A Management Plan for

Mosquito Lagoon Marine Enhancement Center

2018 – 2028




Volusia 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, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

January 19, 2018

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

RE: Mosquito Lagoon Marine Enhancement Center - Lease No. 4568

Dear Mr. Houston:

The 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 **Mosquito Lagoon Marine Enhancement Center** management plan. The next management plan update is due January 19, 2028.

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
Mosquito Lagoon Marine Enhancement Center

Volusia County, Florida

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

November 2017

Approved _____

Gil McRae
Director, Fish and Wildlife Research Institute

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LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Florida Fish and Wildlife Conservation Commission (FWC)
Common Name of Property: Mosquito Lagoon Marine Enhancement Center
Location: Volusia County, Florida
Acreage Total: 34.75 acres
Acreage Breakdown:

Land Cover Classification	Acres	Percent of Total Area
Ruderal	22.00	54.7%
Salt Marsh	9.65	24.0%
Mangrove Swamp	3.87	9.6%
Estuarine	3.05	7.6%
Mixed Hardwood	1.68	4.2%

*GIS-calculated acreage for land cover classification varies slightly from actual total acreage.
Lease/Management Agreement No.: 4568 (Appendix 11.1)
Use: Single _____ Management Responsibilities:
Multiple X Agency Responsibilities
FWC CO-LEAD, LESSEE
MDC CO-LEAD SUBLESSEE
Designated Land Use: Educational, Research, and Recreational
Sublease (s): Marine Discovery Center Inc. No. 4568-01 (Appendix 11.1.1)
Encumbrances: None
Type Acquisition: Donation from the Volusia County School Board
Unique Features: Natural: Approximately 4 acres of restored salt marsh habitat occur on the area.
Archaeological/Historical: None documented within the area.
Management Needs: Habitat Restoration and improvement and exotic and invasive species maintenance and control; imperiled species habitat maintenance, enhancement, and restoration.
Acquisition Needs/Acreage: None
Surplus Lands/Acreage: None
Public Involvement: None

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

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

Land Management Plan Compliance Checklist

Required for State-owned conservation lands over 160 acres

Section A: Acquisition Information Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
1	The common name of the property.	18-2.018 & 18-2.021	iii; 1
2	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	2-3
3	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	2-4
4	The legal description and acreage of the property.	18-2.018 & 18-2.021	iii; 1; 2-3; Appendix 11.1 and 11.1.1
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	7-8; 52
6	An **assessment** as to whether the property, or any portion, should be declared surplus. *Provide Information regarding **assessment and analysis** in the plan, and provide **corresponding map**.*	18-2.021	31
7	Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. *Please clearly indicate parcels on a map.*	18-2.021	37-39
8	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	5-6
9	A statement of the purpose for which the lands were acquired, the projected use or uses as defined in 253.034 and the statutory authority for such use or uses.	259.032(10)	3
10	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	4-5; 9

Section B: Use Items			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
11	The designated single use or multiple use management for the property, including use by other managing entities.	18-2.018 & 18-2.021	29-30
12	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	28-29
13	A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted.	18-2.018	30-31
14	A description of the management responsibilities of each entity involved in the property's management and how such responsibilities will be coordinated.	18-2.018	3-4; 39-40
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	27; 37; 39-40; 47

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	37-40
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)	39-30; 35-36
18	A finding regarding whether each planned use complies with the 1981 State Lands Management Plan, particularly whether such uses represent "balanced public utilization," specific agency statutory authority and any other legislative or executive directives that constrain the use of such property.	18-2.021	29-31
19	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix 11.10
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	6; 11-14; 27-42
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	N/A *Less than 160 acres
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	N/A
23	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	30

*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	N/A *Less than 160 acres
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)	N/A *Less than 160 acres
26	LMPs and LMP updates for parcels over 160 acres shall be developed with input from an advisory group who must conduct at least one public hearing within the county in which the parcel or project is located. *Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.*	259.032(10)	N/A *Less than 160 acres
27	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	N/A *Less than 160 acres
28	During plan development, at least one public hearing shall be held in each affected county. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. *Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.*	253.034(5) & 259.032(10)	N/A *Less than 160 acres
29	The manager shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Include manager's replies to the team's findings and recommendations.*	259.036	N/A
30	Summary of comments and concerns expressed by the management review team, if required by Section 259.036, F.S.	18-2.021	N/A
31	If manager is not in agreement with the management review team's findings and recommendations in finalizing the required 10-year update of its management plan, the managing agency should explain why they disagree with the findings or recommendations.	259.036	N/A

Section D: Natural Resources			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
32	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding soil types. *Use brief descriptions and include USDA maps when available.*	18-2.021	6; 11-14; Appendix 11.3
33	Insert FNAI based natural community maps when available.	ARC consensus	18
34	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding outstanding native landscapes containing relatively unaltered flora, fauna and geological conditions.	18-2.021	11-19

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	11-19; 27-28
36	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	27
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	27
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	19-26
39	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding State and Federally listed endangered or threatened species and their habitat.	18-2.021	23-26
40	The identification or resources on the property that are listed in the Natural Areas Inventory. *Include letter from FNAI or consultant where appropriate.*	18-2.021	26; Appendix 11.4
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)	31-59
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.	↓	31-59
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.		42-52
42-C.	The associated measurable objectives to achieve the goals.		42-52
42-D.	The related activities that are to be performed to meet the land management objectives and their associated measures. *Include fire management plans - they can be in plan body or an appendix.*		31-59
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.		55-57; Appendix 11.8
43	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	11-19
44	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034(5) & 259.032(10) ↓	

44-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		31-59
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
44-C.	Measurable objectives (see requirement for #42-C).		42-52
44-D.	Related activities (see requirement for #42-D).		31-59
44-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8
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).	↓	31-59
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
45-C.	Measurable objectives (see requirement for #42-C).		42-52
45-D.	Related activities (see requirement for #42-D).		31-59
45-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8
46	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	22; 35
47	Place the Arthropod Control Plan in an appendix. If one does not exist, provide a statement as to what arrangement exists between the local mosquito control district and the management unit.	BOT requirement via lease language	Appendix 11.9
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).	↓	31-59
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
48-C.	Measurable objectives (see requirement for #42-C).		42-52
48-D.	Related activities (see requirement for #42-D).		31-59
48-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8

Section E: Water Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
49	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. *If yes, provide a list of the*		27-28

	appropriate managing agencies that have been notified of the proposed plan.	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	27-28
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	27-28
52	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	27-28
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).	↓	36
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
53-C.	Measurable objectives (see requirement for #42-C).		42-52
53-D.	Related activities (see requirement for #42-D).		31-59
53-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
54	**Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding archeological and historical resources. *Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.*	18-2.018, 18-2.021 & per DHR's request	27
55	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	27; 37
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	37; Appendix 11.7
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).	↓	31-59
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
57-C.	Measurable objectives (see requirement for #42-C).		42-52
57-D.	Related activities (see requirement for #42-D).		31-59
57-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8

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

Section G: Facilities (Infrastructure, Access, Recreation)			
Item #	Requirement	Statute/Rule	Page Numbers and/or Appendix
58	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. *See footnote.*	253.034(5)	37
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).	↓	31-59
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
59-C.	Measurable objectives (see requirement for #42-C).		42-52
59-D.	Related activities (see requirement for #42-D).		31-59
59-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8
60	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	35-37
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).	↓	31-59
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		42-52
61-C.	Measurable objectives (see requirement for #42-C).		42-52
61-D.	Related activities (see requirement for #42-D).		31-59
61-E.	Budgets (see requirement for #42-E).		55-57; Appendix 11.8

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	iv-xi
63	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	iii
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	N/A
65	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	31-59

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)	55-57; Appendix 11.8
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)	55-57; Appendix 11.8
68	A statement of gross income generated, net income and expenses.	18-2.018	55-57; Appendix 11.8

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

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Management Plan Acronym Key

ADA	Americans with Disabilities Act
ARC	Acquisition and Restoration Council
BEBR	Bureau of Economic and Business Research
BOT	Board of Trustees of the Internal Improvement Trust Fund
CAS	Conservation Action Strategy
CLC	Florida Cooperative Land Cover Map
CLIP	Critical Lands and Waters Identification Project
DACS	Department of Agriculture and Consumer Services
DEP	Department of Environmental Protection
DSL	Division of State Lands
FAC	Florida Administrative Code
FFAIAL	Florida Forever Addition and Inholding Acquisition List
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FLUE	Florida Land Use Element
FNAI	Florida Natural Areas Inventory
FS	Florida Statute(s)
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Fish and Wildlife Research Institute
FWHAP	FWC's Fish and Wildlife Habitat Acquisition Program
GFC	Florida Game and Freshwater Fish Commission
GIS	Geographic Information Systems
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
LPIGD	Land Parcel Inventory of Geo-Database and Process
MDC	Marine Discovery Center
MLMEC	Marine Lagoon Marine Enhancement Center
OBVM	Objective-Based Vegetation Management
OCPB	Optimal Conservation Planning Boundary
OFW	Outstanding Florida Waters
ORB	Optimal Resource Boundary
PUD	Planned Unit Development
RSPH	Rare Species Potential Habitat
SCHA	Strategic Habitat Conservation Areas
SJRWMD	St. John's River Water Management District
WCPR	Wildlife Conservation Prioritization and Recovery

1 Introduction and General Information

Set in eastern Volusia County, Florida, in the City of New Smyrna Beach, sits the Mosquito Lagoon Marine Enhancement Center (MLMEC), also known as the Marine Discovery Center (MDC). This FWC-managed area is approximately 34.75 acres in size, and is known for its many recreational and educational opportunities. Lying just north of the Mosquito Lagoon Aquatic Preserve, the MLMEC is surrounded by pristine marsh lands, and waters that empty into the Indian River Lagoon North.

The area, now known as the MLMEC, was originally the location of the New Smyrna Beach High School. However, through a donation from The Volusia County School Board, the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) now holds the title and has leased the area to the Florida Fish and Wildlife Conservation Commission (FWC). The FWC has lead management authority over the MLMEC for the purpose of providing education, research, and recreational opportunities, with a sub-lease agreement (Appendix 11.1.1) issued to the MDC for cooperative management of the area.

1.1 Management Plan Purpose

This Management Plan serves as the basic statement of policy and direction for the management of the MLMEC. It provides information including the past usage, conservation acquisition history, and descriptions of the natural and historical resources found on the MLMEC. Furthermore, it identifies the FWC's future management intent, goals and associated short and long-term objectives, as well as identifying challenges and solutions. This Management Plan has been developed to guide each aspect of the MLMEC's 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 State of Florida through the Florida Department of Environmental Protection's Division of State Lands (DSL), pursuant to Chapters 253 and 259, Florida Statutes (FS), and Chapters 18-2 and 18-4, Florida Administrative Code (FAC). Format and content were drafted in accordance with ARC requirements for management plans and the model plan outline provided by the staff of the DSL. Terms (Appendix 11.2) 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 engaging area, 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 MLMEC Management Plan (Sections 4 – 6).

Furthermore, the FWC maintains transparency and accountability throughout the development and implementation of this Management Plan. A "living document" concept, which is accomplished by reporting on the objectives, management activities, and projects accomplished, 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 the FWC staff, stakeholders, user groups, and other interested parties and individuals. As needed, amendments to this Management Plan will be presented to the DSL and the ARC for review and consideration.

1.2 Location

As noted above, the MLMEC is 34.75 acres, and is located in Eastern Volusia County, Florida in New Smyrna Beach (Figure 1). The MLMEC is located on the corner of Barracuda Blvd. and Quay Assisi. There are two entrances, one located on Quay Assisi just west of Barracuda Blvd, and another entrance located on Barracuda Blvd, just north of Quay Assisi. Located along the Atlantic Coast of Florida, surrounded by marsh land, and located adjacent to the Mosquito Lagoon Aquatic Preserve, the nearest Section, Township, and Range are Sections 40 and 41 in Township 17S, Range 34E.

The MLMEC is not within an area of critical state concern.

1.3 Acquisition

As noted above, the MLMEC was acquired by the Board of Trustees through a donation from the School Board of Volusia County, in May 2008. Subsequently, the area was then leased to the FWC, making the FWC the lead managing authority over the area. In December 2009, the area was then subleased to the Wildlife Foundation of Florida, Inc., in order to "…manage the subleased premises only for educational, research and passive recreational purpose…"

In February 2012, the Fish and Wildlife Foundation of Florida, then known as the Wildlife Foundation of Florida, went into the sub-sublease agreement 4568-01-01 with the Artists' Workshop of New Smyrna Beach, Inc. (Artists' Workshop). Under this agreement, "…the Artists' Workshop is responsible for 100% of expenses and obligations related to the sub-subleased premises… which is approximately 40% of Building 11…the (Artist's Workshop) may use the sub-subleased premises only for the establishment and operation of an art education facility…"

In April 2012, the Fish and Wildlife Foundation of Florida went into the sub-sublease agreement 4568-01-02 with the Marine Discovery Center, Inc. Under this agreement, "...the Marine Discovery Center is responsible for 100% of expenses and obligations related to the sub-subleased premises… which is approximately 60% of Building 11…the Marine Discovery Center may use the sub-subleased premises only for the establishment and operation of a membership-driven, not-for-profit organization that promotes the protection of the Indian River Lagoon and surrounding water through education, research, restoration and preservation…"

Subsequently, in September 2017, the sublease agreement between the FWC and the Fish and Wildlife Foundation of Florida was transferred to the MDC. Under this new agreement, sublease number 4568-01 "…does hereby assign, transfer and convey 100% of its right, title, and interest… to Marine Discovery Center, Inc., for and during the remainder of the term of the Sublease…" making the MDC the new sub lessee for the area. Currently, the FWC and the MDC are also in the process of updating the sub-sub lease agreement with the Artists' Workshop to reflect these changes.

1.4 Purpose for Acquisition of the Property

During May 2008, the School Board of Volusia County deeded the 33.86-acre property, then known as the "New Smyrna Beach High School", to the Board of Trustees. The purpose of the donation was for the area to be used for educational, research, and recreational uses. In September 2017, the Fish and Wildlife Foundation of Florida donated an additional 0.89-acre adjacent parcel to the Board of Trustees, and the FWC is currently working to have this parcel added to Lease Number 4568, in order to include this parcel in the management of MLMEC.

1.5 Management Authority

The FWC is the designated lead managing agency for the MLMEC under the authority granted by Lease Agreement 4568 from the Board of Trustees. The FWC and the Board of Trustees have also granted authority under sublease agreement 4568-01 to the MDC for management of the area for educational, research and recreational uses. Further management authority derives from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters 253, 259, 327, 370, 373, 375, 378, 379, 403, 487, 597, and 870 and of the Florida Statutes. These constitutional provisions and laws provide the FWC the authority to protect, conserve, and manage the State's fish and wildlife resources.

1.6 Management Directives

The Lease Agreement Number 4568 with the FWC directs the FWC to "manage for educational, research and passive recreational purposes, along with other related uses

necessary for the accomplishment of this purpose…" Under the Sublease Agreement Number 4568-01 with the MDC, the FWC and the Board of Trustees direct the MDC to "…manage the subleased premises only for educational, research and passive recreational purposes, along with other related uses necessary for the accomplishment of this purpose…"

1.7 Title Interest and Encumbrances

Additional FWC 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, 372, 375, 378, 379, 403, 487, 597, and 870 of the Florida Statutes. These laws establish the authority of the FWC with regard to protection and management of the State's fish and wildlife resources.

1.8 Proximity to Other Public Conservation Lands

The MLMEC is located in the vicinity of an extensive network of conservation lands, including the Smyrna Dunes Park and the Lighthouse Point Park, both of which are managed by Volusia County, as well as other conservation lands managed by the City of Port Orange, the St. John's River Water Management District (SJRWMD) and Florida Audubon Society, Inc. (Table 1).

Several Florida Forever projects are also located in the vicinity of the area shown in Table 2 and in Figure 3. Tables 1 and 2 list the Florida Forever projects and conservation lands within a 15-mile radius of the MLMEC, 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 1 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. Conservation Lands within a 15 miles Radius of the MLMEC

Federal Government	Managing Agency
Canaveral National Seashore	DOI - NPS
Merritt Island National Wildlife Refuge	DOI - FWS
State of Florida	**Managing Agency**
Tiger Bay State Forest	DACS - FFS
Water Management District	**Managing Agency**
Fore Children Conservation Easement	SJRWMD
Hartford Ranch Conservation Easement	SJRWMD
Le Fils Conservation Easements	SJRWMD
Lukas Ranch Conservation Easement	SJRWMD

Margaret Buschman Parcel	SJRWMD
Marvin K. Fore Conservation Easement	SJRWMD
Norman M. Fore Conservation Easement	SJRWMD
Palm Bluff Conservation Area	SJRWMD
Paredes Tract	SJRWMD
Turnbull Hammock Conservation Area	SJRWMD

Local Government	Managing Agency
Cape Atlantic Estates Parcels	Volusia County
Deep Creek Preserve	Volusia County
Doris Leeper Spruce Creek Preserve	Volusia County
East Central Regional Rail Trail	Volusia County
Deep Creek Preserve	Volusia County
Gamble Place	City of Port Orange
Howe and Currier Parcels	Volusia County
Lighthouse Point Park	Volusia County
Longleaf Pine Preserve	Volusia County
New Smyrna Beach Park	Volusia County
New Smyrna Sugar Mill Ruins Historic Site	Volusia County
Pablo Sub Parcels	Volusia County
Ponce Preserve	Town of Ponce Inlet
Port Orange City Forest	City of Port Orange
Reed and Gaulden Parcels	Volusia County
Smyrna Dunes Park	Volusia County
Wiregrass Prairie Preserve	Volusia County

Private	Managing Entity
Langford Sanctuary	Florida Audubon Society Inc.

Table 2. Florida Forever Projects within a 15 miles Radius of the MLMEC

Project Name	GIS Acres
Indian River Lagoon Blueway	28,060.13
Spruce Creek	2,841.33

Acronym Key	Agency Name
DACS-FFS	Department of Agricultural and Consumer Services – Florida Forest Service
DOI-FWS	US Department of Interior – Fish and Wildlife Service
DOI -NPS	US Department of Interior – National Park Service
SJRWMD	St. John's River Water Management District

1.9 Adjacent Land Uses

The MLMEC is located in Volusia County in the Northeast Florida region, in a coastal urban setting of New Smyrna Beach. The current land use designations for areas directly

adjacent to and surrounding the MLMEC are incorporated. Much of the northern and southern border of the MLMEC is located directly adjacent to the Smyrna Creek and the North Causeway.

Volusia County does not utilize specific zoning categories for land use. Instead, the County relies on the policies stated in the Future Land Use Element (FLUE) of the adopted Comprehensive Plan and the land use categories defined therein. The current land use designation for the MLMEC, as described in the FLUE, is incorporated. The 2016 U.S. Census population estimate for Volusia County is 529,364 residents. The 2015 population estimate for the city of New Smyrna Beach is 24,298. The Bureau of Economic and Business Research (BEBR) produces Florida's official state and local population estimates and projections. The BEBR's medium-range population projection for Volusia County in 2025 is 565,300 residents. The BEBR's medium-range 2025 population projections for the counties bordering Volusia County is 625,500 residents in Brevard County, 130,000 residents in Flagler County, 391,600 residents in Lake County, 392,800 residents in Marion County, 73,600 residents in Putnam County, and 504,000 residents in Seminole County. According to the Volusia County Comprehensive Plan's future land use map, the MLMEC will continue to be zoned as Incorporated.

2 Natural and Historical Resources

2.1 Physiography and Topography

The MLMEC is located within the Central or midpeninsular zone. This area is also located within the Atlantic coastal lowlands region, which is generally characterized by low elevation and poorly drained soils. This area is generally comprised of landforms such as estuaries, coastal ridges, barrier islands, and others.

Figure 1. MLMEC Location

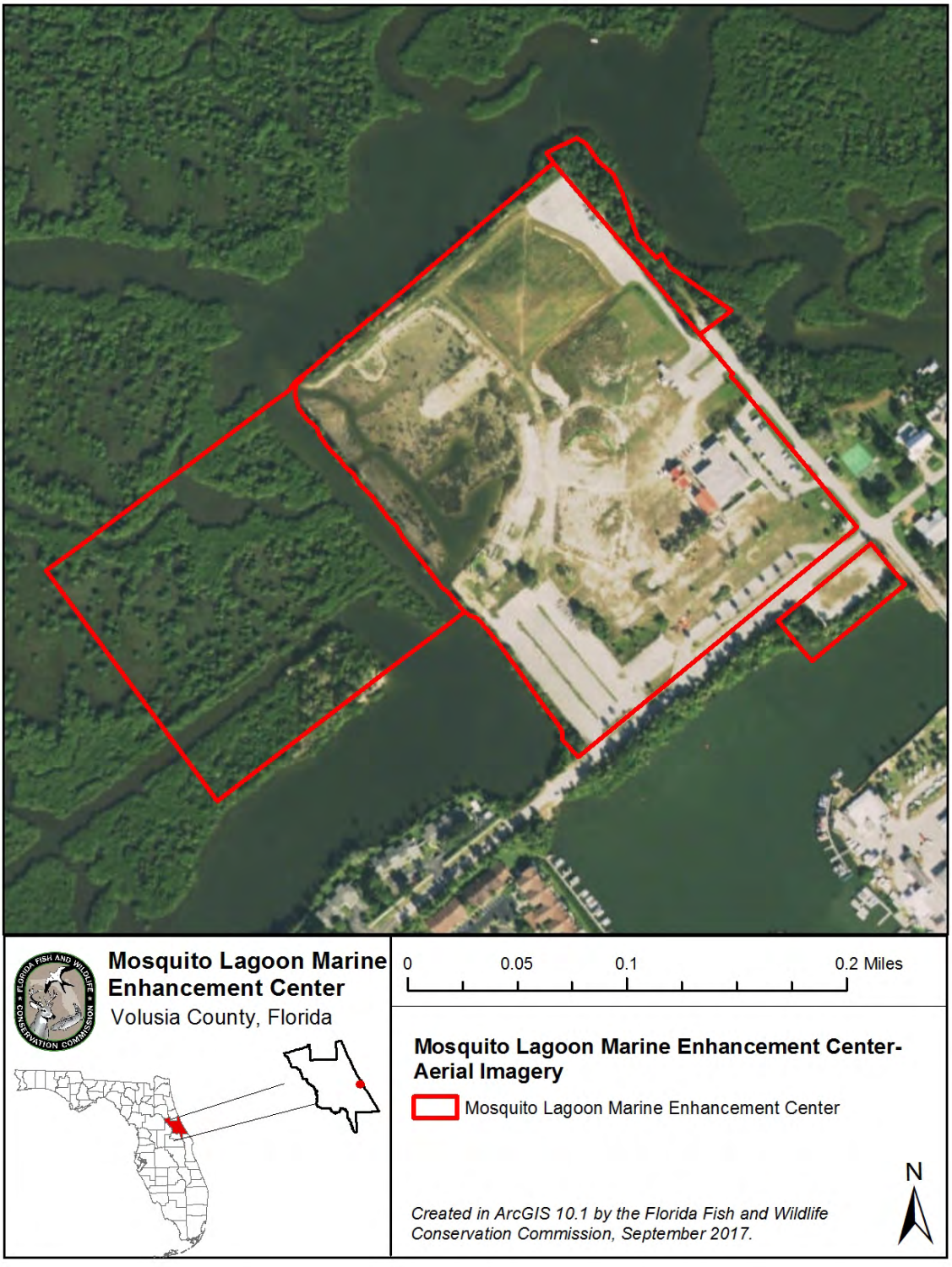
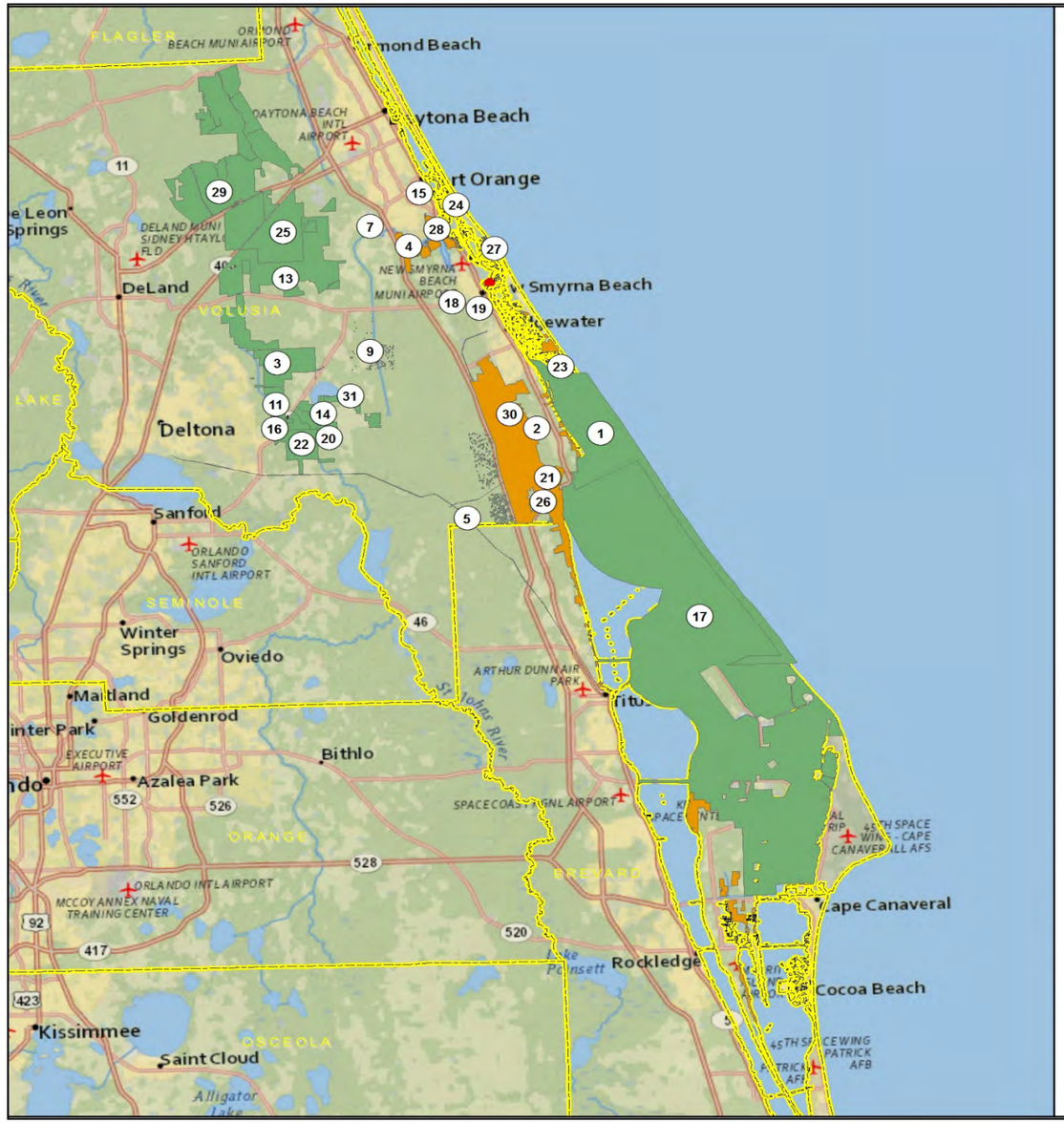


