Agenda Item: **5J1**

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date:	March 22, 2022	( ) Consent ( ) Workshop	(X) Regular ( ) Public Hearing
Department:	Environmental Resources Management		

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: an updated Management Plan (Plan) for Jupiter Ridge Natural Area.

Summary: The initial Plan was approved by the Board of County Commissioners (BCC) in November 1996. A ten-year update to the plan was approved by the BCC on June 29, 2010. The Plan identifies natural resources present on the natural area and provides for the preservation, restoration, management and passive recreational use of those resources. The Natural Areas Management Advisory Committee unanimously recommended the Plan for approval at its September 17, 2021 meeting. The State Acquisition and Restoration Council (ARC) approved the updated plan on February 11, 2022. Initial invasive/nonnative vegetation removal, fence and regulatory sign installation, and public use facilities have been completed. Annual management and operating costs, including prescribed burns/mechanical vegetation reduction, ongoing invasive/nonnative animal and plant control, repair and replacement of facilities, and biological monitoring and reporting are estimated to be $152,803. This cost is for the current fiscal year and is expected to increase as described in the Summary of Fiscal Impact. Funds for capital improvements, and annual management and operation of the site are expected to come from the Natural Areas Fund, Natural Areas Stewardship Endowment Fund, Pollution Recovery Trust Fund, Ag Reserve Land Management Fund, and/or ad valorem funding sources. District 1 (SS)

Background and Policy Issues: Section 259.032, Florida Statutes requires that management plans for sites leased from the State be revised every ten years. During the ARC review process, comments were provided by the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Natural Areas Inventory (FNAI). The 269-acre Jupiter Ridge Natural Area is located in the northeastern portion of Palm Beach County (County) within the Town of Jupiter (Town). The County owns three acres of the site and the State owns 266 acres, which the County leases and manages. The primary purpose for the acquisition was to preserve, restore/enhance and manage the site's ecological resources, including the existing natural communities, their component plant and animal species, and local groundwater resources. Environmental Resources Management is dedicated to maximizing the beneficial effects of its land management activities, public use facilities and public outreach efforts, while improving efficiencies and reducing costs. Staff also continue to pursue any grants available to offset a portion of land management costs. The next update to the management plan will be in 2032.

Attachments:
1. Jupiter Ridge Natural Area Management Plan
2. Florida Department of Environmental Protection Approval Letter

Recommended by: _____ 2-23-2022
Department Director **Date**

Approved by: _____ 3/9/22
Assistant County Administrator **Date**

SAS 2/22/22

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2022	2023	2024	2025	2026
Capital Expenditures					
Operating Costs	$152,803	$157,387	$162,109	$166,972	$171,981
External Revenues					
Program Income (County)					
In-Kind Match (County)					
NET FISCAL	$152,803	$157,387	$162,109	$166,972	$171,981
# ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included in Current Budget? Yes __X__ No ___

Does this item include the use of federal funds? Yes _____ No __X__

Budget Account No.:

Fund 1226 **Department** 380 **Unit** 3162 **Object** Various **Program** _____

B. Recommended Sources of Funds/Summary of Fiscal Impact:

Fiscal Year 2022 management and operating costs are estimated to be $152,803. Over the past five years, annual management and operating costs for County owned/managed natural areas have increased an average of 3% per year. Annual management and operating costs for FY 2023 and beyond may be higher or lower than projected. Funds for management and operation of the natural area are expected to come from the Natural Areas Fund (1226), Natural Areas Stewardship Endowment Fund (1220), Pollution Recovery Trust Fund (1227), Ag Reserve Land Management Fund (1222) and/or ad valorem funding sources.

C. Department Fiscal Review:

III. REVIEW COMMENTS

A. OFMB Fiscal and /or Contract Dev. and Control Comments:

OFMB 3/1/22 2.28.22

Contract Development & Control 3-4-22

B. Legal Sufficiency:

3/8/22
Assistant County Attorney

C. Other Department Review:

Department Director

FLORIDA DEPARTMENT OF Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

February 16, 2022

Ms. Allison Spall
Palm Beach County
2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411

RE: Jupiter Ridge Natural Area – Lease No. 4004

Dear Ms. Spall:

On **February 11, 2022**, the Acquisition and Restoration Council (ARC) recommended approval of the **Jupiter Ridge Natural Area** management plan. Therefore, Division of State Lands, Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, hereby approves **Jupiter Ridge Natural Area** management plan. The next management plan update is due February 11, 2032.

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,

Deborah Burr Digitally signed by Deborah Burr Date: 2022.02.17 10:34:42 -05'00'

Deborah Burr
Office of Environmental Services
Division of State Lands

MANAGEMENT PLAN FOR

JUPITER RIDGE NATURAL AREA

2021

Prepared by:

Palm Beach County
Department of Environmental Resources Management
2300 N. Jog Road, 4th Floor
West Palm Beach, Florida 33411-2743

LAND MANAGEMENT PLAN COMPLIANCE CHECKLIST

→ Required for State-owned conservation lands over 160 acres ←

Instructions for managers:

Complete each item and fill in the applicable correlating SECTION numbers and/or appendix where the item can be found within the land management plan (LMP). If an item does not apply to the subject property, please describe that fact on a correlating page number of the LMP. Do not mark an "N/A" for any items below.

For more information, please visit the stewardship portion of the Division of State Lands' website at: http://www.dep.state.fl.us/lands/stewardship.htm.

Section A: Acquisition Information Items

Item #	Requirement	Statute/Rule	SECTION Numbers and/or Appendix
1.	The common name of the property.	18-2.018 & 18-2.021	1.1
2.	The land acquisition program, if any, under which the property was acquired.	18-2.018 & 18-2.021	1.1
3.	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	1.1, 1.6 and 1.7
4.	The legal description and acreage of the property.	18-2.018 & 18-2.021	1.1 and Appendix D
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	Figures 1 & 8
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	2.1
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	1.5
8.	Identification of adjacent land uses that conflict with the planned use of the property, if any.	18-2.021	1.3
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)	2.1
10.	Proximity of property to other significant State, local or federal land or water resources.	18-2.021	1.1 and Figure 1

Section B: Use Items

Item #	Requirement	Statute/Rule	SECTION 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	1.6
12.	A description of past and existing uses, including any unauthorized uses of the property.	18-2.018 & 18-2.021	1.2
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	1.4
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	4.1
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	3.9
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	4.1
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)	1.4 and 5.1
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	8
19.	Letter of compliance from the local government stating that the LMP is in compliance with the Local Government Comprehensive Plan.	BOT requirement	Appendix I
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	1.4 and 4.6
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

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	1.4
23.	A statement regarding incompatible use in reference to Ch. 253.034(10).	253.034(10)	1.4

*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	SECTION 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	1.8
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)	1.8
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)	1.8 and Appendix J
27.	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	1.8 and Appendix J
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)	1.8 and Appendix J
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	1.8 or 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	1.8 or 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	1.8 or N/A

Section D: Natural Resources			
Item #	Requirement	Statute/Rule	SECTION 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	3.1 and Figure 3
33.	Insert FNAI based natural community maps when available.	ARC consensus	Figure 4
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	3.7
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	3.7
36.	Location and description of known and reasonably identifiable renewable and non-renewable resources of the property regarding beaches and dunes.	18-2.021	3.7
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	3.6
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	3.3 and 3.4
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	3.3 and 3.5
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	3.3, 3.5.1, 3.5.2 3.8, Tables 1 and 2, and Appendix H
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)	3.1 through 3.9, 4.5, 4.6, 5.1 and 5.4
42.	Habitat Restoration and Improvement		
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.	259.032(10) & 253.034(5) ↓	4.3

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.		2.2 and Table 3
42-C.	The associated measurable objectives to achieve the goals.		2.2
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.*		4.4, 4.5 and Appendix G
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.		6.1, 6.2 and Table 4
43.	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. *See footnote.*	253.034(5)	3.3 and Figure 4
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).		4.3
44-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2 and Table 3
44-C.	Measurable objectives (see requirement for #42-C).		2.2
44-D.	Related activities (see requirement for #42-D).		4.5.1
44-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Tables 4 and 5
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).		4.3
45-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2
45-C.	Measurable objectives (see requirement for #42-C).		2.2 and Table 3
45-D.	Related activities (see requirement for #42-D).		4.5.1 through 4.5.4
45-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Tables 4 and 5
46.	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. *See footnote.*	253.034(5)	4.5.2 and Figure 4
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	4.4.4
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).		4.3, 4.5.2, and 4.5.3
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2 and Table 3
48-C.	Measurable objectives (see requirement for #42-C).		2.2

48-D.	Related activities (see requirement for #42-D).		4.5.2 and 4.5.3
48-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Tables 4 and 5

Section E: Water Resources

Item #	Requirement	Statute/Rule	SECTION Numbers and/or Appendix
49.	A statement as to whether the property is within and/or adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation. *If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.*	18-2.018 & 18-2.021	1.6
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	1.6 and 3.2
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	3.3 and Figure 4
52.	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. *See footnote.*	253.034(5)	Figure 4
53.	Hydrological Preservation and Restoration	259.032(10) & 253.034(5) ↓	3.2
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		3.2 and 4.3
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2 and Table 3
53-C.	Measurable objectives (see requirement for #42-C).		2.2
53-D.	Related activities (see requirement for #42-D).		3.2, and 4.5.4
53-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Table 4

Section F: Historical, Archeological and Cultural Resources

Item #	Requirement	Statute/Rule	SECTION 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	3.9
55.	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034(5)	3.9
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	3.9

57.	Cultural and Historical Resources	259.032(10) & 253.034(5) ↓	3.9
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		3.9 and 4.3
57-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2
57-C.	Measurable objectives (see requirement for #42-C).		2.2
57-D.	Related activities (see requirement for #42-D).		3.9
57-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Table 4

**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	SECTION Numbers and/or Appendix
58.	***Quantitative data description of the land regarding an inventory of infrastructure and associated acreage. *See footnote.*	253.034(5)	5.1
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).		4.3, 5.1 through 5.5
59-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2
59-C.	Measurable objectives (see requirement for #42-C).		2.2 and Table 3
59-D.	Related activities (see requirement for #42-D).		5.1 through 5.5
59-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Table 4
60.	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034(5)	5.1 and Figure 8
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).		4.3 and 5.1
61-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2
61-C.	Measurable objectives (see requirement for #42-C).		2.2, 5.1 and Tables 4
61-D.	Related activities (see requirement for #42-D).		5.1

61-E.	Budgets (see requirement for #42-E).		6.1, 6.2 and Tables 4

Section H: Other/ Managing Agency Tools

Item #	Requirement	Statute/Rule	Page or Section Numbers and/or Appendix
62.	Place this LMP Compliance Checklist at the front of the plan.	ARC and managing agency consensus	ii
63.	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034(5)	viii
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	viii
65.	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032(10)	2.2
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)	Table 4
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)	Tables 4
68.	A statement of gross income generated, net income and expenses.	18-2.018	N/A

*** = 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.

Lead Agency: Palm Beach County Department of Environmental Resources Management
Common Name of Property: Jupiter Ridge Natural Area
Location: Town of Jupiter, Palm Beach County
Total Acreage: 269 (266 State-Owned, 3 County-Owned)

Acreage Breakdown:

Land Cover Classification	Acreage*	Land Cover Classification	Acreage*
Coastal Strand	1.3	Mesic Flatwoods	8.1
Depression Marsh	3.4	Parking Area	0.6
Disturbed Scrub	3.1	Scrub	162.1
Estuarine Unconsolidated Substrate	12.2	Scrubby Flatwoods	41.4
Mangrove Swamp	31.5	Shell Rock Road	5.3

*Includes approximately 6.67 acres of submerged and upland areas between the eastern edge of the Atlantic Intracoastal Waterway and the official property boundary that are not being managed by another entity

Lease Number: 4004
Use: Single X Multiple _____
Management Responsibility:

Agency	Responsibility
Palm Beach County	All management activities except maintenance of Riverwalk
Town of Jupiter	Public safety and law enforcement, maintenance of Riverwalk

Designated Land Use: Natural Area (Conservation)
Sublease(s): None
Encumbrances: 23 linear easements and 13 smaller encumbrances
Type Acquisition: Fee simple shared acquisition- Conservation, Recreation Lands funds, and Palm Beach County Environmentally Sensitive Lands Bond Referendum funds
Unique Resources: Natural Lake Worth Creek, Pamlico Dune Ridge, Florida Scrub
Archaeological/Historical None
Management Needs: Maintenance of native ecosystems (primarily through prescribed burning and mechanical vegetation reduction), maintenance of listed species population, and continued control of invasive nonnative species
Acquisition Needs/Acreage: None
Surplus Land Needs/Acreage: None
Public Involvement: Natural Areas Management Advisory Committee meetings, public hearing, Board of County Commissioners Meeting, Acquisition and Restoration Council meeting

_____

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

ARC Approval Date: _____ Trustees Approval Date: _____

Comments: _____
_____
_____

THE PALM BEACH COUNTY NATURAL AREAS SYSTEM MANAGEMENT STATEMENT

The Palm Beach County Natural Areas System is comprised of those environmentally sensitive lands that are owned or leased by the County and managed as natural areas by the County's Department of Environmental Resources Management. These natural areas were selected and acquired to preserve the rare and diverse native ecosystems present on these sites and the endangered, threatened, and rare species of plants and animals that live there.

Purpose and Goals of the Natural Areas System

- *The purpose of the Natural Areas System is to protect, restore and manage remnant native ecosystems, and the plants and animals characteristic of those ecosystems, in perpetuity, throughout Palm Beach County. The management of each natural area shall be coordinated with that of the other natural areas in the system.*

- *Attempts shall be made to maintain physical and/or biological connections with other publicly- or privately-owned natural areas through additional land acquisitions, conservation easements, interlocal agreements, greenway/trail connections and other appropriate actions.*

Management Considerations

- *County natural areas shall be open to the public for non-consumptive/non-destructive, resource-based recreation, environmental education and scientific research. Public use shall not take precedence over ecosystem protection. Public uses shall be limited to those that are compatible with the perpetual preservation and management of the native ecosystems, plants and animals found on the natural area.*

- *All public use facilities shall be chosen, designed and located to have minimal impact on the rare and imperiled plants, animals and natural communities found on the natural area. Facilities, structures or roads (other than management accessways/firebreaks or access roads) that would cause fragmentation of a natural area shall not be permitted.*

- *To the extent practicable, fire-maintained native ecosystems shall be burned at the fire interval necessary to maintain those ecosystems. Burns shall be conducted by trained personnel, using a prescribed burn plan that addresses safety and smoke concerns.*

- *Native ecosystems that have been impacted by invasive/nonnative plant infestations, land-clearing activities, drainage and/or other man-made disturbances shall be restored to their previous condition, if practicable, or to a native ecosystem that is better suited to current environmental conditions.*

- *The special requirements of listed species shall be considered in developing management strategies for each natural area, but an individual species' needs shall not take precedence over management of an entire ecosystem or be allowed to have a detrimental impact on that ecosystem's complement of species.*

Management Plan Development and Revision

- *A management plan shall be written for each natural area that: 1) describes the natural and cultural resources; 2) identifies any constraints associated with managing the natural area in an urbanized environment; and 3) identifies the strategies and techniques that will be used to preserve, restore and manage the native ecosystems, preserve the cultural resources, protect listed species, control invasive/nonnative plants and animals, provide for appropriate public access, manage and maintain public use facilities, and prevent unauthorized access and activities.*

- *Each plan shall be reviewed by the Palm Beach County Natural Areas Management Advisory Committee (NAMAC), a citizens' advisory board, and the public shall be invited to comment on the plan at a public hearing held by NAMAC in the community in which the site is located. Following NAMAC's review of any comments received, the plan shall be sent to the Board of County Commissioners for approval.*

- *Each approved plan shall be subsequently reviewed and updated at least every ten years in accordance with F.S. 253.034(5).*

EXECUTIVE SUMMARY

The 269-acre Jupiter Ridge Natural Area (natural area) is located in the northeastern portion of Palm Beach County (County). The County owns approximately three acres of land within the natural area, and leases and manages 266 acres pursuant to a Lease Agreement with the State of Florida. Funding for the natural area came from the Palm Beach County Environmentally Sensitive Lands Bond Referendum of March 12, 1991 and State Preservation 2000 matching funds were received from the Conservation and Recreation Lands (CARL) Program.

Mangrove swamp, mesic flatwoods, scrub, and scrubby flatwoods are the predominant natural communities present on the site. Smaller areas of coastal strand, depression marsh, and estuarine unconsolidated substrate are also present. Thus far, 364 species of plants and 275 species of animals have been recorded on the site, including nineteen plant and twenty-two animal species that have been designated as having some degree of endangerment by at least one governmental agency or have been ranked by the Florida Natural Areas Inventory.

The primary purpose for the acquisition of this natural area was to preserve, restore/enhance and manage the site's ecological resources, including the existing natural communities, their component plant and animal species, and local groundwater resources. Acquisition, development and management of the site as a natural area have provided members of the public with opportunities for recreational activities, environmental education and scientific research that are consistent with the primary purpose of the site's acquisition. It also has helped the County and the Town of Jupiter comply with portions of their respective comprehensive plans.

Public use facilities have been constructed; the site opened to the public in April 2001. An accessible nature trail, hiking trail, boardwalk, wildlife observation platform, and kiosks with interpretive displays provide valuable opportunities for the public to observe and learn about the site's biologically unique plant communities and associated animals. The main public access, including parking facilities, a bicycle rack and pedestrian entrance, is located via a driveway that connects to U.S. 1. Additional pedestrian access to the site is via the Intracoastal Waterway at an area called "Ski Beach" and via a pedestrian gate located on the Town of Jupiter's multi-use Riverwalk recreational corridor on the north end of the site.

This updated management plan: 1) identifies the existing natural and resources, including rare and imperiled species and vegetation communities; 2) identifies factors that affect the preservation, restoration and long-term management of the existing resources; 3) addresses the site-specific goals, strategies and techniques that will be used to preserve, restore/enhance, manage and monitor the existing resources; 4) ensures that the natural area is developed and managed in accordance with all applicable grant restrictions, and lease agreement conditions; and 5) identifies public recreational uses that may be accommodated without adversely affecting the site's natural resources. This management plan also includes information related to the site's estimated capital costs, estimated annual management and maintenance costs, and any other issues identified by staff.

The County will review and update this management plan at least once every ten years as necessary based on new information, improvements in management techniques or other relevant factors in accordance with F.S. 253.034(5). The next scheduled review of the plan by the Acquisition and Restoration Council will be in 2031.

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1. INTRODUCTION

1.1 LOCATION AND DESCRIPTION

Jupiter Ridge Natural Area (natural area) is located in the northeast portion of Palm Beach County (County) (Figure 1). All of the 269-acre natural area is located in the southeastern portion of the Town of Jupiter (Town). The natural area is bordered to the west by the Atlantic Intracoastal Waterway (ICW), Jonathan's Landing and Admirals Cove residential developments; to the east by U.S. 1 and the Bluff's residential development; to the south by the Bluff's residential development; and to the northeast by Riverwalk multiuse recreational corridor and Tierra Del Sol townhome developments, vacant land and various residential and commercial property (Figure 1).

The nearest federally-owned conservation area within 3 miles of the natural area is Jupiter Inlet Lighthouse Outstanding Natural Area which is 1.7 miles to the north. The nearest significant waterbodies are the ICW which is located immediately adjacent to the natural area to the west, the Wild and Scenic Loxahatchee River which is 1.7 miles to the northwest and the Atlantic Ocean which is 0.5 miles to the east of the natural area. County-owned natural areas within a 3-mile radius include Juno Dunes Natural (1 mile to the south), Delaware Scrub Natural Area (2.4 miles to the northwest), and Frenchman's Forest Natural Area (3 miles to the south).

Larger county parks within a 3-mile radius of the natural area, listed from north to south, are Dubois Park, Carlin Park, Karen Marcus Ocean Park Preserve and Loggerhead Park (Figure 1). In addition, there are a number of smaller county parks in the vicinity of the natural area. There also is one municipal park adjacent to or in the immediate vicinity of the natural area – FIND (Florida Inland Navigation District) Park. In addition to these public areas, the largest privately owned scrub preserve in northern Palm Beach County lies just over a half mile northwest of the Natural Area within the Bears Club.

The natural area is composed of a variety of wetlands and landforms. In general, uplands within the site – coastal strand, mesic flatwoods, and scrub, scrubby flatwoods - exhibit a fair amount of relief. Wetlands within and immediately adjacent to the natural area include: depression marsh, estuarine unconsolidated substrate and mangrove swamp. Ground elevations within the natural area generally range from -1.4 feet to 43 feet North American Vertical Datum [NAVD] (PBC 2017). All of the natural area is located on the Pamlico Ridge (Iverson and Austin 1988).

Mangrove swamp, mesic flatwoods, scrub, and scrubby flatwoods are the predominant natural communities present on the site. Smaller areas of coastal strand, depression marsh, and estuarine unconsolidated substrate are also present. Florida Natural Areas Inventory (FNAI) has ranked three of the intact natural communities present on the natural area as imperiled (coastal strand, scrub, scrubby flatwoods) in Florida (FNAI 2019).

The natural area contains important habitat for many rare plant and animal species. Thus far, 364 species of plants and 275 species of animals have been recorded on the site, including nineteen

plant and twenty-two animal species that have been designated ("listed") as having some degree of endangerment by at least one governmental agency or have been ranked by FNAI. A list of plant species recorded at the site is provided in Appendix A and a list of animal species recorded at the site is provided in Appendix B. The listed and ranked plant and animal species recorded at the site are identified in Tables 1 and 2, respectively. Definitions for the designations used by the agencies are provided in Appendix C.

1.2 PAST USES

Based on historic aerials, Jupiter Ridge Natural Area appears to have had little past use. The majority of the natural area has remained primarily as undisturbed native vegetation with minimal past uses. Both logging and hunting have occurred on the site, but the effects of both activities can be considered ephemeral. Historical off road vehicle (ORV) traffic created a network of roads and trails throughout the site, and in some cases created larger berms along the trails in the scrub. Some ORV damage also occurred within wetland areas. ORV use has been virtually eliminated since the County began managing the site. Trash dumping also has occurred, but this was minor and nearly all of the debris was removed prior to acquisition by the County. The most significant alterations to the site were created by the dredging of the ICW and the deposition of spoil on the site. All of the spoil piles have been recolonized, primarily by native species, but nonnative species will continue to be removed as needed.

1.3 ADJACENT LAND USES

The natural area and all of the lands surrounding the natural area are located within the Town's municipal boundaries. The Jupiter Ridge Natural Area is designated as "Conservation" on the Town's Future Land Use and Zoning maps (Town 2019a and 2019b). The intent of the "Conservation" designation is to protect important natural environmental features, including endangered and threatened species.

In 2002 the Town began construction of the Jupiter Riverwalk, a 2.5-mile-long, 15-foot-wide multiuse concrete pedestrian and bicycle pathway. Most of the pathway is located on private property. In April 2007 the State gave permission for the construction of a 300-foot segment of Riverwalk on the north end of the natural area. Construction of the segment of the Riverwalk on the natural area was completed in February 2008.

Both localized and large-scale impacts from adjacent roads and adjacent and nearby commercial, residential, and recreational properties are expected at the natural area. Things that have impacted and continue to impact all or most of the natural area include invasion of the site by nonnative plant species via seeds produced by nonnative plants growing within adjacent roads, within adjacent and nearby properties and floating along with adjoining ICW; and the use of wells to provide potable water for the surrounding properties access to the site by off-highway vehicles (OHV); dumping; and animal mortality from vehicular traffic.

