and conduct landowner assistance/conservation stewardship partnership workshop(s) as necessary and appropriate.
- 6.10.20** Continue to identify potential conservation easements donations.
- 6.10.21** Continue to evaluate and determine if any portions of WPWEA are no longer needed for conservation purposes, and therefore may be designated as surplus lands.
- 6.10.22** 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 WPWEA.

6.11 Cooperative Management and Special Uses

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

Long-term

- 6.11.1** Continue to work cooperatively with Alachua County and other partners on land management and conservation.
- 6.11.2** Continue to cooperate with FFS and Alachua County to develop area rules and regulations.
- 6.11.3** Determine the feasibility and appropriateness of potentially introducing cattle grazing as a tool for management of the area.
- 6.11.4** Continue to cooperate with intra-agency staff, adjacent landowners and resource user groups to manage Watermelon Pond proper.

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 WPWEA.

Long-term

- 6.12.1** Coordinate with FWC's Fish and Wildlife Research Institute (FWRI) Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the WPWEA.
- 6.12.2** Incorporate appropriate climate change monitoring protocols and management strategies into the OBVM program for the WPWEA.
- 6.12.3** Incorporate appropriate climate change adaptation strategies into the WCPR for WPWEA.
- 6.12.4** As appropriate, update the WPWEA Prescribed Fire Plan to incorporate new scientific information regarding projected climate change, such as increased frequency of drought, on the fire regime of WPWEA'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, FWRI, and others as appropriate.
- 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 WPWEA and provides solution strategies that will address these challenges. These specific challenges may not be fully addressed in the broader goals and objectives section above, and are thereby provided here.

7.1 Challenge: Currently, law enforcement and management staffing is at insufficient levels for optimal management of WPWEA.

- 7.1.1** Strategy: Pursue funding for increased law enforcement and management staffing and additional private sector contract services.
- 7.1.2** Strategy: Explore potential volunteer resources for assisting with management.

7.2 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.

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

7.3 Challenge: To date, sandhill restoration efforts of pastures have seen limited success.

- 7.3.1** Strategy: Reevaluate prior methods of restoration and consult with subject matter experts to make modifications to restoration plans.

7.4 Challenge: In the past, damages have occurred to SW 250th St. resulting from heavy truck traffic related to WPWEA management activities.

7.4.1 Strategy: Explore ways to reduce public impacts of management activities on SW 250th St.

7.4.2 Strategy: Work with the City of Newberry to explore ways to mitigate impacts to SW 250th St.

7.5 Challenge: The WPWEA is not a well-known public outdoor recreation destination.

7.5.1 Strategy: Explore adding additional public access points to increase visibility and accessibility.

7.5.2 Strategy: Work with local and Alachua County tourism boards to promote WPWEA.

7.5.3 Strategy: Cross-promote WPWEA with other regional public conservation lands.

7.5.4 Strategy: Work with Alachua County to install directional signage along area roads.

8 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of WPWEA. 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 Land Acquisition Trust Fund and from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through grants and potential project-specific mitigation, may be sought to supplement existing funding as needed.

The cost estimate below, although exceeding what 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 WPWEA. 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 2018-2019 operational plan showing detailed cost estimates by activity and categories of expenditures, may be found in Appendix 12.13.

Watermelon Pond WEA Management Plan Cost

Estimate

Maximum expected one-year expenditure

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	Priority schedule:
Exotic Species Control	\$67,973	(1)	(1) Immediate (annual)
Prescribed Burning	\$36,795	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$601	(1)	(3) Other (5+ years)
Timber Management	\$6,972	(1)	
Hydrological Management	\$301	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$62,125	(1)	
Subtotal	\$174,767		
<u>Administration</u>			
General administration	\$7,920	(1)	
<u>Support</u>			
Land Management Planning	\$15,788	(1)	
Land Management Reviews	\$11,220	(3)	
Training/Staff Development	\$45,361	(1)	
Vehicle Purchase	\$104,983	(2)	
Vehicle Operation and Maintenance	\$8,629	(1)	
Other (Technical Reports, Data Management, etc.)	\$6,836	(1)	
Subtotal	\$192,817		
<u>Capital Improvements</u>			
New Facility Construction	\$18,292	(2)	
Facility Maintenance	\$30,543	(1)	
Subtotal	\$48,835		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$17,351	(1)	
<u>Law Enforcement</u>			
Resource protection	\$1,175	(1)	
<u>Total</u>	\$442,865	*	

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

Watermelon Pond WEA Management Plan Cost Estimate
Ten-year projection

<u>Resource Management</u>	<u>Expenditure</u>	<u>Priority</u>	<u>Priority schedule:</u>
Exotic Species Control	\$597,219	(1)	(1) Immediate (annual)
Prescribed Burning	\$323,287	(1)	(2) Intermediate (3-4 years)
Cultural Resource Management	\$5,283	(1)	(3) Other (5+ years)
Timber Management	\$61,257	(1)	
Hydrological Management	\$2,642	(1)	
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	\$545,837	(1)	
Subtotal	\$1,535,526		
<u>Administration</u>			
General administration	\$69,582	(1)	
<u>Support</u>			
Land Management Planning	\$138,716	(1)	
Land Management Reviews	\$32,119	(3)	
Training/Staff Development	\$398,545	(1)	
Vehicle Purchase	\$369,440	(2)	
Vehicle Operation and Maintenance	\$75,812	(1)	
Other (Technical Reports, Data Management, etc.)	\$60,062	(1)	
Subtotal	\$1,074,693		
<u>Capital Improvements</u>			
New Facility Construction	\$52,836	(2)	
Facility Maintenance	\$268,357	(1)	
Subtotal	\$321,193		
<u>Visitor Services/Recreation</u>			
Info./Education/Operations	\$152,447	(1)	
<u>Law Enforcement</u>			
Resource protection	\$10,328	(1)	
<u>Total</u>	\$3,163,769*		

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

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

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as “approved” below are those that 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

- | | 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 WPWEA 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 12.7). 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 determined that no arthropod control work should be conducted at WPWEA in compliance with Chapter 388.4111 F.S. Alachua County does not provide arthropod control activities, and the City of Newberry only conducts control work at the request of a landowner. This Management Plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Alachua County, Florida, (Appendix 12.15).



11 Endnotes

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12 Appendices

12.1 Lease Agreement