Figure 2. MLMEC Aerial Imagery



Conservation Lands within 15 miles of MLMEC

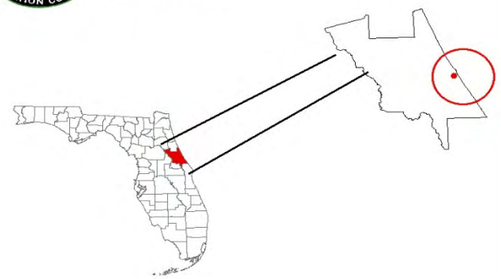
Label	Area Name
1	Canaveral National Seashore
2	Cape Atlantic Estates Parcels
3	Deep Creek Preserve
4	Doris Leeper Spruce Creek Preserve
5	East Central Regional Rail Trail
6	Fore Children Conservation Easement
7	Gamble Place
8	Hartford Ranch Conservation Easement
9	Howe and Currier Parcels
10	Langford Sanctuary
11	Le Fils Conservation Easements
12	Lighthouse Point Park
13	Longleaf Pine Preserve
14	Lukas Ranch Conservation Easement
15	Margaret Buschman Parcel
16	Marvin K. Fore Conservation Easement
17	Merritt Island National Wildlife Refuge
18	New Smyrna Beach Park
19	New Smyrna Sugar Mill Ruins Historic Site
20	Norman M. Fore Conservation Easement
21	Pablo Sub Parcels
22	Palm Bluff Conservation Area
23	Paredes Tract
24	Ponce Preserve
25	Port Orange City Forest
26	Reed and Gaulden Parcels
27	Smyrna Dunes Park
28	Spruce Creek Park
29	Tiger Bay State Forest
30	Turnbull Hammock Conservation Area
31	Wiregrass Prairie Preserve

Florida Forever Projects within 15 miles of MLMEC

Label	Area Name
A	Indian River Lagoon Blueway
B	Spruce Creek

Mosquito Lagoon Marine Enhancement Center

Volusia County, Florida
33.86 Acres



Legend

- Mosquito Lagoon Marine Enhancement Center
- Florida Forever Projects
- Conservation Lands
- County

0 5 10 20 Miles

N

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

Figure 3. MLMEC Conservation Lands and Florida Forever Projects within a 15-mile Vicinity

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2.1.1 Climate

For over half the year Volusia county experiences warm, humid weather, with the remaining part of the year consisting of mild, cool weather. In Volusia County during the period of 1981-2010 the climate ranged from an average minimum temperature of 57.9 degrees F to an average maximum temperature of 81.6 degrees F. The lowest average temperatures occur during the month of January with the highest average temperatures occurring in July.

Average annual precipitation during the period of 1981-2010 was 49.62 inches of rainfall. The period of rainfall was highest during September and lowest during the month of April. Primarily in this area, the warmer months obtain the most rainfall during the year, with the cooler months being much drier.

2.1.2 Soils

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data were used to identify the MLMEC's soil series and soil depth to water table (Figures 4 and 5). Soil series descriptions were developed using NRCS geographic information system (GIS) data and are included in Appendix 11.3. Three map units described in the soil survey of the MLMEC are distributed as shown in Figure 4. Analyses of depth to water table for map units occurring within the MLMEC are also provided in Figure 5. The NRCS defines a soil map unit as: "a collection of soil areas or non-soil areas (miscellaneous areas) delineated in a soil survey." Soil map units may contain multiple soil components, which are given names that are unique identifiers. Figure 4 provides aggregation data for the MLMEC map units.

The MLMEC is mainly made up of two different soil types and water. The majority of the area is Turnbull variant sand, with a slightly smaller area to the west mostly being made up of Hydraquents and water.

2.1.3 Geologic Conditions

The geology of the MLMEC, according to the geologic map of the State of Florida, is mainly composed of Holocene sediments. The sediments include quartz sands, carbonate sands, muds, and organics.

2.2 Vegetation

The natural communities for the MLMEC were mapped using the Florida Cooperative Land Cover Map (CLC). The CLC is a cooperative effort between the FWC and the Florida Natural Areas Inventory (FNAI) to develop ecologically-based statewide land cover from existing sources and expert review of aerial photography. The CLC describes six natural and anthropogenic community types existing on the MLMEC, (Table 3, and Figure 6).

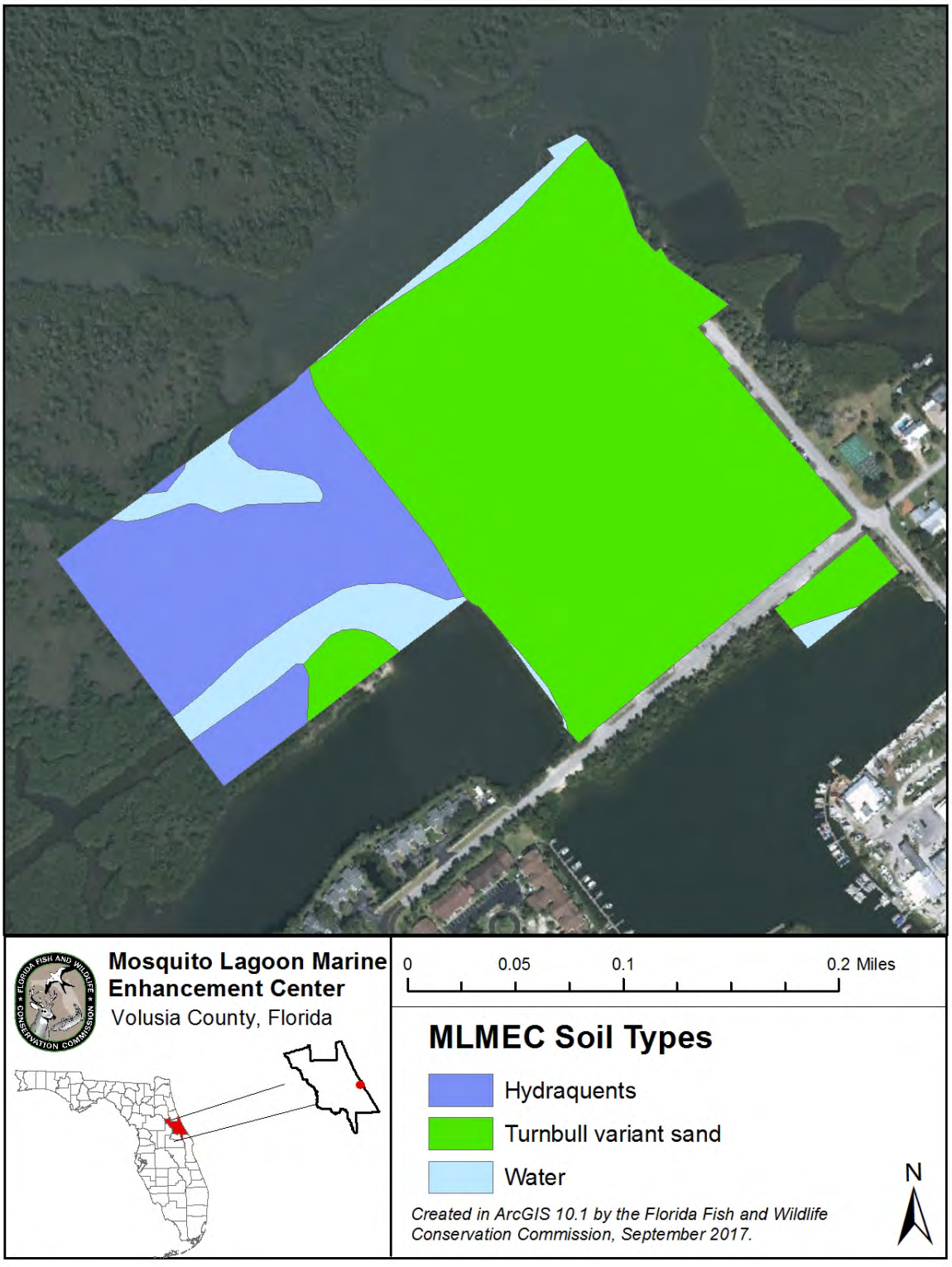

Figure 4. MLMEC Soil Types

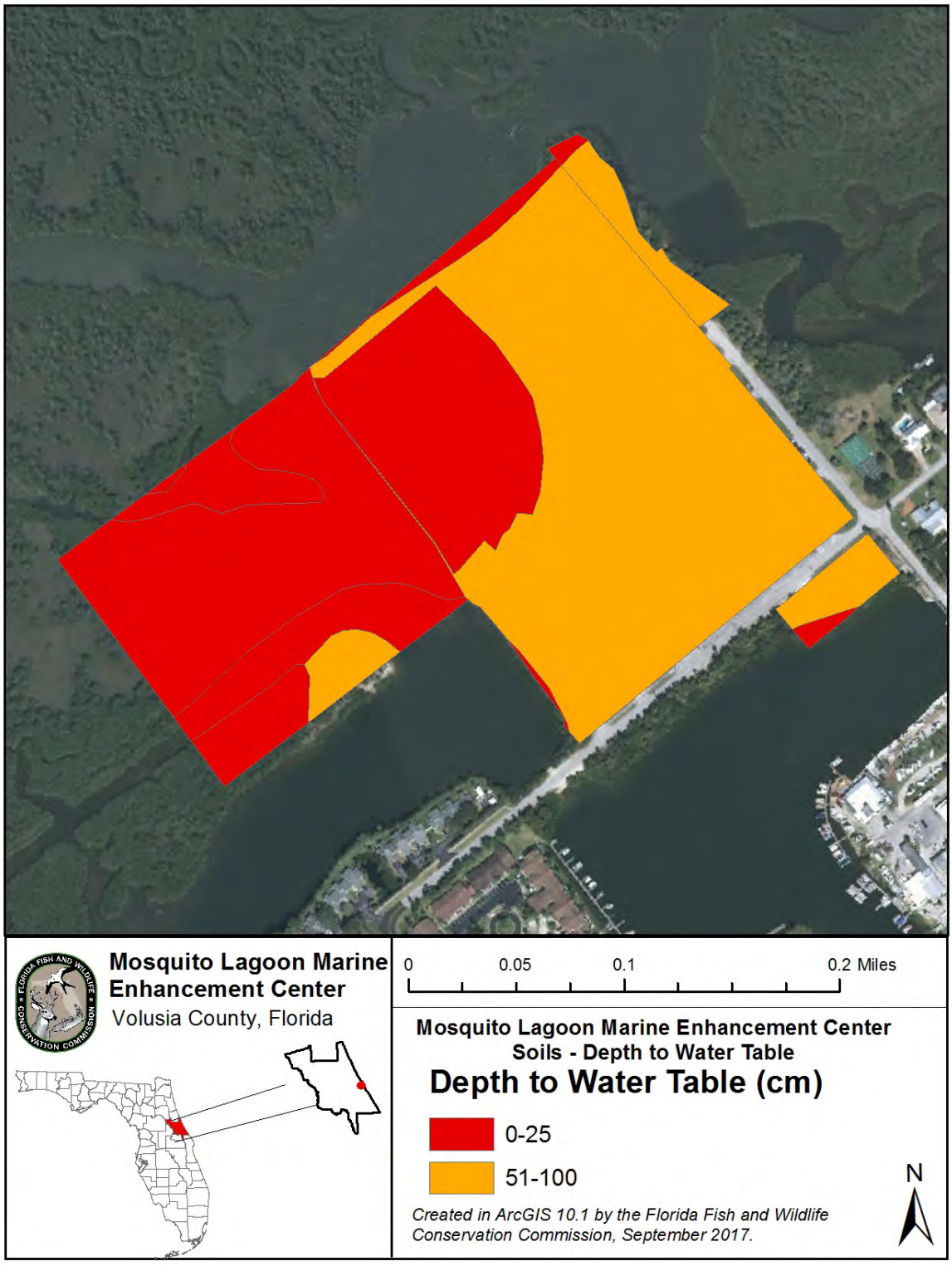

Figure 5. MLMEC Soils – Depth to Water Table

The FWC biologists have also documented a variety of native plant species (Table 4) and one invasive exotic plant species (Table 5) as occurring on the MLMEC.

Table 3. Natural Communities and Altered Landcover Types found on the MLMEC

Community Type	Acres	Percentage
Ruderal	22.00	54.7%
Salt Marsh – Restored	5.54	13.8%
Salt Marsh	4.11	10.2%
Mangrove Swamp	3.87	9.6%
Estuarine	3.05	7.6%
Mixed Hardwood	1.68	4.2%

Table 4. Native Plant Species Known or Expected to Occur on the MLMEC

Common Name	Scientific Name
Annual glasswort	*Salicornia bigelovii*
Azure blue sage	*Salvia azurea*
Bahia grass	*Paspalum notatum*
Beach sunflower	*Helianthus debilis*
Bermuda grass	*Cynodon dactylon*
Big cordgrass	*Spartina cynosuroides*
Black eyed susan	*Rudbeckia hirta*
Black mangrove	*Avicennia germinans*
Black medick	*Medicago lupulina*
Blanket flower	*Gaillardia pulchella*
Calamint	*Calamintha sp.*
Camphorweed	*Heterotheca subaxillaris*
Coastal sandspur	*Cenchrus spinifex*
Coastal vervain	*Glandularia maritima*
Common sow thistle	*Sonchus oleraceus*
Dog fennel	*Eupatorium capillifolium*
Dollarweed	*Hydrocotyle umbellata*
Dotted horsemint	*Monarda punctata*
Dropseed grass	*Sporobolus spp*
Easter gama grass	*Tripsacum dactyloides*
Elliott's lovegrass	*Eragrostis elliottii*
Evening primrose	*Oenothera biennis*
False rosemary	*Conradina canescens*
Firebush	*Hamelia patens*
Hairawn muhly	*Muhlenbergia capillaris*
Little burr clover	*Medicago minima*

Live oak	*Quercus virginiana*
Moss rose	*Portulaca spp*
Necklace pod	*Sophora tomentosa var. truncata*
Pepperweed	*Lepidium latifolium*
Perennial glasswort	*Salicornia ambigua*
Purple lovegrass	*Eragrostis spectabilis*
Ragweed	*Ambrosia artemisiifolia*
Railroad vine	*Ipomoea pes-caprae*
Rattlepod	*Crotalaria sp.*
Red cedar	*Juniperus virginiana*
Red mangrove	*Rhizophora mangle*
Salt meadow cordgrass	*Spartina patens*
Saltwort	*Batis maritima*
Sand cordgrass	*Spartina bakeri*
Saw palmetto	*Serenoa repens*
Sea grape	*Coccoloba uvifera*
Sea ox-eye daisy	*Borrichia frutescens*
Sea purslane	*Sesuvium portulacastrum*
Seashore paspalum	*Paspalum vaginatum*
Seashore saltgrass	*Distichlis spicata*
Seaside goldenrod	*Solidago sempervirens*
Seaside heliotrope	*Heliotropium curassavicum*
Smooth cordgrass	*Spartina alterniflora*
Spanish needle	*Bidens alba*
Starry rosinweed	*Silphium asteriscus*
Stokes aster	*Stokesia laevis*
Sunshine mimosa	*Mimosa strigillosa*
Swamp milkweed	*Asclepias incarnata*
Sweet white clover	*Melilotus albus*
Tropical sage	*Salia coccinea*
Twin flower	*Dyschoriste oblongifolia*
Virginia plaintain	*Plantago virginica*
Wax myrtle	*Myrica cerifera*
White indigo berry	*Randia aculeata*
White mangrove	*Laguncularia racemosa*
Wild coffee	*Psychotria nervosa*
Wild lantana	*Lantana involucrata*

Table 5. Exotic Plant Species Known or Expected to Occur on the MLMEC

Common Name	Scientific Name
Brazilian pepper	*Schinus terebinthifolia*

2.2.1 FNAI Natural Community Descriptions

Salt Marsh – Restored (~5.54 acres)

As further explained in Section 4.3.2, prior to acquisition, the MLMEC was predominantly ruderal expect for a small western portion of the area. Since the area has been acquired, a little over 5 acres to the northwest corner of the area have been restored to salt marshes. This site was previously predominantly fill material, and during the beginning stages of restoration the fill material was removed and relocated. The area over time has been restored to a salt marsh vegetative community with over 25,000 native plant species having been planted.

Salt marsh (~4.11 acres)

Salt marsh is a largely herbaceous community that occurs in the portion of the coastal zone affected by tides and seawater and protected from large waves, either by the broad, gently sloping topography of the shore, by a barrier island, or by location along a bay or estuary. The width of the intertidal zone depends on the slope of the shore and the tidal range. Salt marsh may have distinct zones of vegetation, each dominated by a single species of grass or rush.

Salt marsh soils range from deep mucks with high clay and organic content in the deeper portions to silts and fine sands in higher areas. The organic soils have a high salinity, neutral reaction, and high sulfur content; soil properties of salt flats on higher portions of the marsh are little studied.

Mangrove Swamp (~3.87 acres)

Mangrove swamp is a dense forest occurring along relatively flat, low wave energy, marine and estuarine shore-lines. Mangrove Swamp primarily refers to estuarine wetland on muck/sand/or limestone substrate. This community is normally inundated with saltwater by daily tides, does not permit prescribed burning, and is dominated by mangrove and mangrove associate species, such as red mangrove (Rhizophora mangle), black mangrove (Avicennia germinans), white mangrove (Laguncularia racemosa), and buttonwood (Conocarpus erectus). These four species can occur either in mixed stands or often in differentiated, monospecific zones that reflect varying degrees of tidal influence, levels of salinity, and types of substrate. Red mangrove often dominates the lowest (or deepwater) zone, followed by black mangrove in the intermediate zone, and white mangrove and

buttonwood in the highest, least tidally-influenced zone. Buttonwood often occupies an ecotone, or transition zone, to the adjacent upland community.

The density and height of mangroves and the diversity of associated herbaceous species can vary considerably within a mangrove swamp. Mangroves typically occur in dense stands but may be sparse, particularly in upper tidal reaches where salt marsh species predominate. Mangroves may range from trees more than 80 feet (25 m) tall to dwarf shrubs growing on solid limestone rock, but most commonly exist at intermediate heights of 10 to 20 feet tall (3 to 7 m). Mangrove swamps often exist with no understory, although certain species of shrubs occur most commonly in openings and along swamp edges.

Mangrove swamp occurs in flat coastal areas along saline or brackish portions of rivers, the edges of low-energy estuaries, and the seaward fringes of salt marshes and rockland hammocks. Soils are generally anaerobic and are saturated with brackish water at all times, becoming inundated during high tides. Mangrove swamp occurs on a wide variety of soils, ranging from sands and mud to solid limestone rock. Soils in Central Florida coastline are primarily siliceous sands. In older mangrove swamps containing red mangroves, a layer of peat can build up from decaying plant material (mostly red and black mangrove roots), covering the soil.

Estuarine (~3.05 acres)

Estuarine is subtidal, intertidal, and supratidal zones of the sea. This community is landward to the point at which sea-water becomes significantly diluted with freshwater inflow from the land.

Mixed Hardwood (~1.68 acres)

Mixed hardwood can be classified within several natural community types such as successional hardwood forest, upland hardwood forest, mesic hammock, baygall, and others. Since there has not been any community mapping on the area, the natural communities are distinguished based on aerial data. A small portion within the area, near the southwest boundary, within the Estuarine and Mangrove swamps, looks to be made up of mixed hardwood, primarily mesic hammock. This type of area may occur as "islands" on high ground within basin or floodplain wetlands, as patches of oak/palm forest in dry prairie or flatwoods communities, on river levees, or in ecotones between wetlands and upland communities. Historically, mesic hammocks were likely restricted to naturally fire-protected areas such as islands and peninsulas of lakes.