Domestic animals and pets have not been observed causing impacts at the natural area. Feral/free-roaming cats and stray dogs can cause wildlife disturbance and/or mortality. Efforts to mitigate for these potential impacts may include a nonnative/nuisance animal control program; public outreach, volunteer and interpretive programs; and enforcement of the provisions of the Palm Beach County Natural Areas Ordinance, as amended, (Chapter 11, Article XI of the Palm Beach County Code; http://discover.pbcgov.org/erm/Publications/PBCNaturalAreasOrdinance.pdf; Natural Areas Ordinance) regarding the prohibition of domestic animals and pets on the natural area.

1.4 USES THAT ARE NOT APPROPRIATE

The County's Board of County Commissioners (BCC) has adopted a Natural Areas Ordinance that regulates public uses on county natural areas such as Jupiter Ridge Natural Area. The Natural Areas Ordinance restricts public uses within a county-managed natural area to those that are compatible with the perpetual preservation and protection of the natural area. This ordinance permits passive recreational activities such as hiking, nature study and photography. Other uses (for example, fishing, canoeing/kayaking, horseback riding and/or bicycling in areas designated for such uses, environmental education and scientific research) are permitted as long as they do not jeopardize the protection of the existing natural resources. The Natural Areas Ordinance prohibits destructive uses such as OHV use and dumping, and requires special permits for camping, horseback riding, scientific research involving collection of plant and animal specimens, public demonstrations and gatherings (including, but not limited to group walking, running, bicycling and/or equestrian events), erection of temporary or permanent structures, and after hours or nighttime use of the natural area. Except for service animals, no dogs, cats or other domestic animals are permitted on the natural area. The ordinance also prohibits damaging, taking, molesting, trapping, hunting and/or poaching of plants and animals. And finally, the development of water resources or water supply projects, linear facilities, and sustainable agriculture and forestry are not compatible with the conservation of the preservation of the natural resources found on the site.

There are no plans for any concessions to be located on the site, nor are there plans to provide a camping area or allow horseback riding, fishing or boating on the natural area. There are sufficient retail businesses in the vicinity of the natural area to supply services normally provided by concessionaires. A camping area is not appropriate for the site given the very rare and imperiled status of three of its natural communities, and the sensitivity of the rare and endangered plant and animal species - both of which could be negatively impacted if camping was permitted.

Horses are not permitted on the site due to the very rare and imperiled status of three of its natural communities, and the sensitivity of the rare and endangered plant and animal species - both of which would be negatively impacted if equestrians were permitted on the site - and due to the high potential for soil erosion on the site.

Although the natural area contains some wetlands that hold water year round and/or waterbodies, there is not enough suitable habitat to maintain a viable game fish population on the site. Therefore, fishing is not permitted within the natural area.
Fishing and watercraft uses can be accommodated on the ICW, and from an unimproved boat landing that is provided on the west side of the site, also known as Ski Beach. Fishing and boating are not permitted within the remainder of the natural area.

No vehicles (for example, OHVs, bicycles, skateboards, etc.) are permitted beyond the designated parking lot/trailhead, except to perform the monitoring, maintenance and land management activities described in this management plan, and except as authorized by the County's Access Policy for Use of Natural Area Trails and Other Public Use Facilities by Persons with Mobility Disabilities. Drones are not permitted within the natural area, except to assist with the management and monitoring activities described in this management plan or as may be permitted for scientific research.

There are no other activities that were considered but not adopted as acceptable for the natural area.

1.5 OUTPARCELS

There are no outparcels adjacent to the natural area that would be suitable for acquisition. All land(s) immediately adjacent to the natural area have already been developed or cleared for public, industrial, commercial, residential, or recreational purposes.

1.6 MANAGEMENT AND USE RESTRICTIONS

The natural area has been and will continue to be managed under the "single-use" concept - it will be managed in a manner that preserves and maintains the site's natural resources. It has no multiple-use potential for revenue generation.

Management activities and public uses on the natural area are restricted to those that are consistent with the preservation and protection of the rare and endangered plants, animals and ecosystems found on the site. To ensure that the natural area is preserved and protected, in perpetuity, management activities and public uses on the site are regulated by the restrictions imposed by the Natural Areas Ordinance (see Section 1.4).

Other significant management and public use restrictions are related to the site's ownership, and grants and agreements that helped the County acquire, develop and restore the site. The Board of Trustees of the Internal Improvement Trust Fund (TIITF) of the State holds a 100 percent title interest in 266 acres of the natural area (Figure 2). This portion of the natural area is managed under the restrictions of a 50-year state management lease from TIITF to the County; see Section 1.7).

The size, shape and location of the natural area do not restrict certain management activities such as invasive/nonnative vegetation removal or upland restoration activities. However, these factors do limit what can be done on the site relative to the reintroduction of fire and the hydrologic restoration of wetland areas. The site's proximity to U.S. 1 and residential, commercial and industrial areas severely limits the options for prescribed burning.

Management of the ICW frontage is restricted by the right of the public to use these waters for boating, fishing, swimming and other public purposes.

There are no other known legislative or executive constraints that affect the development, use or management of the site. The natural area is within the Loxahatchee River/Lake Worth Creek aquatic preserve.

1.7 EASEMENTS, CONCESSIONS, LEASES AND OTHER ENCUMBRANCES

Below is a summary of the easement, concessions, leases and other encumbrances on Jupiter Ridge Natural Area. Unless otherwise noted, copies of recorded easements, leases and other encumbrances that restrict use of, or benefit, the natural area are provided upon request. No additional easements, concessions, leases or other encumbrances are anticipated.

There are twenty-three easements defined by recorded documents that restrict the use of, or benefit, the natural area. There also are one amended lease; one assumption of dedication; three plats (which include a few additional easements and rights of ways); one setback requirement; one bulkhead line restriction; one grant restriction; one reservation of phosphate, minerals and metals rights; one reservation of petroleum rights; one reservation of rights of way for ditches and canals; one Interlocal Agreement; and one designation agreement that restrict use of, or benefit, the natural area. One taxing authority, Loxahatchee River Environmental Control District has the right to levy assessments over the natural area and place a lien if assessments are not paid. The posted and viewed road, which was located along the southern boundary of Section 8 in Township 41 South, Range 43 East, merged with title of the underlying land when the County purchased it from the MacArthur Foundation, essentially becoming null and void. An agreement allowing for the banding of Florida scrub jays by Mr. John E. Gardner and Dr. Grace B. Iverson on county-owned natural areas expired in the mid-1990s, and is null and void. There are no concessions that affect the natural area.

1.7.1 State Board of Education and Trustees of Internal Improvement Fund (TIIF, now known as TIITF) to the U.S. Government – Intracoastal Waterway (ICW) Easements

All natural area lands (submerged lands, tidal areas and uplands) located within the right of way for the ICW are subject to easements granted by the State Board of Education and TIIF to the U.S. government in 1932 for the creation and maintenance of the ICW.

1.7.2 State Board of Education and TIIF to the U.S. Government – Perpetual Spoil Disposal Easements to Benefit the ICW

In 1936 and 1941, the State Board of Education and TIIF, respectively, granted the U.S. government perpetual spoil disposal easements over certain upland areas within the western portion of the natural area. These easements allowed spoil dredged during the construction and maintenance of the ICW to be deposited on adjacent undeveloped lands. The grantors and their successors retained the right to use the easement areas, provided such use did not interfere with spoil disposal by the U.S. government.

In 1936, TIIF granted the U.S. Government a perpetual easement to place spoil within any unsurveyed, submerged and semi-submerged lands lying along and abutting the right of way for the ICW. This includes tidal and submerged areas within the western portion of the natural area.

1.7.3 H. Y. and Albertina R. Engle to Florida Power and Light (FPL), and J. B. and Nellie O'Hara to FPL – Easements for Electrical, Telephone and Telegraph Transmission Line to Benefit FPL

In 1927, FPL obtained easements for the construction, operation and maintenance of a transmission line approximately 50 feet north of the south line of Section 8 in Township 41 South, Range 43 East. When combined, the east-west easements extended from the western edge of the right of way for U.S. Highway 1, westward approximately 2,372 feet into the present-day natural area. The easements also granted FPL the right to cut/clear trees and undergrowth within 50 feet north and south of the transmission line. These easements granted FPL right of entry into the property.

1.7.4 Irving and Shirley Biers to FPL, and Bessie Klatsky to FPL – Final Judgment Granting Eleven Easements to Benefit FPL

In 1974, FPL obtained a 37-foot-wide, east-west oriented, electrical transmission and distribution line easement within the southern and western portions of the natural area. The easement, which was co-located with the former County posted and viewed road, extended from the western edge of the right of way for U.S. Highway 1, westward to the east right of way line for the ICW. This easement appeared to overlap and extend the 1927 easements described in Section 1.7.3.

FPL concurrently acquired ten, narrow north-south easements at various locations along the east-west easement described above. These easements allowed for the placement of guywires associated with the existing power poles.

1.7.5 Trustees of the MacArthur Liquidating Trust Agreement to FPL – Access Easement and Easement Agreement to Benefit FPL

In 1985, FPL obtained two easements over lands within the present-day natural area from the trustees of the MacArthur Liquidating Trust Agreement. An access easement granted FPL

vehicular, equipment and pedestrian ingress and egress rights over the southern 50 feet of Section 8 in Township 41 South, Range 43 East. This easement also granted FPL the right to construct, operate and maintain one or more overhead or underground electrical transmission and distribution lines within the western 310 feet of the southern 50 feet of Section 8. The northern portion of this easement appeared to overlap the southern 18.5 feet of the 1974 east-west easement. The easement agreement granted FPL non-exclusive easement rights over a 40-foot by 125-foot area just north of the existing FPL substation.

The owner of the underlying land may ask FPL to relocate either or both easements from their current location within the eastern portion of the natural area, provided that: 1) such relocation does not interrupt electric service to FPL's customers; 2) the underlying landowner grants FPL a suitable replacement easement; and 3) the landowner pays all reasonable and necessary relocation costs.

FPL has the right to cut and keep clear all vegetation and other obstructions within both easement areas, and may trim or remove adjacent trees that interfere with maintenance and/or use the easement areas.

1.7.6 The County to FPL – Easement to Benefit FPL

In 2000, the County granted an easement to FPL over the eastern 5 feet of the Bluffs Triangle Tract within the natural area. The easement allowed for the construction, operation and maintenance of an underground distribution line within an existing Limited Access Easement.

1.7.7 Town to Southern Bell Telephone and Telegraph Company (Southern Bell) – Easement to Benefit Southern Bell

In 1985, the Town granted Southern Bell an assignable right of way easement along the southern 10 feet of the western 20 feet and eastern $\pm$ 61 feet of the present-day Bluff's Tract.

1.7.8 Tierra del Sol at Jupiter, LLC to the County – Easement to Benefit the County

In 2007, Tierra del Sol at Jupiter, LLC granted the County a non-exclusive, approximately 29-foot-wide, perpetual ingress/egress easement for the portion of the Jupiter Riverwalk that lies immediately north and east of the Tierra del Sol's conservation and preservation tract (now part of the natural area). The easement was to allow the County to access the Tierra del Sol conservation and preservation tract after it was conveyed to the County.

1.7.9 TIITF to the County – Lease for Mutual Benefit

TIITF holds a 100 percent title interest in the 228.36 acres of the natural area that were purchased with state Preservation 2000 matching funds through the CARL program. The state-owned uplands, and approximately 37.87 acres of adjacent submerged lands, are managed under the

constraints imposed by the June 15, 1994, 50-year state management lease (lease no. 4004, as amended) from TIITF to the County. This lease runs until the year 2044. The lease provisions require that the County manage the leased premises only for the conservation and protection of natural and historic resources, and resource-based public outdoor recreation that is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11) [now 259.032(9)], Florida Statute (F.S.). The lease also allows related uses necessary for the accomplishment of these purposes as designated in this management plan.

The County prepared an initial management plan for the leased premises that was in accordance with Chapter 18-2 of the Florida Administrative Code and which contained the information required under Section 259.032, F.S. The initial plan was approved by the DSL on February 27, 1998. The initial update to the management plan was approved by the state's Acquisition and Restoration Council on August 13, 2009. This management plan is the second update of the initial management plan. The next update to the plan will be due in 2031.

1.7.10 "Intracoastal Waterway," "The Ridge at the Bluffs" and "Tierra del Sol at Jupiter" Plats

Natural area lands that are located within or adjacent to the ICW are subject to a 1931 plat that was created by the Florida Inland Navigation District.

The December 1984, "The Ridge at the Bluffs" plat dedicated the present-day Bluffs Tract, and other lands, to the Town for municipal purposes. This dedication was subject to a 12-foot-wide utility and landscape easement along the western edge of the tract, as well as a lift station easement over the northern 70 feet. Although "The Ridge at the Bluffs" plat granted the Town a 5-foot-wide limited access easement along the eastern edge of the present-day Bluffs Triangle Tract, it is believed that this easement merged with title when the tract was conveyed to the Town. It is unclear whether the limited access easement was re-established when the Town sold the Bluffs Triangle Tract to the Jupiter Yacht Club Ltd in March 1998.

The January 2008, "Tierra del Sol at Jupiter" plat dedicated a 0.99-acre tract (now the Tierra del Sol Tract of the natural area) for conservation and preservation purposes. The developer conveyed ownership of this tract to the County in January 2008, along with a monetary donation designed to help fund ongoing maintenance of the tract.

1.7.11 Palm Beach County Establishment of Setback Requirements for Buildings and Other Improvements – to Benefit Future Expansion of U.S. Highway 1

In 1954, the County's Board of County Commissioners established setback requirements within all lands adjoining U.S. Highway 1 in the northern portion of the County, including the present-day natural area. The setbacks were designed to ensure that there would be sufficient room for future relocation and widening of the state road. Pursuant to the setback requirements, no buildings were allowed to be constructed closer than 60 to 90 feet from the centerline of the state road. The amount of setback required was based on the type of building and use that was proposed. All

existing and future public use facilities constructed within the natural area were, and will be, located outside of the setback area.

1.7.12 Bulkhead Line Along the Northwestern Portion of the Natural Area

The 1966 bulkhead line that was established by the Town along the northwestern edge of the natural area became null and void in 1975. That is when Section 253.1221, F.S., reset all previously established bulkhead lines to the mean high tide or ordinary high water line. No filling is permitted waterward of the re-established bulkhead line, unless the work is done in compliance with Chapter 253, F.S.

1.7.13 FIND Grant Restriction

The FIND grant, which helped fund construction of the Jupiter Ridge Shoreline Project, required that the breakwater area be dedicated for public use for a minimum of 25 years (until September 2038).

1.7.14 Reservation of Phosphate, Minerals and Metals Rights; and Reservation of Petroleum Rights by the State Board of Education

The State Board of Education holds an interest in any phosphate, minerals, metals and petroleum lying in, on or under the southern and northeastern portions of the MacArthur Foundation Tract. The State Board of Education also has the right to mine and develop the property to acquire any of the listed resources. Although these still appear to be valid reservations, it is unlikely that they will ever be used. All other reservations previously held by the State Board of Education and TIITF appear to have been extinguished.

1.7.15 Reservation of Rights of Way for Ditches and Canals

In 1927, the U.S. government reserved rights of way for ditches and canals constructed under its authority within the western portion of the present-day natural area. Although this is still a valid reservation, it is unlikely that it will ever be used.

1.7.16 County and Town Interlocal Agreement

The March 11, 2008 Interlocal Agreement between the County and Town restricts use of the natural area to passive, natural resource-based activities that are compatible with the conservation, protection and enhancement of the site's natural resources. The Interlocal Agreement also establishes management, maintenance and public safety/law enforcement responsibilities for the natural area. This Interlocal Agreement replaced the September 3, 1996 Interlocal Agreement between the County and Town. It also establishes the construction, management, use, security and public information responsibilities for the portion of the Jupiter Riverwalk that lies within the natural area boundaries.

1.7.17 TIITF Designation of Aquatic Preserve for the Benefit of the People of Florida

In 1970, TIITF designated all state-owned lands within the Loxahatchee River, the North Fork of Loxahatchee River and Lake Worth Creek, including submerged lands within and adjacent to the natural area, as part of Aquatic Preserve A-11 (the Loxahatchee River – Lake Worth Creek Aquatic Preserve). The purpose of this dedication was to insure the perpetual protection, preservation and public enjoyment of waters having exceptional quality and value.

1.7.18 Florida Greenways and Trails Designation Agreement

In August 2020, the County and TIITF voluntarily placed a 20-year-term Florida Greenways and Trails Designation Agreement (Designation Agreement) over Jupiter Ridge Natural Area (see Section 4.10). The Designation Agreement requires the County to manage, operate and maintain the natural area in accordance with its approved use plan. The County and/or TIITF may withdraw all or a portion of the natural area from the Designation Agreement at any time by submitting a written request to the Florida Department of Environmental Protection.

1.7.19 Rights of the Public to Use Navigable Waters

Members of the public have the right to use any navigable waters within the boundaries of, and adjacent to, the natural area for public purposes, including boating, fishing, swimming, etc.

1.7.20 Town - Water Main

A Town-owned and maintained, 6-inch diameter, underground water main exists along the eastern edge of the Bluffs Tract. Access to any works the Town installed in the area will be performed from the road right-of-way, outside of the natural area perimeter fence.

1.8 PLAN DEVELOPMENT AND REVIEW

The BCC approved the initial management plan for this site in November 1996. Subsequent updates to the management plan were approved by the BCC on June 29, 2010. Although it is the County's goal to review each approved management plan at least once every ten years, budget constraints and the resulting loss of staff have delayed the preparation of this update. This updated management plan identifies changes that occurred at the natural area since the preceding management plan was approved by the BCC.

State statutes require the Division of State Lands (DSL) to conduct a land management review every five years for all state-owned conservation lands that are greater than 1,000 acres in size, but do not exclude the review of sites smaller than 1,000 acres. If the Florida Department of Environmental Protection (FDEP) land management review team has conducted a management review of a site, the findings and recommendations of the review team are required to be considered in the preparation of the 10-year update to that site's management plan. A land

management review was conducted at this natural area in April 1998 and recommendations for this site received from FDEP were addressed by ERM in the 2010 management plan and subsequently approved by DSL's Acquisition and Restoration Council on July 16, 2010.

The main goal of this management plan is to help ensure that the site's natural resources are protected in perpetuity. Scientific research, environmental education and resource-based recreational uses are permitted as long as they do not jeopardize the protection of these resources. In keeping with these goals, this management plan: 1) identifies the existing natural resources, including rare and imperiled species and vegetation communities; 2) identifies any changes that occurred to those resources subsequent to approval of the most recent management plan; 3) identifies factors that affect the preservation, restoration and long-term management of the existing resources; 4) addresses the site-specific goals, strategies and techniques that will be used to preserve, restore/enhance, manage and monitor the existing resources going forward; 5) ensures that the natural area continues to be managed in accordance with applicable grant restrictions, and management agreements and/or lease conditions; 6) evaluates the effect, if any, of existing recreational uses on the site's natural resources; and 7) identifies any recreational uses that could be added or that should be discontinued at the site. This management plan also includes information related to the site's connectivity with other conservation areas, an estimation of annual management and maintenance costs, and any other issues identified by staff.

All draft natural areas management plans prepared by ERM are reviewed by a seven-member, BCC-appointed, advisory committee known as the Natural Areas Management Advisory Committee (NAMAC). The purpose of NAMAC is to review and comment on draft management plans developed for natural areas acquired and/or managed by the County, and to hold public hearings on initial management plans prior to their review and adoption by the BCC. As development of each draft management plan nears completion, NAMAC members are invited to tour the natural area with staff. All comments received from NAMAC members during the site visit are taken into consideration during completion of the draft management plan. The draft management plan is then sent to NAMAC for review and comment. The draft management plan is made available upon request for public review and comment.

The members of NAMAC held a publicly-noticed open house/public hearing on the draft management plan on August 31, 2021 at Palm Beach County's Vista Center in West Palm Beach (Appendix J). A copy of the draft management plan was available upon request through an advertisement on ERM's website for a minimum of 30 days prior to the open house/public hearing. Members of the public were allowed to submit comments to the County during the public hearing, in writing during the one-week period following the public hearing and at the September 17, 2021 meeting of NAMAC. No comments were received during the public review process. This updated management plan was reviewed and approved by ARC on February 11, 2022. Members of the public also had the opportunity to comment on the plan on (month day year) when it was considered and approved by the BCC.

1.9 ACQUISITION HISTORY

In 1986, the BCC funded an inventory of the native ecosystems in Palm Beach County by two Florida Atlantic University professors, Dr. Grace Iverson and Dr. Daniel Austin (Iverson and Austin 1988). The study was completed in 1988, with additional work in 1989. The study identified 38 "A" quality sites, including 14 identified as "high-priority acquisition sites" by the County's Environmentally Sensitive Lands Acquisition Advisory Committee (ESLAAC). On March 12, 1991, the voters of Palm Beach County approved a $100 million bond referendum to purchase environmentally sensitive lands with emphasis on the 14 high-priority sites. Jupiter Ridge was one of the original 14 "high-priority acquisition sites" to be purchased with funds from the 1991 Environmentally Sensitive Lands Bond Referendum.

In 1991 the Florida Natural Areas Inventory (FNAI) and Palm Beach County submitted an application to the state CARL program to rank the site for acquisition by the State, where it was ranked for acquisition. The County purchased the 32.98-acre Maddock tract in December 1992 for $3,500,000 and the 195.38-acre MacArthur Foundation tract in June 1993 for $19,600,000.

The MacArthur tract was sold to the TIITF in July 1993 to obtain CARL Preservation 2000 matching funds of $9,297,750, and the Maddock tract was sold to the TIITF in July 1995 to obtain CARL Preservation 2000 matching funds of $1,749,900. In June 1994 the MacArthur tract was leased by the State to the County for management for 50 years, along with 32.64 acres of state sovereign lands. The lease was amended in May 1996 to add the Maddock tract.

In July 1998 the Town of Jupiter required a developer to donate a 1.68-acre, triangular-shaped tract (Bluffs Triangle Tract) adjacent to U.S. 1 and the Bluffs development to the County as mitigation for a development project. In September 1998 the State approved a second amendment to the management lease that added 6.26 acres of state-owned land for management purposes. In July 2003 ERM requested and obtained control of a 0.4-acre parcel that had escheated to the County for nonpayment of taxes.

In May 2005 Mr. Mayes sold his property to Stateside Jupiter, Ltd., which obtained site plan approval from the Town in 2006 for The Ridge townhouse development. The Town required Stateside Jupiter preserve 25% of the high-quality Florida scrub community on the site and donate this 0.99-acre preserve area to the County, along with a perpetual ingress and egress easement on the portion of the Riverwalk located on the Stateside Jupiter property and a $10,000 donation to the County's Natural Areas Stewardship Endowment Fund for perpetual management of the preserve. The Town also required that Stateside Jupiter construct a segment of the Riverwalk on its property and an approximately 300-foot-long segment on the natural area. Stateside Jupiter sold its property to Tierra Del Sol at Jupiter, LLC in July 2006 who renamed the development Tierra del Sol and obtained approval from the Town for a revised site plan. Tierra del Sol conveyed the ingress and egress easement to the County in November 2007 and the preserve area and the financial donation on January 25, 2008.

2. PURPOSE AND OBJECTIVES

2.1 PURPOSE OF ACQUISITION

The primary purpose of the County's Natural Areas System is to protect native ecosystems and biological diversity throughout Palm Beach County. The primary purposes for the acquisition of this natural area were to preserve, restore/enhance and manage the site's ecological resources, including the existing natural communities, their component plant and animal species, and local groundwater resources. Acquisition and development of the site as a natural area have provided members of the public with opportunities for recreational activities, environmental education and scientific research that are consistent with the primary purposes of the site's acquisition.

It also has helped the County and Town comply with portions of their respective comprehensive plans by preserving and restoring/enhancing the natural resources of the natural area, while providing compatible public uses. Policies and objectives outlined in the County's comprehensive plan that are furthered by the acquisition and management of the site include, but are not limited to: the preservation and protection of native communities and ecosystems to ensure that representative communities remain intact (Conservation Element, Goal 2, Objective 2.1); the protection and preservation of endangered and threatened species, species of special concern and their associated habitats (Conservation Element, Goal 2, Objective 2.4); and the continued efforts to eradicate prohibited invasive non-native vegetation (Conservation Element, Goal 2, Objective 2.5).

All portions of the natural area are important to preserving the ecological resource values found on the site. Because every portion of the site provides habitat for at least one rare or endangered plant species, animal species or natural community, no portions of the property can be declared as surplus.

2.2 MANAGEMENT GOALS AND OBJECTIVES

The natural area contains depression marsh, mangrove swamp, mesic flatwoods, scrub and scrubby flatwoods native vegetation communities (Figure 4). These communities, most of which can be considered as moderate- to high-quality within the context of urbanized southeastern Florida, were in a somewhat degraded condition at the time of site acquisition. Maintaining and improving the ecological quality of these native vegetation communities is one of the primary management goals for this site. Another primary goal is to restore, enhance and/or manage disturbed areas in a manner that will enhance the overall biological diversity of the site and/or meet specific needs of listed species. Habitats for listed species are managed for the needs of individual species when such management is compatible with the overall management of the ecosystems within the natural area.

The following goals and objectives reflect desired management outcomes that are specific to Jupiter Ridge Natural Area. The objectives are actions or measureable outcomes of management

targeted to achieve short-term (achievable within 2 years) or long-term goals (achievable within 10 years). All of the following goals and objectives are subject to and contingent upon annual budgetary funding and appropriations by the BCC.

Habitat Restoration and Improvement

Goal 1. Maintain and enhance a healthy scrub community (short-term and long-term).

Objective A. Conduct prescribed burns within sand pine scrub communities as recommended by FNAI (2010). [Note: Prescribed burning is contingent upon appropriate weather conditions, smoke and safety considerations, funding and resource availability, and other factors required for burning within an urban environment.]

Status: Two prescribed burns were conducted within the scrub community in 1997 and 2012. See Section 4.5.1 for detailed information.

Objective B. Conduct prescribed burns within oak scrub communities as recommended by FNAI (2010). [Note: Prescribed burning is contingent upon appropriate weather conditions, smoke and safety considerations, funding and resource availability, and other factors required for burning within an urban environment.]

Status: Two prescribed burns were conducted within the scrub community in 1997 and 2012. See Section 4.5.1 for detailed information.

Objective C. If prescribed burning in Objective A cannot be conducted, the use of mechanical vegetative reduction methods within the site will be utilized, as needed, to create a mosaic of natural communities and successional stages, and reduce the risk of catastrophic wildfire.

Status: The management units containing scrub have had mechanical vegetative reduction five times and included areas of mesic flatwoods. See Section 4.5.1 for detailed information.

Objective D. Provide habitat for listed species that require early stages of scrub succession and those that require later stages by rotation burning of management units.

Status: Staff has and will continue to use prescribed fire and mechanical vegetation reduction to provide optimal habitat for listed species. See Section 4.5.1 for detailed information.

Objective E. Attempt to meet vegetation structure objectives recommended by the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Natural Areas Inventory (FNAI) in the 2010 Scrub Management Guidelines for Peninsular Florida (FWC and FNAI 2010), or subsequent updated versions, with appropriate adjustments made based on the needs of imperiled species present on the site.

Status: Staff has and will continue to remove exotic vegetation, use prescribed fire and mechanical vegetation reduction to provide optimal habitat for listed species. See Section 4.5.1 for detailed information.

Goal 2. Maintain and enhance a healthy scrubby flatwoods community (long-term).

Objective A. Conduct prescribed burns within scrubby flatwoods communities as recommended by FNAI (2010). [Note: Prescribed burning is contingent upon appropriate weather conditions, smoke and safety considerations, funding and resource availability, and other factors required for burning within an urban environment.]

Status: A prescribed burn was conducted within the scrubby flatwoods community in 2005. See Section 4.5.1 for detailed information.

Objective B. If prescribed burning cannot be conducted, the use of mechanical vegetative reduction methods within the site will be utilized, as needed, to create a mosaic of natural communities and successional stages, and reduce the risk of catastrophic wildfire.

Status: The management units containing scrubby flatwoods have had mechanical vegetative reduction five times and included areas of mesic flatwoods. See Section 4.5.1 for detailed information.

Goal 1. Maintain and enhance healthy mesic flatwoods natural communities (long-term).

Objective A. Conduct prescribed burns within mesic flatwoods communities as recommended by FNAI (2010). [Note: Prescribed burning is contingent upon appropriate weather conditions, smoke and safety

considerations, funding and resource availability, and other factors required for burning within an urban environment.]
Status: A prescribed burn was conducted within the mesic flatwoods community in 2012. See Section 4.5.1 for detailed information.

Objective B. If prescribed burning cannot be conducted, the use of mechanical vegetative reduction methods within the site will be utilized, as needed, to create a mosaic of natural communities and successional stages, and reduce the risk of catastrophic wildfire.

Status: The management units containing mesic flatwoods have had mechanical vegetative reduction two times and included areas of mesic flatwoods. See Section 4.5.1 for detailed information.

Goal 2. Maintain herbaceous wetland communities as part of the adjacent fire-dependent upland communities (long-term).

Objective A. All prescribed fires from the adjacent fire-dependent upland communities will be allowed to burn into the depression marsh.

Status: Two prescribed burns were conducted in the management units containing depression marsh in 1997 and 2012 and was allowed to burn into the fire dependent community. See Section 4.5.1 for detailed information.

Goal 3. Evaluate and address erosion along western shoreline adjacent to the ICW (long-term).

Objective A. Restore/enhance approximately 6,000 feet of shoreline to protect against erosive wave activity.

Objective B. Enhance approximately 3.5 acres of existing sea grass habitat.

Objective C. Construct 21 oyster reef breakwaters parallel to the western shoreline.

Objective D. Remove 4.3 acres of Australian pine and Brazilian pepper from along the ICW, remove spoil and conduct native plantings to help restore/enhance existing mangrove swamp.

Status: Restoration/enhancement projects for Objectives A – D completed in July 1999 and July 2012. See section 4.5.4 for detailed information.

Imperiled Species Habitat Maintenance, Enhancement, Restoration or Population Restoration

Goal 1. Protect, restore/enhance and maintain imperiled species habitat (long-term).

Objective A. Conduct prescribed burns to maintain the diversity and health of the native plant communities on the site.

Status: Three prescribed burns were conducted in 1997, 2005 and 2012. See Section 4.5.1 for detailed information.

Objective B. Monitor the status of imperiled plant species populations in accordance with species-specific monitoring schedules established by ERM.

Status: Staff regularly monitors the status of imperiled plant species populations. See Section 7.2 for a detailed breakdown of the monitoring.

Objective C. Conduct periodic animal species surveys, including gopher tortoise (*Gopherus polyphemus*) surveys, and ongoing opportunistic surveys for all animal species observed on the natural area, including imperiled species.

Status: Staff regularly conducts periodic animal species surveys. See Section 7.3 for a detailed breakdown of the monitoring.

Objective D. Enforce relevant provisions of the Natural Areas Ordinance, such as those dealing with damage to or removal of plants, molestation or harassment of animals, introduction or release of nonnative plants and animals, and prohibition of domestic animals and pets.

Status: ERM employs Palm Beach County Sheriff's office deputies that are charged with enforcing the relevant provisions of the Natural Areas Ordinance. See Section 4.7 for detailed information.

Nonnative, Invasive and Nuisance Species Maintenance and Control

Goal 1. Control nonnative and invasive plant species, and nonnative and nuisance animal species so that they do not significantly impact native plant communities (short-term).

Objective A. Conduct ongoing invasive/nonnative plant treatments, as needed, to maintain coverage of invasive/nonnative plant species at less than 1

percent of the natural area. An evaluation will be conducted in 2 years to see if goals and objectives are being achieved.

Status: Invasive/nonnative plant species were removed from the site and continue to be removed to meet the less than 1 percent objective. See Section 4.5.2 for detailed information.

Objective B. Monitor the site for feral hogs (*Sus scrofa*), domestic and feral cats, stray dogs, raccoons (*Procyon lotor*) and other nonnative/nuisance animals, as needed, during opportunistic observations and scheduled wildlife surveys, and remove/control populations of nonnative/nuisance animals as necessary and feasible. An evaluation will be conducted in 2 years to see if goals and objectives are being achieved.

Status: The site is monitored for nonnative/nuisance animals as needed. See Section 4.5.3 for detailed information.

Cultural and Historical Resources

This management objective is not applicable to Jupiter Ridge Natural Area. No significant cultural or historical resources have been identified on the site. If any cultural or historical resources are identified in the future, the procedures used to protect the newly discovered cultural/historical resource(s) will depend on which agency has the ultimate review authority - Florida Department of State, Division of Historical Resources (FDHR) or the County pursuant to Article 9 of the County's Unified Land Development Code.

Sustainable Forest Management

This management objective is not applicable to Jupiter Ridge Natural Area. The natural area does not provide commercial forest resources.

Capital Facilities and Infrastructure

Goal 1. Maintain the existing facilities and infrastructure in safe condition (long-term).

Objective A. Monitor the integrity and condition of facilities and infrastructure on a regular basis.

Objective B. Close unsafe areas to the public immediately upon the detection of a problem.

Objective C. Replace/repair damaged fencing and signage as soon as possible.

Objective D. Replace/repair minor cracked/damaged infrastructure issues within six months of detection, contingent upon receipt of any necessary permits, construction contract requirements and/or site conditions.

Objective E. Replace/repair major cracked/damaged major infrastructure issues within one year of detection, contingent upon receipt of any necessary permits, construction contract requirements and/or site conditions.

Status: For Objectives A – D, the site and its facilities are maintained and repaired/replaced on an as needed basis. See Section 4.4 for detailed information.

Goal 2. Maintain the overall appearance and aesthetics of the natural area (long-term).

Objective A. Maintain public use facilities (cleaning of concrete nature trail, boardwalk, parking lot, etc.) on a biweekly or as-needed basis.

Objective B. Mow management accessways and firebreaks on an as-needed basis.

Objective C. Paint over or remove graffiti from public use facilities on an as-needed basis.

Status: For Objectives A – C, the site and its facilities are maintained and repaired/replaced on an as needed basis. See Section 4.4 for detailed information.

Public Access and Recreational Opportunities

Goal 1. Continue to provide non-consumptive/non-destructive, resource-based public access and recreational opportunities within the natural area (long-term).

Status: The County has completed construction of its public use facilities and was opened to the public in April 2001. See Section 5.1 for detailed information.

Security

Goal 1. Implement appropriate security and access control measures to prevent unauthorized activities, such as use by OHVs, dumping and off-trail use (long-term).

Objective A. Install and maintain a fence and gate system designed to restrict public vehicular access to the designated parking lot and eliminate dumping on the site.

Objective B. Install and maintain signage to identify the site as a natural area and inform the public as to the uses and activities permitted and not permitted on the site.

Objective C. Continue to fund the Wildlands Task Force to enforce the Natural Areas Ordinance, as amended.

Objective D. Provide annual training sessions designed to educate local law enforcement officers about County ordinances related to the protection of natural areas and site-specific security issues.

Status: For Objectives A – D, the County has installed fencing, gates and signage on site, as well as implemented security measures to prevent unauthorized activity. See Sections 4.7, 5.2 and 5.3 for detailed information.

3. NATURAL AND CULTURAL RESOURCES

Jupiter Ridge Natural Area contains a remnant of the native upland and wetland communities formerly present in southeastern Florida. Urbanization, road construction, hydrologic modifications, fire suppression and other human-related disturbances have eliminated or severely modified most of the native upland and wetland communities near the natural area. The site's natural communities currently represent a mosaic of historical, successional and altered vegetation communities. The natural area is not a designated area of state concern or under study for such designation, and is not within an aquatic preserve. There are no beaches or dunes on the property.

A thorough inventory and assessment of the existing natural resources had to be conducted before meaningful management goals and objectives could be developed for the natural area. The following sections summarize the site's existing natural resources. Disturbances that have affected, and/or continue to affect, these natural resources also are identified. Restoration, enhancement and management activities designed to mitigate for adverse impacts to the site's natural resources are described in Chapters 4 and 5. A discussion of the archaeological and historical resources is provided in Section 3.9.

Both the scientific and common names of plant and animal species are provided the first time the species is mentioned in this management plan. After the initial reference, only the common name is used. Lists of plants and animals recorded at the natural area are provided in Appendixes A and B, respectively.

3.1 SOILS

The soils present on the natural area are depicted in Figure 3. The following generalized soil descriptions are from the United States Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS) website (USDA, NRCS undated) and 1978 Palm Beach County soil maps (United States Department of Agriculture, Soil Conservation Service [USDA, SCS] 1978). Typical ecological community information is from USDA, SCS (1989).

3.1.1 Arents

The Arents series consists of sloping to steep, excessively-drained to somewhat poorly-drained sandy fill materials that were excavated and placed along the banks of canals or on top of low-lying organic soils. Vegetation, when present, is usually sparse and consists of weedy and ruderal (species which are found almost exclusively in disturbed areas) grasses and herbs and monocultures of invasive exotic trees. The series is represented at the natural area by Arents-Urban Land complex.

3.1.2 Basinger

The Basinger series consists of nearly level, very deep, poorly-drained sandy soils. Under natural conditions the water table typically is within 12 inches of the surface for 2 to 6 months; it is within 12 to 30 inches for periods of more than 6 months. Depressions are typically covered with standing water for 6 to 9 months or more each year. The series is represented at the natural area by Basinger fine sand.

3.1.3 Immokalee

The Immokalee series consists of nearly-level to gently-sloping, deep and very deep, poorly-drained and very poorly-drained sandy soils. Under natural conditions the water table typically is within 6 to 18 inches of the surface for 1 to 4 months and within 18 to 36 inches of the surface for 2 to 10 months. It is below 60 inches during the dry season. Depressional areas are covered with standing water 6 to 9 months per year or more. South Florida flatwoods is the typical ecological community. The series is represented at the natural area by Immokalee fine sand.

3.1.4 Kesson

The Kesson series consists of deep, very poorly drained, rapid to moderately rapid permeable soils that formed in thick marine deposits of sand and shell fragments in tidal swamps and marshes along the Gulf Coast of Peninsular Florida. Under natural conditions, the soil is flooded during normal high tides. The series is represented at the natural area by Kesson mucky sand.

3.1.5 Paola

The Paola series consists of very deep, nearly level to sloping, excessively-drained, deep sandy soils. Under natural conditions the water table is below a depth of 72 inches. Sand pine scrub is the typical ecological community found on Paola soils. The series is represented at the natural area by St. Lucie-Paola-Urban land complex.

3.1.6 Pomello

The Pomello series consists of nearly level to gently sloping, moderately-well to somewhat-poorly-drained, very deep, sandy soils. Under natural conditions the water table typically is at a depth of 24 to 42 inches for 1 to 4 months during the normal wet season and below 42 inches during the remainder of the year. Sand pine scrub is the typical ecological community found on Pomello soils. The series is represented at the natural area by Pomello fine sand.

3.1.7 Quartzipsamments, Shaped

This mapping unit consists of nearly level to gently sloping, well-drained, deep, sandy soils in areas where fill has been placed over the natural soils. No single soil profile represents this

mapping unit. The water table is below a depth of 80 inches. The Quartzipsamments, shaped soils found at the natural area were created by the disposition of spoil material from the dredging of the Lake Worth Creek for the ICW.

3.2 HYDROLOGY

In eastern Palm Beach County, the Surficial Aquifer System is composed mostly of the Turnpike Aquifer, which is the northern extension of the Biscayne Aquifer. This is generally the most permeable portion of the Surficial Aquifer System, and most county wellfields are located in this area. Within the Jupiter area, water quality varies considerably, but the highest quality of groundwater generally is found in the coastal ridge area, where Jupiter Ridge is located. The Surficial Aquifer in the Jupiter Ridge area is characterized by limited water capacity and restraints on groundwater withdrawals by government agencies.

No major drainage improvements have been noted at the natural area. Because of the permeable nature of most of the soils on the site, stormwater runoff would not be expected to occur except during extreme storm events. In these cases, stormwater runoff would be expected to flow primarily into one of the three depression marshes or into Lake Worth Creek and the ICW.

Local and regional hydrologic manipulations have apparently had little effect on the water table within the natural area. Historically, Lake Worth Creek flowed into the mouth of the Loxahatchee River, which emptied into the Atlantic Ocean. Although water levels in the creek may have been slightly higher in the past because sandbars present prior to dredging may have impeded water flows, they would not have been much higher than the present 1.3-foot average level (Lawson, Nobel and Associates 1993). Given that Lake Worth Creek and the ICW border the entire western edge of the site, it is unlikely that historic water tables were much higher than the present several feet above sea level. A staff gauge was installed in the largest depression marsh in September 2000. Since then, the highest monthly level recorded in this wetland was 6.49 feet NGVD and the lowest was 1.4 feet NGVD. Based on field observations, water levels in the three depression marshes on the natural area are higher and fluctuate more naturally.

A more serious potential threat to the natural area is inundation by rising sea levels caused by global warming. Large areas of the northern and western portions of the natural area are at elevations of 10 feet or less. Sea level elevations greater than 10 feet would result in the loss of nearly all of the site except for the sand dune ridge in the southern portion of the site.

3.3 NATURAL COMMUNITIES

The following discussion provides a general description of each of the “intact” and altered (“disturbed”) plant communities present on the natural area (Figure 4). Unless otherwise indicated, the descriptions provided for intact communities are based upon FNAI’s classification system (FNAI 2010). If a community is so altered that it no longer resembles or functions as an intact plant community, an alternative description has been developed. The phrase "natural community"

is used in this plan, even when a plant community has been altered. A list of the typical plant species found in the County is provided for each of the intact plant communities found on the site; these lists are based on plant community descriptions contained in FNAI (2010) and species ranges provided by Wunderlin and Hansen (2011).

The goal of natural communities management is to restore and maintain as many of the natural communities that historically occupied the site as possible. Nearly all of the natural communities on the natural area have been enhanced or restored (see Section 4.5). They will be maintained through the implementation of invasive/nonnative plant and nonnative/nuisance animal control programs (see Sections 4.5.2 and 4.5.3), through the closure of all old OHV trails that are not part of the management accessway/firebreak system, through security measures designed to eliminate OHV use and dumping (see Section 4.7), and through the maintenance of more natural hydroperiods. Fire-maintained communities – Depression Marsh, Mesic Flatwoods, Scrub and Scrubby Flatwoods - also will be maintained through the implementation of a prescribed burn program and/or through mechanical vegetation reduction (see Section 4.5.1).

The only areas that lack a natural community is the "developed area" and the FPL easement area (Figure 4). These 0.6-acre and 5.3-acre areas include the parking lot and entrance driveway and the FPL management easement shell rock road.

3.3.1 Coastal Strand

This natural community is characterized as an evergreen shrub community growing on stabilized coastal dunes, often with a smooth canopy due to pruning by salt spray. Plant species typically found in South Florida coastal strand include saw palmetto (*Serenoa repens*), live oak (*Quercus virginiana*), cabbage palm, Hercules-club (*Zanthoxylum clava-herculis*), seagrape, Florida Keys blackbead (*Pithecellobium keyense*), Florida swampprivet (*Forestiera segregata*), white indigoberry (*Randia aculeata*), buttonsage (*Lantana involucrata*), coco plum, gray nicker (*Guilandina bonduc*), coinvine (*Dalbergia ecastaphyllum*), myrsine (*Myrsine cubana*), snowberry (*Chiococca alba*), Spanish stopper (*Eugenia foetida*), blolly (*Guapira discolor*), wild lime (*Zanthoxylum fagara*) and yellow necklacepod (*Sophora tomentosa* var. *truncata*). Fire plays a role in maintaining coastal strand by slowing its succession to marine hammock, but there is little information on natural fire frequency. The coastal strand community covers approximately 1.3 acres.

FNAI (2018) ranked coastal strand as G3/S2 – very rare and local throughout its global range and imperiled in Florida because of rarity or vulnerability to extinction.

3.3.2 Depression Marsh

Depression marsh is characterized as a small, shallow, usually rounded depression that is surrounded by fire-maintained matrix communities. Hydroperiods are highly variable, and range from as few as 50 days or less, to more than 200 days per year (FNAI and FDNR 1990). Typical

depression marsh plant species that occur in the County include longleaf threeawn (*Aristida palustris*), beaksedges (*Rhynchospora* spp.), myrtleleaf St. John's-wort (*Hypericum myrtifolium*), peelbark St. John's-wort (*Hypericum fasciculatum*), blue maidencane (*Amphicarpum muhlenbergianum*), sand cordgrass, Baldwin's spikerush (*Eleocharis baldwinii*), Elliott's yelloweyed grass (*Xyris elliottii*), corkwood (*Stillingia aquatica*), pipeworts (*Eriocaulon compressum* and *E. decangulare*), maidencane (*Panicum hemitomon*), Jamaica swamp sawgrass (*Cladium jamaicense*), pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lancifolia*) and American white waterlily (*Nymphaea odorata*). The outer edges of depression marshes in xeric communities have bluestem grasses, falsefennel (*Eupatorium leptophyllum*), witchgrasses (*Dichanthelium* spp.), Small's bogbutton (*Lachnocaulon minus*) and yellow hatpins (*Syngonanthus flavidulus*).

Fire is important in maintaining this community by limiting peat buildup, and preventing the invasion of trees and shrubs (Craighead 1971, FNAI 2010). Fire is most frequent at the edge of the marsh. Wade et al. (1980) stated that fire periodicity is about 3 to 5 years in most deep-water marshes, while shallow-water marshes burn on a 1- to 3-year cycle, if plant growth is sufficient to carry a fire. At the natural area, this community will be burned at the same time and frequency as the predominate, adjacent fire-maintained community. This community covers approximately 3.4 acres.

FNAI (2018) ranked depression marsh as G4/S4 - apparently secure globally and in Florida, but possibly rare in part of its range.

3.3.3 Mangrove Swamp

Mangrove swamps are dense forests that occur along relatively flat, low-energy, marine and estuarine shorelines. Mangrove swamps are dominated by four tree species: red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*) and buttonwood (*Conocarpus erectus*). Mangrove swamps often lack an understory, but species such as gray nicker, coinvine, rubbervine (*Rhabdadenia biflora*), perennial glasswort (*Sarcocornia ambigua*), shoregrass (*Monanthochloe littoralis*), giant leather fern (*Acrostichum danaeifolium*), saltwort (*Batis maritima*) and bushy seaside oxeye (*Borrichia frutescens*) may be found in openings and along the edges of mangrove swamps in the County. Mangrove swamp does not burn and is not a fire-maintained community. The mangrove swamp community at the natural area occupies 31.5 acres.

FNAI (2018) ranked mangrove swamp as G5/S4 – demonstrably secure globally and apparently secure in Florida, although it may be rare in parts of its range.

3.3.4 Mesic Flatwoods

Mesic flatwoods is the most widespread natural community in Florida. It is characterized as having an open overstory of pines, which in South Florida consists of slash pine. The understory generally

includes a low, dense groundcover layer of grasses, forbs and shrubs. Other typical mesic flatwoods plant species that occur in the County include saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra*), coastalplain staggerbush (*Lyonia fruticosa*), fetterbush, dwarf huckleberry (*Gaylussacia dumosa*), shiny blueberry (*Vaccinium myrsinites*), dwarf live oak (*Quercus minima*), running oak (*Quercus pumila*), wiregrass (*Aristida stricta*), witchgrasses and bluestem grasses, plus a large number of showy forbs.