Other landscape positions that can provide protection from the spread of fire from one or more directions are thus likely places for this type of community development. These include edges of lakes, sinkholes, other depressional or basin wetlands, and river floodplains. Soils of this type of community are sands mixed with organic matter and may

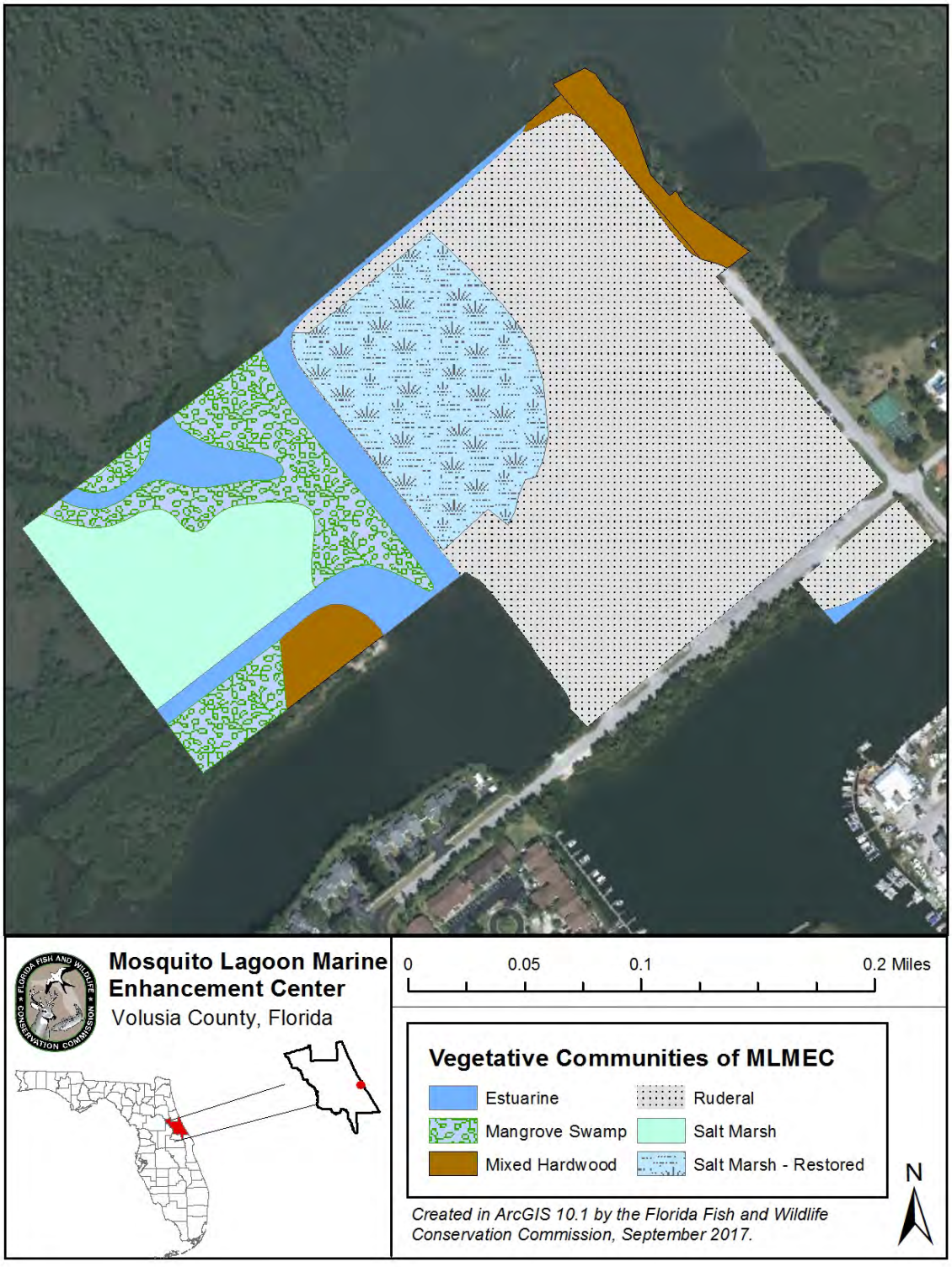

Figure 6. MLMEC Current Vegetative Communities

have a thick layer of leaf litter. Rock outcrops are common in some hammocks, especially where limestone is near the surface, and occupy soils that, although well-drained, maintain high moisture by heavy shading of the ground layer and accumulation of litter.

Altered Community Descriptions

Ruderal (~22.00 acres)

Ruderal can also be referred to as developed area. This can include check stations, ORV use areas, parking lots, buildings, maintained lawns (as part of recreational, business, or residential areas), botanical or ornamental gardens, campgrounds, recreational, industrial and residential areas.

2.2.2 Forest Resources

There are no substantial timber resource on the MLMEC. As a result, the FWC and the Florida Forest Service (FFS) have determined that a professional forest assessment for the MLMEC is unnecessary. The FWC will cooperate with the FFS or a qualified professional forestry consultant regarding any forest management activities should they become necessary or appropriate.

2.3 Fish and Wildlife Resources

As described above, the MLMEC has a variety of natural communities and habitat types that support nine imperiled or protected animal species, also known as listed species, which have been documented or may occur within the MLMEC (Table 12). The MLMEC has a diverse assortment of fish and wildlife species (Tables 6-10). The FWC also maintains a list of exotic fauna documented or expected to occur at the MLMEC (Table 5). The area's unique location near the Indian River Lagoon North and Atlantic Coast provides a diversity of habitat for resident and migratory birds (Table 6). The FWC maintains an inventory amphibians and reptiles (Table 7), mammals (Table 8), fish (Table 9), and invertebrates (Table 10). Table 11 contains an inventory of the exotic wildlife species that have been documented on or near the MLMEC. The area's mixture of marsh, mixed hardwood, swamp, and water resources provide a mosaic of habitat for wildlife.

Table 6. Native Bird Species that May Occur on the MLMEC

Common Name	Scientific Name
American cardinal	*Cardinalis cardinalis*
American robin	*Turdus migratorius*
American white ibis	*Eudocimus albus*
Belted kingfisher	*Megaceryle alcyon*
Black vulture	*Coragyps atratus*

Boat-tailed grackle	*Quiscalus major*
Brown pelican	*Pelecanus occidentalis*
Common yellowthroat warbler	*Geothlypis trichas*
Crow	*Corvus spp.*
Double-crested cormorant	*Phalacrocorax auritus*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Killdeer	*Charadrius vociferous*
Laughing gull	*Leucophaeus atricilla*
Least tern	*Sternula antillarum*
Lesser yellow legs	*Tringa flavipes*
Little blue heron	*Egretta caerulea*
Mockingbird	*Mimus polyglottos*
Mourning dove	*Zenaida macroura*
Osprey	*Pandion haliaetus*
Red wing blackbird	*Agelaius phoeniceus*
Sanderling	*Calidris alba*
Snowy egret	*Egretta thula*
Song sparrow	*Melospiza melodia*
Spotted Sandpiper	*Actitis macularia*
Tricolored heron	*Egretta tricolor*
Turkey vulture	*Cathartes aura*
Willet	*Tringa semipalmata*
Wilson's plover	*Charadrius wilsonia*

Table 7. Native Reptile and Amphibian Species that May Occur on the MLMEC

Common Name	Scientific Name
Atlantic saltmarsh snake	*Nerodia clarkii taeniata*
Common five-lined skink	*Plestiodon fasciatus*
Common house gecko	*Hemidactylus frenatus*
Cuban brown anole	*Anolis sagrei*
Eastern fence lizard	*Sceloporus undulatus*
Eastern Florida diamondback terrapin	*Malaclemys terrapin tequesta*
Gopher tortoise	*Gopherus polyphemus*
Green anole	*Anolis carolinensis*
Pygmy rattlesnake	*Sistrurus miliarius barbouri*
Eastern corn snake	*Pantherophis guttatus*
Six-lined race runner	*Aspidoscelis sexlineata*
Southern toad	*Anaxyrus terrestris*

Table 8. Native Mammal Species that May Occur on the MLMEC

Common Name	Scientific Name
Eastern grey squirrel	*Sciurus carolinensis*
Raccoon	*Procyon lotor*
West Indian manatee	*Trichechus manatus*

Table 9. Native Fish Species that May Occur on the MLMEC

Common Name	Scientific Name
Bay anchovy	*Anchoa mitchilli*
Bay whiff	*Citharichthys spilopterus*
Common snook	*Centropomus undecimalis*
Cuban anchovy	*Anchoa cubana*
Darter goby	*Ctenogobius boleosoma*
Emerald goby	*Ctenogobius smaragdus*
Flagfin mojarra	*Eucinostomus melanopterus*
Gray snapper	*Lutjanus griseus*
Great barracuda	*Sphyraena barracuda*
Gulf flounder	*Paralichthys albigutta*
Gulf pipefish	*Syngnathus scovelli*
Hogchoker	*Trinectes maculatus*
Horse eye jack	*Caranx latus*
Inshore lizardfish	*Synodus foetens*
Irish pompano	*Diapterus auratus*
Killifishes	*Fundulus spp.*
Lined sole	*Achirus lineatus*
Lyre goby	*Evorthodus lyricus*
Naked goby	*Gobiosoma bosc*
Pigfish	*Orthopristis chrysoptera*
Pinfish	*Lagodon rhomboides*
Planehead filefish	*Stephanolepis hispida*
Redfin needlefish	*Strongylura notata*
Scaled sardine	*Harengula jaguana*
Sheepshead minnow	*Cyprinodon variegatus*
Silver jenny	*Eucinostomus gula*
Silver perch	*Bairdiella chrysoura*
Silversides	*Menidia spp.*
Slender mojarra	*Eucinostomus jonesi*
Smalltooth sawfish	*Pristis pectinate*

Spot	*Leiostomus xanthurus*
Spotted seatrout	*Cynoscion nebulosus*
Striped mojarra	*Eugerres plumieri*
Striped mullet	*Mugil cephalus*
Tidewater mojarra	*Eucinostomus harengulus*
White mullet	*Mugil curema*
Yellowfin mojarra	*Gerres cinereus*

Table 10. Invertebrates that May Occur on the MLMEC

Common Name	Scientific Name
Atlantic mud crab	*Panopeus herbstii*
Atlantic sand fiddler crab	*Uca pugnax*
Blue crab	Callinectes sapidus
Caridean shimps	*Palaemonetes spp.*
Comb jellies	*Mnemiopsis spp.*
Crown conch	*Melongena corona*
Eastern oyster	Crassostrea virginica
Fiddler crab	*Uca thayeri*
Mangrove tree crab	*Aratus pisonii*
Mud fiddler crab	*Uca rapax*
Periwinkles	*Littorina spp.*
Ribbed mussel	*Geukensia demissa*
Sand fiddler crab	*Uca pugilator*
Shrimp	*Dendrobranchiata*
Stone crab	*Menippe mercenaria*
Thinstripe hermit crab	*Clibanarius vittatus*

Table 11. Exotic Animal Species that May Occur on the MLMEC

Common Name	Scientific Name
Cuban tree frog	Osteopilus septentrionalis

2.3.1 Integrated Wildlife Habitat Ranking System

The FWC has developed the Integrated Wildlife Habitat Ranking System (IWHRS) as a Geographic Information Systems (GIS)-based assessment tool that incorporates a wide variety of land cover and wildlife species data. The IWHRS evaluates the Florida landscape based upon the habitat needs of wildlife as a way to identify ecologically significant lands in the state, and to assess the potential impacts of management and land-use changes. The IWHRS was developed to provide technical assistance to various local, regional, state, and federal agencies, and entities interested in wildlife needs and conservation in order to: (1)

determine ways to avoid or minimize project impacts by evaluating alternative placements, alignments, and transportation corridors during early planning stages, (2) assess direct, secondary, and cumulative impacts to habitat and wildlife resources, and (3) identify appropriate parcels for public land acquisition for wetland and upland habitat mitigation purposes. The IWHRS (2009) indicates that the MLMEC has a mean wildlife value of 2.7. (Figure 7).

2.3.2 Imperiled Species

For the purposes of this Management Plan, the term "Imperiled Species" refers to plant and animal species that are designated as Endangered, Threatened, or Species of Special Concern by the FWC, or that are designated as Endangered or Threatened by the U.S. Fish and Wildlife Service. This designation is also commonly known as "listed species." Table 12 lists the imperiled wildlife species that have been documented as occurring on or in the vicinity of the MLMEC. Figure 8 displays FWC wildlife observations and FNAI element occurrences that have been documented within the MLMEC. Nine imperiled animal species have been documented or expected to occur at the MLMEC.

Table 12. Imperiled Species Documented or Possibly Occurring at the MLMEC

Common Name	Scientific Name	Status
Atlantic saltmarsh snake	*Nerodia clarkii taeniata*	FT
Gopher tortoise	*Gopherus polyphemus*	ST
Least tern	*Sternula antillarum*	ST
Little blue heron	*Egretta caerulea*	ST
Piping Plover	*Charadrius melodus*	FT
Reddish egret	*Egretta rufescens*	ST
Smalltooth sawfish	*Pristis pectinate*	FE
Tricolored heron	*Egretta tricolor*	ST
West Indian manatee	*Trichechus manatus*	FT

Abbreviation	Status
FE	Federal Endangered
FT	Federal Threatened
FT(S/A)	Federally Threatened due to similarity of appearance
SSC	State Species of Special Concern
ST	State Threatened
NL	Not Listed

All abbreviations and status determinations are derived from *Florida's Endangered and Threatened Species* published by the FWC in January 2017. The FWC maintains the state list of wildlife designated as federally-designated endangered or threatened, state-

designated threatened, or state-designated species of special concern, in accordance with Rules 68A-27.003 and 68A-27.005, respectively, of the Florida Administrative Code https://www.flrules.org/.

At its November 2016 Commission Meeting, the FWC approved its Imperiled Species Management Plan, which includes changes to the listing status for many species. The rule changes included in the Imperiled Species Management Plan came into effect in January 2017. The list of wildlife presented here reflects those changes to the rules. All federally listed species that occur in Florida are included on Florida's list as federally-designated endangered or federally-designated threatened species. Additionally, species that are not federally listed but which have been identified by the state as being at risk of extinction are listed as state-designated threatened. Finally, the FWC maintains a separate species of special concern category. This category was reviewed as part of the January 2017 rule changes and the majority of the species contained within the category were either removed from the imperiled species list due to conservation success or had their status changed to state threatened. However, six species remain listed as species of special concern. More detailed descriptions and management prescriptions are available on the FWC website: http://www.myfwc.com/wildlifehabitats/profiles/.

2.3.3 FWC Wildlife Observations and FNAI Element Occurrences

There are several element occurrences that have been document by FNAI. These include the Black-crowned night-heron, Reddish egret, Tricolored heron, Snowy egret, Piping plover, White ibis, Little blue heron, Bald eagle, and a bird rookery. Known locations of FWC wildlife occurrences and FNAI element occurrences from the most recent GIS databases of the respective agencies are displayed in Figure 8. Appendix 11.4 contains a letter from the FNAI authorizing the FWC to utilize their database for the purpose of displaying known plant and animal resources.

A diversity of wildlife species is found on the MLMEC. The FNAI element occurrence records include imperiled animal species. As defined by FNAI, an "element" is any exemplary or rare component of the natural environment, such as a species, natural community, bird colony, spring, sinkhole, cave, or other ecological feature. An element occurrence is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element. FNAI assigns a rank to each "element" occurrence. This ranking system was developed by The Nature Conservancy and the Natural Heritage Program Network based on the element's global rank (element's worldwide status) or state rank (status of element in Florida). The FNAI ranking system and definitions are located on the following website: www.fnai.org/ranks.cfm.

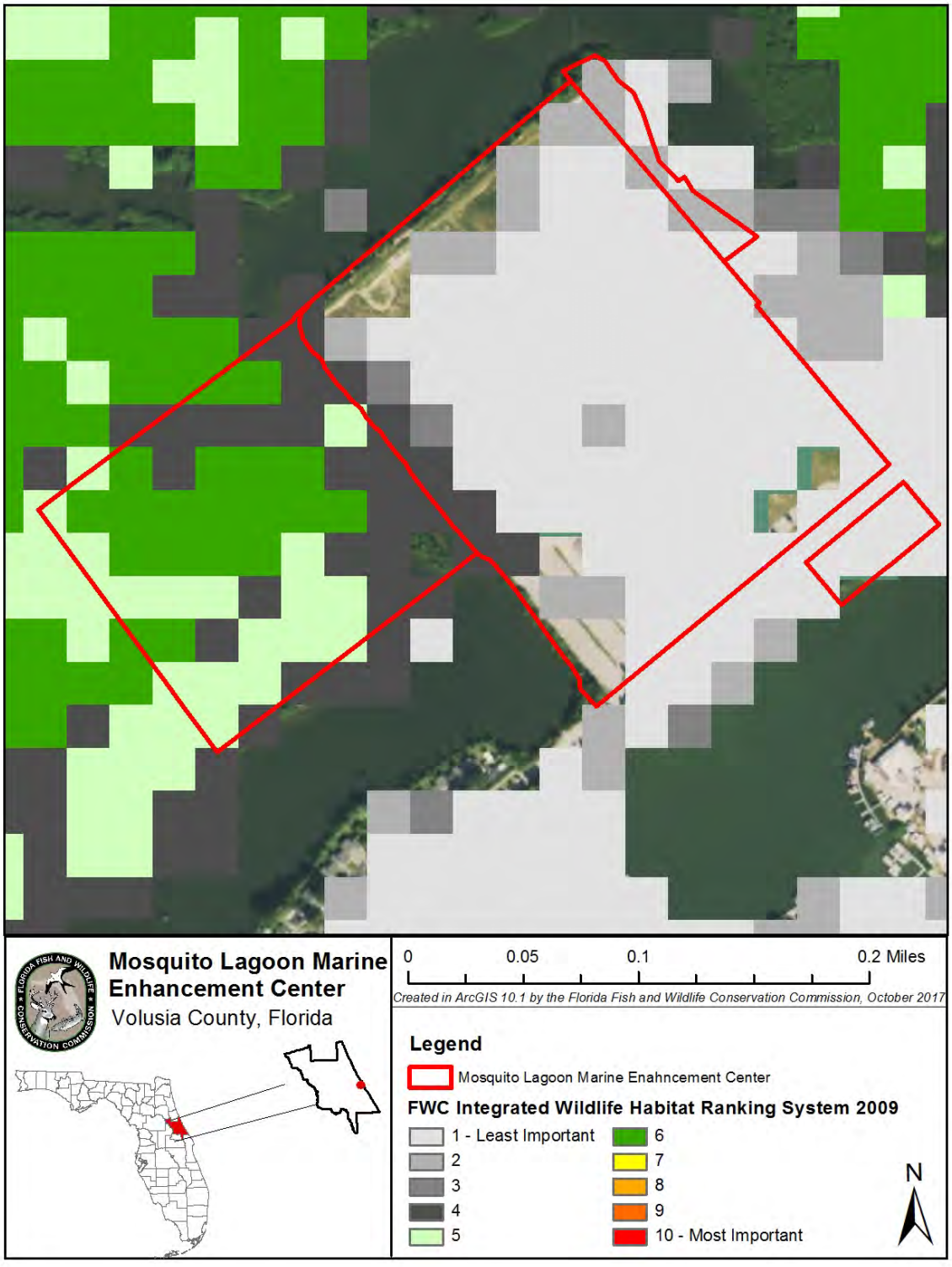

Figure 7. MLMEC Integrated Wildlife Habitat Ranking

Figure 8. MLMEC – FNAI Element Occurrences and FWC Wildlife Observations

2.4 Native Landscapes

The predominant native landscapes occurring on the MLMEC are salt marsh, mixed hardwood, estuarine, and mangrove swamp. The remaining primary portion of the area is a ruderal/developed area. As described in detail above, complete descriptions of the natural communities found on the MLMEC can be found in Section 2.2 of this Management Plan.

2.5 Water Resources

All surface waters of the State are classified by the DEP according to designated uses as described in Chapter 62-302.44 FAC. The MLMEC contains no natural bodies of freshwater, however the area is located on the Atlantic coast and is surrounded by water on three sides, which would be considered waters of the State. The MLMEC does not contain a first magnitude spring, nor any type of lake, nor is it designated as an aquatic preserve and is not under consideration for such designation. The MLMEC is located about 4 miles north of the Mosquito Lagoon Aquatic Preserve, and shares the Indian River Lagoon North waterway. The southeast boundary of the MLMEC runs along Canal Brandano which drains into the Indian River Lagoon North, and the northeastern boundary of the area includes Smyrna Creek. All waters within the MLMEC are considered Class III water by DEP, and there are no portions of the MLMEC that are designated as Outstanding Florida Waters (OFW).

2.6 Beaches and Dunes

There are no significant beach or dune resources on the MLMEC.

2.7 Mineral Resources

There are no known commercial mineral deposits on the MLMEC.

2.8 Archaeological and Historical Resources

The DHR Master Site File indicates that there are no recorded archaeological sites within the boundaries of the MLMEC. Upon acquisition of the property, the DHR determined that no historical sites were located on the property.

As a part of the objectives of this management plan, the FWC will ensure that management staff receive Archaeological Resource Management (ARM) training.

2.9 Scenic Resources

As referenced in FNAI Natural Communities section 2.2, the MLMEC has a few scenic natural communities such as mixed hardwood, salt marsh, and mangrove swamp. The MLMEC is also located near the Mosquito Lagoon Aquatic Preserve, and Smyrna Creek. Recreational users can enjoy paddling and kayaking on the area's surrounding waters.

However, as noted above, this area is primarily an education and research center. So, activities on this area are primarily educational uses.

3 Uses of the Property

3.1 Previous Use and Development

Prior to European settlement, the landscape of Florida, was settled and used by a variety of aboriginal peoples whose culture relied mainly on hunting, fishing and subsistence agriculture. According to the DHR, aboriginal people began to inhabit the land in Florida approximately 12,000 years ago. The DHR indicates that between 6,000 and 4,000 years ago, aboriginal people began to inhabit the land between the Tolomato River and the Atlantic Ocean.

These early inhabitants hunted deer and other animals, fished and collected shellfish and deposited shells in middens. Though some land alteration occurred, only minor alteration of the landscape is thought to have taken place until the advent of European settlement beginning with the Spanish occupation of Florida in the sixteenth century. Along with more advanced agricultural practices, the Spanish and other settlers brought livestock, primarily cattle and hogs, to Florida. This began an era of broad use of the landscape for agriculture.

Rangeland cattle grazing and other agricultural practices began to be utilized in a more systematic way and occurred through much of central Florida throughout most of the European settlement era from the 16th through the 20th century. Use of these agricultural practices began an era of increased alteration of the natural landscape. However, it wasn't until the 19th and 20th century that major settlement and more extensive alteration of the landscape in the area began with the widespread use of agriculture and associated development. However, as stated previously, before the MLMEC was donated to the State in 2008, the area was the location of the New Smyrna Beach High School.

3.2 Current Use of the Property

Currently, the MLMEC is managed for education, research, and recreational purposes. This area is open to public for fishing, environmental education, hiking, and other recreational activities. A range of operational and resource management actions are also conducted on the MLMEC property each year including activities such as habitat restoration and improvement; invasive exotic species maintenance and control; imperiled species management, monitoring and protection; conservation acquisition and stewardship activities; and research related activities.

3.2.1 Visitation and Economic Benefits

Visitation and public use of the area for fish- and wildlife-based public outdoor recreational, research and environmental educational opportunities is the primary source of economic benefits from the MLMEC, and contributes to the overall economy for the north central region of Florida. While the Florida legislature appropriates funds for land management, further economic potential of the MLMEC will depend upon future uses described in this Management Plan. Additional economic growth from educational and research based environmental lands such as the MLMEC may include sales of recreational user fees and ecotourism activities, if such projects could be feasibly developed. Additionally, the long-term values of ecosystem services to local and regional land and water resources, and to human health, through the protection of air and water quality are expected to be significant.

3.3 Single- or Multiple-use Management

The MLMEC will be managed under the multiple-use concept as an educational and research facility. Consistent with the original conditions of the donation deed outlined above, the MLMEC will continue to provide educational opportunities that are consistent with the deed restrictions and lease agreement, while protecting the natural and cultural resources found on the area. Any natural and cultural resources of the MLMEC will be managed under the guidance of the ARC, the Board of Trustees, the Conceptual State Lands Management Plan, and as outlined in the original purposes for acquisition.

3.3.1 Analysis of Multiple-use Potential

The following actions or activities have been considered under the multiple-use concept as possible uses to be allowed on the MLMEC. 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 11.5). Uses classified as "Conditional" indicate that the use may be acceptable but will be allowed only if approved through a process other than the management plan development and approval process (e.g., special-use permitting, managed-area regulation and rule development). Uses classified as “Rejected” are not considered to be in accordance with the original purpose of acquisition or one or more of the various forms of guidance available for planning and management:

	Approved	Conditional	Rejected
Apiaries			✓
Astronomy		✓	
Bicycling	✓		
Cattle grazing			✓

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

3.3.2 Incompatible Uses and Linear Facilities

Consideration of incompatible uses and linear facilities on the MLMEC 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 MLMEC.

3.3.3 Assessment of Impact of Planned Uses of the Property

To communicate the FWC's planned uses and activities, specific management intentions, long- and short-term goals and with associated objectives, identified challenges, and solution strategies have been developed for the MLMEC (Sections 4 -6). A detailed assessment of the benefits and potential impacts of planned uses and activities on natural and historical resources was an integral part of the development of the management

activities and intent, goals, objectives, challenges, and strategies sections of this Management Plan.

3.4 Acreage Recommended for Potential Surplus Review

On conservation lands where the FWC is the lead manager, the FWC evaluates and identifies recommended areas for a potential surplus designation by the DSL, the 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 the MLMEC by the FWC has determined that all portions of the property 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 to provide environmental education and recreational opportunities. Therefore, no portion of the MLMEC is recommended for potential surplus review.

4 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's and the MDC's management intent for the MLMEC is to restore and maintain natural communities in a condition that sustains ecological processes and conserves biological diversity, especially fish and wildlife resources, and to provide environmental education, recreation and research opportunities. The FWC and the MDC will utilize the best available data, guidelines, and natural resource 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.

4.1 Land Management Review

Pursuant to Chapter 259.036, FS, the DEP-DSL is required to "cause periodic management reviews to be conducted" on Board of Trustees conservation lands to determine if they "are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032." However, title to the MLMEC is less than 160 acres and, therefore, no land management review (LMR) is expected to be completed for the area. As a result, no LMR has been conducted for the MLMEC.

4.2 Adaptive Management

Adaptive management is "learning by doing";[1] it is the adjustment or modification of conservation actions to achieve a desired conservation goal. In practice, adaptive management is a rigorous process that includes sound planning and experimental design with a systematic evaluation process that links monitoring to management.[1, 2] Adaptive management requires flexibility for implementation, but should be fitted over a fundamentally sound, well-planned design.

An adaptive management process produces the strongest inference and most reliable results when experimental design components are incorporated into the monitoring process. Adaptive management is most rigorously applied in an active format when components of experimental design (i.e., controls, replication, and randomization) are included in the monitoring process.[2, 3] Incorporating valid statistical analyses of results will further enhance the value of the adaptive management process. However, in some situations, rigorous experimental design procedures can be relaxed without invalidating monitoring results. In a passive format, adaptive management can involve applying a conservation action at a site, observing the results and adjusting the action in the future if warranted.[2, 3]

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

4.2.1 Monitoring

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

FWC staff monitor natural communities and additional fish and wildlife species when deemed appropriate. Exotic and invasive plant and animal species (Section 4.5) are also monitored as needed and appropriate. Recreational uses are monitored by the sub lessee, the MDC. Historical resources (Section 4.9) are monitored with guidance from the Florida Department of State's Division of Historical Resources (DHR).

4.2.2 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.

4.2.3 Implementation

The MLMEC Management Plan serves as the guiding framework to implement this adaptive management process. It serves as the underpinning for the integration of management programs underway to accomplish needed conservation actions that are planned to manage the natural resources of the MLMEC, 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.

4.3 Habitat Restoration and Improvement

On the MLMEC, the FWC and the MDC will focus on managing for native habitat diversity, emphasizing maintenance of high-quality natural communities, and restoration of any disturbed areas, as needed and appropriate. Restoration may be achieved on disturbed areas by the use of mechanical or chemical management techniques, as appropriate. Retention of the native components, while also providing for natural regeneration, remains an important consideration. The MLMEC has high-quality native communities including salt marsh, estuarine, mangrove swamp, and mixed hardwood that FWC and the MDC will continue to manage and protect.

The FNAI and the FWC have completed mapping of the current vegetative communities using existing resources and aerial imagery on the MLMEC. This information will be used to guide and prioritize management and restoration efforts on the area.

4.3.1 Prescribed Fire and Fire Management

Currently there are no fire adapted communities on the MLMEC, and due to the nature of the area the FWC and the MDC works to utilize other habitat restoration management tools as needed and feasible.

4.3.2 Habitat Restoration

Due to previous restoration that has occurred on the MLMEC, and the current uses of the area, there is currently no habitat restoration activities occurring expect for fringing perimeter habitats where appropriate.

Significant habitat management activities have taken place within the MLMEC since the Board of Trustees acquired the area. The property was predominantly fill material except for the submerged lands and saltmarsh on the western portion. Following the removal of all but one structure associated with the former high school, approximately 5 acres of the northwest corner of the property were restored to saltmarsh. Over 25,000 native plants were installed as part of this restoration process. The project also involved the excavation of approximately 50,000 cubic yards of fill material which were placed on the site in the form of an overlook mountain, a future building pad, and amphitheater. The stored fill currently on site could be used for future site improvements.

The western saltmarsh also contains a 2-acre spoil section, known as Discovery Island, which contains mostly native hammock species (Figure 9). It was therefore chosen to serve as a habitat enhancement area to remove exotic species, and to foster native hammock species and shoreline wetland plants, some of which have been planted on site. The eastern perimeter has also benefitted from management activities such as exotic removal and planting of native species in order to enhance habitat.

The periodic exotic treatments that are implemented on the MLMEC, are further described in Section 4.5.

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

In managing for wildlife species, an emphasis will be placed on conservation, protection and management of natural communities. As noted above, natural communities important to wildlife include mangrove swamp, salt marsh, estuarine, and mixed hardwood.

Wildlife management emphasis is placed on documenting the occurrence and abundance of rare and imperiled species on the property. The FWC will continue to update inventories for certain species, with emphasis on rare and imperiled fish and wildlife species. Monitoring of wildlife species will continue as an ongoing effort for the area. Concurrent with ongoing species inventory and monitoring activities, management practices are designed to restore, enhance or maintain rare and imperiled species, and their habitats. This will be further augmented by following approved Federal and FWC species recovery plans, guidelines, and other scientific recommendations for these species. Guided by these recommendations, land management activities will address rare and imperiled species requirements and habitat needs.

4.5 Exotic and Invasive Species Maintenance and Control

The MDC (in partnership with the FWC) will continue efforts to control the establishment and spread of Florida Exotic Pest Plant Council (FLEPPC) Category I or II plants on the MLMEC. 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 MLMEC and treated annually by the MDC and the FWC include Brazilian pepper. In the past, Brazilian pepper was removed along the entire site perimeter by IPM contracting. The MDC, FWC staff, and volunteers have also conducted numerous removal days. The MDC and 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 ongoing monitoring.

An exotic animal species that also commonly occurs on the MLMEC is the Cuban treefrog. Capturing is currently a technique used on the area to control the population of the Cuban treefrog. However, if necessary, the FWC and the MDC will consult with other regional natural resources managing agencies and private landowners to coordinate Cuban treefrog control measures.

Additionally, the FWC and the MDC will continue efforts to control the introduction of exotic and invasive species, as well as pests and pathogens, on the MLMEC 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, the FWC and the MDC implements a proactive approach to controlling the introduction of exotic pests and pathogens to the area.

4.6 Public Access and Recreational Opportunities

The MLMEC will be managed under a low intensity, multiple-use concept that includes providing opportunities for fish- and wildlife-based public outdoor recreation and education. The recreational activities offered on the MLMEC include hiking, fishing, paddle sports, archery, wildlife viewing, exercising and nature play. The educational activities offered on the MLMEC include walking trails and paddle tours, special events, public lectures, school

field trips, day camps, workshops, professional development, citizen science and other community programming.

Authorized recreational and educational uses are managed consistent with the purposes for acquiring the MLMEC, including promoting habitat conditions critical to meeting the life history requirements of the gopher tortoise, smalltooth sawfish, Atlantic salt marsh snake, West Indian manatee and ensuring the conservation and ecological integrity of the area while managing for low intensity, multiple-uses, thus providing fish and wildlife based public outdoor recreational opportunities for Florida's citizens and visitors.

4.6.1 Americans with Disabilities Act

When public facilities are developed on areas managed by the FWC, every effort is made to comply with the Americans with Disabilities Act (ADA - Public Law 101-336). As new facilities are developed, the universal access requirements of this law are followed in all cases except where the law allows reasonable exceptions. Recreation facilities in semi-primitive or primitive zones will be planned to be universally accessible to the degree possible except as allowed by the ADA[4] where:

1. Compliance will cause harm to historical resources, or significant natural features and their characteristics.

2. Compliance will substantially alter the nature of the setting and therefore the purpose of the facility.

3. Compliance would not be feasible due to terrain or prevailing construction practices.

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

4.7 Hydrological Preservation and Restoration

Hydrological preservation and restoration is an important aspect of the ongoing management of the MLMEC. In 2014, the 5-acre saltmarsh restoration project was completed. The project involved the connection of newly-excavated habitat to the adjacent waterway to facilitate tidal inundation. The project footprint is stable with native plant species thriving and requires no further hydrologic changes. However, the FWC and the MDC will continue to work with the SJRWMD and DEP on monitoring groundwater resources and water quality.

4.8 Forest Resource Management

There are no substantial timber resource on the MLMEC. As a result, the FWC and the FFS have determined that a professional forest assessment for the MLMEC is unnecessary.

The FWC will cooperate with the FFS or a qualified professional forestry consultant regarding any forest management activities should they become necessary or appropriate.

4.9 Historical Resources

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

To date, the DHR Master Site File indicates zero known historic sites on the MLMEC.

4.10 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. The MLMEC was acquired for the purpose of providing research, educational, and recreational opportunities to the public. Currently, there is one facility on the area known as the MDC building, however the development of several other facilities is to occur during this planning period, and are further outlined in Section 5.8.

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

4.11 Land Conservation and Stewardship Partnerships

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

4.11.1 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.

4.11.2 Optimal Conservation Planning Boundary

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

The OCPB provides the basis for development of a broader CAS for the MLMEC. 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. Currently, the areas surrounding the MLMEC are highly developed. Very few land areas within the vicinity of the MLMEC qualify to be included in the development of an OCPB, so an OCPB cannot be feasibly developed at this time. However, the FWC and the MDC will continue to assess and identify lands in the area to be included.

4.11.3 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 the 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 the FWC's LAP program and online habitat management tools are available online at: http://myfwc.com/conservation/special-initiatives/lap/ .

4.12 Research Opportunities

The FWC intends to cooperate with researchers, universities, and others as feasible and appropriate. Currently, the FWC and the MDC work with the University of Central Florida (UCF) to conduct ongoing monitoring of the site perimeter and restored saltmarsh. MLMEC also works with Stetson University to conduct research on soils within the saltmarsh. The MLMEC currently also authorizes students from the UCF, Stetson, and Daytona State College to conduct research evaluating field and restoration techniques. The FWC and the MDC will continue to assess and identify research needs, and pursue research and environmental education partnership opportunities as appropriate. Research proposals involving the use of the area are evaluated on an individual basis. All research activities on the MLMEC must have prior approval by the FWC.

4.13 Cooperative Management and Special Uses

The FWC is responsible for the overall management and operation of the MLMEC as set forth in the lease agreements with the Board of Trustees. As mentioned above, there is also

a sublease agreement with the MDC giving them management and operation responsibilities. The FWC and the MDC are also in the process of updated a sub-sublease agreement with the Artists' Workshop that allows occupation of a portion of the MDC building for educational purposes. In keeping with the lease agreements, and in order to conduct its management operations in the most effective and efficient manner, the FWC and the MDC may cooperate with other agencies to achieve management goals and objectives described in this management plan. These include cooperating with the DHR to ensure the requirements of the Management Procedures Guidelines – Management of Archaeological and Historical Resources document (Appendix 11.7) are followed with regard to any ground-disturbing activities, and working to cooperate with Volusia County on trail connectivity. In addition, the Artists' Workshop assists the FWC and Marine Discovery Center by providing assistance on various operational activities. Also, the FWC and the MDC cooperates and consults with the SJRWMD and DEP for the monitoring and management of both ground and surface water resources and the overall management of the MLMEC.

4.13.1 First Responder and Military Training

Given the area's characteristics, first responder (public governmental police department or agency, fire and emergency medical service personnel) training and military training are conditionally allowed on the MLMEC. Such activities are considered allowable uses only when done in a manner that does not impede the management and public use of the MLMEC, and causes no measurable long-term impact to the natural resources of the area. Additionally, FWC staff must be notified and approve the training prior to any such training taking place on the MLMEC.

4.13.2 Apiaries

Currently, there are no apiaries operating on the MLMEC. Due to the recreational uses that occur on the MLMEC, apiaries are presently not allowed on the area.

4.14 Climate Change

Because of Florida's unique ecology and topography, any potential impacts as a result of predicted climate change may be particularly acute and affect multiple economic, agricultural, environmental, and health sectors across the state. The impact of potential 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]

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

For these reasons, there is a continuing need for increased information and research to enable adaptive management to cope with potential long-term climate change impacts. The most immediate actions that the FWC can take are to work with partners to gather the best

scientific data possible for understanding natural processes in their current state, model possible impacts and subsequent changes from climate change, develop adaptive management strategies to enhance the resiliency of natural communities to adapt to climate change, and formulate criteria and monitoring for potential impacts when direct intervention may be necessary to protect a species. To this end, when appropriate, the FWC will participate in organizations such as the Peninsular Florida Land Conservation Cooperative or similar organizations so that the FWC continues to gain understanding and share knowledge of key issues related to potential climate change. In addition, the FWC will consider the need for conducting vulnerability assessments to model the potential effects of climate change, especially sea level rise and storm events, on imperiled species and their habitats on FWC-managed land.

To address the potential impacts of climate change on the MLMEC, Goals and Objectives have been developed as a component of this Management Plan (Section 5.12). 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 MLMEC Management Plan in the future.

4.15 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.

5 Resource Management Goals and Objectives

The management goals described in this section are considered broad, enduring statements designed to guide the general direction of management actions to be conducted in order to achieve an overall desired future outcome for the MLMEC. 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 2018-2020 (less than two years) or long-term 2018-2028 (up to ten years) timelines for completion.

5.1 Habitat Restoration and Improvement

Goal: Improve extant habitat and restore disturbed areas.

Short-term

5.1.1 Contract for mapping of historic and current natural communities.

5.1.2 Conduct habitat/natural community restoration activities, including living shoreline on approximately 1 acre.

5.1.3 Continue to monitor existing habitat.

5.1.4 Conduct habitat enhancement on approximately 2.5 acres of upland habitat, including planting native hardwood and wildflower species.

Long-term

5.1.5 Continue to monitor existing habitat.

5.1.6 Conduct habitat/natural community improvement on approximately 1.5 acres, including habitat restoration on the western and northern shoreline.

5.1.7 Continue to conduct habitat enhancement on approximately 2.5 acres of upland habitat, including planting native hardwood and wildflower species.

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

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

Short-term

5.2.1 Continue to monitor wading bird and other imperiled and focal species. (Atlantic saltmarsh snake, Gopher tortoise, Least tern, Little blue heron, Piping Plover, Reddish egret, Tricolored heron, West Indian manatee)

5.2.2 Continue to collect opportunistic wildlife species occurrence data. (Atlantic saltmarsh snake, Gopher tortoise, Least tern, Little blue heron, Piping Plover, Reddish egret, Tricolored heron, West Indian manatee)

5.2.3 Continue to monitor gopher tortoises and gopher tortoise burrows on the area.

Long-term

5.2.4 Continue to monitor wading birds and other imperiled and focal species.

5.2.5 Continue to collect and record opportunistic wildlife species occurrence data.

5.2.6 If determined to be necessary, implement management actions to benefit imperiled species on the area, in cooperation with partners within other agencies.

5.2.7 Continue to monitor gopher tortoises and gopher tortoise burrows on the area.

5.3 Other Wildlife (Game and Nongame) habitat maintenance, enhancement, restoration, or population restoration.

Short-term

5.3.1 Continue to collect opportunistic wildlife occurrence data.

5.3.2 Continue to biannually monitor vegetation, fish, and birds.

5.3.3 Continue to monitor kill deer nests.

5.3.4 Continue to monitor and maintain Osprey nest platform.

Long-term

5.3.5 Continue to collect opportunistic wildlife occurrence data.

5.3.6 Continue to biannually monitor vegetation, fish, and birds.

5.3.7 Continue to monitor kill deer nests.

5.3.8 Continue to monitor and maintain Osprey nest platform.

5.4 Exotic and Invasive Species Maintenance and Control

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

Short-term

5.4.1 Annually treat approximately 3 acres of EPPC Category I and Category II invasive exotic plant species (Brazilian Pepper)

5.4.2 Continue to monitor for exotic and nuisance animal species, including the Cuban treefrog, and implement control measures as necessary and appropriate.

Long-term

5.4.3 Continue to annually treat approximately 3 acres of EPPC Category I and Category II invasive exotic plant species. (Brazilian Pepper)

5.4.4 Continue to monitor for exotic and nuisance animal species, including the Cuban treefrog, and implement control measures as necessary and appropriate.

5.5 Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities.

Short-term

5.5.1 Maintain public access and recreational opportunities to allow for a visitation level of approximately 85 visitors per day.

5.5.2 Continue to provide website, three kiosks, trail brochure, species ID list, and education programs for interpretation and education.

5.5.3 Maintain/design/develop approximately 1 miles of designated trails.

5.5.4 Improve approximately 1 mile of existing trails to include ADA accessibility, interpretive signage, fitness stations, and landscaping.

5.5.5 Develop 5 new interpretive/education programs, including expanding STEAM (science, technology, engineering, arts, and mathematics) programming, electronic App development and preschool programs.

5.5.6 Continue to provide paddling opportunities on appropriate water bodies.

5.5.7 Continue to provide fishing opportunities on appropriate water bodies.

5.5.8 Evaluate the feasibility of offering overnight camping opportunities on Discovery Island.

5.5.9 Coordinate with Florida DEP to feature the site as a rest stop and/or point-of-interest on the Florida Circumnavigational Paddling Trail.

5.5.10 Cooperate with other agencies, Volusia County, City of New Smyrna Beach, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking and multi-use trail systems between adjacent public areas.

5.5.11 Continue to cooperate with the Artists' Workshop and identify partnerships that could provide for environmental educational programs and outreach.

5.5.12 Monitor trail annually for visitor impacts.

Long-term

5.5.13 Maintain and develop additional public access and recreational opportunities to allow for a visitation level of approximately 150 visitors/day.

5.5.14 Continue to maintain, enhance, and improve as necessary app. 1 miles of designated trails.

5.5.15 Continue to provide website, three kiosks, trail brochure, ID list, trail app, and youth education programs for interpretation and education.

5.5.16 Continue to monitor trails annually for visitor impacts.

5.5.17 Reassess recreational opportunities every three years.

5.5.18 Continue to provide paddling opportunities on appropriate water bodies.

5.5.19 Coordinate with Florida DEP to feature the site as a rest stop and/or point-of-interest on the Florida Circumnavigational Paddling Trail.

5.5.20 Continue to provide fishing opportunities on appropriate water bodies.

5.5.21 Continue to cooperate with other agencies, Volusia County, City of New Smyrna Beach, stakeholders, and regional landowners to investigate regional recreational opportunities including linking hiking, and multi-use trail systems between adjacent public areas.

5.5.22 Continue to cooperate with the Artists' Workshop and identify partnerships that could provide for environmental educational programs and outreach.

5.6 Hydrological Preservation and Restoration

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

Short-term

5.6.1 Continue to cooperate with the SJRWMD for the monitoring of surface and ground water quality and quantity.

5.6.2 In partnership with the SJRWMD, continue to monitor marsh elevation and the effects of sea level rise.

Long-term

5.6.3 Continue to cooperate with the SJRWMD for the monitoring of surface and ground water quality and quantity.

5.6.4 In partnership with the SJRWMD, continue to monitor marsh elevation and the effects of sea level rise.

5.7 Historical Resources

Goal: Protect, preserve and maintain historical resources.

Long-term

5.7.1 Coordinate with the DHR for cultural resource management guideline ARM staff training.

5.8 Capital Facilities and Infrastructure

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

Short-term

5.8.1 Continue to maintain/improve/repair one facility: MDC building.

5.8.2 Construct, improve, or repair four facilities, including constructing 1 amphitheater, 1 sand volleyball court, 1 kayak storage facility, and approximately 1 mile of trails existing on site (as applicable).

5.8.3 Explore the construction of salt marsh grasses, seagrasses, and/or shellfish nursery.

5.8.4 Maintain less than 500 feet of roads.

5.8.5 Maintain 5 parking areas.

5.8.6 Develop and construct fencing and mounding along the perimeter of the area.

Long-term

5.8.7 Construct new facility for FWC staff use, to include building containing labs, offices, equipment storage space, a maintenance building, covered parking area, and secure perimeter fence.

5.8.8 Construct multipurpose classroom facility.

5.8.9 Explore the feasibility of expanding existing MDC building and/or construct additional buildings for possible public education and interpretation.

5.8.10 Construct salt marsh grasses, sea grasses, and/ or shellfish nursery, as deemed appropriate.

5.8.11 Explore the feasibility of constructing fishing piers, including along the northern boundary.

5.8.12 Explore the feasibility of constructing a boat dock for MDC/FWC vessels.

5.8.13 Explore the feasibility of parking area expansion on eastern boundary.

5.8.14 Monitor trails and infrastructure biannually for visitor impacts.

5.8.15 Continue to maintain, improve, or repair five existing facilities, including MDC building, 1 sand volleyball court, amphitheater, kayak storage facility, and approximately 1 miles of trails existing on site (as applicable), and any additional facilities as necessary.

5.8.16 Continue to maintain less than 500 feet of roads.

5.9 Land Conservation and Stewardship Partnerships

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

Short-term

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

5.9.2 Identify and develop conservation stewardship partnerships.

5.9.3 Identify and pursue conservation acquisition needs.

5.9.4 Develop a CAS.

5.9.5 Contact and inform adjoining landowners about the FWC Landowners Assistance Program to pursue non-acquisition conservation stewardship, partnerships, and potential conservation easements.

5.9.6 Determine if any parcels should be added to the FWC acquisition list.

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

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

5.9.9 Identify potential conservation easements donations.

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

Long-term

5.9.11 Continue to identify and develop conservation stewardship partnerships.

5.9.12 Continue to identify and pursue conservation acquisition needs.

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

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

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

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

5.9.17 Continue to identify potential conservation easements donations.

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

5.10 Cooperative Management and Special Uses

Short-term

5.10.1 Continue to cooperate with the Artists' Workshop on educational programming, events, and site use.

5.10.2 Explore the feasibility of cooperating with Volusia County in the placing of a trail head on the area and linking regional trail system.

Long Term

5.10.3 Continue to cooperate with the Artists' Workshop on educational programming, events, site use, and construction of additional facilities.

5.10.4 If constructed, continue to cooperate with Volusia County for maintenance of trail head on the area and linking regional trail system.

5.10.5 Continue to cooperate with the Museum of East Coast Surfing to explore the feasibility of constructing a facility on the area.

5.11 Climate Change

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

Long-term

5.11.1 Coordinate with the FWC-FWRI Climate Change Adaptation Initiative to identify potential impacts of projected climate change on fish and wildlife resources and operational management of the MLMEC.

5.11.2 Continue to cooperate with the SJRWMD to monitor the effects of climate change on the area.

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

5.12 Research Opportunities

Goal: Explore and pursue cooperative research opportunities.

Short Term

5.12.1 Continue to pursue ongoing cooperative research with the UCF, Stetson University, Daytona State College and the SJRWMD, regarding habitat restoration, climate change, and/or species monitoring.

5.12.2 Explore and pursue cooperative research and education opportunities through universities, the Volusia County school system, other local/state/federal government and not-for-profit organizations.

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

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

Long-term

5.12.5 Continue to explore and pursue cooperative research and education opportunities through universities, Volusia County school system, other local/state/federal government and Not-for-profit organizations.

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

5.12.7 Continue to assess the need for, and pursuit of research and environmental education partnership opportunities as appropriate.