Mesic flatwoods communities require frequent fire; all of the common plant species recover quickly after a fire and several plant species require fire to reproduce. Nearly all natural fires in mesic flatwoods occur at 1- to 6-year intervals, with 2- to 3-year intervals being the most common. Reintroduction of fire into long unburned flatwoods can result in high pine mortality due to excessive smoldering at the base of the trees, a side effect of fuel and litter build-up. Growing season fires (April to mid-August) are favored over winter burns because many of the grasses and forbs require fire to flower and set seed.

The mesic flatwoods community at the natural area currently occupies 8.1 acres. It will be prescribed burned, contingent upon appropriate weather conditions, smoke and safety considerations, funding and/or resource availability, and other factors that may limit burning within an urban environment prescribed burn. If an "ideal" burn frequency cannot be met, prescribed burns and/or mechanical vegetative reduction methods will be used, as needed, to create a mosaic of natural communities and successional stages within management units that contain the mesic flatwoods community, and reduce the risk of catastrophic wildfire.

FNAI (2018) ranked mesic flatwoods as G4/S4 - apparently secure globally and in Florida, but possibly rare in part of its range.

3.3.5 Estuarine Unconsolidated Substrate

The estuarine unconsolidated substrate community at the natural area are natural tributaries of the Lake Worth Creek which connects to the adjacent ICW. This community is generally characterized as expansive, relatively open areas of subtidal, intertidal, and supratidal zones which lack dense populations of sessile plant and animal species. Unconsolidated Substrates are unsolidified material and include coralgal, marl, mud, mud/sand, sand or shell. This community may support a large population of infaunal organisms as well as a variety of transient planktonic and pelagic organisms (e.g., tube worms, sand dollars, mollusks, isopods, amphipods, burrowing shrimp, and an assortment of crabs). Plant species found within the estuarine unconsolidated substrate community at the natural area include turtlegrass (*Thalassia testudinum*), shoalweed (*Halodule wrightii*), manateegrass (*Syringodium filiforme*), and Joshson's seagrass (*Halophila johnsonii*). This community does not have a natural hydroperiod or fire frequency. This community occupies about 12.2 acres.

3.3.6 Scrub

Scrub communities occur on sand ridges along former shorelines and are characterized by very-well-drained soils, a relatively open canopy, a dense-to-open understory layer and a sparse groundcover layer. Scrub communities are composed of evergreen shrubs, with or without a canopy of pines. The signature species – three species of scrub oaks (myrtle oak [*Quercus myrtifolia*], sand live oak [*Quercus geminata*] and Chapman's oak [*Quercus chapmanii*]), sand pine (*Pinus clausa*) and Florida rosemary (*Ceratiola ericoides*) – are found in scrub statewide. Other typical scrub plant species that occur in the County include saw palmetto, threeawns (*Aristida* spp.), hairsedges (*Bulbostylis* spp.), pinweeds (*Lechea* spp.), jointweeds (*Polygonella* spp.), sandyfield beaksedge (*Rhynchospora megalocarpa*) and ground lichens (*Cladina* spp. and *Cladonia* spp.).

Scrub is a fire-maintained community. Recommended fire return intervals for scrub habitats range from 3 to 40 years and are dependent on the dominant plant species – oak scrub has a recommended fire return interval of 3 to 20 years, sand pine scrub has a recommended fire return interval of 5 to 40 years and rosemary scrub has a recommended fire return interval of 15 to 30 years. Periodic fire is one of the physical disturbances that help maintain the areas of open sand that characterize typical scrub. Fire is necessary for the growth and proliferation of many of the rare and/or endemic species that are found in scrub communities in Florida.

The density of key species within a scrub canopy often is a reflection of fire frequency. Individual sand pines usually are killed by fire, but replaced through reseeding. It takes nearly 10 years for the replacement stand of sand pines to mature and begin producing new seeds, and sand pines start to die off once they reach 50 years of age (FNAI 2010). Therefore, fires that occur at relatively short intervals (before replacement trees become mature enough to produce seeds) or at relatively long intervals (approaching, or beyond, the normal reproductive life of sand pine) may eliminate sand pines from a scrub community. Similarly, Florida rosemary succumbs to fire and is reestablished from seed. This species requires 10 to 15 years to reach reproductive maturity and becomes senescent around 40 years of age. As a result, Florida rosemary also may be eliminated from scrub due to too frequent or too infrequent fire. Most of the other scrub species resprout readily from root-shoots following fire.

The scrub community occupies approximately 162.1 acres and is predominately oak/sand pine scrub. It will be prescribed burned, contingent upon appropriate weather conditions, smoke and safety considerations, funding and/or resource availability, and other factors that may limit burning within an urban environment prescribed burn. If an "ideal" burn frequency cannot be met, prescribed burns and/or mechanical vegetative reduction methods will be used, as needed, to create a mosaic of natural communities and successional stages within Management Units 1-5 and 7, and reduce the risk of catastrophic wildfire.

FNAI (2018) ranked scrub as G2/S2 - imperiled both globally and in Florida because of rarity or vulnerability to extinction.

3.3.7 Disturbed Scrub

Disturbed scrub typically has many of the same plant species as intact scrub, but the plants are smaller and sparser, and there are larger expanses of bare sand. There also is a higher-than-normal percentage of ruderal and invasive/nonnative plants such as rose natalgrass (*Melinis repens*). Pioneer, high-light environment scrub plant species such as skyblue lupine (*Lupinus diffusus*), narrowleaf silkgrass (*Pityopsis graminifolia*), Feay's prairieclover (*Dalea feayi*) and Deckert's pinweed (*Lechea deckertii*) are more common. The higher percentage of herbaceous plants provide an important food source for gopher tortoises. The disturbed scrub community at the natural area will be prescribed burned, contingent upon appropriate weather conditions, smoke and safety considerations, funding and/or resource availability, and other factors that may limit burning within an urban environment prescribed burn. If an "ideal" burn frequency cannot be met, prescribed burns and/or mechanical vegetative reduction methods will be used, as needed, to create a mosaic of natural communities and successional stages within Management Units 1 and 2, and reduce the risk of catastrophic wildfire.

At this site, the disturbed scrub community consists of areas of scrub that were cleared as a result of a previous development attempt, and the soil was impacted by the placement of shell rock fill. The disturbed scrub community currently occupies 3.1 acres.

3.3.8 Scrubby Flatwoods

Scrubby flatwoods are characterized as having an open canopy of widely-spaced pine trees and a low, shrubby understory dominated by scrub oaks and saw palmetto, often interspersed with areas of barren white sand. Scrubby flatwoods will not flood, even under extremely wet conditions (Abrahamson and Hartnett 1990). The principal canopy species in South Florida is slash pine. In the County the understory consists of one or more of three scrub oaks - myrtle oak, Chapman's oak and sand live oak - and shrubs typical of mesic flatwoods such as saw palmetto, gallberry, coastalplain staggerbush, fetterbush and deerberry (*Vaccinium stamineum*). Grasses and subshrubs include wiregrass, broomsedge bluestem (*Andropogon virginicus*), little bluestem (*Schizachyrium scoparium*), dwarf live oak, shiny blueberry, dwarf huckleberry, gopher apple (*Licania michauxii*), Chapman's goldenrod (*Solidago odora* var. *chapmanii*), running oak, coastalplain honeycombhead (*Balduina angustifolia*), narrowleaf silkgrass and October flower (*Polygonella polygama*).

Due to the relatively sparse ground cover and the presence of open, sandy areas, natural fire frequency in scrubby flatwoods is lower than in other flatwoods communities (Abrahamson and Hartnett 1990). Under natural conditions, this community burns once every 5 to 15 years. Scrubby flatwoods tend to burn in a spotty fashion leaving a mosaic of lightly-burned, intensely-burned and unburned areas.

The scrubby flatwoods community at the natural area will be prescribed burned, contingent upon appropriate weather conditions, smoke and safety considerations, funding and/or resource

availability, and other factors that may limit burning within an urban environment prescribed burn. If an "ideal" burn frequency cannot be met, prescribed burns and/or mechanical vegetative reduction methods will be used, as needed, to create a mosaic of natural communities and successional stages within Management Units 1, 3, 4, 5 and 6, and reduce the risk of catastrophic wildfire. There are 41.4 acres of scrubby flatwoods at the natural area.

FNAI (2018) ranked scrubby flatwoods as G2/S2? - imperiled both globally and in Florida because of rarity or vulnerability to extinction. The question mark indicates that the state status is questionable at present.

3.4 PLANTS AND ANIMALS - OVERVIEW

As of March 2021, 364 species of plants have been recorded at the natural area (Appendix A). Of these, nineteen have been listed for protection or special management by a government agency or have been ranked by FNAI (Table 1). Seventy-one species of plants recorded at the site are not native to the South Florida mainland (see Section 4.5.2 and Appendix A).

As of March 2021, 275 species of animals have been recorded at the natural area. Twenty-two of these species have been listed for protection or special management by a government agency or have been ranked by FNAI (Table 2). Six species of invertebrates and seven species of vertebrates recorded at the site are not native to the South Florida mainland (see Section 4.5.3 and Appendix B).

Some native plant and animal species recorded at the natural area are habitat-specific, using only one natural community, while others use a variety of natural communities. Therefore, the preservation, restoration, enhancement and management of all of the natural communities at the natural area are critical to the long-term preservation of plant and animal species indigenous to the site. The plant and animal totals represent what has been recorded throughout the County's management of the site and may not reflect all species currently present during the writing of the management plan.

3.5 LISTED SPECIES

3.5.1 Plants

Nineteen plant species recorded at the natural area have been listed for protection or special management by at least one governmental agency or have been ranked by FNAI (Table 1). These species will be protected as components of the natural communities of which they are a part. All listed/ranked plant species recorded at the natural area will be protected by implementing management activities designed to restore, enhance and maintain the natural communities in which they occur; controlling/removing invasive/nonnative vegetation; implementing a prescribed burn program; maintaining and restoring the hydrology of the site; routing management accessways, trails and other public use facilities away from known populations whenever possible; relocating

plants that cannot be avoided during construction and restoration activities; controlling feral hog populations; and protecting the site from plant collectors. Species known to be susceptible to fire may be protected during prescribed burn activities by one or more of the following actions: having multiple management units, burning only one unit at a time to maintain a seed source on the unburned parts of the site, maintaining a mosaic of seral stages on the site, creating temporary firebreaks, avoiding the areas in which the plants occur during mechanical vegetation reduction activities and prescribed burn activities or relocating individual plants to other locations on the site prior to a prescribed burn. Information regarding the monitoring of listed/ranked plant species is provided in Section 7.2.

This section includes a brief description of each listed/ranked plant species and any species-specific management/protection strategies that may be used to protect that species. The ranks and designations assigned to the species are provided in Table 1. Listed/ranked plant species recorded at the natural area are discussed below in alphabetical order by common name. The typical habitats provided for each species are as described by Wunderlin and Hansen (2011) unless otherwise noted.

Banded airplant (*Tillandsia flexuosa*)

This epiphytic bromeliad was first recorded at the natural area by ERM staff in 1993; it is occasionally observed at the natural area. Banded airplant is typically found in hammocks and cypress swamps; ERM staff also observes this species in scrub communities within the County's natural areas (Griffiths and Tolbert 2018). All species of Tillandsia may be killed directly by fire, or indirectly as a result of the loss of the protective tree canopy or death of the host tree (Robertson and Platt 1992 and 2001).

Cinnamon fern (*Osmundastrum cinnamomeum*)

This terrestrial fern was first recorded at the natural area by ERM staff in 1989; it is occasionally observed at the natural area. Cinnamon fern is typically found in freshwater marshes, swamps and bogs.

Common wild pine (*Tillandsia fasciculata*)

This epiphytic bromeliad was first recorded at the natural area by ERM staff in 1991; it is frequently observed at the natural area. It is typically found in cypress swamps, hammocks and flatwoods. All species of Tillandsia may be killed directly by fire, or indirectly as a result of the loss of the protective tree canopy or death of the host tree (Robertson and Platt 1992 and 2001).

Curtiss' milkweed (*Asclepias curtissii*)

This extremely rare, endemic perennial herb was first recorded at the natural area by ERM staff in 1990; it is occasionally observed at the natural area. It is typically found in scrub, usually in close association with woody shrubs that provide shade (Mondo et al. 2010).

Dancinglady orchid (*Tolumnia bahamensis*)

This terrestrial or semi-epiphytic orchid was first recorded at the natural area by ERM staff in 1988. The last individual plant of this species known to exist on the site naturally died in 2004. A planting project in coordination with FAU Pine Jog transplanted 1,316 plants onto the natural area in 2018 and 2019 in an attempt to reestablish the population. Staff has observed approximately 60% survival rate to date. Dancinglady orchid is susceptible to fire. This species is typically found in scrub.

Florida butterfly orchid (*Encyclia tampensis*)

This epiphytic orchid was first recorded at the natural area by ERM staff in 2005; it is rarely observed at the natural area. Florida butterfly orchids are typically found in hammocks, hardwood swamps, cypress swamps, mangroves and palm groves. Florida butterfly orchids may be killed directly by fire, or indirectly as a result of the loss of the protective tree canopy or death of the host tree (Robertson and Platt 1992 and 2001).

Fourpetal pawpaw (*Asimina tetramera*)

This endemic, long-lived shrub was first recorded at the natural area by ERM staff in 1988; it is occasionally observed at the natural area. Fourpetal pawpaw is typically found in openings in sand pine scrub on the south-central Atlantic Coastal ridge (Chafin 2000). This plant is in stable condition. The species seems to have benefited from mechanical vegetation reduction.

Giant wild pine (*Tillandsia utriculata*)

This epiphytic bromeliad was first recorded at the natural area by ERM staff in 1988; it is occasionally observed at the natural area. Giant wild pine is typically found in hammocks and cypress swamps. All species of Tillandsia may be killed directly by fire, or indirectly as a result of the loss of the protective tree canopy or death of the host tree (Robertson and Platt 1992 and 2001).

Inflated & reflexed wild pine (*Tillandsia balbisiana*)

This epiphytic bromeliad was first recorded at the natural area by ERM staff in 1991; it is frequently observed at the natural area. Inflated & reflexed wild pine is typically found in hammocks and scrub. All species of Tillandsia may be killed directly by fire, or indirectly as a

result of the loss of the protective tree canopy or death of the host tree (Robertson and Platt 1992 and 2001).

Johnson's seagrass (Halophila johnsonii)

This small seagrass with a very limited range was first recorded at the natural area in 2008 by ERM staff; it is very rarely observed at the natural area. This miniature grass provides a refuge for small marine animals and a nursery for the young. Large herbivores, like the green sea turtle and Florida manatee, frequently feed on Johnson's seagrass leaves (Center for Biological Diversity undated).

Largeflower false rosemary (*Conradina grandiflora*)

This endemic shrubby mint was first recorded at the natural area by ERM staff in 1988; it is rarely observed at the natural area. This small shrub is typically found in scrub and scrubby flatwoods (Gann et al. 2016a). It is adapted to fire.

Nodding club-moss (*Lycopodiella cernua*)

This terrestrial fern ally was first recorded at the natural area by ERM staff in 1995; it is very rarely observed at the natural area. It is typically found in wet flatwoods, pond margins, bogs, hammocks and ditches.

Perforate reindeer lichen (*Cladonia perforata*)

This endemic terrestrial lichen was first recorded at the natural area by ERM staff in 1995; it is frequently observed at the natural area. It is typically found in rosemary scrub (Chafin 2000). Perforate reindeer lichen is susceptible to fire.

Royal fern (*Osmunda regalis* var. *spectabilis*)

This terrestrial fern was first recorded at the natural area by ERM staff in 1991; it is occasionally observed at the natural area. This species is typically found in swamps, marshes and bogs. Royal fern has a low tolerance to fire (LaRue 2008).

Saw palmetto (*Serenoa repens*)

This perennial shrub was first recorded at the natural area by ERM staff in 1988; it is frequently observed at the natural area. This species is typically found in pinelands, scrub and coastal upland communities (Gann, et al. 2016b). Saw palmetto is adapted to fire.

Scrub pinweed (*Lechea cernua*)

This endemic forb was first recorded at the natural area by ERM staff in 1988; it is frequently observed at the natural area. Scrub pinweed is typically found in scrub. It is adapted to fire.

Shell-mound pricklypear (*Opuntia stricta*)

This perennial forb was first recorded at the natural area by ERM staff in 1988; it is very rarely observed at the natural area. It is typically found on dunes and shell middens, and in coastal hammocks.

Spreading pinweed (*Lechea divaricata*)

This herb was first recorded at the natural area by ERM staff in 1994; it is rarely observed at the natural area. It is typically found in scrub and scrubby flatwoods (Chafin 2000). This species is adapted to fire.

Tiny polygala (*Polygala smallii*)

This diminutive endemic forb was first recorded at the natural area by Gann in 1994 and 1995 (Bradley and Gann 1995); it is very rarely observed at the natural area. Tiny polygala is typically found in pinelands.

3.5.2 Animals

Twenty-two animal species recorded at the natural area have been listed for protection or special management by at least one governmental agency or have been ranked by FNAI (Table 2). One federally-listed species, the Florida scrub-jay, was first recorded on the site in 1988, but has not been recorded since 2017. The listed/ranked animal species at the natural area will be managed and protected as components of the natural communities of which they are a part. All listed/ranked animal species will be managed and protected through the implementation of management activities designed to restore, enhance and maintain the natural communities used by these species; by establishing a protective buffer zone around any known nest or rookery, or any nest or rookery discovered in the future; and by enforcing anti-poaching regulations.

This section includes a brief description of each listed/ranked animal species, including the habitats in which it is typically found and the species' primary diet. The ranks and designations assigned to the species are provided in Table 2. Listed/ranked animal species recorded at the natural area are discussed in alphabetical order by common name.

American redstart (*Setophaga ruticilla*)

This migratory warbler was first recorded at the natural area by ERM staff in 1993; it is occasionally observed at the natural area. American redstarts typically feed on insects and spiders (Pranty et al. 2006). Fall migrants arrive in Florida between late July and early November, and spring birds pass through between late March and early June (Maehr and Kale 2005). This species does not nest in South Florida (Sherry and Holmes 1997).

Atala (*Eumaeus atala*)

This butterfly was first recorded at the natural area by ERM staff in 1998; it is very rarely observed at the natural area. Its larval food plant is coontie (*Zamia pumila*), a native shrub (Minno et al. 2005) that is rarely found on the natural area but is present in residential landscaping in the surrounding area. Atala typically are found in tropical hardwood hammocks, pine rocklands and gardens.

Bald eagle (*Haliaeetus leucocephalus*)

This very large bird of prey was first recorded at the natural area by ERM staff in 2018; it is rarely observed at the natural area. Bald eagles feed primarily on fish and waterbirds (Pranty et al. 2006). This species inhabits coastal beaches, salt marshes, dry prairies, mixed pine and hardwood forests, wet prairies and marshes, pine flatwoods, sandhills and agricultural areas (Maehr and Kale 2005). In Florida, most bald eagles are year-round residents, but winter migrants do occur. Bald eagles typically nest in pine trees, but also may nest in mangrove trees or cypress; most nests are built more than 50 feet off the ground (Stevenson and Anderson 1994). The bald eagle is not known to have nested on the natural area.

Eastern indigo snake (*Drymarchon corais couperi*)

This large, black non-venomous snake was first recorded at the natural area by ERM staff in 1991; it has not been observed at the natural area since 1993. The eastern indigo snake is a carnivore; its diet includes a variety of reptiles, amphibians, small mammals and birds (Ashton and Ashton 2008; Bartlett and Bartlett 2003). This species is a wide-ranging, territorial snake that occasionally uses gopher tortoise burrows. An adult male indigo snake can have a range of more than 370 acres and use a wide variety of disturbed and natural habitats (Bartlett and Bartlett 2003, Moler 1992).

Florida deermouse (*Podomys floridanus*)

This endemic small mammal was first recorded at the natural area by ERM staff in 2002; it is very rarely observed at the natural area. It feeds primarily on seeds, plants, fungi and insects (FWC 2013a). This species prefers fire-maintained, xeric upland habitats, especially scrub and sandhills (FWC 2013a). The Florida deermouse is considered to be a commensal of the gopher tortoise

(FWC 2013a); it makes a shelf or cavity in the wall of the gopher tortoise burrow or a nest chamber in the side of the burrow (Ashton and Ashton 2008).

Florida sandhill crane (*Antigone canadensis pratensis*)

This large wading bird was first recorded at the natural area by ERM staff in 2008; it is very rarely observed at the natural area. The non-migratory Florida sandhill crane typically nests and feeds in wetland habitats such as wet prairies and depression marshes, but also forages for invertebrates and small vertebrates in wet flatwoods and open pastures, as well as on golf courses and suburban lawns (Maehr and Kale 2005, Pranty et al. 2006). It builds platform nests in basin marshes and depression marshes. Florida sandhill crane is not known to nest on the site.

Florida scrub-jay (*Aphelocoma coerulescens*)

This medium-sized bird was first recorded at the natural area by ERM staff in 1988; it has not been observed at the natural area since 2017. Florida scrub-jays live in family groups, which vary in size from a simple mated pair up to large, extended-family groups of eight adults and one to four juveniles; the average group size is three (Fitzpatrick et al. 1991). Fitzpatrick et al. (1991) estimated that 750 acres of periodically-burned scrub would be required to support an adequately-protected population. Based upon that estimate, it would be difficult to maintain a viable population of Florida scrub-jays in northern Palm Beach County, even if the Juno Dunes and Jupiter Ridge Natural Areas and the scrub habitat in the Karen Marcus Ocean Park Preserve are considered to be one complex and management of these sites is coordinated. Urban development has almost completely surrounded these sites, and additional development still is occurring. This area is separated by development from the population of scrub-jays at Jonathan Dickinson State Park. In 2020 that population included 28 families with 87 individuals (Rossmanith 2020). It does not appear likely that a self-sustaining scrub jay population can continue to exist in Palm Beach County. However, efforts will be made to maintain suitable habitat for this species on the site through prescribed burning and mechanical vegetation reduction. Scrub management guidelines prepared by FWC and FNAI (FWC and FNAI 2010) will be reviewed periodically to ensure that management of the scrub and scrubby flatwoods communities on the natural area is conducted according to the most recent information. This species will continue to be surveyed for opportunistically.

Glossy ibis (*Plegadis falcinellus*)

This medium-large wading bird was first recorded at the natural area by ERM staff in 2000; it is very rarely observed at the natural area. Glossy ibis typically feed on crayfish, fish, reptiles, amphibians and insects (Maehr and Kale 2005, Pranty et al. 2006). They inhabit freshwater marshes, swamps, lakes, flooded agricultural areas and occasionally estuaries (Pranty et al. 2006). Nesting occurs in mixed colonies with other wading birds in shrubs and trees that are either over standing water or on islands. Glossy ibises build platform nests made of sticks. This species is not known to nest at the natural area.

Gopher tortoise (*Gopherus polyphemus*)

This medium-sized terrestrial turtle was first recorded at the natural area by ERM staff in 1988; it is frequently observed at the natural area. Gopher tortoises are plant eaters; they feed on 400 species of grass and herbaceous plants (Ashton and Ashton 2008). They can travel up to two miles from their burrows to feed. They also may eat carrion, small animals, insects and other invertebrates. The gopher tortoise typically inhabits sandhill, scrub, scrubby flatwoods, xeric hammock, pine flatwoods, dry prairie, coastal strand, mixed pine-hardwood communities and a variety of disturbed well-drained habitats (FWC 2012). The gopher tortoise is a keystone species in upland communities because of the important role that this species plays in relation to other plants and animals. At least 411 species of vertebrate and invertebrate animals use gopher tortoise burrows (Mushinsky et al. 2006).