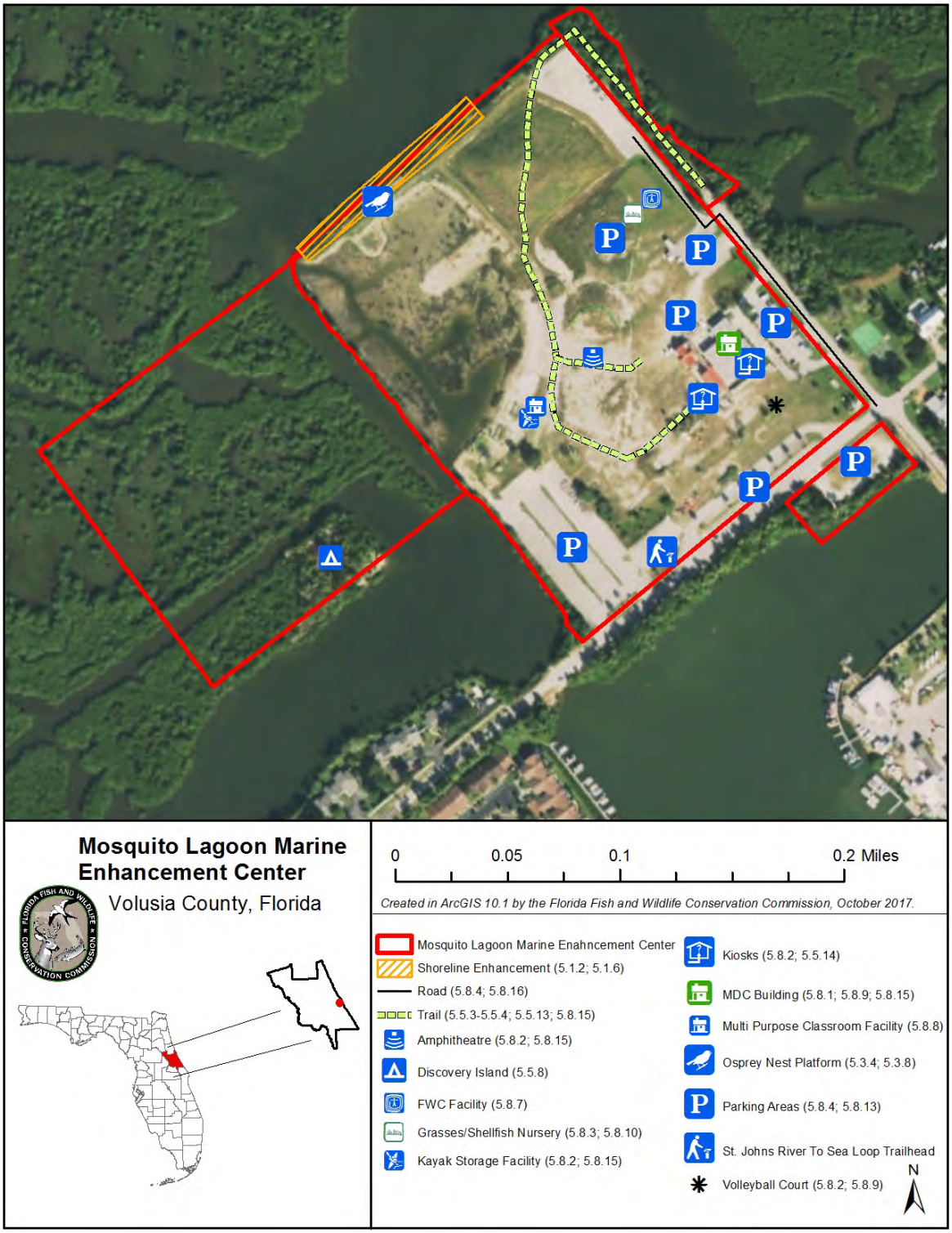

Figure 9. MLMEC Project Locations

6 Resource Management Challenges and Strategies

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

6.1 Challenge: Currently, law enforcement and management staffing is at insufficient levels for optimal management of the MLMEC.

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

6.1.2 Strategy: Explore potential volunteer resources for assisting with management.

6.2 Challenge: Currently, unpermitted Camping occurs on a portion of the area called Discovery Island.

6.2.1 Strategy: Explore the feasibility of developing rules and regulations for designated camping on the area.

6.2.2 Strategy: Develop and post signage to notify the public of the area's uses and regulations.

6.2.3 Strategy: Coordinate with FWC law enforcement to assist in the monitoring and control of camping on the area.

6.3 Challenge: Currently, there is off road vehicular use on multiple portions of the area.

6.3.1 Strategy: Develop and post signage to notify the public of designated vehicle roads and trail paths.

6.3.2 Strategy: Install perimeter fencing to prevent off-road vehicle access.

6.3.3 Strategy: Coordinate with local FWC law enforcement to assist in the monitoring and control of off-road vehicle use.

6.4 Challenge: Currently, various recreational activities are causing shoreline erosion on the northern and eastern boundary of the area.

6.4.1 Strategy: Explore the feasibility of constructing water access points to control recreational uses, such as the installation of fishing piers.

6.5 Challenge: Due to various, and possibly competing, public uses on the area, user-conflict could occur.

6.5.1 Strategy: Schedule annual site use meetings with all sub lessees and user groups on the area.

6.5.2 Strategy: Explore the feasibility of improving parking and implementing user group schedules.

6.5.3 Strategy: Explore the feasibility of developing and installing additional recreational infrastructure and signage.

6.6 Challenge: Potential future and current development on adjacent lands can result in incompatible land use increasing management challenges for the area.

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

6.6.2 Strategy: Increase and maintain a good working relationship with neighbors to plan for and explain management actions.

6.6.3 Strategy: Explore the feasibility of acquiring adjacent lands to establish a more appropriate management boundary.

6.7 Challenge: As further improvement and development occurs on the area, possible hydrological issues could arise.

6.7.1 Strategy: Cooperate with the SJRWMD engineering, the DEP, and others, in order to minimize any possible negative impacts to hydrological resources on the area.

6.7.2 Strategy: Continue to implement best management practices, and maintain sustainability consideration in all future plans.

6.8 Challenge: The MLMEC is currently not a widely known recreational destination.

6.8.1 Strategy: Continue to coordinate and communicate with existing and potential partners.

6.8.2 Strategy: Work with Volusia County, the City of New Smyrna Beach, and other regional partners to increase awareness and to promote the MLMEC.

6.8.3 Strategy: Provide public information and updates on the ongoing progress, changes and events occurring on the area.

6.9 Challenge: Currently, there has been some confusion regarding usage of and purpose for the area.

6.9.1 Strategy: Explore possible cohesive name change to the area. Currently, there are two different names associated with the area.

6.9.2 Strategy: Review and revise mission statement for the area.

6.9.3 Strategy: Increase public awareness of the area.

7 Cost Estimates and Funding Sources

The following represents the actual and unmet budgetary needs for managing the lands and resources of the MLMEC. This cost estimate was developed using data developed by the FWC and other cooperating entities, and is based on actual costs for land management activities, equipment purchase and maintenance, and for development of fixed capital facilities. Funds needed to protect and manage the property and to fully implement the recommended program are derived primarily from the Land Acquisition Trust Fund and from State Legislative appropriations. However, private conservation organizations may be cooperators with the agency for funding of specific projects. Alternative funding sources, such as monies available through mitigation, may be sought to supplement existing funding.

The cost estimate below, although exceeding what the FWC typically receives through the appropriations process, is estimated to be what is necessary for optimal management, and is consistent with the current and planned resource management and operation of the MLMEC. Cost estimate categories are those currently recognized by the FWC and the Land Management Uniform Accounting Council. More information on these categories, and categories of expenditures, may be found in Appendix 11.8.

MLMEC Management Plan Cost Estimate

Maximum expected one year expenditure

Resource Management	Expenditure	Priority
Exotic Species Control	$7,908	(1)
Prescribed Burning	$0	(1)
Cultural Resource Management	$0	(1)
Timber Management	$0	(1)
Hydrological Management	$301	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$77,073	(1)
Subtotal	**$85,282**	
Administration		
General administration	**$30,578**	(1)
Support		
Land Management Planning	$17,774	(1)
Land Management Reviews	$2,785	(3)
Training/Staff Development	$14,041	(1)
Vehicle Purchase	$55,924	(2)
Vehicle Operation and Maintenance	$11,488	(1)
Other (Technical Reports, Data Management, etc.)	$38,202	(1)
Subtotal	**$140,213**	
Capital Improvements		
New Facility Construction	$5,323,608	(2)
Facility Maintenance	$156,114	(1)
Subtotal	**$5,479,722**	
Visitor Services/Recreation		
Info./Education/Operations	**$16,375**	(1)
Law Enforcement		
Resource protection	**$0**	(1)
Total	**$5,752,170**	*

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

* Based on the characteristics and requirements of this area, 3 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

MLMEC Management Plan Cost Estimate

Ten-year projection

Resource Management	Expenditure	Priority
Exotic Species Control	$69,483	(1)
Prescribed Burning	$0	(1)
Cultural Resource Management	$0	(1)
Timber Management	$0	(1)
Hydrological Management	$2,642	(1)
Other (Restoration, Enhancement, Surveys, Monitoring, etc.)	$677,175	(1)
Subtotal	**$749,299**	
Administration		
General administration	**$268,658**	(1)
Support		
Land Management Planning	$156,161	(1)
Land Management Reviews	$7,972	(3)
Training/Staff Development	$123,363	(1)
Vehicle Purchase	$196,798	(2)
Vehicle Operation and Maintenance	$100,933	(1)
Other (Technical Reports, Data Management, etc.)	$335,648	(1)
Subtotal	**$920,874**	
Capital Improvements		
New Facility Construction	$15,377,174	(2)
Facility Maintenance	$1,371,632	(1)
Subtotal	**$16,748,806**	
Visitor Services/Recreation		
Info./Education/Operations	**$143,873**	(1)
Law Enforcement		
Resource protection	**$0**	(1)
Total	**$18,831,510**	*

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

* Based on the characteristics and requirements of this area, 3 FTE positions would be optimal to fully manage this area. All land management funding is dependent upon annual legislative appropriations.

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

The following management and restoration activities have been considered for outsourcing to private entities. It has been determined that items selected as "approved" below are those that the FWC either does not have in-house expertise to accomplish or which can be done at less cost by an outside provider of services. Those items selected as "conditional" items are those that could be done either by an outside provider or by the agency at virtually the same cost or with the same level of competence. Items selected as "rejected" represent those for which the FWC has in-house expertise and/or which the agency has found it can accomplish at less expense than through contracting with outside sources:

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

9 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 the MLMEC are in compliance with the Conceptual State Lands Management Plan and its requirement for "balanced public utilization," and are in compliance with the mission of the FWC as described in its Agency Strategic Plan (Appendix 11.5). Such uses also comply with the authorities of the FWC as derived from Article IV, Section 9 of the Florida Constitution as well as the guidance and directives of Chapters, 253, 259, 327, 370, 379, 403, 870, 373, 375, 378, 487, and 597 FS.

The FWC has developed and utilizes an Arthropod Control Plan for the MLMEC in compliance with Chapter 388.4111 F.S. (Appendix 11.9). This plan was developed in cooperation with the local Volusia County arthropod control agency. This plan is also in conformance with the Local Government Comprehensive Plan as approved and adopted for Volusia County, Florida, (Appendix 11.10).

10 Endnotes

[1] Aldridge, C. L., M. S. Boyce and R. K. Baydack. 2004. Adaptive management of prairie grouse: how do we get there? Wildlife Society Bulletin 32:92-103.

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11 Appendices

11.1 Lease Agreement

SAL1

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

LEASE AGREEMENT

Lease Number 4568

This lease is made and entered into this 9th day of May, 2008, between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "LESSEE".

WITNESSETH:

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

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

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

1. DELEGATIONS OF AUTHORITY: LESSOR'S responsibilities and obligations herein shall be exercised by the Division of State Lands, State of Florida Department of Environmental Protection.

2. DESCRIPTION OF PREMISES: The property subject to this lease, is situated in the County of Volusia, State of Florida and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as "leased premises".

3. TERM: The term of this lease shall be for a period of fifty years commencing on May 9, 2008, and ending on

May 8, 2058, unless sooner terminated pursuant to the provisions of this lease.

4. PURPOSE: LESSEE shall manage the leased premises for educational, research and passive recreational purposes, along with other related uses necessary for the accomplishment of this purpose as designated in the Land Use Plan required by paragraph 8 of this lease.

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

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

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

8. LAND USE PLAN: LESSEE shall prepare and submit a Land Use Plan for the leased premises, in accordance with Section 253.034, Florida Statutes. The Land Use Plan shall be submitted to LESSOR for approval through the Division of State Lands, State of Florida Department of Environmental Protection. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Land Use Plan is approved. LESSEE shall provide LESSOR with an opportunity to participate in all phases of preparing and developing the Land Use Plan for the leased premises. The Land Use Plan shall be submitted to LESSOR in draft form for review and comments within ten months of the effective date of this lease. LESSEE shall give LESSOR reasonable notice of the application for and receipt of any state, federal or local permits as well as any public

hearings or meetings relating to the development or use of the leased premises. LESSEE shall not proceed with development of said leased premises including, but not limited to, funding, permit application, design or building contracts, until the Land Use Plan required herein has been submitted and approved. Any financial commitments made by LESSEE which are not in compliance with the terms of this lease shall be done at LESSEE'S own risk. The Land use Plan shall emphasize the original management concept as approved by LESSOR on the effective date of this lease which established the primary public purpose for which the leased premises are to be managed. The approved Land Use Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR. LESSEE shall not use or alter the leased premises except as provided for in the approved Land Use Plan without the prior written approval of LESSOR. The Land Use Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Land Use Plan.

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

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

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

12. EASEMENTS AND SUBLEASES: This lease is for the purpose specified herein and all easements of any nature including, but not limited to, utility easements are expressly prohibited without the prior written approval of LESSOR. In addition to the primary purposes of the lease, LESSEE is authorized to sublease the leased premises to other governmental agencies or not for profit corporations for educational, scientific and research purposes compatible with the primary purpose of the lease subject to sublease approval in writing by LESSOR. Any easements or subleases not approved in writing by LESSOR shall be void and without legal effect.

13. ENVIRONMENTAL AUDIT: At LESSOR'S discretion, LESSEE shall provide LESSOR with a current Phase I environmental site assessment conducted in accordance with the State of Florida Department of Environmental Protection, Division of State Lands' standards prior to

termination of this lease, and if necessary a Phase II environmental site assessment.

14. SURRENDER OF PREMISES: Upon termination or expiration of this lease LESSEE shall surrender the leased premises to LESSOR. In the event no further use of the leased premises or any part thereof is needed, written notification shall be made to the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any part of the leased premises. Notification shall include a legal description, this lease number and an explanation of the release. The release shall only be valid if approved by LESSOR through execution of a release of lease instrument with the same formality as this lease. Upon release of all or any part of the leased premises or upon termination or expiration of this lease, all improvements, including both physical structures and modifications to the leased premises, shall become the property of LESSOR, unless LESSOR gives written notice to LESSEE to remove any or all such improvements at the expense of LESSEE. The decision to retain any improvements upon termination of this lease shall be at LESSOR'S sole discretion. Prior to surrender of all or any part of the leased premises, a representative of the Division of State Lands shall perform an on-site inspection and the keys to any buildings on the leased premises shall be turned over to the Division. If the improvements do not meet all conditions as set forth in paragraphs 18 and 21 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

15. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.018(2)(h), Florida Administrative Code, which have been selected, developed, or approved

by LESSOR or other land managing agencies for the protection and enhancement of the leased premises.

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

17. MINERAL RIGHTS: This lease does not cover petroleum or petroleum products or minerals and does not give the right to LESSEE to drill for or develop the same, and LESSOR specifically reserves the right to lease the leased premises for purposes of exploring and recovering oil and minerals by whatever means appropriate; provided, however, that LESSEE shall be fully compensated for any and all damages that might result to the leasehold interest of LESSEE by reason of such exploration and recovery operations.

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

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

20. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of LESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of LESSOR as to purpose location, and design. Further, no trees other than non-native species shall be removed or major land alterations done

without the prior written approval of LESSOR. Removable equipment and removable improvements placed on the leased premises by LESSEE, which do not become a permanent part of the leased premises will remain the property of LESSEE and may be removed by LESSEE upon termination of this lease.

21. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this lease. LESSOR recognizes that LESSEE intends to demolish all or a portion of the buildings and improvements on the leased premises. As a result, LESSEE shall only be required to maintain the buildings and improvements in "as is" condition until demolition. LESSEE agrees to assume all responsibility and costs associated with demolition of the buildings and improvements, and agrees to provide insurance as required by paragraph 9 of this lease for the buildings and improvements until such time as demolition is completed. Demolition shall be completed within two (2) years from the date of execution of this lease unless LESSEE requests an extension of time, which extension shall not be unreasonably withheld by LESSOR if LESSEE has diligently pursued funding for demolition. At the end of two years, LESSEE shall maintain the real property contained within the leased premises and any remaining improvements located thereon, in a state of good condition, working order and repair including, but not limited to, removing all trash or litter, maintaining all planned improvements as set forth in the approved Land Use Plan, and meeting all building and safety codes.

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

23. BREACH OF COVENANTS, TERMS, OR CONDITIONS: Should LESSEE breach any of the covenants, terms, or conditions of this lease, LESSOR shall give written notice to LESSEE to remedy such breach within

sixty days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

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

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

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

27. NOTICE: All notices given under this lease shall be in writing and shall be served by certified mail including, but not limited to, notice of any violation served pursuant to Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be

given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

LESSOR: State of Florida Department of
Environmental Protection
Division of State Lands
Bureau of Public Land Administration, M. S. 130
3800 Commonwealth Boulevard,
Tallahassee, Florida 32399-3000

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

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

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

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

30. RIGHT OF AUDIT: LESSEE shall make available to LESSOR all financial and other records relating to this lease and LESSOR shall have the right to audit such records at any reasonable time. This

right shall be continuous until this lease expires or is terminated. This lease may be terminated by LESSOR should LESSEE fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this lease, pursuant to Chapter 119, Florida Statutes.

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

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

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

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

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

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

37. SPECIAL CONDITION: LESSEE shall include in its operation of the leased premises an educational program pursuant to paragraphs 1 through 4 of the Agreement for Establishing a Florida Saltwater Fishery Ecocenter between LESSEE and the School Board of Volusia County, hereinafter referred to as "School Board," dated March 25, 2008, attached hereto as Exhibit "B" and made a part hereof. LESSEE shall allow School Board to utilize any educational programs without charge. Any future payment of fees associated with School Board's utilization of these educational programs shall be at the sole option of School Board, but not required.

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

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

Witness

Print/Type Witness Name

Witness

Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 7th day of May, 2008, by Gloria C. Barber, as Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection. She is personally known to me.

Notary Public, State of Florida

Print/Type Notary Name

VICTORIA F THOMPSON
Comm# DD0434593
Expires 5/26/2009
Bonded thru (800)432-4254
Florida Notary Assn., Inc

Commission Number:

Commission Expires:

Approved as to Form and Legality

By:
DEP Attorney

FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

Witness

Print/Type Witness Name

Witness

Print/Type Witness Name

By: (SEAL)

Print/Type Name

Title:

"LESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this day of , 2008, by as . He/She is personally known to me or who has produced as identification.

Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Commission Attorney

EXHIBIT "A"

LEGAL DESCRIPTION OF THE LEASED PREMISES

PARCEL 1:
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence South 38° 01' 20" East, 764.44 feet for the Point of Beginning; thence South 51° 58' 40" West, 300 feet; thence South 38° 01' 20" East, 125 feet; thence North 51° 58' 40" East, 300 feet; thence North 38° 01' 20" West 125 feet to the Point of Beginning.

PARCEL 2:
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet for the Point of Beginning; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence North 38° 01' 20" West, 413 feet; thence South 51° 58' 40" West, 850 feet; thence South 38° 01' 20" East, 516.75 feet to the Point of Beginning.
AND
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet for the Point of Beginning; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence South 38° 01' 20" East, 714.44 feet; thence South 51° 58' 40" West, 850 feet; thence North 38° 01' 20" West, 610.69 feet to the Point of Beginning.

PARCEL 3:
Commence at the intersection of the Northerly R/W line of Quay Assisi with the Westerly R/W line of Quay Brento as shown on Map of Venezia Unit 2, as recorded in Map Book 25, Page 16 of the Public Records of Volusia County, Florida; thence N 38° 01' 20" W 1127.44 feet; thence S 51° 58' 40" W 850 feet for the point of beginning; thence S 51° 58' 40 W 696.77 feet; thence S 38° 01' 20" E 687.69 feet; thence N 51° 58' 40" E 696.77 feet; thence N 38° 01' 20" W 687.69 feet to the point of beginning.

BSM APPROVED
BY BKA
DATE 2/26/08

Old New Smyrna Beach High School Donation
School Board of Volusia County
Volusia County

11.1.1 Sub Lease Agreement

This Assignment of Sublease was prepared by:
Derek W. Helms
Bureau of Public Land Administration
Division of State Lands
Department of Environmental Protection, MS 130
3900 Commonwealth Boulevard,
Tallahassee, Florida 32399-3000
AID 33422

AOSL1
[33.86 acres (+/-)]

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

ASSIGNMENT AND ASSUMPTION
Sublease Number 4568-01

STATE OF FLORIDA
COUNTY OF VOLUSIA

The **FISH AND WILDLIFE FOUNDATION OF FLORIDA, INC.**, a Florida not for profit corporation, f/k/a Wildlife Foundation of Florida, Inc., a Florida not for profit corporation ("ASSIGNOR" and "SUBLESSEE"), subject to written consent of the **BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA** ("LESSOR") and **FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION** ("SUBLESSOR") does hereby assign, transfer and convey 100% of its right, title and interest vested under Sublease Number 4568-01 dated December 1, 2009 ("Sublease") attached hereto as Exhibit "A", by and between SUBLESSOR and ASSIGNOR, as SUBLESSEE, to the **MARINE DISCOVERY CENTER, INC.**, a Florida not for profit corporation ("ASSIGNEE"), for and during the remainder of the term of the Sublease and all renewals thereof, subject to the full payment of fees and the performance of all covenants, conditions, and provisions required to be performed by SUBLESSEE under the terms of the Sublease, and subject to the conditions and provisions therein set forth.

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FISH AND WILDLIFE FOUNDATION OF FLORIDA, INC., a Florida not for profit corporation, f/k/a Wildlife Foundation of Florida, Inc., a Florida not for profit corporation

(SEAL)

By: _____
Andrew Walker, President/CEO

"ASSIGNOR"
and
"SUBLESSEE"

Witness
Will Bradford
Print/Type Witness Name

Witness
Rae Waddell
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 13 day of September, 2017 by Andrew Walker, as President/CEO of the Fish and Wildlife Foundation of Florida, Inc., a Florida not for profit corporation, f/k/a Wildlife Foundation of Florida, Inc., a Florida not for profit corporation. He is personally known to me or has produced _____ as identification.

Robin Pearse Stetler
Notary Public, State of Florida

Notary Public State of Florida
Robin Pearse Stetler
My Commission GG 091945
Expires 04/09/2021

Print/Type Notary Name

Commission/Serial No.:_____

My Commission Expires: _____

ACCEPTANCE OF ASSIGNMENT AND ASSUMPTION OF SUBLEASE NUMBER 4568-01

MARINE DISCOVERY CENTER, INC., a Florida not for profit corporation ("ASSIGNEE"), in consideration of the foregoing Assignment, subject to written consent of LESSOR and SUBLESSOR, does hereby accept assignment of the Sublease and assumes and agrees for the benefit of LESSOR and SUBLESSOR to make all payments and perform all covenants, agreements, conditions and provisions of the Sublease. Further, ASSIGNEE agrees that its successors and assigns shall be bound for the due performance herein in the same manner as was ASSIGNOR, as the original SUBLESSEE named in the Sublease, for and during the remainder of the term of the Sublease and all renewals thereof.

MARINE DISCOVERY CENTER, INC.,
a Florida not for profit corporation. (SEAL)

By: _____
Chad Truxall, Executive Director

"ASSIGNEE"

Aimée Pieropan Jenna
Witness
Aimée Pieropan Jenna
Print/Type Witness Name

Witness
Cecilia Peirr
Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 1st day of September, 2017 by Chad Truxall as Executive Director of the Marine Discovery Center, Inc. a Florida not for profit corporation. He is personally known to me or has produced FL Drivers license identification.

Aimée Pieropan Jenna
Notary Public, State of Florida
Aimee Pieropan Jenna
Print/Type Notary Name

Commission/Serial No.: FF 153986
My Commission Expires: March 2nd, 2018

AIMEE PIEROPAN JENNA
Notary Public - State of Florida
My Comm. Expires Mar 2, 2018
Commission # FF 153986

Page 3 of 43
Assignment of Sublease Number 4568-01
Action ID 33422

Consented to by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida on 30th day of OCTOBER, 2017

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

(SEAL)

BY: Cheryl C McCall

Cheryl C. McCall, Chief, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida

APPROVED SUBJECT TO PROPER EXECUTION

By: 8-22-2017
DEP Attorney

Consented to by the Florida Fish and Wildlife Conservation Commission on 17th day of OCTOBER, 2017

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

(SEAL)

APPROVED SUBJECT TO PROPER EXECUTION

By:
FWC Attorney

BY: for
Nick Wiley, Executive Director

EXHIBIT "A"

SAS1

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

SUBLEASE AGREEMENT

Sublease Number 4568-01

THIS SUBLEASE AGREEMENT, is made and entered into this 1st day of December 2009, between the FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION, hereinafter referred to as "SUBLESSOR" and the WILDLIFE FOUNDATION OF FLORIDA, INC., a Florida non-profit corporation, its successors and assigns, hereinafter referred to as "SUBLESSEE."

WITNESSETH:

In consideration of covenants and conditions set forth herein, SUBLESSOR subleases the below-described premises to SUBLESSEE on the following terms and conditions:

1. ACKNOWLEDGMENTS: The parties acknowledge that title to the subleased premises is held by the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida ("TRUSTEES") and is currently managed by SUBLESSOR as an unoccupied future site for a fish hatchery and office and classroom space for educational, scientific and research purposes under TRUSTEES' Lease Number 4568.

2. DESCRIPTION OF PREMISES: The property subject to this sublease, is situated in the County of Volusia , State of Florida, and is more particularly described in Exhibit "A" attached hereto and hereinafter referred to as the "subleased premises."

3. TERM: The term of this sublease shall commence upon its execution and end on May 7, 2058, unless sooner terminated pursuant to the provisions of this sublease.

4. PURPOSE: SUBLESSEE shall manage the subleased premises only for educational, research and passive recreational purposes, along with other related uses necessary for the accomplishment of this purpose as designated in the Operational Report required by paragraph 17 of this sublease.

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

6. CONFORMITY: This sublease shall conform to all terms and conditions of that TRUSTEES' Lease Number 4568, a copy of which is attached hereto as Exhibit "B", and SUBLESSEE shall, through its agents and employees, prevent the unauthorized use of the subleased premises or any use thereof not in conformance with this sublease.

7. ASSIGNMENT: This sublease shall not be assigned in whole or in part without the prior written consent of the TRUSTEES and SUBLESSOR. Any assignment made either in whole or in part without the prior written consent of the TRUSTEES and SUBLESSOR shall be void and without legal effect.

8. RIGHT OF INSPECTION: The TRUSTEES and SUBLESSOR or their duly authorized agents shall have the right at any time to inspect the subleased premises and the works and operations thereon of SUBLESSEE in any matter pertaining to this sublease.

9. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures and improvements shall be constructed at the expense of SUBLESSEE in accordance with plans prepared by professional designers and shall require the prior written approval of SUBLESSOR as to purpose, location and design. Further, no trees other than non-native species shall be removed or major land alterations done by SUBLESSEE without the prior written approval of SUBLESSOR. Removable equipment and removable improvements placed on the subleased premises by SUBLESSEE which do not become a permanent part of the subleased premises will remain the property of SUBLESSEE and may be removed by SUBLESSEE upon termination of this sublease.

10. INSURANCE REQUIREMENTS: SUBLESSEE shall procure and maintain fire and extended risk insurance coverage, in accordance with Chapter 284, Florida Statutes, for any buildings and improvements located on the subleased premises by preparing and delivering to the Division of

Risk Management, State of Florida Department of Financial Services, a completed Florida Fire Insurance Trust Fund Coverage Request Form and a copy of this sublease immediately upon beginning demolition or renovation of any structures as allowed by paragraph 4 of this sublease. A copy of said form and immediate notification in writing of any erection, renovation or removal of structures or other improvement on the subleased premises and any changes affecting the value of the improvements will be submitted to SUBLESSOR and the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000.

11. LIABILITY: SUBLESSEE shall assist in the investigation of injury or damage claims either for or against SUBLESSOR, the TRUSTEES or the State of Florida pertaining to SUBLESSEE'S respective areas of responsibility under this sublease or arising out of SUBLESSEE'S respective management programs or activities and shall contact SUBLESSOR regarding the legal action deemed appropriate to remedy such damage or claims. The SUBLESSEE shall save, hold harmless and indemnify the TRUSTEES, the SUBLESSOR and the State of Florida against any and all liability, claims, judgments or costs of whatsoever kind and nature for injury to, or death of any persons or persons and for the loss or damage to any property resulting from the operation or performance of work under the terms of this Agreement, resulting from the acts or omissions of their employees, agents, subcontractors or representatives.

12. ARCHAEOLOGICAL AND HISTORIC SITES: Execution of this sublease in no way affects any of the parties' obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historic sites on state-owned lands is prohibited unless prior authorization has been obtained from the State of Florida Department of State, Division of Historical Resources. The Land Use Plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Historical Resources to insure

that adequate measures have been planned to locate, identify, protect and preserve the archaeological and historic sites and properties on the subleased premises.

13. EASEMENTS: All easements including, but not limited to utility easements, are expressly prohibited without the prior written approval of the TRUSTEES and SUBLESSOR. Any easement not approved in writing by the TRUSTEES and SUBLESSOR shall be void and without legal effect.

14. SUBSUBLEASES: This sublease is for the purposes specified herein and any subsubleases of any nature are prohibited, without the prior written approval of the TRUSTEES and SUBLESSOR. Any subsublease not approved in writing by the TRUSTEES and SUBLESSOR shall be void and without legal effect. The parties contemplate a future amendment that will allow SUBLESSEE to sub sublease portions of the subleased property to governmental and non-profit entities consistent with Trustees Lease 4568, for educational, scientific and research purposes. The parties acknowledge that the SUBLESSEE operates as a citizen support organization to the SUBLESSOR as provided by Section 379.223, Florida Statute, and has particular resources and skills to organize and manage such anticipated subleases;

15. ENVIRONMENTAL AUDIT: At SUBLESSOR's discretion, SUBLESSEE shall provide SUBLESSOR with a current Phase I environmental site assessment conducted in accordance with the State of Florida Department of Environmental Protection, Division of State Lands' standards prior to termination of this sublease, and if necessary a Phase II environmental site assessment.

16. SURRENDER OF PREMISES: Upon termination or expiration of this sublease, SUBLESSEE shall surrender the subleased premises to SUBLESSOR. In the event no further use of the subleased premises or any part thereof is needed, written notification shall be made to SUBLESSOR and the Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, Mail Station 130, 3800 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six months prior to the release of all or any

part of the subleased premises. Notification shall include a legal description, the lease number, and this sublease number and an explanation of the release. The release shall only be valid if approved by the TRUSTEES and SUBLESSOR through the execution of a release of sublease instrument executed with the same formality as this sublease. Upon termination or expiration of this sublease, all improvements, including both physical structures and modifications to the subleased premises, shall become the property of SUBLESSOR and the TRUSTEES unless SUBLESSOR gives written notice to SUBLESSEE to remove any or all such improvements at the expense of SUBLESSEE. The decision to retain any improvements upon termination of this sublease shall be at SUBLESSOR'S sole discretion. Prior to surrender of all or any part of the subleased premises, SUBLESSOR shall perform an on-site inspection and the keys to any buildings on the subleased premises shall be turned over to SUBLESSOR. If the subleased premises and improvements located thereon do not meet all conditions as set forth in paragraphs 21 and 22 herein, SUBLESSEE shall pay all costs necessary to meet the prescribed conditions.

17. OPERATIONAL REPORT: SUBLESSEE shall prepare and submit an Operational Report to the TRUSTEES and SUBLESSOR within one year of the effective date of this sublease. SUBLESSEE shall provide SUBLESSOR with an opportunity to participate in all phases of preparing and developing the Operational Report for the subleased premises. The Operational Report shall be submitted to the SUBLESSOR in draft form for review and comments within ten months of the effective date of this sublease. SUBLESSEE shall give SUBLESSOR reasonable notice of the application for and receipt of any state, federal or local permits as well as any public hearings or meetings relating to the development or use of the subleased premises. SUBLESSEE shall not proceed with development of the subleased premises in any way including, but not limited to, funding, permit application, design or building contracts, until the Operational Report required herein has been submitted and approved. Any financial commitments

made by SUBLESSEE which are not in compliance with the terms of this sublease shall be done at SUBLESSEE'S own risk. The approved Operational Report shall provide the basic guidance for all activities conducted on the subleased premises. SUBLESSEE shall not use or alter the subleased premises except as provided in the approved Operational Report without the prior written approval of the TRUSTEES and SUBLESSOR.

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

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

20. MINERAL RIGHTS: This sublease does not cover petroleum or petroleum products or minerals and does not give the right to the SUBLESSEE to drill for or develop the same. However, SUBLESSEE shall be fully compensated for any and all damages that might result to the subleasehold interest of SUBLESSEE by reason of such exploration and recovery operations.

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

22. MAINTENANCE: SUBLESSEE shall maintain the real property contained within the subleased premises, which is not scheduled for

demolition, and any improvements located thereon, in a state of good condition, working order and repair including, but not limited to, removing all trash or litter, maintaining all planned improvements as set forth in the approved Land Use Plan, and meeting all building and safety codes. LESSEE shall maintain any and all existing roads, canals, ditches, culverts, risers and the like in as good condition as the same may be on the effective date of this sublease. SUBLESSEE shall manage the subleased premises for management, operation and maintenance, and the demolition of all structures with the exception of buildings 10, 11 and 13 shown in Exhibit "C". SUBLESSEE shall submit a renovation plan for SUBLESSOR'S approval, and may not begin renovations without the prior written consent of SUBLESSOR.

23. ENTIRE UNDERSTANDING: This sublease sets forth the entire understanding between the parties and shall only be amended with the prior written approval of the TRUSTEES and SUBLESSOR.

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

25. NO WAIVER OF BREACH: The failure of SUBLESSOR to insist in any one or more instances upon strict performance of any one or more of the covenants, terms, and conditions of this sublease shall not be construed as a waiver of such covenants, terms and conditions, but the same shall continue in full force and effect, and no waiver of SUBLESSOR of any one of the provisions hereof shall in any event be

deemed to have been made unless the waiver is set forth in writing, signed by SUBLESSOR.

26. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the subleased premises is held by the TRUSTEES. SUBLESSEE shall not do or permit anything to be done which purports to create a lien or encumbrance of any nature against the real property contained in the subleased premises including, but not limited to, mortgages or construction liens against the subleased premises or against any interest of the TRUSTEES and SUBLESSOR therein.

27. PARTIAL INVALIDITY: If any term, covenant, condition or provision of this sublease shall be ruled by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

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

29. TIME: Time is expressly declared to be of the essence of this sublease.

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

SUBLESSOR: Florida Fish and Wildlife
Conservation Commission
Division of Habitat and
Species Conservation
620 South Meridian Street
Tallahassee, Fl 32399-1600

SUBLESSEE: Wildlife Foundation of
Florida, Inc.
P.O. Box 11010
Tallahassee, Fl 32302

With a mandatory copy to:
Board of Trustees of the Internal Improvement
Trust Fund
c/o State of Florida Department of Environmental
Protection
Division of State Lands
Bureau of Public Land Administration
3800 Commonwealth Boulevard, M.S. 130
Tallahassee, Florida 32399

31. DAMAGE TO THE PREMISES: (a) SUBLESSEE shall not do, or suffer to be done, in, on, or upon the subleased premises or as affecting said subleased premises or adjacent properties, any act not authorized herein which may result in damage or depreciation of value to the subleased premises or adjacent properties, or any part thereof. (b) SUBLESSEE shall not generate, store, produce, place, treat, release, or discharge any contaminants, pollutants, or pollution, including, but not limited to, hazardous or toxic substances, chemicals, or other agents on, into, or from the subleased premises or any adjacent lands or waters in any manner not permitted by law. For the purposes of this sublease, "hazardous substances" shall mean and include those elements or compounds defined in 42 USC Section 9601 or which are contained in the list of hazardous substances adopted by the United States Environmental Protection Agency (EPA) and the list of toxic pollutants designated by the United States Congress or the EPA or defined by any other federal, state, or local statute, law, ordinance, code, rule, regulation, order, or decree regulating, relating to, or imposing liability, or standards of conduct concerning any hazardous, toxic or dangerous waste, substance, material, pollutant or contaminant. "Pollutants" and "pollution" shall mean those products or substances defined in Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE'S failure to comply with this paragraph, SUBLESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration, and monitoring of (1) the subleased premises, and (2) all off-site ground and surface waters and lands affected by SUBLESSEE'S such failure to

comply, as may be necessary to bring the subleased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules, regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. SUBLESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this sublease. Nothing herein shall relieve SUBLESSEE of any responsibility or liability prescribed by law for fines, penalties and damages levied by governmental agencies, and the cost of cleaning up any contamination caused directly or indirectly by SUBLESSEE'S activities or facilities. Upon discovery of a release of a hazardous substance or pollutant, or any other violation of local, state, or federal law, ordinance, code, rule, regulation, order, or decree relating to the generation, storage, production, placement, treatment, release, or discharge of any contaminant, SUBLESSEE shall report such violation to all applicable governmental agencies having jurisdiction, and to SUBLESSOR, all within the reporting periods of the applicable agencies.

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

33. RIGHT OF AUDIT: SUBLESSEE shall make available to the TRUSTEES or SUBLESSOR all financial and other records relating to this sublease and the TRUSTEES or SUBLESSOR shall have the right to audit such records at any reasonable time. This right shall be continuous until this sublease expires or is terminated. This sublease may be terminated by SUBLESSOR should SUBLESSEE fail to allow public access to all documents, papers, letters or other materials made or received

in conjunction with this sublease, pursuant to Chapter 119, Florida Statutes.

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

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

36. GOVERNING LAW and JURY TRIAL WAIVER: This sublease shall be governed by and interpreted according to the laws of the State of Florida and in consideration for the covenants herein, the parties hereby waive the right to jury trial for all actions brought under this Agreement.

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

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

39. SPECIAL CONDITIONS: The following special conditions shall apply to this sublease: None.

EXHIBIT "A"

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EXHIBIT "A"

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

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Witness

Stephanie French
Print/Type Witness Name

Witness

Print/Type Witness Name

By: _____ (SEAL)

Gregory L. Holder
Print/Type Name

Title: Asst. Exec. Dir.

"SUBLESSOR"

APPROVED AS TO FORM AND LEGAL SUFFICIENCY.
Commission Attorney

STATE OF FLORIDA
COUNTY OF Leon

The foregoing instrument was acknowledged before me this 1 day of December 2009, by Gregory Holder, as Asst. Exec. Director on behalf of the Florida Fish and Wildlife Conservation Commission. He/She is personally known to me or has produced _____ as identification.

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

Notary Public, State of Florida

Kathleen L. Hampton
Print/Type Notary Name

Commission Number:

Commission Expires:

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Assignment of Sublease Number 4568-01
Action ID 33422

EXHIBIT "A"

WILDLIFE FOUNDATION OF FLORIDA, INC.,
A Florida non-profit corporation

By: _____ (SEAL)
CHARLES B. BOSTON
EXECUTIVE DIRECTOR

Diane Rogowski
Witness
DIANE ROGOWSKI
Print/Type Witness Name

Judy Woodard
Witness
Judy Woodard
Print/Type Witness Name

"SUBLESSEE"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 1st day of December 2009, by Charles B. Boston, as Executive Director, on behalf of the Wildlife Foundation of Florida, Inc., a Florida non-profit corporation. He is personally known to me or who has produced _____ as identification.

Diane C. Rogowski
Notary Public, State of Florida

Print/Type Notary Name

Commission Number

Diane C. Rogowski
Commission # DD539673
Expires May 24, 2010

Commission Expires:

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EXHIBIT "A"

Consented to by the TRUSTEES on 1st day of December 2009.

By: Gloria C. Barber

GLORIA C. BARBER, OPERATIONS AND MANAGEMENT CONSULTANT MANAGER, BUREAU OF PUBLIC LAND ADMINISTRATION, DIVISION OF STATE LANDS, STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approved as to Form and Legality

By: _____
DEP Attorney

EXHIBIT "A"
Legal Description of the Subleased Premises

PARCEL 1:
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence South 38° 01' 20" East, 764.44 feet for the Point of Beginning; thence South 51° 58' 40" West, 300 feet; thence South 38° 01' 20" East, 125 feet; thence North 51° 58' 40" East, 300 feet; thence North 38° 01' 20" West 125 feet to the Point of Beginning.

PARCEL 2:
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet for the Point of Beginning; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence North 38° 01' 20" West, 413 feet; thence South 51° 58' 40" West, 850 feet; thence South 38° 01' 20" East, 516.75 feet to the Point of Beginning.
AND
Commence at the Meander Corner between Section 42 and Section 43, Township 17 South, Range 34 East; thence North 33° 41' 21" West, 748 feet; thence North 21° 56' 21" West, 1252 feet; thence North 15° 56' 21" West, 600 feet; thence North 21°, 56' 21" West, 970 feet; thence North 39° 36' 21" West, 150 feet; thence North 51° 58' 39" East, 79.5 feet; thence North 48° 36' 21" West, 517.7 feet; thence North 51° 58' 39" East, 422.97 feet; thence North 39° 28' 21" West, 201.32 feet; thence North 24° 47' 21" West, 216.42 feet; thence North 26° 31' 10" West, 194.33 feet; thence North 45° 30' 21" West, 478.8 feet; thence North 40° 33' 21" West, 22.94 feet; thence North 54° 14' East, 1601.5 feet for the Point of Beginning; thence North 54° 14' East, 696.92 feet; thence North 11° 29' East, 202.01 feet; thence South 38° 01' 20" East, 714.44 feet; thence South 51° 58' 40" West, 850 feet; thence North 38° 01' 20" West, 610.69 feet to the Point of Beginning.

PARCEL 3:
Commence at the intersection of the Northerly R/W line of Quay Assisi with the Westerly R/W line of Quay Brento as shown on Map of Venezia Unit 2, as recorded in Map Book 25, Page 16 of the Public Records of Volusia County, Florida; thence N 38° 01' 20" W 1127.44 feet; thence S 51° 58' 40" W 850 feet for the point of beginning; thence S 51° 58' 40 W 696.77 feet; thence S 38° 01' 20" E 687.69 feet; thence N 51° 58' 40" E 696.77 feet; thence N 38° 01' 20" W 687.69 feet to the point of beginning.

RSM APPROVED
BY MKA
DATE 2/26/08

Old New Smyrna Beach High School Donation
School Board of Volusia County
Volusia County

11.2 Definition of Management Plan Term

Management Plan Goals and Objectives

Terms and Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

11.3 Soil Series Descriptions

Map Unit Description

Volusia County, Florida

[Minor map unit components are excluded from this report]

Map unit: 28 - Hydraquents

Component: Hydraquents, tidal (85%)

The Hydraquents, tidal component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on marine terraces on coastal plains. The parent material consists of clayey marine deposits over sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is high. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 18 percent. Nonirrigated land capability classification is 8. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. The soil has a strongly saline horizon within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 68 - Turnbull variant sand

Component: Turnbull variant (100%)

The Turnbull variant component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of mixed shells and sand over organic material over loamy and sandy estuarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a slightly sodic horizon within 30 inches of the soil surface.

Map unit: 99 - Water

Component: Water (100%)

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

Map Unit Description

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

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

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

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

11.4 FNAI Element Occurrence Data Usage Letter

FLORIDA Natural Areas INVENTORY

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

April 11, 2014

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

Dear David,

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

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

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

Sincerely,

Gary Knight
Director
Florida Natural Areas Inventory

Florida Resources and Environmental Analysis Center
Institute of Science and Public Affairs
The Florida State University

Tracking Florida's Biodiversity

11.5 FWC Agency Strategic Plan

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

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

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

Strategies:

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

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

Strategies:

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

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

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

Strategies:

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

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

Strategies:

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

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

Strategies:

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

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

Strategies:

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

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

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

Strategies:

1. Expand and promote the Florida Youth Conservation Centers Network through leveraging FWC programs and staff, and developing public and private partnerships and sponsorships.
2. Develop and deliver standardized youth conservation curricula and fishing, hunting, boating and wildlife viewing outdoor activity programs, and assist with adapting programs and curricula to meet the needs of diverse communities.
3. Foster stewardship and shared responsibility for fish and wildlife conservation through conservation education programs.
4. Expand marketing and outreach to reach diverse audiences and engage all staff in priority outreach initiatives.

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

Strategies:

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

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

Strategies:

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

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

Strategies:

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

Theme Four – Responsive Organization and Quality Operations

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

Strategies:

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

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

Strategies:

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

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

Strategies:

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

11.6 FWC Apiary Policy

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Apiary Policy

Division of Habitat and Species Conservation

Issued by:
Terrestrial Habitat Conservation and Restoration Section
9/1/2010

Enclosed is the HSC/THCR Apiary Policy for all Florida Fish and Wildlife Conservation Commission's Wildlife Management Areas and Wildlife and Environmental Areas.

DIVISION OF HABITAT AND SPECIES CONSERVATION POLICY

Issued September 2010

SUBJECT: APIARY SITES ON FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION WILDLIFE MANAGEMENT AREAS AND WILDLIFE AND ENVIRONMENTAL AREAS

STATEMENT OF PURPOSE: It is the intent of this policy to determine which Florida Fish and Wildlife Conservation Commission (FWC) Wildlife Management Areas or Wildlife and Environmental Areas (WMA/WEA) may have apiary sites, and provides direction on site location, management and administration of said apiaries.

Definitions

Apiary – A place where bees and beehives are kept, especially a place where bees are raised for their honey.

Apiary Site – An area set aside on a WMA/WEA for the purpose of allowing a beekeeper to locate beehives in exchange for a fee as established by contract between the beekeeper and FWC.

Apiary Wait List – An apiary wait list will be maintained by the Terrestrial Habitat Conservation and Restoration (THCR) Section Leader's Office based on applications received from interested beekeepers. Only qualified apiarists will be added to the list. To become qualified the new apiarist must submit an application form and meet the criteria below under the section titled "Apiary Wait List and Apiary Application."

Beekeeper/Apiarist – A person who keeps honey bees for the purposes of securing commodities such as honey, beeswax, pollen; pollinating fruits and vegetables; raising queens and bees for sale to other farmers and/or for purposes satisfying natural scientific curiosity.

Best Management Practices – The Florida Department of Agriculture & Consumer Services (FDACS; Division of Plant Industry (DPI), Apiary Inspection Section, P.O. Box 147100, Gainesville, FL 332614-1416) provides Best Management Practices (BMP) for maintaining European Honey Bee colonies and FWC expects apiarists to follow the BMP.

Hive/Colony – Means any Langstroth-type structure with movable frames intended for the housing of a bee colony. A hive typically consists of a high body hive box with cover, honey frames, brood chambers and a bottom board and may have smaller super hive boxes stacked on top for the excess honey storage. A hive/colony includes one queen, bees, combs, honey, pollen and brood and may have additional supers stacked on top of a high body hive box.

Establishment of Apiary Sites on WMA/WEA

During the development of an individual WMA/WEA Management Plan, apiaries will be considered under the multiple-use concept as a possible use to be allowed on the area. "Approved" uses are deemed to be in concert with the purposes for state acquisition, with the Conceptual State Lands Management Plan, and with the FWC agency mission, goals, and objectives as expressed in the agency strategic plan and priorities documents. Items to consider when making this determination can also include:

- Were apiaries present on the area prior to acquisition?
- Are there suitable available sites on the WMA/WEA?
- Will the apiary assist in pollination of an onsite FWC or offsite (adjacent landowner) citrus grove or other agricultural operation?