The close proximity of the natural area to smoke-sensitive areas severely limits the use of prescribed fire as a gopher tortoise habitat management tool. Therefore, mechanical vegetation reduction activities were conducted in Management Units 3 and 7 in 2008, Management Units 2, 3 and 4 in 2013, Management Unit 1 and 3 in 2014, Management Units 1 and 4 in 2015, Management Units 1 and 2 in 2019 and Management Units 1-5 & 7 in 2020 to reduce fuel loads and create open space suitable for gopher tortoises. In the future, mechanical vegetation reduction activities may be used in lieu of fire, or in addition to fire, when it is not possible to conduct prescribed burns at the "ideal" burn intervals outlined in Sections 2.1 and 4.4.1. A portion of the 2013 mechanical vegetation reduction costs were paid by a $15,000 FWC Gopher Tortoise Habitat Management grant.

Least tern (*Sternula antillarum*)

This small tern species was first recorded at the natural area by ERM staff in 1993; it is rarely observed at the natural area. This migratory species is present in Florida from March through September (Maehr and Kale 2005). It feeds on small fish and shrimp (Pranty et al. 2006). Least terns typically inhabit beaches, dunes, soil islands and inland areas near large lakes. Nesting occurs throughout Florida from April through September (Maehr and Kale 2005, Pranty et al. 2006). Least terns are colonial ground nesters. Historically they nested on beaches, dunes, islands and river shores; they now nest on light-colored human-made habitats such as spoil islands, construction sites, phosphate mines and gravel rooftops. Least terns are not known to nest on the site.

Little blue heron (*Egretta caerulea*)

This medium-sized heron was first recorded at the natural area by ERM staff in 1993; it is frequently observed at the natural area. Little blue herons feed on small fish and amphibians, aquatic crustaceans, insects, worms and snakes (FWC 2013b). This species inhabits coastal beaches, salt marshes, mangroves, hardwood swamps, cypress swamps, wet prairies, freshwater marshes, lakes and ponds, and flooded agricultural areas (Maehr and Kale 2005, Pranty et al.

2006). Nesting occurs from late February through August in single species or multiple species wading bird colonies, mainly at saltwater sites (Maehr and Kale 2005). The little blue heron is not known to nest at this site.

Merlin (*Falco columbarius*)

This small- to medium-sized falcon was first recorded at the natural area by ERM staff in 1998; it is rarely observed at the natural area. This species preys chiefly on small birds, but may feed on small mammals and insects (Maehr and Kale 2005, Pranty et al. 2006). Merlins can be seen in virtually any open habitat, usually near water (Pranty et al. 2006). These migratory falcons can be locally common along the Atlantic coast of Florida from September to April. This species does not nest in Florida.

Osprey (*Pandion haliaetus*)

This large bird of prey was first recorded at the natural area by ERM staff in 1993; it is frequently observed at the natural area. It feeds almost exclusively on fish (FWC 2013c, Pranty et al. 2006). Ospreys are widely distributed in Florida and may be found near coastal beaches, salt marshes, open saltwater, open freshwater, mangroves, and wet prairies and marshes (Maehr and Kale 2005). In South Florida, nesting occurs from late November to early summer (FWC 2013c). Ospreys use live or dead trees, telephone poles and other human-made structures for nesting; they create large stick nests high above the ground that they use for many years (Pranty et al. 2006). This species is known to nest at the natural area.

Painted bunting (*Passerina ciris*)

This colorful, migratory songbird species was first recorded at the natural area by ERM staff in 2008; it is very rarely observed at the natural area. Painted buntings feed primarily on seeds, but also eat small fruits, insects and spiders (Maehr and Kale 2005, Pranty et al. 2006). They are found in dense vegetation along hammock and woodland edges and in abandoned citrus groves and urban areas. This species frequently overwinters in southern and central Florida, but does not nest south of Brevard County (Pranty et al. 2006).

Peregrine falcon (*Falco peregrinus*)

This large migratory raptor was first recorded at the natural area by ERM staff in 2008; it is very rarely observed at the natural area. It feeds on a variety of birds, including ducks, shorebirds and gulls (Pranty et al. 2006). The peregrine falcon inhabits a variety of open, mostly coastal habitats, as well as inland lakes and marshes (Maehr and Kale 2005, Pranty et al. 2006). Florida represents an important wintering area for this species, especially for the Arctic subspecies (Maehr and Kale 2005). This species does not nest in Florida (Pranty et al. 2006).

Red widow spider (*Latrodectus bishopi*)

Red widow spiders were first recorded at the natural area by ERM in 1995; they are occasionally observed at the natural area. This venomous, nocturnal spider is endemic to Florida; it makes its web in saw palmettos, primarily in sand pine scrub and scrubby flatwoods habitats in central and southeast Florida (Carrel 2001, Short and Castner 2003).

Roseate spoonbill (*Platalea ajaja*)

This large, colorful wading bird was first recorded at the natural area by ERM staff in 2013; it is very rarely observed at the natural area. Roseate spoonbills feed on fish, crustaceans, mollusks and other aquatic animals (Pranty et al. 2006). They inhabit shallow estuaries and bays, mangrove swamps, coastal islands and flooded agricultural fields. Roseate spoonbills are fairly common permanent residents in the southern half of the Florida peninsula. In Florida, mainland populations normally breed from late February or early March to June (Sustainable Ecosystems Institute 2007). Nesting usually occurs with other wading birds in large colonies on thick thickets of mangroves; spoonbills construct bulky stick nests (Pranty et al. 2006). This species is not known to nest on the natural area.

Roseate tern (*Sterna dougalii*)

This medium-sized tern species was first recorded at the natural area by ERM staff in 2019; it is very rarely observed at the natural area. Roseate Terns eat small fish, which they capture either by plunging into the water or by swooping down to dip prey from the surface. They occasionally also eat insects, squid, and crustaceans. This species is not known to nest at the natural area.

Snowy egret (*Egretta thula*)

This wading bird was first recorded at the natural area by ERM staff in 2008; it is occasionally observed at the natural area. The snowy egret feeds on a variety of fish, aquatic crustaceans, insects, and small amphibians, worms or snakes (FWC 2013b). It is a common and widespread Florida resident that is found in almost any wetland habitat, including coastal beaches, freshwater and salt marshes, mangroves, hardwood swamps, cypress swamps, wet prairies, flooded agricultural areas and urban environments (Maehr and Kale 2005, Pranty et al. 2006). Platform nests are created in shrub-covered wetlands or islands in coastal lakes and lagoons (Maehr and Kale 2005). Snowy egrets nest in colonies with other wading birds; eggs are laid from March through August. This species is not known to nest at the natural area.

Swallow-tailed kite (*Elanoides forficatus*)

This long-tailed bird of prey was first recorded at the natural area by ERM staff in 2003; it is occasionally observed at the natural area. This species feeds on large insects, tree frogs, small snakes and nestling birds (Pranty et al. 2006). Swallow-tailed kites require a mosaic of

communities, with tall, accessible trees for nesting and open areas for foraging. Habitats include xeric scrub, hardwood and cypress swamps, mesic hammocks, mixed pine and hardwood forests, pine flatwoods, sandhills, riparian forests and agricultural environments (Maehr and Kale 2005, Pranty et al. 2006). This species typically builds platform nests in tall pine or cypress trees (Pranty et al. 2006). This species is not known to nest on the natural area.

Tricolored heron (*Egretta tricolor*)

This long-necked wading bird was first recorded at the natural area by ERM staff in 1993; it is rarely observed at the natural area. It feeds primarily on small fish (Pranty et al. 2006). Tricolored herons are fairly-common permanent residents in Florida, except in the western Panhandle. They primarily live in coastal habitats such as estuaries and mangroves, but also are present in many types of wetlands, including the edges of inland marshes, lakes and ponds, and flooded agricultural fields. Tricolored herons are colonial nesters; they create platform nests in mangroves or other dense aquatic shrubs. Eggs are laid from late February through July (Maehr and Kale 2005). The tricolored heron is not known to nest at the natural area.

West Indian manatee (*Trichechus manatus*)

The West Indian manatee was first recorded at the natural area by ERM staff in 1993 within the ICW along the western portion of the natural area; it is very rarely observed at the natural area. This species inhabits a variety of aquatic habitats, including freshwater rivers and springs, estuarine bays, marine coastlines and canals in urban areas (FWC 2007). West Indian manatees are generalist herbivores that feed on a variety of marine and freshwater floating, emergent, bank and benthic vegetation. Manatees probably do not feed within the natural area because of the sparseness of seagrass along the ICW and lack of other suitable vegetation.

3.6 MINERAL RESOURCES

There are no known commercially viable oil, gas, or phosphate deposits, or any other mineral resources at the natural area. All known mineral resources rights on the state-owned portion of the natural area are owned by the State of Florida; all known mineral resources rights on the county-owned tract/tracts are owned by the county.

3.7 UNIQUE NATURAL FEATURES AND OUTSTANDING NATIVE LANDSCAPES

Iverson and Austin (1988) divided Palm Beach County into a number of biogeographic regions which correlated with the biological and physiographic features of the County. They identified the Present Dune - the area immediately adjacent to the Atlantic Ocean - and the Pamlico Ridge - an area of Pleistocene dunes west of and historically separated from the Present Dune by a series of sloughs, rivers and lakes as native landscape features. The Jupiter Ridge Natural Area includes a portion of the Pamlico Ridge.

Within the context of Palm Beach County, the Pamlico Ridge within the Jupiter Ridge Natural Area should be considered a unique natural feature. Very few areas exist in the County where the Pamlico Ridge can be viewed in a relatively unaltered state. There are no coral reefs, springs, rapids, caverns, sinkholes, "Outstanding Florida Waters" or state- or nationally-designated wild and scenic rivers at the natural area. The entire natural area should be considered an outstanding native landscape containing relatively unaltered flora, fauna and geologic conditions.

3.8 RESOURCES ON THE PROPERTY THAT ARE LISTED IN THE FLORIDA NATURAL AREAS INVENTORY

A letter from FNAI on the resources that FNAI has listed as occurring on this site is provided in Appendix H. Information on all new listed species recorded at the natural area will be provided to FNAI, using the form that is available on the FNAI web site. The plant communities present on the natural area that are ranked by FNAI (2016) are identified in Section 3.3. Plant and animal species recorded at the natural area that are ranked by FNAI are listed in Tables 1 and 2, respectively.

3.9 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

No archaeological or historical resources are known to exist within the natural area. Any future ground disturbance will be coordinated with Florida Department of State, Division of Historical Resources (FDHR) and the Palm Beach County Archaeologist. If any archaeological or historical sites are discovered in the future, FDHR's (Appendix I) and the County's best management procedures will be followed to protect those sites. If human remains are found, the provisions of Section 872.05, Florida Statutes, will be followed. The County will comply with Chapter 267, Florida Statutes, in its management of any archaeological or historical sites discovered on the natural area. If historical resources are found on the natural area, a historical resources protection plan will be developed in consultation with the Palm Beach County Historic Preservation Officer. If future resources permit and funding is appropriated, the County will consider conducting an archival and historical study to determine the historical significance of said resource(s).

4. MANAGEMENT AND RESTORATION ACTIVITIES

Baseline environmental assessments of the existing plant communities, and plants and animals were conducted by ERM staff between 1988 and 1996. This information was used to identify the initial management activities necessary to protect, restore/enhance and maintain the natural resources of the site, and to determine the locations and types of public use facilities that were installed. Additional environmental investigations conducted between 1997 and 2020 were analyzed to identify any changes that should be made to the existing public use facilities, land management practices or monitoring requirements. This information serves as the basis for this updated management plan.

4.1 MANAGEMENT RESPONSIBILITIES

Management activities are primarily the responsibility of the County, with assistance from the Town and volunteers from the local community. These activities are coordinated by ERM. An initial interlocal agreement, which includes a breakdown of management responsibilities, was approved by the County and the Town in September 1996. Because of the additions to the natural area, the construction of the Riverwalk on the natural area, and number of other changes, it was determined that a new interlocal agreement between the County and the Town should be prepared. This new interlocal agreement was approved by the Town in February 2008 and by the County in March 2008 (see Appendix F). This interlocal agreement rescinded the initial 1996 interlocal agreement. The County does not anticipate sharing management of the natural area with any other government agencies.

Since this site does not contain commercially-viable quantities of timber, suitable pasture lands, or other commercially-viable resources, there is little interest in the site by private land managers. Additionally, there are very few private conservation land managers in southeastern Florida. For these reasons, management will have to be performed by public agencies.

4.2 MANAGEMENT UNITS

The natural area is divided into seven management units using management accessways, and natural and manmade features as boundaries and firebreaks (Figure 5). The management units have been designed to maximize the long-term diversity of natural communities, and native plant and animal species on the site. These units range in size from 8.5 to 56 acres, and are small enough to allow for safe and practical fire management. After the last plan update, Management Unit 6 was expanded to include all of the “no burn zone” that was in Management Unit 1. A management unit may be subdivided into smaller units in order to facilitate management and/or monitoring activities, or to minimize the effect of smoke on adjacent properties during a prescribed burn.

4.3 MANAGEMENT NEEDS AND PROBLEMS

The primary goal of site management is to preserve, restore/enhance and manage the site's ecological resources, including the existing natural communities, their component plant and animal species, and local groundwater resources. The primary management needs at this site currently include: 1) restoration of a more natural fire regime; 2) maintenance of more natural hydrological conditions within wetland areas; 3) removal/control of invasive/nonnative plants and certain nonnative/nuisance animals; and 4) prevention of unauthorized uses.

The natural area consists predominantly of fire-maintained ecosystems. Before its acquisition by the County, fires had been suppressed on the site for more than half a century. Restoration of a natural fire regime is necessary to maintain the native, fire-maintained plant communities as well as to ensure the continuance of fire-dependent listed species populations. Fire management is addressed in Section 4.5.1 and in the Fire Management Plan (Appendix G).

Prior to the site's acquisition by the County, land clearing activities, dumping and/or other man-made alterations resulted in the loss of native vegetation from portions of the natural area. The affected areas were subsequently invaded by invasive/nonnative plant species. Shortly after the site's acquisition, the County began a concerted effort to remove/control invasive/nonnative plants on the site (see Subsection 4.5.2). As of 1999 the County's efforts have reduced the aerial coverage of nonnative plants to less than 1 percent of the site, however, ongoing nonnative plant control efforts will be required to maintain the site in a healthy vegetative condition. Steps also have been taken to control nonnative/nuisance animals which adversely affect native plants or animals on the site (see Subsection 4.5.3).

Human-caused impacts from unauthorized activities such as OHV uses, unauthorized or off-trail uses, dumping, poaching of listed plant species, removal/destruction of signs and the painting of graffiti on public use facilities are an ongoing management concern. Measures taken to prevent these types of activities are described in Section 4.7.

4.4 MAINTENANCE

4.4.1 Removal of Debris and Litter

All of the debris and litter found on the natural area at the time of its acquisition has been removed. If additional debris is found, it will be removed in a timely manner unless such removal would cause undesirable damage to a rare or imperiled natural community, or listed species. The installation of perimeter fencing and management access gates has and will continue to help prevent dumping on the site. Periodic site cleanups to remove litter are conducted by county staff with the assistance of volunteers.

4.4.2 Trail Maintenance

Periodic trail maintenance will be performed by county staff and community volunteers. All existing trails not used for site management or as part of a designated public use trail will be allowed to revegetate with native vegetation.

4.4.3 Facilities Maintenance

County staff is responsible for the maintenance of all public use facilities, fencing/gates, signage and management accessways/ firebreaks.

4.4.4 Arthropod Control Plan

The Jupiter Ridge Natural Area has been identified by the State, County and City/Town as an environmentally sensitive and biologically highly productive area (Section 388.4111, Florida Statutes). Since the use of chemical arthropod control methods would adversely affect existing fish, wildlife and other natural resources, the natural area has not been included in Palm Beach County's Mosquito Control Division's general work plan. The only form of arthropod control proposed for the site is the maintenance of the deeper water portion of the restored/created depression marsh. This deeper water area should support enough mosquito fish to provide reasonable, year-round biological control of mosquitoes on the site.

4.5 RESTORATION AND ENHANCEMENT ACTIVITIES

The site has been and will continue to be managed in a manner that preserves, restores and enhances the natural resource values. Restoration/enhancement activities conducted to date include the commencement of a fire management program (see Section 4.5.1), implementation of invasive/nonnative plant and nonnative/nuisance animal control programs (see Sections 4.5.2 and 4.5.3, respectively), exclusion of unauthorized uses (see Section 4.6) and completion of two environmental restoration/enhancement projects (see Section 4.5.4). A single restoration project still proposed for the site is described in Section 4.5.4.

4.5.1 Fire Management

Because of development, natural, lightning-induced fire can no longer fulfill the needs of natural communities in the County which are dependent upon fire for their long-term survival (for example, basin marsh, depression marsh, dome swamp, mesic flatwoods, scrub, scrubby flatwoods, slough marsh, wet flatwoods and wet prairie). Natural fire can no longer spread from adjacent lands onto the natural area because most of the surrounding fire-dependent communities have been lost to development. When natural fire does occur within or adjacent to the natural area, it is quickly extinguished due to the threat it poses to adjacent developed areas. Prescribed fire and mechanical fuel reduction activities will be used at this site to help maintain the existing fire-

dependent communities and reduce the risk of damage from wildfire on the adjacent developed areas.

ERM has assumed the primary responsibility for prescribed burning at the natural area. Assistance in the form of firefighting staff and equipment will be requested from Palm Beach County Fire Rescue. Additional assistance may be provided by Florida Department of Agriculture and Consumer Services' (FDACS) Florida Forest Service (FFS), the County's Parks and Recreation Department, FWC and trained volunteers. Fire-related safety training is required of anyone participating in a prescribed burn. All prescribed burns will comply with Section 590.125(3), Florida Statutes (Certified Prescribed Burning; Legislative Findings and Purpose).

ERM has written a flexible fire management plan for the natural area (Appendix G). The fire management plan takes into consideration surrounding land uses, smoke management concerns, safety issues, and the ecological benefits and consequences of the specific fire management strategies. It contains specific tools and management practices designed to minimize adverse impacts to native vegetation and wildlife, while maximizing the beneficial effects of prescribed burns. A specific burn plan will be prepared for the proposed burn area prior to conducting a prescribed burn.

Development-related smoke management concerns dictate extremely narrow weather conditions in which prescribed burning may take place at the natural area. Mechanical reduction of vegetation may be used as a surrogate for fire if a given area/habitat cannot be burned.

Surveys for fire-intolerant listed plant species will be conducted before each prescribed burn. If deemed appropriate, fire-intolerant plants may be relocated outside the burn area. If relocation is not practical due to the presence of hard-to-relocate species or larger populations of listed plants, a temporary firebreak may be created to protect the area that contains the listed species from the planned burn. These relatively small unburned areas will increase the diversity of the site. A permit will be obtained for the relocation of a listed plant species when required.

At this site, Management Units 1-7 have been designated as "burn units" (Figure 4), areas within 4, 5, and 6 which contain mangrove swamp and estuarine unconsolidated substrate, will not be treated with prescribed fire. Depending on the specific conditions and objectives of a burn, a management unit may be subdivided into smaller subunits to reduce smoke concerns or provide specific habitat benefits. Staff also may investigate the use of micro-burns to help restore habitat and increase species diversity.

Each management unit was designed so that fire can burn through ecotones and move in a natural, spotty fashion across the landscape. The resulting patchwork of burned and unburned areas will produce a mosaic of vegetation at various stages of maturity, thereby maximizing diversity within and among the various plant communities. This will provide habitat for species that typically use, or may even be restricted to, communities in a particular state of maturity.

The following table lists the fire and vegetation reduction activities to date at the site.

Year	Reduction Type	Management Units
1997	Prescribed Burn	Unit 1
2005	Prescribed Burn	Unit 6
2008	Mechanical Vegetation Reduction	Units 3 and 7
2012	Prescribed Burn	Unit 7
2013	Mechanical Vegetation Reduction	Units 2, 3 and 4
2014	Mechanical Vegetation Reduction	Units 1 and 3
2015	Mechanical Vegetation Reduction	Unit 1 and 4
2015	Slash and Sand Pine Thinning	Units 2 and 5
2015	Wildfire	Unit 5
2019	Mechanical Vegetation Reduction	Units 1 and 2
2020	Mechanical Vegetation Reduction	Units 1-5 and 7

When the use of prescribed fire is not feasible/permitted, ERM will strive to create a mosaic of natural communities and successional stages, and reduce the risk of catastrophic wildfire through the use of mechanical vegetation reduction methods, subject to and contingent upon annual budgetary funding and appropriations by the BCC. This methodology uses a machine to reduce (grind or shred) vegetation into mulch-sized chips. The mulch chips are then left in place to allow for recycling of nutrients. A portion of the 2013 mechanical vegetation reduction costs were paid by a $15,000 FWC Gopher Tortoise Habitat Management grant and the 2020 reduction was paid for through a Federal Emergency Management Agency (FEMA) grant that reimbursed 75% of the costs ($56,700).

The risk of wildfire is reduced through the thinning of unnaturally-dense slash and sand pine stands. Under this method, a timber harvester paid the County for the right to cut down and physically remove excess pine trees from the portions of the natural area that have been targeted for thinning by the site manager. The pines were reduced to densities that mimic those found in natural communities where fire has not been suppressed for an extended period of time.

If a wildfire occurs on the site in the future, the appropriate actions will be taken by the authorized fire emergency response agency. Active fire suppression measures will be used only if deemed necessary by that agency since they are extremely destructive to vegetation and other natural features. If such measures are undertaken to control a wildfire, all plow lines will be backfilled after the fire has been extinguished and disturbed areas will be rehabilitated to the greatest extent possible.

A public education campaign about prescribed burns has been developed for Palm Beach County Natural Areas. This campaign includes informing adjacent residents and business owners of the necessity and benefits of fire, the safety features of prescribed burning versus wildfires, and the strategies that will be developed to minimize the impacts of smoke on the nearby developed areas.

If requested, county staff will meet with local community groups (for example, homeowners' associations) to coordinate with residents, provide information on the necessity of conducting prescribed burns and describe the safety precautions that will be taken to protect adjacent lands.

4.5.2 Invasive/Nonnative Plant Control

Like many fragmented conservation lands in southeastern Florida, the natural area has been invaded by a number of nonnative plant species. To date, seventy-one nonnative plant species have been recorded at the natural area – twenty percent of the plant species recorded on the site (Appendix A). Many of these species were brought to the site by animals (especially birds), planted on the site by previous property owners, and/or spread from adjacent properties or from vegetation piles that were dumped on the site prior to its acquisition. Some species were recorded prior to the implementation of the invasive/nonnative plant control program and may no longer be present. Nonnative plant species are expected to continue to colonize the site from surrounding properties; periodic invasive/nonnative plant control treatments will be required to prevent these species from adversely affecting the natural area.

Invasive nonnative plant species pose a serious threat to the natural communities and listed species found at the site, and are a major management concern. A number of the nonnative, and some native, plant species recorded at the natural area exhibit invasive tendencies. In this management plan, the phrase "invasive plant species" includes the plants designated as Category I (invasive) and Category II (potentially invasive) by Florida Exotic Pest Plant Council (FLEPPC 2019), those designated as noxious weeds, or Class I or Class II prohibited aquatic plants by Florida Department of Agriculture and Consumer Services (FDACS 2020a and 2008, respectively), as well as native plant species that are harmful to other native vegetation (such as love vine [*Cassytha filiformis*]) or that are too dense or inappropriate for the targeted vegetation community.

Thirty-three (46.5 percent) of the nonnative plant species recorded at the natural area are designated as either Category I or Category II species by FLEPPC (2019). A current copy of FLEPPC's list of invasive exotic plant species can be found at http://www.fleppc.org/list/list.htm. Seven (10 percent) of the nonnative plant species have been designated as noxious weeds by FDACS (2020a) and 4 (5.6 percent) have been designated as a Class I prohibited aquatic plant species (FDACS 2008). All of these species are identified in Appendix A.

The control of nonnative and invasive native plant species is a high priority at this site. A multi-phase invasive/nonnative plant control program began in June 1993 and was completed in July 1999. Follow-up invasive/nonnative plant treatments have been conducted since 1999. The site is now in maintenance condition. A site is considered to be in "maintenance condition" when the coverage of invasive plant species does not exceed 1 percent of the canopy or understory layers within any given management year. Ongoing invasive/nonnative vegetation treatments will be needed in order to keep the site in maintenance condition. Native plant species that have an adverse effect on other native species at the natural area, or are too dense or inappropriate for the targeted

vegetation community, may be targeted for eradication/control until such time that the invasive native species is no longer having an adverse impact on the site.

Methodologies used to control/eradicate invasive nonnative and invasive native plant species at the natural area have included and/or may include mechanical removal, herbicidal treatment, hand removal and the use of periodic prescribed fire. Biological control methods may be used on a case-by-case basis.

Mechanical removal methods are typically used to remove accessible, dense stands of highly invasive nonnative trees such as Australian-pine (*Casuarina equisetifolia*), Brazilian pepper (*Schinus terebinthifolia*) and melaleuca (*Melaleuca quinquenervia*). The tree and its root system are mechanically removed, with the resulting debris either left on-site or taken off-site for disposal. Any outlying sprouts or resprouts from root remnants are treated with herbicides. Mechanical removal methods were used in 1999 to remove 9 acres of Australian pine from the ICW shoreline.

Herbicidal treatments are typically used to control/eradicate individual and scattered invasive/nonnative trees, shrubs and palms; inaccessible (by heavy equipment) dense stands of invasive/nonnative trees; and invasive/nonnative vines and groundcover species. Aquatic plant species that become problematic at the site may be controlled using an appropriate aquatic herbicide. Herbicidal application methodologies include hack-and-squirt, cut-stump, basal bark, foliar treatments and broadcast spraying. Hack-and-squirt, cut-stump and basal bark methods are typically used to control/eradicate individual and scattered nonnative trees, shrubs and palms. Foliar treatments are used for invasive/nonnative vines, and for small patches of invasive/nonnative grasses, sedges and forbs. Broadcast spraying is primarily used for larger areas of invasive/nonnative grasses, sedges and forbs. Invasive/nonnative plant species that are resistant to herbicides or that easily resprout from basal mats, roots or vegetative fragments may require repeated herbicide application before the species is eradicated from an area. All herbicide treatments comply with the instructions on the herbicide label, are applied under the supervision of a licensed applicator and employ Best Management Practices for their application.

Hand removal is used for seedlings of invasive/nonnative tree and shrub species. Since tree and shrub seedlings are not reproductive, they are typically pulled out of the ground and left to decompose on site after the soil has been shaken from the roots of the plant.

Hand removal also may be used in combination with herbicide treatments to treat invasive/nonnative vines, as well as invasive/nonnative plants that are resistant to herbicides. In the case of invasive/nonnative vines, the targeted vine is cut at an appropriate height. The base is then hand-pulled or treated with a systemic herbicide; vine stems are either removed from the supporting plant or left to decompose in the trees. In the case of plants that are resistant to herbicides, hand removal may be used as the sole plant control method or it may be used as a follow up method to remove plants that are still alive following an herbicidal treatment.

Finally, hand removal may be used to help control plant species that readily reestablish from seed (for example, rose natalgrass [*Melinis repens*] and thalia lovegrass [*Eragrostis atrovirens*]) or that resprout from vegetative fragments (for example, air potato [*Dioscorea bulbifera*], American evergreen [*Syngonium podophyllum*], arrowleaf elephant's ear [*Xanthosoma sagittifolium*], golden pothos [*Epipremnum pinnatum*] and nightblooming cactus [*Hylocereus nudatus*]). In these cases, the seedheads and vegetative parts of the invasive/nonnative plants are bagged and removed from the site.

4.5.3 Nonnative/Nuisance Animal Control

Nonnative and nuisance (feral and certain native species) animals can be a problem on sites like the natural area. The presence and impacts of nonnative/nuisance animals are monitored as part of the systematic and opportunistic wildlife surveys. Targeted surveys for nonnative/nuisance animals also may be performed if additional information is required. Nonnative/nuisance animal control programs will be developed and implemented, as necessary, to control species that adversely affect the natural area.

Thus far, six species of invertebrates and nine species of vertebrates recorded at the natural area are not indigenous to the South Florida mainland (see Appendix B). Native vertebrate species recorded at the natural area that may become a nuisance include the coyote (*Canis latrans*) and raccoon (*Procyon lotor*). A short description of the potentially harmful nonnative invertebrate species and all nonnative/nuisance vertebrate species found on the natural area is provided below. No control methods will be used for species identified below as having no significant impact on the natural area.

None of the nonnative invertebrate species recorded at the natural area appear to be having a negative effect on the natural communities.

Although the honeybee (*Apis mellifera*) is an introduced species, it is beneficial for pollination of crops, native plants and honey production (Mortensen et al. 2013). Any naturally occurring non-Africanized honeybee hives will be left in place; any Africanized honeybee (*Apis mellifera scutellata*) hives detected within the natural area will be removed.

The red imported fire ant is an aggressive ant that can cause dramatic reductions in populations of native ants and other insects (Core 2003). It also poses a threat to hatchlings of ground-nesting wildlife, including gopher tortoises, sea turtles, alligators and birds (Core 2003, Wetterer and Moore 2005). Red imported fire ants have a very painful sting (Core 2003). There are no effective and acceptable methods to control this species at this time, but a control strategy may be implemented in the future if such methods are developed.

The brown anole (*Anolis sagrei*) is very common in South Florida. This prolific species is well adapted to habitats modified by humans and can live in most inland and coastal habitats, including disturbed areas (Meshaka et al. 2004). Although its primary diet is insects, the brown anole also

eats smaller green anoles (*Anolis carolinensis*); this predation appears to have caused a rapid decline in the population of the native green anole in Florida. This species is frequently observed at the natural area. Potential control efforts for this species will be explored if it is determined that it is having a negative effect on the natural area.

The coyote disappeared from eastern North America about 12,000 years ago (McCown and Scheick 2007). Coyotes began expanding their range back into the northwestern portion of Florida in the 1970s, presumably taking advantage of an ecological niche left open by the extirpation of the red wolf in the eastern United States (FWC undated[a], McCown and Scheick 2007). The coyote now occurs statewide in Florida and is considered to be a native or naturalized species by FWC. In Florida, the coyote uses all available habitats, including swamps, dense forest, agricultural lands, parks and other green spaces within cities (McCown and Scheick 2007). Dens are located in thickets, hollow logs, brush piles or burrows. The impact of the coyote on native animals is not well quantified, other than sea turtle nests and gopher tortoises, and the harm or benefit to them is under debate. Coyotes are opportunistic omnivores; they eat whatever animal or plant material is most abundant, including sea turtle eggs in late spring and early summer, and saw palmetto berries in late summer and early fall. This species is occasionally observed at the natural area. Although coyotes may provide a benefit to the natural area by preying on feral cats and raccoons, there is a concern that they could have a significant negative impact on native wildlife, including ground-nesting birds and gopher tortoises. Wildlife cameras and opportunistic surveys may be used to monitor the coyote population at the natural area, if necessary to determine if any actions need to be taken to control this species.

The Cuban treefrog (*Osteopilus septentrionalis*) is the largest species of treefrog in Florida (Johnson 2017). Cuban treefrogs are present in a variety of natural and human-modified habitats (Bartlett and Bartlett 2011a, Johnson 2017). This species eats a wide variety of food items including roaches, snails, millipedes, spiders and a vast array of insects; it is a known predator of native treefrogs (Johnson 2017, Meshaka et al. 2004). This species is rarely observed at the natural area. Potential control efforts will be explored if this species appears to be negatively impacting native species at the natural area.

Dianne Sauve, Director of Palm Beach County's Animal Care and Control Division, has estimated that there are approximately 200,000 free-roaming cats (*Felis catus*) in Palm Beach County (personal communication, September 17, 2019). Cats are an increasing problem in natural areas in South Florida because of their predation on birds and small animals. There also is the potential for rabies to spread to feral and domestic cats from infected wildlife. This species is very rarely observed at the natural area and may enter the natural area from adjacent residences. Control of feral and domestic cats will focus on educating the surrounding community, combined with selective live-trapping, if necessary.

The Eurasian collared-dove (*Streptopelia decaocto*) is a medium to large-sized, stocky dove. It is most common in coastal, suburban and agricultural areas where food, roosts and nesting sites are abundant (Johnson and Donaldson-Fortier 2012). Eurasian collared-doves are grain eaters and are

frequent visitors to bird feeders (Pranty et al. 2006). This species is very rarely observed at the natural area. Eurasian collared-doves are not expected to affect the natural area in any significant way.

The European starling (**Sturnus vulgaris**) is associated with disturbed sites and urban environments, as well as open grassy or agricultural areas (Johnson and Givens 2012). This medium-sized songbird is omnivorous; it feeds on a wide variety of invertebrates (such as beetles, insects, earthworms and spiders), as well as seeds, plants and fruits. It is a cavity nester, and can aggressively displace native bird species from nest holes in trees, human-made structures and artificial nesting boxes. This species is rarely observed at the natural area. Due to the limited amount of habitat available for cavity-nesters on the site, this species is not expected to have a significant negative impact on native bird species at the natural area.

The green iguana (*Iguana iguana*) is a popular pet and individuals frequently are released or escape (Bartlett and Bartlett 2011b). It is adversely affected by cold temperatures. Green iguanas live in most urban and suburban habitats in South Florida (Bartlett and Bartlett 2011b, FWC undated[b]). They prefer dense tree canopies near water, but may be found on canal banks, urban sidewalks and backyards. They also dig burrows that can undermine sidewalks, seawalls and foundations (Kern 2004). Green iguanas are primarily herbivores; they feed primarily on foliage, flowers and fruit, but also are known to consume insects, lizards, nestling birds and eggs. Domestic dogs are known to kill green iguanas, but no natural predators are known in Florida for this species (Meshaka et al. 2004). This species is occasionally observed at the natural area. Potential control measures will be explored if it is determined that this species is having a negative effect on the natural area.

A common pet, the monk parakeet (*Myiopsitta monachus*) has become the most widespread and abundant parrot in North America (Pranty et al. 2006). Monk parakeets typically build large, communal stick nests in trees, palms or on artificial structures such as radio towers, light poles and electric utility structures. This species feeds on a wide variety of flowers, fruits, seeds, berries and other plant material. It is very rarely observed at the natural area. This species is not expected to adversely affect the natural area.

The northern curly-tailed lizard (*Leiocephalus carinatus*) is a large, robust lizard first introduced to Florida in an attempt to rid sugarcane fields of pests (Bartlett and Bartlett 2011b). This lizard typically occupies open, sandy or rocky habitats, including disturbed areas; it excavates short burrows under rocks, sidewalks and similar materials to provide shelter from inclement weather and to serve as nighttime retreats (Meshaka et al. 2004). Northern curly-tailed lizards eat invertebrates including beetles, roaches and ants (Meshaka et al 2004). This species is rarely observed at the natural area. This species is not expected to adversely affect the natural area.

The Peter's rock agama is a large, rough-scaled lizard. The males are most noticeable due to their black and orange coloration, while the females are a dull brown. This species is largely confined to residential sites and human dominated areas (Krysko et al 2019). It feeds mostly on ants, grasshoppers, beetles and termites, but also may feed on small mammals, small reptiles and

vegetation such as flowers, grasses and fruit (Krysko et al 2019; Meshaka et al. 2004). This species was observed at the natural area for the first time in 2021. The Peter's rock agama is not expected to adversely affect the natural area.

The raccoon is common throughout Florida (FWC undated[c]). It feeds on fruits, plant material, eggs, crustaceans, small animals and garbage. Raccoons are found wherever suitable combinations of woods and wetlands provide acceptable food and den sites, from swamps and marshes to mesic woods, cultivated areas and urban situations (Whitaker and Hamilton 1998). This species is one of the primary carriers of the rabies virus in the United States (The Humane Society of the United States 1997). This species is occasionally observed at the natural area. Wildlife cameras and opportunistic surveys may be used to monitor the raccoon population within the natural area, if necessary to determine if any actions are needed to control this species.

4.5.4 Restoration and Enhancement Projects

The restoration and enhancement of natural communities within the natural area has begun and is expected to be completed in the next few years. Enhancement plantings are expected to occur on the southern portion of the site in the near future.

Activities conducted to date include the implementation of a prescribed burn program, and ongoing mechanical vegetation reduction and pine thinning activities designed to reduce fuel levels and create a mosaic of natural communities and successional stages within the site (see Section 4.5.1); implementation of ongoing invasive/nonnative plant and nonnative/nuisance animal control programs (see Sections 4.5.2 and 4.5.3, respectively); installation of native plantings (see Subsection 4.5.4.1); completion of two shoreline/mangrove swamp restoration/enhancement projects (see Subsections 4.5.4.2 and 4.5.4.3); and removal of trash dumped on the site prior to its acquisition by the County.

Restoration/enhancement activities conducted to date have already begun to improve the natural communities in terms of biological composition and ecological function. However, it will take several years for planted native vegetation to mature and for additional native plants to recruit into the restored/enhanced areas. Once this has happened, restoration of the site will be considered complete.

4.5.4.1 Native Plantings

Native plantings were conducted on the site between 1999 and 2019 as part of targeted restoration projects. Native planting projects completed to date are described below.

General restoration plantings conducted between 1999 and 2017 included the installation of approximately 2,300 red mangroves and 1,358 native shrubs and gasses along the western shoreline. These plants were installed in the mangrove swamp community. Species planted in these areas included red mangrove, green button wood, varnishleaf, and cordgrass.

In September 2018 and April 2019, 516 Dancing lady orchids were planted within the scrub vegetation community under Florida rosemary plants. In August 2019 an additional 800 orchids were planted on the site. All plantings were installed by Pine Jog Environmental Center as part of Fairchild Tropical Garden's Million Orchid Project.

4.5.4.2 Mangrove Swamp Restoration/Enhancement

In July 1995, FDEP awarded the County a $40,000 grant for the restoration of a section of the mangrove swamp habitat in the northwest portion of the site. The goal of the project was to create estuarine wetlands and improve existing mangrove wetlands. In July 1998, approximately 0.5 acres of Australian-pines were removed and the area was scraped down to wetland elevations. Red mangroves, varnishleaf, spartina and green buttonwood were planted in this area (Figure 6). In June 1999, as part of the same FDEP grant, approximately 4.3 acres of Australian-pine and Brazilian pepper were removed along the ICW.

4.5.4.3 ICW Shoreline Stabilization Enhancement

A second restoration and enhancement project was conducted on the west side of the Jupiter Ridge Natural Area in 2012. Shoreline stabilization and enhancement was needed along the ICW as a result of erosion due to boat wakes. Erosion was noted within the scrub and scrubby flatwoods communities and, to a lesser extent, within the mangrove swamp community along the ICW. Dead pines lined the shoreline where the soil had been washed away from under the roots. A comparison of aerial photographs between the 1940s and 2007 showed the loss of 30 to 150 feet of land along the most impacted portions of the shoreline. An erosion control project, including limerock wavebreaks and mangrove planters, was completed for a total of approximately 6,000 feet of the impacted sections of the shoreline (Figure 6). Twenty-one oyster reef breakwaters were constructed parallel to the western shoreline. A portion of the project was paid through a Florida Inland Navigation District grant. Both state and federal permits were issued for the project. Restoration activities were initiated in February 2012 and completed in July 2012. Construction of the breakwaters has significantly reduced wave action along the shoreline.

4.6 SOIL AND WATER CONSERVATION

The arents is listed as a sloping soil and has the potential for erosion (Section 3.1, Figure 3). The other soil types found on the site are nearly level to gently-sloping soils and have minimal erosion potential. The only soil-disturbing activities that have occured on the site are related to the construction and maintenance of public use facilities and management accessways/firebreaks (see Sections 5.1 and 5.4, respectively), and the construction of environmental restoration/enhancement activities (see Section 4.5.4). All previously existing and created disturbed areas within the natural area are being managed to encourage revegetation by native plant species, and/or have been stabilized by the use of erosion control fabrics and/or replanted with native vegetation. Management accessways/firebreaks were located to avoid steep slopes wherever possible, sited to

cross the slope at an angle, or located on already-existing sand trails. Because permeability is rapid in most of the sloping soils on the natural area, runoff erosion should not be a problem at this site. If runoff erosion becomes a problem, appropriate measures will be undertaken to stop or control the effects of this erosion. Protection of the Pamlico Ridge will continue to be ensured through the ongoing protection and preservation of this site.

4.7 SECURITY

The Town of Jupiter has the primary responsibility for public safety and law enforcement at Jupiter Ridge Natural Area (Appendix F), including routine patrols of the boundaries. The County also has contracted with the Sheriff's Office to have Wildlands Task Force deputies conduct extra patrols of the natural area when needed. The Wildlands Task Force is a specially trained and specially equipped unit that was formed to prevent illegal activities on natural areas managed by the County and to enforce the provisions of the Natural Areas Ordinance. There is no on-site manager or security guard and no on-site staff residence. Instead, ERM staff, trained volunteer site stewards and/or neighborhood watch groups (where available) visit the site on a regular basis and report any signs of illegal and prohibited activities to the Wildlands Task Force.

The County's Natural Areas Ordinance regulates public use of the natural area. The ordinance provides for passive recreational activities (for example, hiking, nature study and photography), environmental education and scientific research. It prohibits destructive uses such as OHV use, dumping, and poaching of plants and animals. The ordinance gives law enforcement personnel the authority to fine and/or arrest persons damaging a natural area.

The Palm Beach County Parks and Natural Areas Trespass Ordinance (Trespass Ordinance; Ordinance 2016-021) allows law enforcement personnel to issue a Trespass Notice to an individual who violates any applicable local or state law while on a natural area or park that is owned and/or operated by the County. For the purpose of the Trespass Ordinance, the term "applicable local law" includes county ordinances, rules and regulations, as well as notices contained on posted signs. The Trespass Ordinance also provides due process for individuals receiving a Trespass Notice by way of an appeals process before a special magistrate. The Trespass Notice prohibits such individuals from returning to the county natural area(s) or park(s) specified in the notice for one, five or ten years, after receiving their first, second or third Trespass Notice, respectively.

Dumping on public lands is prohibited by state law (state statute 403.413).

The natural area is open to the public daily from sunrise to sunset. Access hours are posted at each public entrance. In addition, regulatory signs have been posted at each corner of the natural area and every 500 feet along the perimeter of the natural area (where it fronts a road or developed area/with the exception of portions of the ICW and unfenced portions along developments where there are no regulatory signs). The regulatory signs state that the site is a protected natural area and cite the appropriate county ordinance.

A portion of the perimeter of the site is fenced to help prevent unauthorized access to the natural area (see Section 5.2).

4.8 STAFFING

Because of the following factors, on-site staffing is not proposed for this natural area:

- the low-impact, non-consumptive activities allowed on the site require limited oversight by staff;
- the site is closed from sunset to sunrise;
- sufficient security measures (fencing, regulatory signage, Wildlands Task Force) are in place to protect the site when it is closed to the public;
- ERM staffing levels are insufficient to provide on-site staffing at any of the County's natural areas; and
- construction and use of a permanent office or residence for on-site staff would adversely affect the site's natural resources.

Instead, ERM has created a roving management team trained to conduct all levels of management activities, including invasive/nonnative vegetation control, prescribed burning, mechanical vegetation reduction activities and environmental monitoring. ERM also has created a volunteer site steward program. These trained volunteers periodically visit their assigned site and provide feedback to staff regarding the site's condition and any problems noted. Town of Jupiter staff and volunteers from local citizens' organizations, businesses and schools provide additional support where feasible and necessary.

4.9 COORDINATION WITH ADJACENT LAND MANAGERS

The only one park located immediately adjacent to the natural area is the Karen Marcus Ocean Park Preserve (Figure 1). All adjacent park managers were invited to review and comment on this management plan as it was reviewed by NAMAC. Staff members who serve on NAMAC facilitated review of this management plan by the County's Parks and Recreation Department, and SFWMD. ERM staff has and will continue to coordinate with adjacent park manager whenever proposed hydrological changes or other management activities, such as prescribed burns and nonnative/nuisance animal control, could affect an adjacent conservation or park land.

The County will review any land use changes or development plans proposed for properties adjacent to the natural area to ensure the protection of biological communities and to avoid or minimize adverse impacts to listed species.

4.10 GREENWAY CONNECTIONS/MANAGEMENT

The natural area was designated as part of the Florida Greenways and Trails System in 2020. The Florida Greenways and Trails designation program was established to further the purposes, goals

and objectives of the Florida Greenways and Trails System; ensure an inclusive and interconnected system of greenways and trails; encourage voluntary partnerships in conservation, development and management of system components; provide recognition for individual components of the system and those partners involved; and raise public awareness of the conservation and recreation benefits of the system components.

The natural area is located adjacent to a portion of the East Coast Greenway corridor, an off-road route for bicyclists and pedestrians that is planned to run 3,000 miles between the Canadian border at Calais, Maine and Key West, Florida (Figure 7). As of January 2020 over 33% of the entire corridor was located on off-road paths and approximately 40% of the Florida segment had been completed (East Coast Greenway 2020a and 2020b). In Florida much of the route is on a side path that runs along A1A, but a portion runs along U.S 1. Other parts are planned to be routed along the Florida East Coast Railway corridor, especially through Palm Beach, Broward and Miami-Dade Counties.

4.11 PUBLIC OUTREACH, ENVIRONMENTAL EDUCATION AND SCIENTIFIC RESEARCH

ERM has a very active public outreach and environmental education program. To help members of the public become invested in the natural area, numerous volunteer opportunities, environmental education events and resource-based recreational activities are provided each year. These events may be led by ERM staff or by volunteer community groups, clubs, businesses and/or knowledgeable individuals.

Interpretative exhibits have been prepared and installed in kiosks located adjacent to the parking lot and Ski Beach. There are also information posters displayed at the Riverwalk portion of the site. These exhibits help educate the public about the natural resources present on the site, the negative impacts of invasive/nonnative plants and nonnative/nuisance animals, any restoration/enhancement projects that have been undertaken at the site, ongoing management activities such as prescribed fire and/or mechanical vegetation reduction activities, and/or any other relevant topics.

Information related to the site's natural resources, location, size and any existing public use facilities/recreational amenities may be found on ERM's Jupiter Ridge Natural Area webpage. The site's trail guide, current management plan and any restoration project summaries are available upon request to ERM. A free natural areas map application for mobile devices is available at www.pbcnaturalareas.com. Printed copies of the site's trail guide are available in a brochure box attached to the kiosk that is adjacent to the parking lot.

In 2005 the natural area was selected by the Florida Fish and Wildlife Conservation Commission (FWC) as part of the Great Florida Birding Trail (now the Great Florida Birding and Wildlife Trail). Information about the Great Florida Birding and Wildlife Trail (The South Florida Section

Guide), which includes the natural area, was updated in 2015 and is available on the FWC website at: http://floridabirdingtrail.com/trail/trail-sections/south-section/.

No specific research needs have been identified for this site. ERM does not anticipate performing any scientific research other than compiling and interpreting the data from monitoring activities, but will allow researchers affiliated with institutes of higher learning, botanical gardens and government agencies to conduct scientific research on a permit basis.