For those WMA/WEAs that have not considered apiaries in their Management Plan, upon approval of this policy Regional Staff will work with the Conservation Acquisition and Planning (CAP) staff and THCR Section leadership to determine if apiaries are an approved use on the area. If apiaries are considered an approved use then a request will be made to the Division of State Lands to allow this use as part of an amended Management Plan. This request will be made through the THCR's Section Leader's office and coordinated by the CAP.

Determination of apiary site locations on WMA/WEAs should be done using the following guidelines:

- Apiary sites should be situated so as to be at least one-half mile from WMA/WEA property boundary lines, and at least one mile from any other known apiary site. Exceptions to this requirement must be reviewed by the Area Biologist and presented to the THCR Section Leader for approval.

- Site should be relatively level, fairly dry, and not be prone to flooding when bees would normally be present.

- Site should be accessible by roads which allow reasonable transfer of hives to the site by vehicle.

- If a site is to be located near human activity, such as, an agricultural field, food plot, wildlife opening, campsites, etc., or if the site may be manipulated by machinery at a time when bees would be present, then the apiary site should be located at a minimum of 150 to 200 yards from the edge of that activity. This will ensure minimal disturbance to the bees and minimize incidents with anyone working in the area.

- It is preferable to have apiary sites located adjacent to or off roads whenever possible. If traditional apiary sites were located on roads and the Area Biologist determines that the site will not impact use of the road by visitors then it will be allowed.

- FWC Area Biologist shall select apiary site(s) and the site(s) selected should not require excessive vegetation clearing (numerous large trees, dense shrubs) or ground disturbance (including fill).

WMA/WEA Staff Responsibilities

Area Biologist on WMAs/WEAs with approved apiary sites will forward a GIS shapefile depicting all the apiary site polygon(s), including a name or number with coordinates for each apiary site, to the THCR Contract Manager.

Area Biologist will monitor each apiary site no less than once a year to determine if the beekeeper is abiding by the contract requirements. If violations are noted, staff should bring them to the attention of the beekeeper for correction. If violations continue staff should notify the THCR Contract Manager who will determine if or what additional action is warranted.

Area Biologist will establish and maintain firelines around the apiary site to ensure the apiary site is ready when a planned burn is scheduled.

Area Biologist will advise the beekeeper of burn plans, road work, gate closures, or other site conditions and management activities that may affect the beekeeper's ability to manage or access the apiary site.

Area Biologist is not responsible to ensure access roads are in condition suitable for beekeepers to access their hives with anything other than a four-wheeled drive vehicle. (The site of the apiary may be high and dry, but the roads accessing them may be difficult to impossible to get a two-wheeled drive vehicle into during extreme weather, e.g., heavy rainfall events.)

Apiary Wait List and Apiary Application

An electronic waiting list for apiary sites will be maintained by the THCR's Contract Manager for each WMA/WEA. To be placed on the waiting list an interested beekeeper must submit an apiary application form to the contract manager (See Enclosed Application Form). Each applicant will be considered based on the following criteria:

- Proof of a valid registration with the FDACS/DPI.
- Proof of payment of outstanding special inspection fees for existing sites.
- A validated history of being an apiary manager.

- Three references that can attest to the applicant's beekeeping experience.

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

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

Contracts

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

Pricing of Apiary Site(s)

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

Pricing examples:

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

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

Bear Depredation Control at Apiary Site(s)

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

SUBJECT MATTER REFERENCES

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

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

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

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

Sample Apiary Site Application Form W/Mission Statement

Best Management Practices for Maintaining European Honey Bee Colonies

Sample of Random Selection Process Procedure

APPROVED:

_____

Division Director or Designee

DATE: _____

APIARY AGREEMENT

AGREEMENT FOR APIARY ACTIVITIES ON STATE LANDS

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

WITNESSETH

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

1. TERM: This Agreement will begin (Insert date here) or the date signed by both parties, whichever is later, and will end five (5) years from the date of execution. Issuance of a new five (5) year Agreement is contingent upon satisfactory performance evaluation by the Area Biologist and approval of the THCR Section Leader.

2. The COMMISSION Agrees:

    a. To provide apiary sites on state lands, which will be identified by the COMMISSION staff and located on the property identified in (4)(f) below.

    b. To provide technical assistance for bear-proofing, if required by Area Biologist, of sites made available under this Agreement.

    c. To allow the USER to place a total number of (insert number of hive boxes here) hive boxes on the COMMISSION-managed property at the apiary site(s).

3. The USER Agrees:

    a. To pay (Insert Total Dollars Here) on or before the execution date of this Agreement and each year thereafter on or before anniversary date of the original contract execution date, with check or money order payable to the Florida Fish and Wildlife Conservation Commission. All payments shall be remitted to The Florida Fish and Wildlife Conservation Commission, Finance and Budgeting, Accounting Section, PO Box 6150, Tallahassee, FL 32399-6150, and a copy of the check to The Florida Fish and Wildlife Conservation Commission,

Terrestrial Habit Conservation and Restoration Section, Attn: Section Leader, 620 South Meridian Street, Tallahassee, Florida 32399-1600.

b. To have no more than (Insert Number of Hive boxes here) hive boxes on the property at one time.

c. To comply with the Florida Honey Certification and Honeybee Law, Chapter 586, Florida Statutes, and Rule 5B-54, Florida Administrative Code, and all other applicable federal, state, or local laws, rules or ordinances.

d. To not damage, cut or remove any trees in the course of preparing for or conducting operations under this Agreement.

e. To repair within 30 days of occurrence any damage to roads, trails, fences, bridges, ditches, or other public property caused by USER'S operations under this Agreement based on discretion of the COMMISSION to ensure the WMA/WEA management goals are met. All repairs will be coordinated with the Area Biologist to ensure management goals are met. If USER does not comply within the 30-day requirement, then the COMMISSION may use a third party to perform the repairs and charge the USER accordingly.

f. To report any forest fires observed and to prevent forest fires during the course of operations under this Agreement.

g. To abide by all WMA/WEA rules and regulations in addition to items in this Agreement.

h. To notify the Area Biologist within 24 hours when a bear depredation event occurs.

i. To post their name in an agreed upon location at each site covered by this Agreement or otherwise use an identifying system that is approved by the Area Biologist.

j. To furnish proof of general liability insurance prior to starting apiary activities on state property or within 30 days of execution of this Agreement, whichever is earlier, and proof of annual renewal of the general liability insurance policy prior to or upon expiration date of the policy. The USER shall maintain continuous general liability insurance throughout the term of this Agreement for no less than $300,000 for bodily injury and $100,000 for property damage for each

occurrence. Such a policy shall name the COMMISSION as the Certificate Holder. The USER's current certificate of insurance shall contain a provision that the insurance will not be canceled for any reason during the term of this Agreement except after thirty (30) days written notice to the COMMISSION.

k. To be liable for all damage to persons or property resulting from operations under this Agreement, and to release, acquit, indemnify, save and hold harmless the COMMISSION, its officers, agents, employees and representatives from any and all claims, losses, damages, injuries and liabilities whatsoever, whether for personal injury or otherwise, resulting from, arising out of or in any way connected with activities under this Agreement or activities occurring from any other source not under this Agreement and the USER further agrees to assume all risks of loss and liabilities incidental to any natural or artificial condition occurring on state lands cover by this Agreement.

l. To construct and maintain electric fences, if required by the Area Biologist at the Area Biologist's discretion, to provide protection of apiaries from black bear depredation consistent with the technical information bulletin attached to this agreement, and, if so required, to maintain an open buffer around the fencing of five (5) feet or more. (See Attachment 1)

m. To remove all personal property from the site within thirty (30) days of termination or expiration of this Agreement. The USER understands that after this time, all the USER'S personal property remaining on the WMA/WEA shall be deemed abandoned and become the property of the COMMISSION, which will be utilized or disposed of at the sole discretion of the COMMISSION, and that reasonable storage and/or disposal fees and/or costs may be charged to the USER.

4. The parties mutually agree:

a. This Agreement is not transferable.

b. The USER's failure to submit payment by the due date established herein may result in cancellation of the Agreement by the COMMISSION.

c. The USER's failure to submit proof of general liability insurance or proof of annual renewal in compliance with (3) (j) above may result in cancellation of this Agreement by the COMMISSION.

d. This Agreement shall be in effect for a period of five (5) years and issuance of a new agreement will be contingent upon a satisfactory performance evaluation and approval of the Area Biologist and THCR Section Leader.

e. Each apiary site shall be situated so as to be at least one-half (1/2) mile inward from state property lines and there shall be at least one (1) mile separation between sites. Exceptions to this rule must be reviewed by Area Biologist presented to and approved by the Terrestrial Habitat Conservation and Restoration Section Leader.

f. The property covered by this Agreement is described as follows: That the property sites (Insert Area Name) Wildlife Management Area are represented by Attachment 2.

g. In accordance with Section 287.134, Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal or reply on a contract to provide goods or services to any public entity; may not submit a bid, proposal or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant with any public entity; and may not transact business with a public entity.

h. As part of the consideration of this Agreement, the parties hereby waive trial by jury in action brought by either party pertaining to any matter whatsoever arising out of or in any way connected with this Agreement. Exclusive venue for all judicial actions pertaining to this Agreement is in Leon County, Florida.

i. This Agreement may be terminated by the COMMISSION upon thirty (30) days written notice to the USER in the event the continuation of the apiary activities is found to be incompatible with the COMMISSION'S management plans or for any other reason at the sole discretion of the COMMISSION.

This Area Intentionally Left Blank

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

_____
USER SIGNATURE

Date: _____

_____
Witness

_____
Witness

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

_____
Mike Brooks, Section Leader
Terrestrial Habitat Conservation and Restoration

Date: _____

Approved as to form and legality

_____
Commission Attorney

Date: _____

AGREEMENT
ATTACHMENT 1

Use of Electric Fencing to Exclude Bears And Prevent Property Damage

Florida Fish and Wildlife Conservation Commission
Technical Information Bulletin (2001)

Electric fencing has proven effective in deterring bears from entering landfills, apiaries (beehives), livestock pens, gardens, orchards, and other high-value properties. Numerous electrical fence designs have been used with varying degrees of success. Design, quality of construction, and proper maintenance determine the effectiveness of an electric fence. The purpose of this technical bulletin is to assist the property owner in understanding and implementing electrical fencing as a tool to exclude and prevent damage caused by black bears.

Understanding Electric Fencing

Electric fencing provides an electrical shock when an animal comes into contact with the electrically charged wires of the fence. People unfamiliar with electric fencing often are afraid that it will injure, permanently damage, or kill an individual or pet that contacts the fence. **This is not true!** A properly constructed electric fence is safe to people, pets, and bears.

Components of Electric Fencing

An electric fence is composed of four main elements: a charger, fence posts, wire, and the ground rod.

Fence Charger. On a small-scale electric fence (like that typically needed for bear exclusion), the largest cost is normally the fence charger. A fence charger's job is to send an electrical pulse into the wire of the fence. Contrary to popular belief, there is not a continuous charge of electricity running through the fence. Instead the charger emits a short pulse or burst of electricity through the fence. The intensity and duration of the electrical pulse varies with the type of charger or controller unit. Chargers with a high-voltage, short duration burst capacity are the best because they are harder to ground out by tall grass and weeds. These types are also the safest, because, even

though the voltage is high (5 kilovolts) the duration of the burst is very short (2/10,000 of a second) (FitzGerald, 1984).

Two basic energy sources for chargers are batteries (12-volt automotive type) and household current (110 volt). Battery-type chargers are typically cheaper to purchase but require more maintenance because of the necessity of charging the battery. The advantage of a battery powered charger is that it can be used in a remote location where 110-volt current is not available. Most units that are powered by a fully charged 12-volt deep-cycle batteries can last three weeks before needing a charge. Addition of a solar trickle charger will help prolong the duration of effective charge in 12-volt batteries.

Fence Posts. On small scale fences, the posts are normally the second largest expense involved in construction. Therefore, when planning an electric fence it is a good idea to utilize existing fencing in order to save money. If no existing fence is available, posts will need to be placed around the area needing protection. Posts may be wood, metal, plastic, or fiberglass. Wood and metal posts will need to have plastic insulators attached to them which prevent the electric wire from touching the post causing it to ground out. Plastic and fiberglass posts do not need insulators, the wire may be affixed directly to these posts. Wood and metal posts are typically more expensive and require the added expense of insulators, however, they are more durable and generally require less maintenance.

Wire. Fourteen to seventeen gauge wire is the most common size range used in electric fencing. Heavier wire (a lower gauge number) is more expensive but carries current with less resistance and is more durable (FitzGerald, 1984).

The two most common types of wire are galvanized and aluminum. Galvanized wire is simply a steel wire with a zinc coating to prevent rust, which makes the wire last longer. Some wire is more galvanized than others. The degree or amount of zinc coating that is around the core steel wire is measured in three classes. A class I galvanization means the wire has a thinner coating of zinc than a class II galvanization. Class III galvanized wire has the heaviest zinc coating and will last longer than the class I and class II wire (FitzGerald, 1984). In general, the cost of galvanized wire increases as the class or amount of galvanization increases.

Aluminum wire is typically more expensive than the galvanized wire. Some advantages of aluminum wire are: it will not rust, it conducts electricity four times better, and it weighs one-third less than steel wire.

The Ground Rod. The ground is an often overlooked, but critical part of an

electric fence. Without a good ground, electricity will not flow through the wire. When an animal touches a charged wire, the body of the animal completes the electrical circuit and the animal feels the “shock”. The current must travel from the charger through the wire to the animal and then back through the ground to the charger if the animal is to feel the shock. The soil acts as the return “wire” (ground) in the circuit. However, if a bird was to land on a charged wire without touching the soil the bird would not complete the circuit and would be unaffected (FitzGerald, 1984). Some fence configurations use actual grounded wires within the fence to enhance the grounding system.
The ground may be a commercial ground rod or a copper tube or pipe driven six to eight feet in moist soil. Copper is expensive, so a copper coated steel pipe or any other good conducting metal pipe will work also. Very dry soil can effect the ability to create a good ground and has sometimes been a problem during drought conditions. Pipe may be a better choice than a solid rod during drought conditions, because water may be poured down the ground pipe to improve the ground. Some fence configurations use wires as the grounding system, rather than relying solely on the soil as a ground.

Recommended Electric Fence to Deter Black Bears

Conditions at fence sites will vary and will determine what the most effective fence configuration will be. Commission biologists welcome the opportunity to visit sites and provide custom tailored advice on constructing an effective electric fence. The following recommendation will cover most situations with low to moderate pressure from black bears. Use a five strand aluminum wire fence that is 40 inches high with wire spacing every eight inches apart using the previously mentioned wired grounding system (see Figure 1). The wire closest to the ground level (the lowest wire) should be a charged or “hot” wire. The second wire should be grounded. The third wire should be hot. The fourth wire should be grounded and the fifth wire should be hot. If using metal or wood posts, insulators must be used to keep the hot wires from grounding out. The cost of this type of electric fence utilizing fiberglass posts and a 110 volt fence charger is approximately $200 for a 40' x 40' area (160 linear feet of fence).

Materials:
1 - 1, 312 foot roll (1/4 mile) 14 gauge aluminum electric fence wire
1 - 50 foot roll 12 gauge insulated wire
20 - 5 foot 5/8 inch dia fiberglass fence posts
5 - plastic gate handles
1 - 110 volt fence charger
1 - 10 foot ground pipe
4 - plastic electric fence signs

Installation. These instructions are for a square shape fence exclusion, but the process would be very similar for other applications. Drive 4 corner posts 1-foot deep into ground and stake with guy wires. Clip, rake, and keep clear any vegetation in a 15-inch wide strip under the fence and apply herbicide. Attach and stretch the aluminum wire at 8-inch increments starting 8 inches from ground level. A loop of wire should be left on each wire at the first corner post. Once the wire has been stretched around the outside of all the corner posts back to the first post a plastic gate handle should be attached to each wire and the gate handles should be attached to each corresponding loop on the first corner post. Drive in the remaining 16 posts to the same depth at 8-foot intervals between corner posts. Secure each of the five wires to each of the posts with additional wire. Attach four plastic electric fence signs (one on each side) to the top wire of the fence. Attach a 12-gauge strand of insulated wire to the positive terminal of the fence charger and attach it to the first, third, and fifth wires of the fence. Attach another 12 gauge insulated wire to the negative terminal of the charger and attach this wire to the ground pipe which has been driven into the ground 6 to 8-feet deep. Attach another 12 gauge insulated wire from the negative terminal of the charger to the second and fourth wires on the fence. Plug the charger into a 110 volt power supply and the fence is in operation.

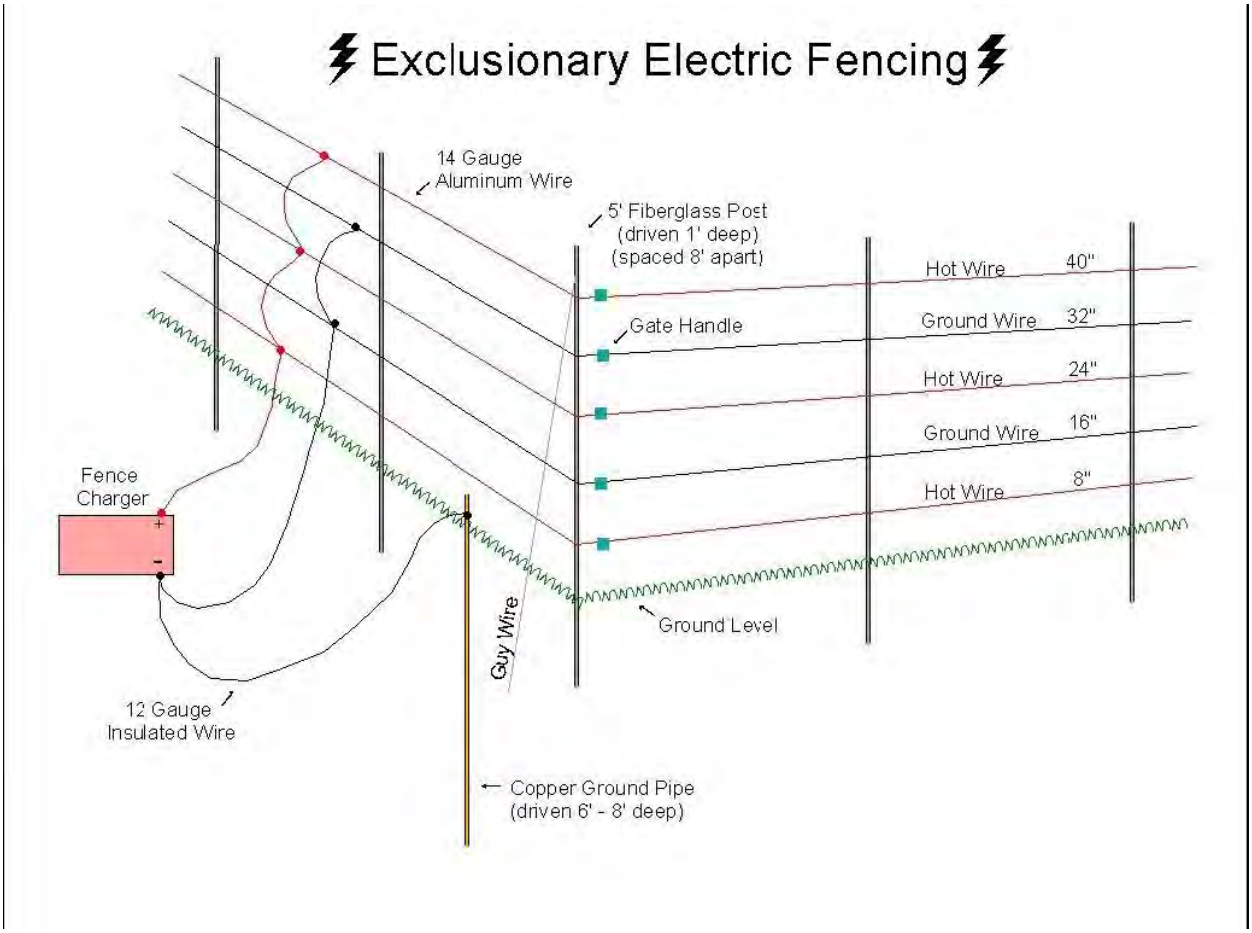
Tips to improve the effectiveness of your electric fence to deter black bears:

1. If using a 12-volt fence charger, ensure that the battery is charged; check every two weeks.
2. Make sure terminals on the charger and battery are free of corrosion.
3. Make sure hot wires are not being grounded out by tall weeds, fallen tree branches, broken insulators, etc.
4. If fence wires have been broken and repaired, make sure wires are corrosion free where they have been spliced together. Also, tighten the fence at each corner post as wires that have been spliced and are loose make poor connections.
5. Be sure to rake vegetation from under and around the outside of the fence as this may act as an insulator.
6. To improve the ground around the perimeter of the fence add a piece of 24 inch chicken wire laying on the ground around the outside of the fence. This should be connected to ground.
7. During periods of drought pour water down the ground pipe and around the ground pipe to improve the ground. Digging a 6 inch deep 6 inch diameter hole around the ground pipe and back filling with rock salt will also improve the ground. Additional ground pipes may also be added to portions of the fence farthest from the charger.
8. To ensure that the bear solidly contacts the charged portion of the fence, a bait

like bacon strips, a can of sardines, or tin foil with peanut butter may be attached to one of the top hot wires. Make sure these do not contact the ground, thus shorting out the fence.
9. When protecting a specific structure (like a shed or rabbit hutch), the fence should be placed 3 to 5 feet away from the structure (rather than on it) so that the bear encounters the fence before reaching the attractant.
10. Protect the fence charger from the elements by covering it with a plastic bucket or a wooden box.
11. Place plastic electric fence signs around the perimeter of your fence to improve visibility and to warn other people.

LITERATURE CITED

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



AGREEMENT

ATTACHMENT 2

Place Holder for Map

Of

Apiary Locations

At

WMA/WEA

APIARY SITE APPLICATION FORM

Florida Fish and Wildlife
Conservation Commission

RETURN TO: The Florida Fish and Wildlife Conservation Commission, 620 South Meridian Street, Tallahassee, FL 32399-1600. Please print or type all information. Attach additional sheets if necessary.

Name _____ Telephone Number _____

Mailing Address _____

City or Town_____ County _____ Zip Code _____

Physical Address (If Different from Mailing Address) _____

Company Name: _____

Email Address _____

Requested Wildlife Management or Wildlife and Environmental Area(s)(see attached list of WMA/WEAs with apiary sites):

WMA/WEA _____ County_____ # of Sites_____

WMA/WEA _____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

WMA /WEA_____ County_____ # of Sites_____

Planned Number of Hives Per Site: _____ Permanent: ____ Seasonal: _____

Member of Beekeepers Association: Yes____ No____

Number of Years a Member_____

Name of Beekeepers Association:_____

Are you registered with Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI):_____Yes _____No _____N/A If yes, please provide proof.

Are you current with any and all special inspection fees:_____Yes _____No _____N/A. If yes, please provide proof.

Do you follow all recommended Best Management Practices from FDACS/DPI?:_____Yes _____No

If no, then please explain on a separate piece of paper.

Please provide below a chronological history of your beekeeping experience. If you need more space, please provide additional sheets:

References: If a new apiary contractor, please provide on a separate piece of paper at least 3 references who can verify your apiary experience. Provide each reference's name, address, phone number and email address (if applicable). Please attach reference sheet to this document and submit.

MISSION STATEMENT

Management

Of

Florida Fish and Wildlife Conservation Commission's

Wildlife Management Areas

And

Wildlife and Environmental Areas

The mission of the Florida Fish and Wildlife Conservation Commission (FWC) is to manage fish and wildlife resources for their long-term well-being and the benefit of the people. To aid in accomplishing this mission, one of FWC's management goals is to manage fire-adapted natural communities on our Wildlife Management and Environmental Areas (WMA/WEA) to support healthy populations of the plants and animal's characteristic of each natural community. In order to achieve this goal various habitat management techniques are used. These include prescribed burning, applications of herbicides and mechanical treatment of vegetation. These management efforts will take place at various times and locations on each of the FWC's WMA/WEAs. Staff on each WMA/WEA will work with and make users aware of these activities when necessary. Users must be aware and accept that these activities are necessary for the proper management of the area.