4.12 RESPONSE TO SIGNIFICANT EVENTS

Five hurricanes affected the natural area between 1999 and 2017 - Hurricane Irene in October 1999; Hurricanes Francis and Jeanne in September 2004; Hurricane Wilma in October 2005; and Hurricane Irma in September 2017. All of these storms caused minor tree/limb damage and deposited invasive/nonnative seeds within the natural area. Invasive/nonnative plants that sprouted after each storm event were treated as part of the ongoing invasive/nonnative plant control program.

If a natural or human-caused event severely damages structures or native vegetation, or alters the natural values of the site in the future, ERM staff will assess the nature of the damage/alteration and take actions necessary to protect the public and minimize/mitigate impacts to the site. The first priority following a significant event will be to secure the site to ensure public safety and prevent dumping, vandalism and unauthorized vehicular use. If hazardous conditions exist, the natural area will be closed to the public until such conditions have been eliminated. The site also may be closed until public use facilities have been repaired. Damaged/altered native plant communities will be managed to encourage natural regeneration following such an event. Management practices will be adjusted, if necessary, to accommodate the new conditions at the site. The County will inform the State about any impacts caused by the event, and any actions designed to help restore damaged/altered natural resources and/or public use facilities. If the natural values of the site are severely limited or eliminated, the County and the State will discuss future plans for the site. All significant events affecting the natural area will be discussed in the next scheduled Annual Site Evaluation (ASE). The event also will be summarized in the next update to the management plan.

4.13 CLIMATE CHANGE

The natural area will help address climate change in the following ways:

- The preservation and restoration/enhancement of the existing plant communities will help reduce greenhouse gases by converting carbon dioxide to oxygen.

- The restored/enhanced plant communities will serve as a refuge for wildlife affected by climate change-induced habitat losses.

- The hydrological restoration of historic wetlands will reduce carbon dioxide releases caused by over drainage of the associated wetland soils; rehydration of these wetland areas will help rebuild carbon stores within the soils.

- The extra water stored in the wetlands helps recharge the underlying aquifer, thereby helping to mitigate and reduce impacts that may occur to the aquifer due to changes in rainfall patterns and/or climate change/sea level rise-induced salt water intrusion.

5. SITE DEVELOPMENT AND IMPROVEMENT

All structural improvements and major land alterations were done in compliance with applicable local, state, regional and federal laws and regulations. All required licenses and permits were obtained prior to the commencement of any construction, native vegetation removal or major land alterations on the natural area. All of the existing improvements were constructed in disturbed portions of the site to the greatest extent practicable. A minimum 100-foot buffer was) provided between the parking lot and the nearest wetland. The location of each improvement was surveyed for listed species prior to the construction of that facility. If any listed species were found within the construction area, the location of the improvement was adjusted to avoid impacts to the listed species, or the listed species was relocated to a safe location on the natural area.

5.1 PUBLIC USE FACILITIES AND ACCESS

The natural area is a publicly owned preserve and resource-based, outdoor recreational site. It is open to the public during daylight hours, unless a special, after-hours use permit has been issued. The hours of operation are posted at each designated public access point.

All public use facilities (Figure 8) were carefully chosen, designed and located so that they do not jeopardize the site's natural resources, including the rare and endangered plants, animals and natural communities. All public use facilities are on a preventative maintenance schedule subject to funding availability.

Public uses permitted on this site include nature appreciation and study, hiking, nature photography, bird/wildlife watching, canoeing/kayaking, and fishing. In addition, the Town developed a multiuse trail that goes through a portion of the site so that bicyclists and skaters could enjoy the natural area in a manner that does not jeopardize the site's natural resources. The relatively small size of the parking lot limits the number of people that are on the site at any given time. With the exception of designated multiuse trail, and the use of vehicles for management purposes, all human traffic within the natural area is by foot.

Several of the existing public use facilities are compliant with Americans with Disabilities Act (ADA) requirements. The parking lot includes one designated ADA-compliant parking space. This parking space connects to an ADA-compliant pathway that leads to an interpretive kiosk and an ADA-compliant concrete nature trail. Other ADA-compliant public use facilities constructed on the site include a hardened multiuse trail, boardwalk, and wildlife observation platform.

The primary public access is via a 10-car, 2-bus parking lot located just west of U.S. 1 (Figure 8). Bicycle racks have been installed adjacent to the parking lot and the Riverwalk entrance to encourage visitors to ride bicycles to the natural area. Unpaved areas within the parking lot have been landscaped with native plants to provide additional wildlife habitat and to enhance the parking lot's appearance. Gates have been installed across the driveway to control entry to the parking lot. Staff may investigate the feasibility of installing solar-powered entrance gates.

In addition to the parking lot, members of the public can access the natural area through one pedestrian access gate via the Riverwalk multiuse trail and by small watercraft access via Ski Beach, which connects to the ICW.

Approximately 2.5 miles of trail have been created within the natural area (Figure 8). This includes a 0.2-mile-long nature trail, approximately 2.3 miles of natural-surfaced hiking trails, and 300 feet of the Riverwalk multiuse trail (pedestrian/bicycle/skater). The nature trail and hiking trails can be accessed from the parking lot and/or from one of the non-vehicular access points.

The concrete and boardwalk nature trail begins at the parking lot. The nature trail is a minimum of 5-feet-wide to accommodate wheelchairs and other non-motorized mobility devices. Trail markers have been placed along the nature trail with station numbers that correspond to information in the printed trail guide.

Access to the hiking trail system is from the concrete nature trail and from Ski Beach (Figure 8). All of the hiking trails within the natural area have a natural soil base. Improvements to the hiking trail system include the addition of color-coded blazes on trees and/or posts to help keep hikers on the trail, and the occasional removal of roots, rhizomes, rocks and/or other potential trip hazards. Most of the natural-surfaced portion of the hiking trail is maintained at a width of six feet. However, portions of the hiking trail that are co-located with one of the site's management accessways/firebreaks may be wider than six feet (see Section 5.4). Management accessways/firebreaks that are not part of the designated hiking trail also may be used for foot traffic, but will not be improved beyond what is necessary for their primary use. Public use of secondary trails is discouraged using signage and vegetative barriers, by not maintaining the trails and encouraging the regeneration of native vegetation on these trails."

The town of Jupiter has constructed the multiuse Riverwalk trail that runs primarily along the eastern shoreline of the Intracoastal Waterway from the Jupiter Ridge Natural Area north to the Jupiter Inlet. Portions of this multiuse trail was constructed within the natural area and allows bicycles and skaters.

Non-trail amenities provided at the natural area include a wildlife observation platform with benches. This wildlife observation platforms is accessible from the parking lot via the nature trail. The Ski Beach area provides small watercraft access to the site via the AIWW.

5.2 FENCING AND GATES

Portions of the east and south perimeter of the site has been fenced to restrict access to and prevent unauthorized use of the site.

The types of fencing that currently exist on the natural area include split-rail with wire mesh backing, vinyl-coated chain-link and field fencing. Split-rail fencing with wire mesh backing was installed by the Department of Transportation along the majority of the eastern perimeter of the

site to help keep gopher tortoises on the site. Split-rail fencing was installed by the County around the perimeter of the parking lot and a portion of the southern perimeter. Six-foot-tall, vinyl-coated chain-link fence and a cement wall was installed by The Bluffs residential community just outside a portion of the southern perimeter. Fencing has not been installed along the western perimeter of the site bordering the ICW and an area in the northeast portion adjacent to vacant/commercial properties. The County will consider installing a fence to restrict access to these areas if security becomes a problem.

Five new management access gates have been installed at the natural area. These gates are located in the parking area, and in the southeast and northeast portions of the site along U.S. 1. All of these gates currently vehicular access for management and monitoring activities, public safety and law enforcement.

Public access gates installed at the natural area are described in Section 5.1.

5.3 SIGNS

An entrance sign was installed on U.S. 1, near the entrance to the parking lot. A permanent dedication sign was installed near the entrance to the nature trail. The dedication sign states the natural area was acquired for environmental preservation and public recreation purposes with funds provided by the County and CARL, and is managed by the County with assistance from the Town.

Regulatory signs have been posted at each corner of the natural area and every 500 feet along the perimeter of the natural area with the exception of the western perimeter that is adjacent to the ICW and portions adjacent to residential neighborhoods. These signs identify Jupiter Ridge Natural Area as a protected site and cite the County's Natural Areas Ordinance. Access hours and natural area rules signs are installed adjacent to the parking lot and other public access points. Signs that notify visitors of trail use restrictions, security patrols, the presence of hidden cameras and other site-specific information also have been or may be installed on the site. Trail markers with station numbers corresponding to descriptive information in the trail guide have been installed along the nature trail. Trail markers also have been installed at various points along the hiking trail to keep hikers on the designated trail.

"No Trash Area" signs have been installed adjacent to the parking area and at Ski Beach (however there is one trash receptacle located at Ski Beach that is emptied by ERM staff). Trash receptacles are not provided at the remainder of the natural area for the following reasons: 1) the lack of trash receptacles promotes the concepts of "carry in – carry out" and "leave only footprints"; 2) the use of trash receptacles within natural areas draws wildlife to areas where they may come in contact with, or be fed by, members of the public; 3) people empty all their vehicle trash into the receptacles which leaves little room for other trash; 4) people attempt to place trash in receptacles even after they are full resulting in unsanitary/unsafe conditions for other visitors and wildlife; 5) trash which is left in receptacles may blow into the adjacent natural communities or be scattered

by wildlife; and 6) the removal of trash receptacles from county natural areas has not increased the amount of trash found on the site.

5.4 MANAGEMENT ACCESSWAYS/FIREBREAKS

A network of management accessways/firebreaks has been established around the perimeter of the natural area and between each of the management units (Figure 5). Management accessways/firebreaks are cleared, drivable trails. They typically have an unimproved sand/dirt surface; however, portions of the trail may be stabilized where very fine soils or other conditions make it difficult for management and/or emergency vehicles to access the site. Management accessways/firebreaks are primarily used for vehicular access related to land management activities and for the containment of wildfires and prescribed burns when they occur. Management accessways/firebreaks also may be used as part of a designated hiking trail. The portion of the Riverwalk multiuse trail within the northern portion of the natural area has been designated as a paved natural area access road under the provisions of the Natural Areas Ordinance.

Temporary firebreaks - firebreaks that are not part of the management accessway system - may be established within management units to separate fire-intolerant natural communities from adjacent burn areas and/or to create smaller burn units. These firebreaks, which are cleared on an as-needed basis, may include areas that have been cleared of vegetation (bare soil), as well as areas where the vegetation has been mowed or cut/chopped. Temporary firebreaks are allowed to revegetate following a prescribed burn.

Management accessways/firebreaks were located on existing trails and within disturbed areas whenever possible; natural firebreaks were incorporated into the management accessway/firebreak design when feasible. Prior to construction, all management accessway/firebreak locations were surveyed for listed species. If a listed species was likely to be impacted by the proposed construction, the management accessway/firebreak was rerouted or the listed species was relocated elsewhere on the site.

5.5 OTHER STRUCTURES AND IMPROVEMENTS

No structures or improvements are planned for this site other than those described in Sections 5.1 through 5.4.

5.6 PRIORITY SCHEDULE FOR SITE MANAGEMENT AND RESTORATION ACTIVITIES

Completed and proposed restoration/enhancement activities - fire management, mechanical vegetation removal/thinning, invasive/nonnative plant removal/control, nonnative/nuisance animal control and restoration/enhancement projects - are described in Section 4.5. Completed site improvements are described in Sections 5.1 through 5.5. Public use facilities have been constructed; the natural area was officially opened to the public in April 2001. Management of

the natural area is now in maintenance mode; invasive/nonnative vegetation and nonnative/nuisance animal control activities are ongoing, and structures will be replaced when needed due to age or damage. An updated management plan is due to the state in 2021.

A priority schedule for ongoing and proposed restoration and management activities over the next ten years is provided in Table 3. All of the activities shown in Table 3 are contingent upon annual budgetary funding and appropriations by the BCC.

6. COSTS AND FUNDING SOURCES

The County has primary responsibility for development, restoration/enhancement, management and maintenance of the Jupiter Ridge Natural Area. Existing county personnel accomplish these activities with assistance from county contractors and community volunteers. The Town has primary responsibility for public safety and law enforcement within the natural area, as well as the maintenance of the Riverwalk trail.

6.1 CAPITAL AND MAINTENANCE COSTS

As of December 2020 capital and maintenance costs related to completed wildfire mitigation, environmental restoration/enhancement, site development and security projects/activities (see Sections 4.5, and 5.1 through 5.5) totaled $1,786,780. There are no remaining capital projects and/or activities planned.

6.2 ESTIMATED ANNUAL MANAGEMENT, MAINTENANCE AND REPLACEMENT COSTS

Annual management, maintenance and replacement costs are expected to average $152,803 over the next ten years (Table 4). These costs will be minimized by coordinating the management and maintenance of natural areas on a countywide basis. Costs also will be minimized whenever possible through the use of volunteers for non-hazardous/non-technical activities. However, existing county personnel will do most of the ongoing management and maintenance work, including all hazardous and technical work, with assistance from county contractors. All future capital projects, management and maintenance activities (repair/replacement of site improvements, invasive/nonnative vegetation and nonnative/nuisance animal control activities, wildfire mitigation, etc.) are subject to, and contingent upon, annual budgetary funding and appropriations by the BCC.

6.3 FUNDING SOURCES

Most of the funds used to acquire, secure, develop, restore/enhance, manage and maintain the natural area have and will continue to come from county funding sources. Grants and other outside funding sources have been and will continue to be used to offset some of these costs as opportunities arise. To date, approximately $40,000 of the capital restoration costs were paid using grant funds received from DEP.

Most of the capital costs, including acquisition costs, were paid using funds from the Palm Beach County Environmentally Sensitive Lands Bond Referendum of March 12, 1991. The balance of capital costs, as well as all long-term land management/maintenance costs, have and will continue to come from the Palm Beach County Natural Areas Fund, Palm Beach County Natural Areas

Stewardship Endowment Fund, Ag Reserve Land Management Fund and/or Palm Beach County General Fund, as may be amended.

7. MONITORING AND REPORTING

The natural area is managed specifically to preserve, restore/enhance and maintain its natural resource values, and to allow public uses that do not adversely affect the existing resources. Restoration/enhancement and other land management activities are continually monitored and assessed to determine whether the stated objectives for natural vegetation communities and listed species are being achieved, and/or to identify any new species not previously identified on the site. Management practices are adjusted (a process known as "adaptive management") if an analysis of the monitoring data indicates that management objectives are not being met. Likewise, anthropogenic impacts are monitored to ensure that public uses do not negatively impact the natural area. Monitoring data also is used to prepare Annual Site Evaluation reports (ASEs) and ARC reports (see Section 7.6).

Monitoring protocols have been developed to ensure consistency on all natural areas managed by ERM. Copies of the current monitoring protocols are available upon request. An overview of the types of monitoring activities conducted on the natural area is provided in the following sections. If any of the monitoring protocols described in this chapter are revised, or if new monitoring protocols are developed for this site prior to the next update of this management plan, the monitoring requirements contained in this chapter will automatically be revised so that they comply with the revised/new monitoring protocols.

7.1 PHOTOMONITORING

Photomonitoring is used to obtain a qualitative, long-term visual record of changes in the natural area's vegetative structure and/or condition over time. This includes the effects of planned management and restoration/enhancement activities (for example, mechanical removal of invasive/nonnative vegetation, ditch filling/plugging, recontouring of areas which have been mined or filled, restoration planting activities, mechanical vegetation reduction and prescribed fire) or to document changes related to a destructive natural event (for example, a hurricane, wildfire, pest or disease).

7.2 VEGETATION MONITORING

Vegetation transects may be established within the natural area in the future to monitor the effect(s) of a destructive natural event (for example, a hurricane, wildfire, pest, disease or invasive species). Data collected from the vegetation transects may include information on vegetation community structure and/or composition of natural communities.

Any plant species that has been listed for protection or special management by at least one governmental agency and/or ranked as a S1, S2 or S3 species by FNAI, and that is being monitored in accordance with the vegetation monitoring protocol, has been and will continue to be recorded in ERM's Environmental Enterprise Database (EEDB). Staff also may collect population and/or demographic information for one or more of the listed plant species found on the site to document

the effect(s) of land management activities, changing site conditions and/or a significant natural event on that plant species; and/or when permits require more intense monitoring.

Plant species that are encountered opportunistically (during a normal site visit) on a natural area and that have not previously been documented on the site are recorded in the EEDB.

7.3 WILDLIFE MONITORING

Migratory wildlife surveys are conducted at the natural area to record the resident and migratory wildlife found on the site. Optional nonmigratory wildlife surveys also may be conducted, if deemed appropriate by staff. Migratory wildlife surveys are conducted when migratory bird species are expected to be present - September through October and February through May. Nonmigratory wildlife surveys are conducted from June through August, or from November through January.

Any animal species observed at the site that has been listed for protection or special management by at least one governmental agency or that has been ranked as a S1, S2 or S3 species by FNAI, and that is being monitored in accordance with the wildlife monitoring protocol, has been and will continue to be recorded in ERM's EEDB. A species-specific monitoring plan may be developed for any listed animal species that is recorded as breeding on the site or if more intense monitoring is needed to help identify or evaluate management activities designed to help protect a particular species. Regularly-scheduled species-specific monitoring has been conducted at the natural area for gopher tortoise and Florida scrub-jay.

Animal species that are encountered opportunistically on a natural area and that have not previously been documented on the site are recorded in the EEDB.

7.4 HYDROLOGICAL MONITORING

Hydrological monitoring is used to help determine the effectiveness of hydrological restoration projects conducted within the natural area by measuring onsite surface and ground water levels over time. Readings from the hydrological monitoring station(s) are plotted against rainfall data obtained from a nearby rain gauge. Success of the hydrological restoration projects is determined based on vegetative changes within the site and a comparison of water levels versus rainfall over time.

7.5 CLIMATE CHANGE MONITORING

All of the monitoring information gathered on the site will be evaluated for changes that may be the result of climate change. If significant changes in rainfall patterns and/or natural communities are noted over time, staff will attempt to mitigate for these changes. If the changes cannot be mitigated for, management practices will be modified to provide the highest quality natural communities practicable under the new climate conditions.

7.6 REPORTS

Staff will prepare an ASE report each year. Each ASE will include information related to structural improvements, natural events, land management activities, monitoring events and restoration/enhancement activities that occurred on the site during the prior year. A general review of land management and restoration/enhancement efforts, and the status of natural communities and listed species will be completed at the end of each management year and included in the ASE. ASEs will be used in conjunction with data stored in the EEDB to allow staff to analyze and evaluate the success of land management and restoration/enhancement activities over a period of years.

8. COMPLIANCE WITH STATE AND LOCAL GOVERNMENT PLANS

The acquisition, restoration/enhancement and management of this site helped preserve the existing natural resources. Public resource-based recreation, environmental education and scientific research activities which have little or no impact on the site's resources are permitted. The public use facilities constructed on this site were carefully chosen, designed and located to avoid impacts to the existing rare and endangered plants, animals and natural communities. These facilities were constructed to aesthetically blend into their surroundings. The County believes that the allowed public uses and existing public use facilities comply with the 1981 Conceptual State Lands Management Plan, including provisions regarding "balanced public utilization." This management plan also is in compliance with the Town's Comprehensive Plan (Appendix I).

9. CHRONOLOGY OF MAJOR EVENTS
1989-2021

Year	Month	Event
1989	December	Grant application submitted by Florida Natural Areas Inventory (FNAI) to state Conservation and Recreation Lands (CARL) program for site acquisition funds for 200-acre tract; site not ranked for funding
1991	January	FNAI and Palm Beach County resubmitted application to CARL for 287-acre site
	December	Site ranked for addition to 1992 CARL acquisition priority list
1992	December	Wildfire started by children playing with matches burned 9 acres in western portion of MacArthur tract; 33-acre Maddock tract purchased
1993	March	Fencing installed at off-road vehicle (ORV) access point
	June	190-acre MacArthur Foundation tract purchased; quit-claim deed received from MacArthur Foundation as result of clarification of northern boundary line
		Initial exotic control program begun
		Fencing installed at two additional ORV access points
	July	MacArthur tract sold to State for $9,297,750
	September	Field fencing installed on southeastern and northern boundaries of site
	November	Site dedication ceremony
1994	February	Five 4-inch x 4-inch (8-foot tall) poles installed to block accessways
	June	State approved 50-year management lease of 233 acres to County (190-acre MacArthur tract and 33 acres of state sovereign lands)
1995	July	Maddock tract sold to State for $1,749,900
		$40,000 grant awarded by FDEP for environmental enhancement project to create estuarine wetlands and improve existing mangrove wetlands
1996	May	Management lease amended to add Maddock tract
	August	Open house and public hearing on management plan
	September	Interlocal agreement with Town of Jupiter approved

Year	Month	Event
	October	Quit-claim deed received from MacArthur Foundation for 6-acre tract adjacent to ICW
	November	Original management plan approved by BCC
1997	July	First prescribed burn - Unit 1 (33 acres)
	September	Management plan approved by LAMAC, subject to review of modifications requested by State
	December	FPL contractor built 1,600-foot-long, 15-foot-wide shellrock road along right of way, replaced utility poles, cleared vegetation outside of right of way, dumped vegetation and debris on adjacent lands, and placed fill in three small wetlands
1998	January	Biological monitoring program initiated
	February	Management plan approved by State after review of modifications
	April	Settlement agreement with FPL; FPL cleaned up and replanted areas cleared outside easement, removed fill from wetlands
	June	Quit-claim deed received from Jupiter Yacht Club, Ltd. for 1.68-acre Bluffs Triangle Tract
	July	State land management team issued favorable evaluation of management of site
	September	Environmental enhancement project initiated
		Second amendment to lease approved - included addition of 6.26 acres of state-owned land located to the north of a County-owned 0.4-acre tract
1999	July	Environmental enhancement project completed; approximately 4.3 acres of Australian-pine and Brazilian pepper removed along ICW
		Initial exotic plant control completed; annual follow-up treatments scheduled to remove regrowth
	September	Fence removed south of FPL gate and relocated to allow FPL access to power poles and lines
2000	May	Management accessway installed
	June	Construction of public use facilities began
		Split-rail fence installed on south boundary
	July	Construction of management accessways completed
		BCC granted FPL 5-foot easement along eastern portion of Bluffs Triangle Tract to install underground distribution line
	September	Staff gauge installed in depression marsh; monthly water level readings began
		Digital photopoint monitoring begins
	October	Natural area identification signs and information signs posted
	December	County denied CARL management funding by State

Year	Month	Event
2001		Palm Beach County Naturescope audiovisual program filmed on site; video shown on County public access television station and made available to schools
	February	Construction of management accessway/firebreak on west side of parking lot; public use facilities completed
	April	Public use facilities opened
	June	Audiovisual program completed
	August	Four-petal pawpaw census completed and plant locations mapped with GPS
		Site steward trained; began work
2002		No significant activity; ongoing management and maintenance
2003	July	0.4-acre County-owned tract transferred to ERM for management as part of natural area
	August	NAMAC site visit, reviewed status of site and effects of land management practices and discussed staff-recommended changes to management plan for five-year update of plan; update not completed because state statute was changed to require 10-year update
		Research project by private consultant on *Polygala smallii* funded by grant from Florida Native Plant Society
2004		Seven active geocaches observed; no adverse effects observed on the site's vegetative communities or listed species
	September	Two hurricanes affected site – Hurricane Frances on September 4 and Hurricane Jeanne on September 26; significant amount of damage to sand pine trees from hurricanes and associated stress, especially in Units 3 and 5; many live trees and snags felled; total loss of canopy and pines estimated at 90%; stress caused seed release from cones; only minimal damage to public use facilities; 30-foot-long section of post-and-rail fence replaced and missing and damaged signs replaced
	October	Permanent photomonitoring stations updated
2005		Jupiter Ridge Natural Area added to the Great Florida Birding Trail
	February	As part of their program to minimize wildfire damage at the wildland/urban interface, a swath of vegetation 25-50 feet wide on southern boundary was chopped by DOF to reduce fire hazard
	March	NAMAC approved split of Management Unit 1 into 33-acre Unit 1 and 2.5-acre scrubby flatwoods island Unit 6; prescribed burn conducted on Unit 6
	April	Kiosk posters and trail guide updated; trail guide placed on County's website