Note: This document is included as an attachment with each Application and executed Contract.

FDACS/DPI's BMP

Florida Department of Agriculture & Consumer Services

BEST MANAGEMENT PRACTICES FOR
MAINTAINING EUROPEAN HONEY BEE COLONIES

1. Beekeepers will maintain a valid registration with the Florida Department of Agriculture and Consumer Services/Division of Plant Industry (FDACS/DPI), and be current with any and all special inspection fees.

2. A Florida apiary may be deemed as European Honey Bee with a minimum 10% random survey of colonies using the FABIS (Fast African Bee Identification System) and/or the computer-assisted morphometric procedure (i.e., Universal system for the detection of Africanized Honey Bees (AHB) (USDA-ID) or other approved methods by FDACS on a yearly basis or as requested.

3. Honey bee colony divisions or splits should be queened with production queens or queen cells from EHB breeder queens following Florida's Best Management Practices.

4. Florida beekeepers are discouraged from collecting swarms that cannot be immediately re-queened from EHB queen producers.

5. Florida Beekeepers should practice good swarm-prevention techniques to prevent an abundance of virgin queens and their ready mating with available AHB drones that carry the defensive trait.

6. Maintain all EHB colonies in a strong, healthy, populous condition to discourage usurpation (take over) swarms of AHB.

7. Do not allow any weak or empty colonies to exist in an Apiary, as they may be attractive to AHB swarms.

8. Recommend re-queening with European stock every six months unless using marked or clipped queens and having in possession a bill of sale from an EHB Queen Producer.

9. Immediately re-queen with a European Queen if previously installed clipped or marked queen is found missing.

10. Maintain one European drone source colony (250 square inches of drone comb) for every 10 colonies in order to reduce supersedure queens mating with AHB drones.

11. To protect public safety and reduce beekeeping liability, do not site apiaries in proximity of tethered or confined animals, students, the elderly, general public, drivers on public roadways, or visitors where this may have a higher likelihood of occurring.

12. Treat all honey bees with respect.

RANDOM

SELECTION PROCESS

FOR VACANT APIARY SITE

When an apiary site becomes available the following procedure is used to randomly select the next apiarist (beekeeper) for an available apiary site on a WMA or WEA. Only those who have been evaluated and deemed qualified to be an apiarist on a WMA/WEA through the Apiary Application process will be eligible for this selection process. The steps below will be followed by the THCR Contract Manager when a site becomes available to be filled by a qualified apiarist:

1. The THCR Contract Manager will maintain an "Apiary Wait List Folder" on the THCR SharePoint for each WMA/WEA with apiary sites.
2. A wait list is either created or updated when an Apiary Application(s) is received by the THCR Contract Manager from a qualified apiarist.
3. Upon receipt of an apiary site application, the THCR Contract Manager will review the WMA/WEA folder to see if there is an "Apiary Wait List".
4. If a list exists then the qualified applicant will be added to the list.
5. When an apiary site becomes available if there are more than one qualified apiarist then these apiarists will be contacted by certified letter to determine their interest.
6. The letter will request a response within 10 working days to make them eligible for the random drawing.
7. If there is no response or is negative then that apiarist will not be included in the random drawing and the name will be removed from the waiting list*.
8. If only one apiarist responds positively to the certified letter then the available site will be awarded to that interested apiarist.
9. If there are no apiarists on a wait list or all responses are negative then apiarists who currently have site(s) under Agreement and where not on the waiting list will be contacted to see if any have interest in the available site. If more than one responds

then the random drawing process will be used to determine who will be awarded the site.

10. Steps to be performed by the THCR Contract Manager to execute the random selection for an available apiary site are listed below:

    a. The names of each interested apiarist will be noted on a 1" X 2" piece of paper and folded in half.

    b. The pieces of paper will be inserted into a "black film canister" which has a snap top and placed into a container and stirred up prior to the selection.

    c. A non-biased person will be selected to reach into the bowl (which will be held above the selection person's eyesight) and randomly select one of the canisters.

    d. The canister will be opened by the person performing the selection and the name is read aloud for those in attendance. Everyone in attendance will sign a witness sheet.

    e. The apiarist whose name is selected will be awarded the available site.

    f. A new Agreement will be developed by the THCR Contract Manager.

*****A new apiary application must be submitted once requestor's name is removed from a waiting list.

11.7 Management Procedures Guidelines - Management of Archaeological and Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties
(revised March 2013)

These procedures apply to state agencies, local governments, and non-profits that manage state-owned properties.

A. General Discussion

Historic resources are both archaeological sites and historic structures. Per Chapter 267, Florida Statutes, '*Historic property' or 'historic resource' means any prehistoric district, site, building, object, or other real or personal property of historical, architectural, or archaeological value, and folklife resources. These properties or resources may include, but are not limited to, monuments, memorials, Indian habitations, ceremonial sites, abandoned settlements, sunken or abandoned ships, engineering works, treasure trove, artifacts, or other objects with intrinsic historical or archaeological value, or any part thereof, relating to the history, government, and culture of the state."*

B. Agency Responsibilities

Per State Policy relative to historic properties, state agencies of the executive branch must allow the Division of Historical Resources (Division) the opportunity to comment on any undertakings, whether these undertakings directly involve the state agency, i.e., land management responsibilities, or the state agency has indirect jurisdiction, i.e. permitting authority, grants, etc. No state funds should be expended on the undertaking until the Division has the opportunity to review and comment on the project, permit, grant, etc.

State agencies shall preserve the historic resources which are owned or controlled by the agency.

Regarding proposed demolition or substantial alterations of historic properties, consultation with the Division must occur, and alternatives to demolition must be considered.

State agencies must consult with Division to establish a program to location, inventory and evaluate all historic properties under ownership or controlled by the agency.

C. Statutory Authority

Statutory Authority and more in depth information can be found at:

http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

Even though the Division sits on the Acquisition and Restoration Council and approves land management plans, these plans are conceptual. Specific information regarding individual projects must be submitted to the Division for review and recommendations.

Managers of state lands must coordinate any land clearing or ground disturbing activities with the Division to allow for review and comment on the proposed project. Recommendations may include, but are not limited to: approval of the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effects.

Projects such as additions, exterior alteration, or related new construction regarding historic structures must also be submitted to the Division of Historical Resources for review and comment by the Division's architects. Projects involving structures fifty years of age or older, must be submitted to this agency for a significance determination**.** In rare cases, structures under fifty years of age may be deemed historically significant. These must be evaluated on a case by case basis.

Adverse impacts to significant sites, either archaeological sites or historic buildings, must be avoided. Furthermore, managers of state property should make preparations for locating and evaluating historic resources, both archaeological sites and historic structures.

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, certain information must be submitted for comments and recommendations. The minimum review documentation requirements can be found at: http://www.flheritage.com/preservation/compliance/docs/minimum_review_documentation_requirements.pdf .

* * *

Questions relating to the treatment of archaeological and historic resources on state lands should be directed to:

Deena S. Woodward
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250
Phone: (850) 245-6425
Toll Free: (800) 847-7278
Fax: (850) 245-6435

11.8 Land Management Uniform Accounting Council Categories

Land Management Uniform Cost Accounting Council

Uniform Land Management Cost Categories and Subcategories

1. Resource Management

a. Exotic Species Control. -- Invasive exotic plant and animal removal activities and costs for inventorying, planning, preparing, executing, evaluating, monitoring and reporting. Also includes equipment, chemicals, protective clothing and supplies. Includes nuisance native feral animal and plant control.

b. Prescribed Burning. -- Prescribed burning activities and costs for assessing, planning, preparing, executing, evaluating and reporting. Also includes equipment, protective clothing and supplies.

c. Cultural Resource Management. -- Management activities and costs for assessing, planning, executing, evaluating and reporting, and for all maintenance, restoration or monitoring activities for prehistoric and historic sites, features and collection objects.

d. Timber Management. -- Activities and costs related to the establishment of a stand of potentially merchantable timber, harvest of merchantable timber, and cultural treatments intended primarily to improve the growth and overall health of a stand of merchantable timber. Also includes activities and costs related to the cutting of merchantable timber in natural community and habitat restoration projects.

e. Hydrological Management. -- Hydrological management and restoration activities and costs for assessing, monitoring, planning, preparing, executing, evaluating and reporting. Includes water level management, repair, removal or back-filling of ditches, canals, berms and dams. Also includes water quality and water quantity monitoring.

f. Other. -- All other resource management activities and costs not captured in other specific subcategories. Examples include natural community and habitat restoration through other techniques; plant, animal or biological community survey, monitoring and research; listed species management; technical assistance; and evaluating and commenting on resource impacts to parks.

2. Administration

a. Central Office/Headquarters. -- Headquarters units conducting general administration of land under management by the agency. Includes upper management direction, administration and fiscal, budget, personnel, purchasing and record keeping required for operations oversight and specific programs. Includes all duties unless they specifically relate to other categories or subcategories.

b. Districts/Regions. -- Sub-state administrative districts or regions conducting general administration of the properties under their management. Includes all duties, unless they specifically relate to other categories or subcategories. General operating costs of district or region administrative facilities are included.

c. Units/Projects. -- Conducting general administration duties at a specific management unit (state park, state forest, state wildlife management area, etc.). Includes supervisory duties, fiscal and record keeping duties, and any other duties that do not specifically relate to other categories or subcategories. General operating costs for the property, such as utilities, telephones and garbage collection, are included.

3. Support

a. Land Management Planning. -- Developing land management plans required by Sec. 253.034, F.S. Includes researching and compiling plan information, materials and maps, coordinating planning activities, conducting review activities (internal reviews, public meetings, advisory group meetings, ARC, etc.), and promulgating draft plans and final plans.

b. Land Management Reviews. -- Planning, organizing and conducting land management reviews by teams created under Sec. 259.036, F.S. Includes preparing and responding to land management review reports. Also includes similar work conducted as part of internal agency land management reviews.

c. Training/Staff Development. -- Staff training and development costs incurred in any facet of the agency's land management activities.

d. Vehicle Purchase. -- Acquisition of any vehicle purchased primarily for land management purposes or to support any category of land management activity by the agency.

e. Vehicle Operation and Maintenance. -- Costs of operating and upkeep of any vehicle used by the agency to support any category of land management activity.

f. Other. -- Any other support activity or cost not captured by other categories or subcategories.

4. Capital Improvements

a. New Facility Construction. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all new facility design and construction activities. Includes new roads, parking and all other infrastructure.

b. Facility Maintenance. -- Use of Fixed Capital Outlay (FCO) or other budget authority for all repairs or renovations to existing facilities, roads or other infrastructure. Also includes ADA accessibility improvements and renovations.

5. Visitor Services/Recreation

a. Information/Education Programs. -- Interpretive, environmental education and marketing programs that explain or promote the agency's mission or instill in visitors an understanding and appreciation for Florida's natural and cultural resources and their proper use and care. Includes signs, brochures, maps and other public information materials that are produced or disseminated.

b. Operations. -- Includes the non-administrative and non-support costs involved in providing public access to lands. Includes all actions required to manage visitor activities in a way to ensure safe and enjoyable use by the public. Includes routine maintenance, cleaning and other work required to provide safe and efficient utilization of facilities and resources that support visitor use and recreation. Includes protection activities required by staff to safeguard natural and cultural resources, facilities, material, staff and visitors.

6. Law Enforcement

The provision of all activities for enforcing criminal, conservation and boating laws on land, freshwater and marine environments and all costs associated with these services. Includes the provision of uniform patrol. Includes overt and covert criminal investigations. Includes regulation of commercial wildlife trade. Also includes the direction and administration of all law enforcement programs and activities, and all associated costs.

Land Management Uniform Accounting Council and FWC Activity Code Groupings

Resource Management

Exotic Species Control

210 Exotic species control
211 Exotic plant control (mechanical)
212 Exotic plant control (chemical)

Prescribed Burning

205 Prescribed burning
206 Prescribed burning C growing season (April 1 to September 30)
207 Prescribed burning C dormant season (October 1 to March 31)
208 Firebreaks

Cultural Resource Management

201 Cultural resource management

Timber Management

202 Timber management

Hydrological Management

215 Hydrology management
216 Dams, dikes, levees
217 Canals
218 Water level management
194 Lake restoration

Other

185 GIS
186 Biometrics
200 RESOURCE MANAGEMENT
203 Tree and shrub planting
213 Wildlife management
214 Listed Species management
219 Upland restoration
282 Herbaceous seeding
283 Clearings
289 Native vegetation management (mechanical)
290 Native vegetation management (chemical)
221 Animal surveys
228 Inland aerial surveys
235 Vegetation and plant surveys
250 MONITORING AND ASSESSMENTS
252 Biomedical monitoring
253 Ecological monitoring
256 Habitat monitoring analysis
263 Nest box monitoring
264 Population demographics

295 Biological data collection, analysis, and reporting
275 Permits and authorizations
276 Commission rule development and review
277 Relocation
278 CITES tags
281 Other resource management
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints
293 Mortality investigations
294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
296 Habitat protection technical assistance
750 URTD assessment
789 Site Preparation – GCR
790 Irrigation – GCR
791 Seed Collection – Hand
792 Seed Collection – Mechanical
793 Herbicide Maintenance Treatment

Administration

Central Office/Headquarters

100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
104 Budget/purchasing/accounting

Districts/Regions

See Location code

Units/Projects

See Location code

Support

Land Management Planning

103 Meetings C includes workshops, conferences, staff, and other meetings.
204 Resource planning

Land Management Reviews

209 Land Management Reviews
101 Project inspection C field inspections of projects.

Training/Staff Development

150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.

Vehicle Purchase

128 New Vehicle and Equipment Purchase

Vehicle Operation and Maintenance

923 FEM C vehicles/equipment

Other

140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
141 Grant applications
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
187 IT
188 Web development
721 Geospatial analysis techniques
191 Stamp design coordination
226 Human dimensions surveys

Capital Improvements

New Facility Construction

910 New facility construction C buildings/structures
912 New construction C roads/bridges
913 New construction C trails
914 New construction C fences

Facility Maintenance

920 Facility and equipment maintenance (FEM) C buildings/structures
921 FEM C utilities
922 FEM C custodial functions
925 FEM C boating access
926 FEM C roads/bridges
927 FEM C trails
928 FEM C fences

Visitor Services/Recreation

Information/Education Programs

145 Technical bulletin

Operations

311 Boundary signs
312 Informational signs
320 Outreach and education C attending or developing educational or informational materials or events for the public
327 Becoming an Outdoor Woman C enhancement
331 Wings Over Florida
339 Range safety operations

341 Public use administration (hunting)
342 Public use administration (non-hunting)
350 Customer service support C disseminating written or verbal information or assistance to the public
700 STUDIES
740 EVALUATIONS AND ASSESSMENTS

Law Enforcement

FWC Activity Code Numeric Listing

100 ADMINISTRATION C administrative tasks, including preparation of forms, word processing, photocopying, filing, and other clerical/secretarial duties.
101 Project inspection C field inspections of projects.
103 Meetings C includes workshops, conferences, staff, and other meetings.
104 Budget/purchasing/accounting
128 New Vehicle and Equipment Purchase
140 REPORT WRITING/EDITING/MANUSCRIPT PREPARATION
141 Grant applications
145 Technical bulletin
150 PERSONNEL MANAGEMENT C recruitment, hiring, training, counseling, and supervising.
180 SYSTEMS ADMINISTRATION AND MANAGEMENT
182 Data management
184 Metadata development and management
185 GIS
186 Biometrics
187 IT
188 Web development
191 Stamp design coordination
194 Lake restoration
200 RESOURCE MANAGEMENT
201 Cultural resource management
202 Timber management
203 Tree and shrub planting
204 Resource planning
205 Prescribed burning
206 Prescribed burning C growing season (April 1 to September 30)
207 Prescribed burning C dormant season (October 1 to March 31)
208 Firebreaks
209 Land Management Reviews
210 Exotic species control
211 Exotic plant control (mechanical)

212 Exotic plant control (chemical)
213 Wildlife management
214 Listed Species management
215 Hydrology management
216 Dams, dikes, levees
217 Canals
218 Water level management
219 Upland restoration
221 Animal surveys
226 Human dimensions surveys
228 Inland aerial surveys
235 Vegetation and plant surveys
250 MONITORING AND ASSESSMENTS
252 Biomedical monitoring
253 Ecological monitoring
256 Habitat monitoring analysis
263 Nest box monitoring
264 Population demographics
275 Permits and authorizations
276 Commission rule development and review
277 Relocation
278 CITES tags
281 Other resource management
282 Herbaceous seeding
283 Clearings
284 Feeding/watering
285 Nest structures
286 Population control
287 Stocking enhancements/population augmentation
288 Nuisance animal complaints
289 Native vegetation management (mechanical)
290 Native vegetation management (chemical)
293 Mortality investigations
294 Program coordination and implementation C inter- and intra-agency coordination and program implementation at the section, bureau, or division level
295 Biological data collection, analysis, and reporting
296 Habitat protection technical assistance
311 Boundary signs
312 Informational signs
320 Outreach and education C attending or developing educational or informational materials or events for the public
327 Becoming an Outdoor Woman C enhancement
331 Wings Over Florida
339 Range safety operations

341 Public use administration (hunting)
342 Public use administration (non-hunting)
350 Customer service support C disseminating written or verbal information or assistance to the public
700 STUDIES
721 Geospatial analysis techniques 740 EVALUATIONS AND ASSESSMENTS
750 URTD assessment
789 Site Preparation – GCR
790 Irrigation – GCR
791 Seed Collection – Hand
792 Seed Collection – Mechanical
793 Herbicide Maintenance Treatment
910 New facility construction C buildings/structures
912 New construction C roads/bridges
913 New construction C trails
914 New construction C fences
920 Facility and equipment maintenance (FEM) C buildings/structures
921 FEM C utilities
922 FEM C custodial functions
923 FEM C vehicles/equipment
925 FEM C boating access
926 FEM C roads/bridges
927 FEM C trails
928 FEM C fences

11.9 Arthropod Control Plan

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

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

ADAM H. PUTNAM
COMMISSIONER

Section 388.4111, F.S.
Telephone: (850) 617-7997

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

Name of Designated Land:

Mosquito Lagoon Marine Enhancement Center

Is Control Work Necessary: ☒ Yes ☐ No

Location:

The corner of Barracuda Blvd. and Quay Assisi, New Smyrna Beach. Nearest Section, Township, and Range are Sections 40 and 41 in Township 17S, Range 34E.

Land Management Agency:

Board of Trustees Internal Improvement Trust Fund; leased to Florida Fish and Wildlife Conservation Commission and Marine Discovery Center

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain: **There is the potential for flood water mosquito production in upland sites and there are more than several man made structures re. catch basins that also have the potential to produce mosquitoes. At this time, no salt marsh mosquito production has been identified. When mosquito production is identified, larviciding is required as a primary component of an Integrated Mosquito Management (IMM) program.**

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

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

If "Other", please explain:

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Arthropod Species for Which Control is Proposed:

Diptera:Culicidae

Aedes* species, such as *Aedes infirmatus and Aedes atlanticus; Aedes albopictus and Aedes aegypti.

Culex* species including *Culex nigripalpus and Culex quinquefasciatus

Psorophora* species including *Psorophora columbiae and Psorophora ferox

Proposed Larval Control:

Proposed larval monitoring procedure: **Dipping, utilizing standard dipper methodology. Aquarium style net for catch basins.**

Are post treatment counts being obtained: ☒ **Yes** ❑ No

Biological Control of Larvae:

Might predacious fish be stocked: ☒ **Yes** ❑ No

VCMC has a small fish hatchery which provides the district with *Gambusia affinis*, obtained from a variety of Volusia County locations. Only *G. affinis* would be utilized.

Other biological controls that might be used:

See below Biorational agents including *Bti* and *Bs*.

Material to be Used for Larvaciding Applications:

(Please Check All That Apply:)

☒ Bti

☒ Bs

☒ Methoprene

❑ Non-Petroleum Surface Film*

❑ Other, please specify:

Please specify the following for each larvacide:

Chemical or Common name: ***Bti* = VectoBac, *Bs* = VectoLex, *Bti/Bs* combination = VectoMax, methoprene = Altosid,**

☒ Ground ❑ Aerial

Rate of application:

VectoBac = 0.25-2 pts/acre (liquid) or 2.5-20 lbs/acre (granular), VectoLex = 5-20 lbs/acre (granular), VectoMax = 5-20 lbs/acre

Altosid = 0.75-1 fl oz/acre (liquid) or 5-20 lbs/acre (extended release granular/pellets).

Method of application: **Backpack; hand**

Proposed Adult Mosquito Control:

Aerial adulticiding ☐ Yes ☒No

Ground adulticiding ☒ **Yes** ☐No

Please specify the following for each adulticide:

Chemical or common name:

Permethrin, Prallethrin, Sumithrin

Rate of application:

Permethrin/PBO = 0.00175-0.007lb AI/acre (0.9-3.6fl oz/min at 10mph).

Prallethrin = 0.00024-0.00072lb AI/acre, PBO = 0.0012-0.0036lb AI/acre, Sumithrin = 0.0012-0.0036lb AI/acre (all at 0.41-1.23fl oz/acre).

Method of application:
Ultra Low Volume (ULV); Hand-held ULV, ATV-mounted ULV unit, Truck-mounted ULV unit

Proposed Modifications for Public Health Emergency Control: Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.

Proposed Notification Procedure for Control Activities:

Larviciding notification via an email to the Land Manager, Twitter and Volusia County Mosquito Control's (VCMC) website http://gbawebpro.vcgov.org/PW5/webmap5.aspx?XML=servicesPublic_MC.xml

Records:

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

☒ **Yes** ☐No

Records Location: **VCMC, 801 South St, New Smyrna Beach, FL**

How long are records maintained: **5+ years**

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Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed? **N/A**

Proposed Land Modifications: **N/A**

Is any land modification, i.e., rotary ditching, proposed: **N/A**

Include proposed operational schedules for water fluctuations: **N/A**

List any periodic restrictions, as applicable, for example peak fish spawning times. **N/A**

Proposed Modification of Aquatic Vegetation: **N/A**

Land Manager Comments:

Arthropod Control Agency Comments: **VCMC has an extensive Integrated Pest (Mosquito) Management Program. We are governed and abide by SS Chapter 388 and FAR 5E-13. In addition to regulatory compliance, we follow Best Management Practices for MC as defined by the American Mosquito Control and Florida Mosquito Control Association.**

Please find Volusia County Mosquito Control's Mission Statement as follows - To provide an Integrated Pest Management (IPM) program for mosquitoes and other arthropods of public health importance based upon a surveillance system targeting both nuisance and disease-important mosquito species. We will strive to meet the expectations of our constituents and ensure that the IPM program engenders a rigorous safety program that takes into account the needs of our personnel, our constituents and our environment. At all times, our IPM program will follow state law, regulations and standards.

12/13/17
Signature of Lands Manager or Representative Date

12-13-17
Signature of Mosquito Control Director / Manager Date

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11.10 Volusia County Letter of Compliance with Local Government Comprehensive Plan

Volusia County
FLORIDA

Growth and Resource Management Department
Planning and Development Services

November 15, 2017

Ms. Dylan Imlah
Florida Fish and Wildlife Conservation Commission
Division of Habitat and Species Conservation
Land Conservation and Planning
Land Conservation Planner
620 S. Meridian Street
Tallahassee, Florida 32399 ***sent via email: Dylan.Imlah@MyFWC.com***

RE: Mosquito Lagoon Marine Enhancement Center Management Plan

Ms. Imlah:

Volusia County appreciates the opportunity to review the Mosquito Lagoon Marine Enhancement Center Management Plan. Our review finds the plan to be consistent with the policies of the Volusia County Comprehensive Plan and other applicable county regulations.

If you should have further questions or comments, please do not hesitate to contact me.

Sincerely,

Michael E. Shea for

Susan Jackson, Senior Planning Manager
Volusia County Planning and Development Services

C: file