Year	Month	Event
	October	Hurricane Wilma affected site on October 24; some damage to trees due to high winds and hurricane-related stress; several sections of damaged post-and-rail fencing replaced
2006		South Florida edition of Great Florida Birding Trail brochure published
	February	Land use for 0.99-acre Tierra del Sol preserve area changed to Conservation
	August	Zoning designation for 0.99-acre preserve changed to Conservation/Preservation
2007		Total of 15 active geocaches on site; no adverse effects observed on the site's vegetative communities or listed species
	April	State granted permission for construction of 300-foot-long segment of Jupiter Riverwalk on natural area
	November	Tierra del Sol, LLC conveyed perpetual ingress and egress easement over Riverwalk on Tierra del Sol property to County for access to 0.99-acre preserve it would be donating to County
2008	January	Tierra del Sol, LLC conveyed 0.99-acre preserve to County and donated $10,000 to County's Natural Areas Stewardship Endowment Fund to provide for long-term management of donated parcel
	February	Section of Jupiter Riverwalk constructed on former management accessway adjacent to Tierra del Sol property; east-west portion of management accessway abandoned and allowed to revegetate
		NAMAC approved split of Management Unit 3 into 60-acre Unit 3 and new 9-acre Unit 7
		Mechanical clearing initiated in Unit 3 to reduce fuel load from hurricane-downed trees and fine fuels and associated growth of vines; action also intended to protect young sand pine seedlings from fire; photopoints established in mowed areas to facilitate monitoring of vegetation changes
		Several sections of accessible trail replaced and cracks in concrete repaired
	March	New interlocal agreement with Town of Jupiter for management of natural area and Riverwalk executed
	July	County Attorney determined that posted and viewed road merged with title of underlying land when County purchased it, essentially removing posted and viewed road from natural area
	December	Ten-year update of management plan approved by BCC
2009	March	Public hearing on updated plan
	August	Ten-year update of management plan approved by ARC, subject to inclusion of agreed-upon changes

Year	Month	Event
2010	June	Management plan with agreed-upon revisions that were requested by ARC in August 2009 and updates to time-related information approved by BCC
	December	FIND (Waterways Assistance Program) grant awarded $491,416.80 for shoreline restoration project- 3.5 acres of seagrass and 6000 feet of shoreline restoration
2011		No significant activity; ongoing management and maintenance
2012	February	Shoreline restoration project began
	June	9 acre prescribed burn completed in Unit 7
	July	Completion of shoreline restoration project
2013		Remaining section of Jupiter Riverwalk multiuse trail constructed
2014	June	Mechanical vegetation reduction in Units 1 and 3 totaling 35.6 acres
2015	May	6.25-acre arson wildfire in Unit 5
	December	Mechanical vegetation reduction of Units 1 and 4 totaling 34.66 acres
		13 acres logged by Atlantic Land & Timber in Units 2 and 5, then mowed by John Brown & Sons
2016		No significant activity; ongoing management and maintenance
2017	February	1800 red mangroves were planted in the shoreline restoration area
	March	ADA trail was repaired and three concrete wheel stops were also replaced in the parking lot
	July	1350 spartina alterniflora were planted in the shoreline restoration area
2018	September	FAU Pine Jog Environmental Center helped transplant 1,316 Dancinglady orchids onto the site
2019	August	Mechanical vegetation reduction in Units 1 & 2 (39.75 acres)
2020	June	Mechanical vegetation reduction in Units 1-5 & 7 (77 acres) as part of FEMA grant (75% reimbursement)
2021		Town of Jupiter approval of 10-year update to management plan
		Soil and Water Conservation District approval of 10-year update to management plan
		NAMAC site visit
		NAMAC approval of 10-year update to management plan
		Public hearing on 10-year update to management plan hosted by NAMAC
		ARC approval of 10-year update to management plan
		BCC approval of 10-year update to management plan

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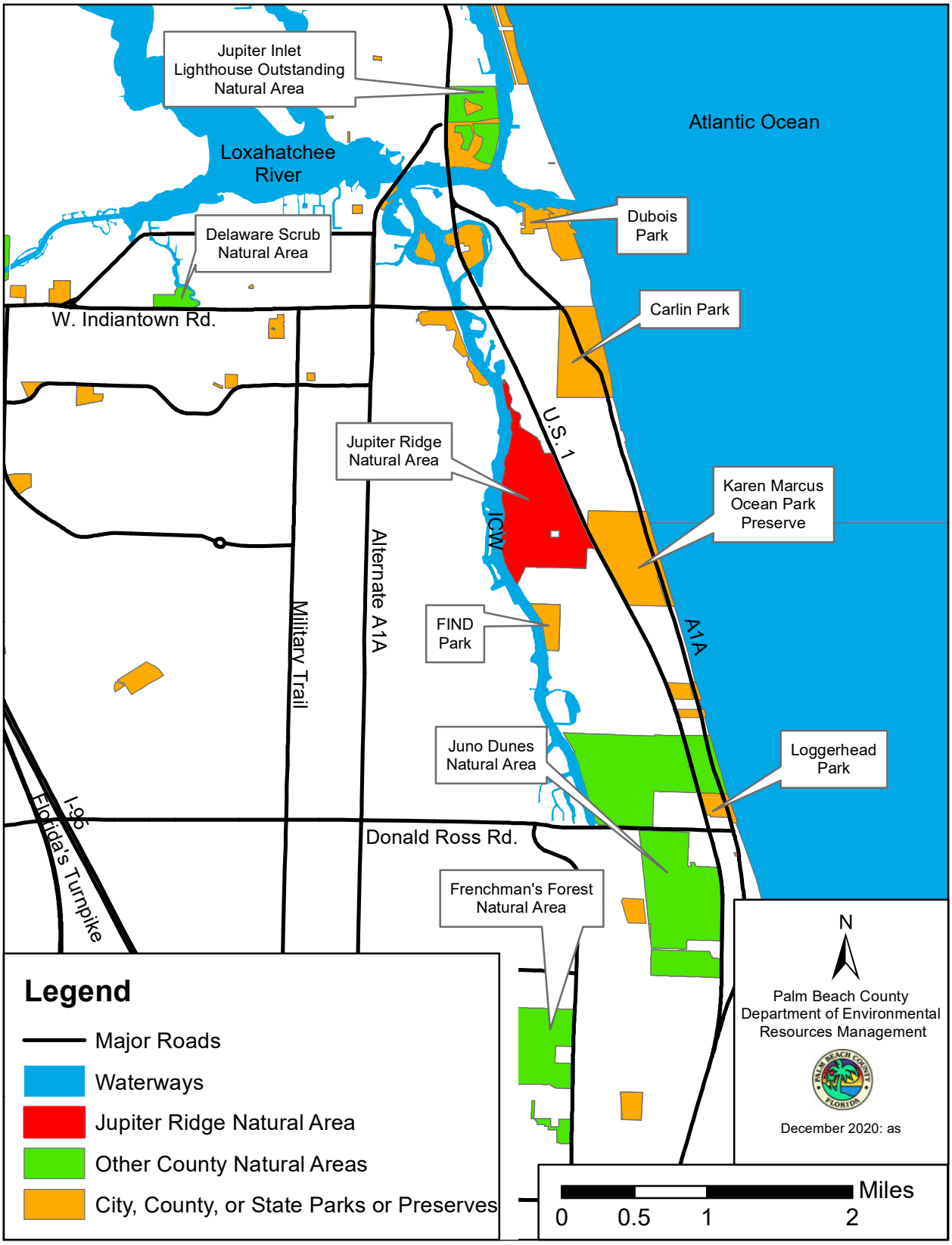


Figure 1. Jupiter Ridge Natural Area Location Map

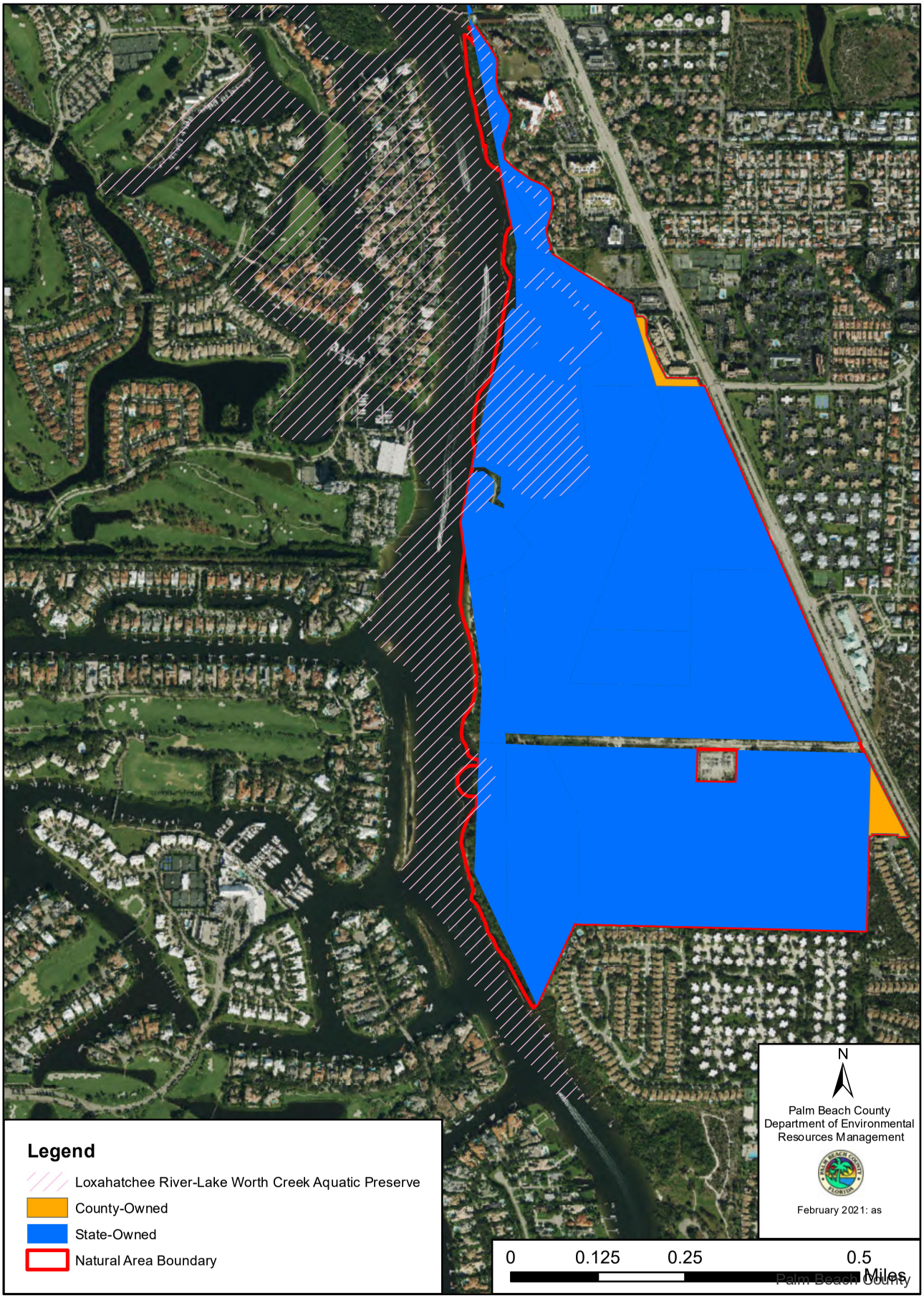


Figure 2. Jupiter Ridge Natural Area Ownership Map

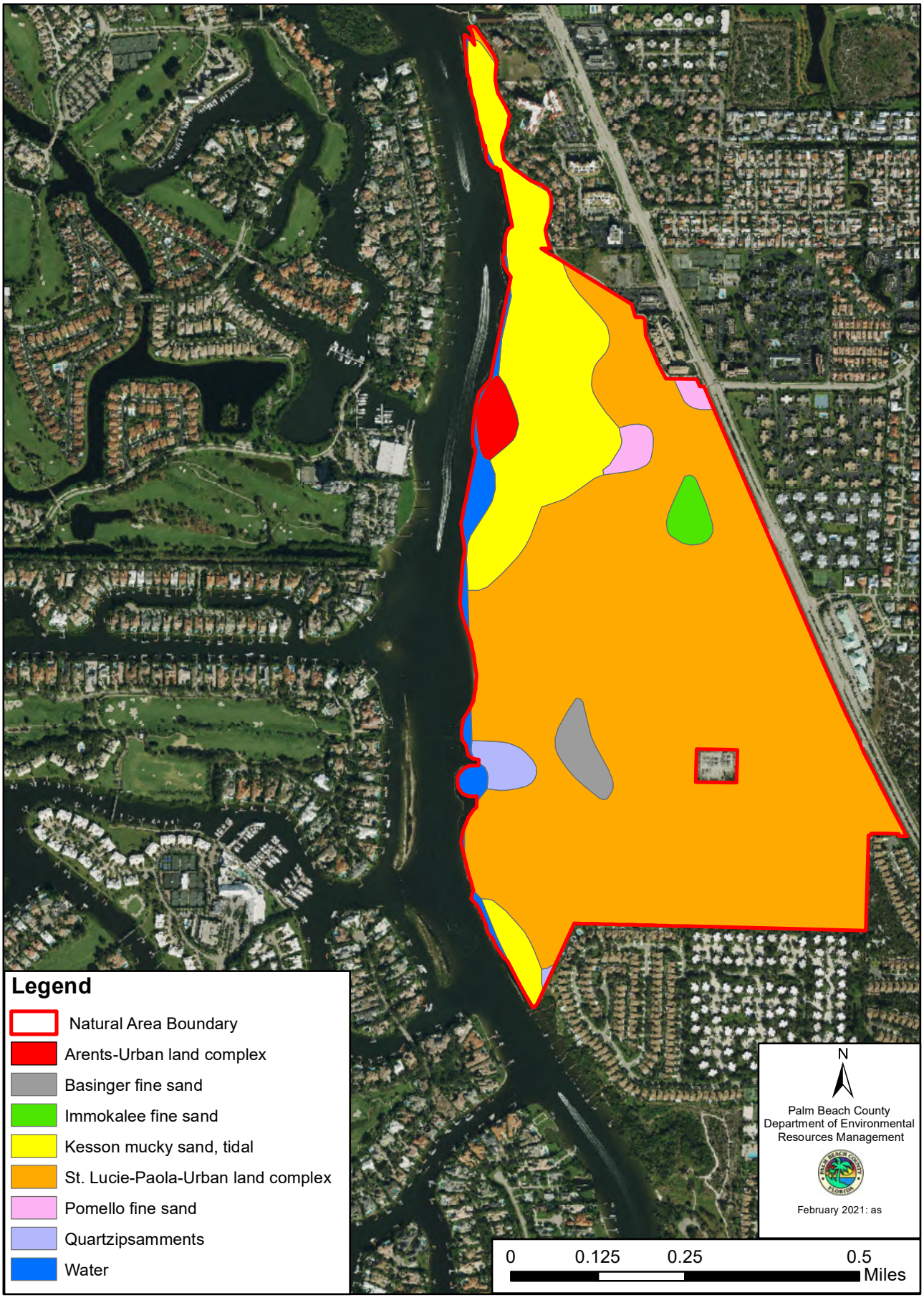


Figure 3. Jupiter Ridge Natural Area Soils

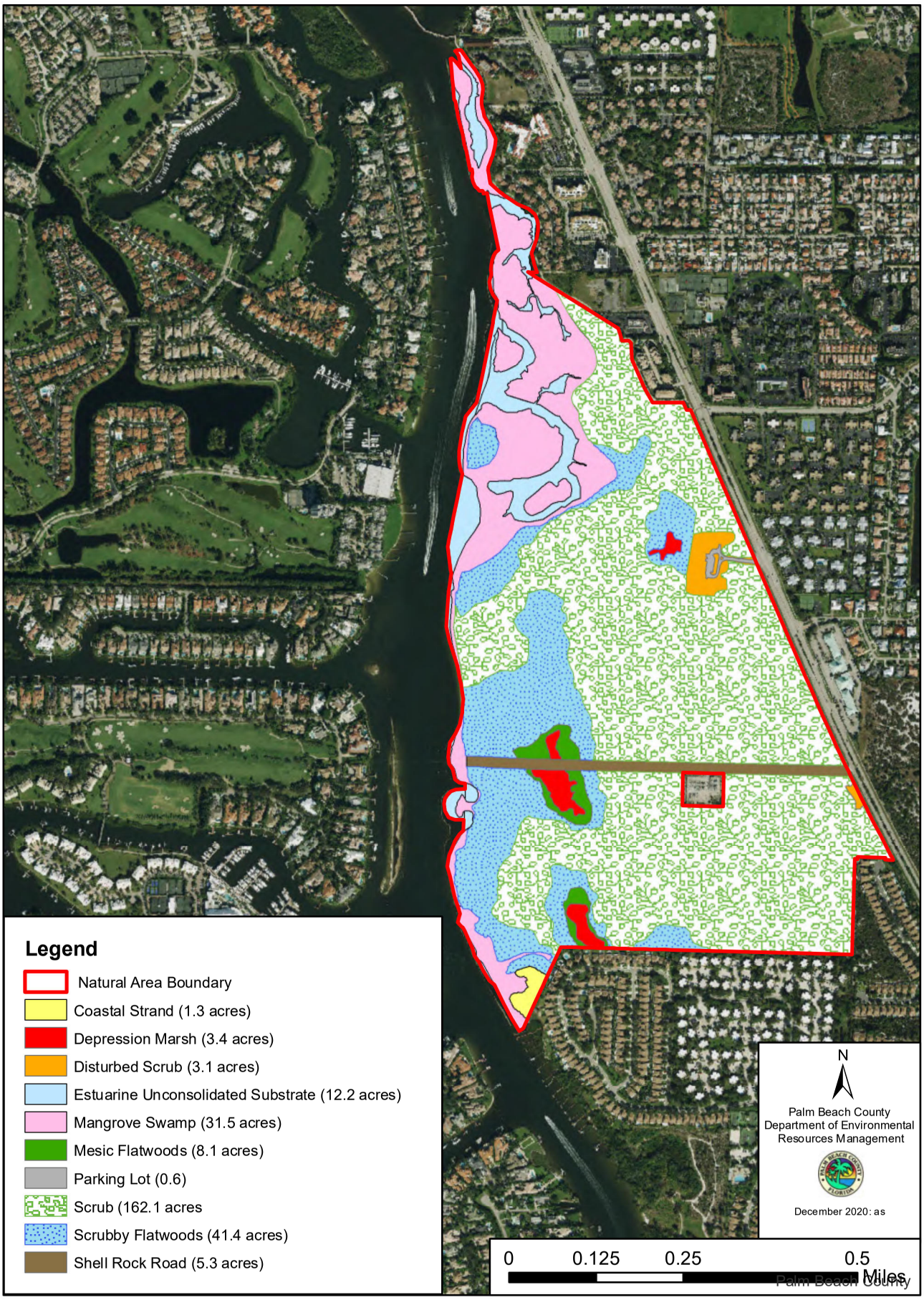


Figure 4. Jupiter Ridge Natural Area Vegetation Community

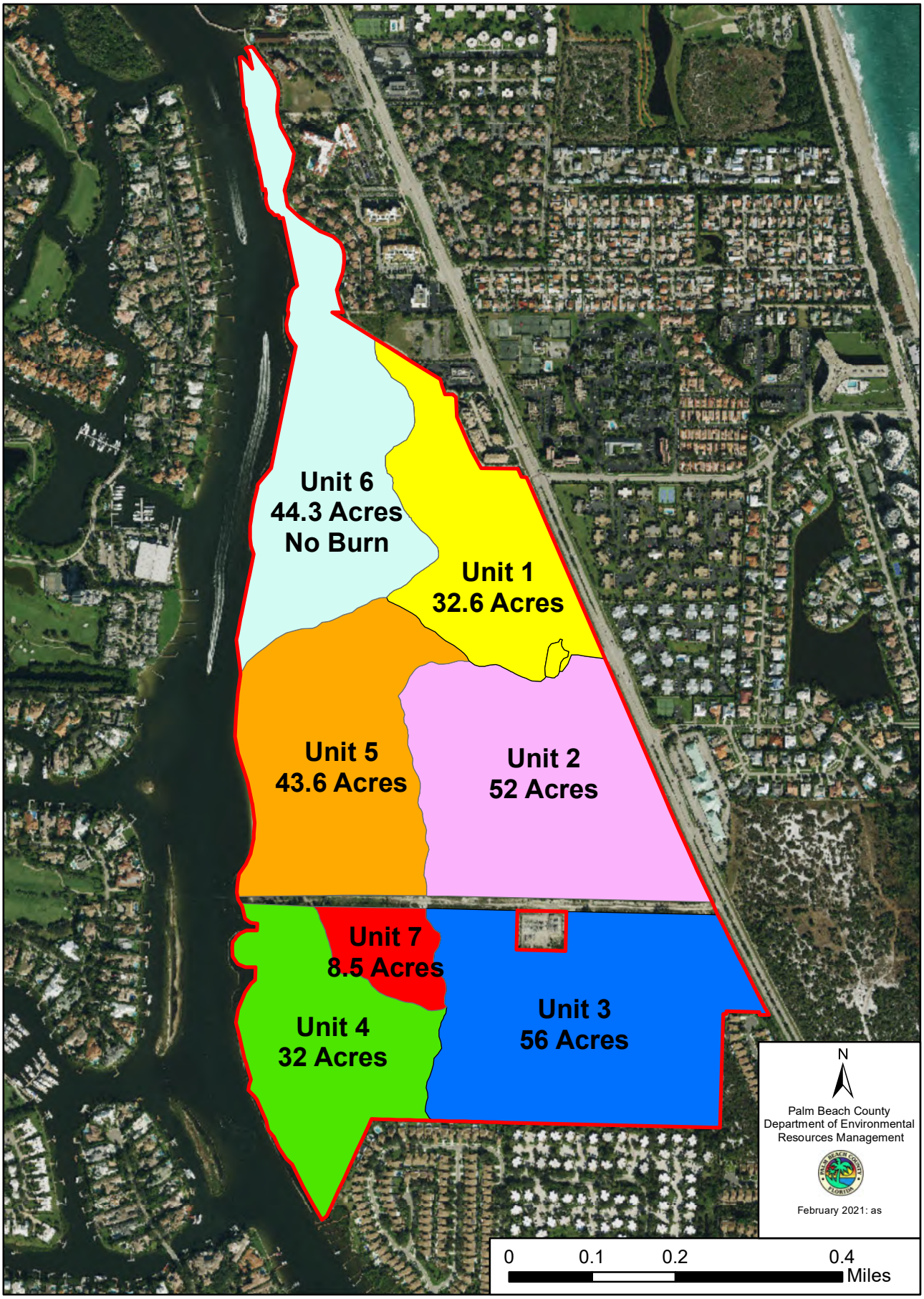


Figure 5. Jupiter Ridge Natural Area Management Units

Figure 6. Jupiter Ridge Natural Area Restoration Map

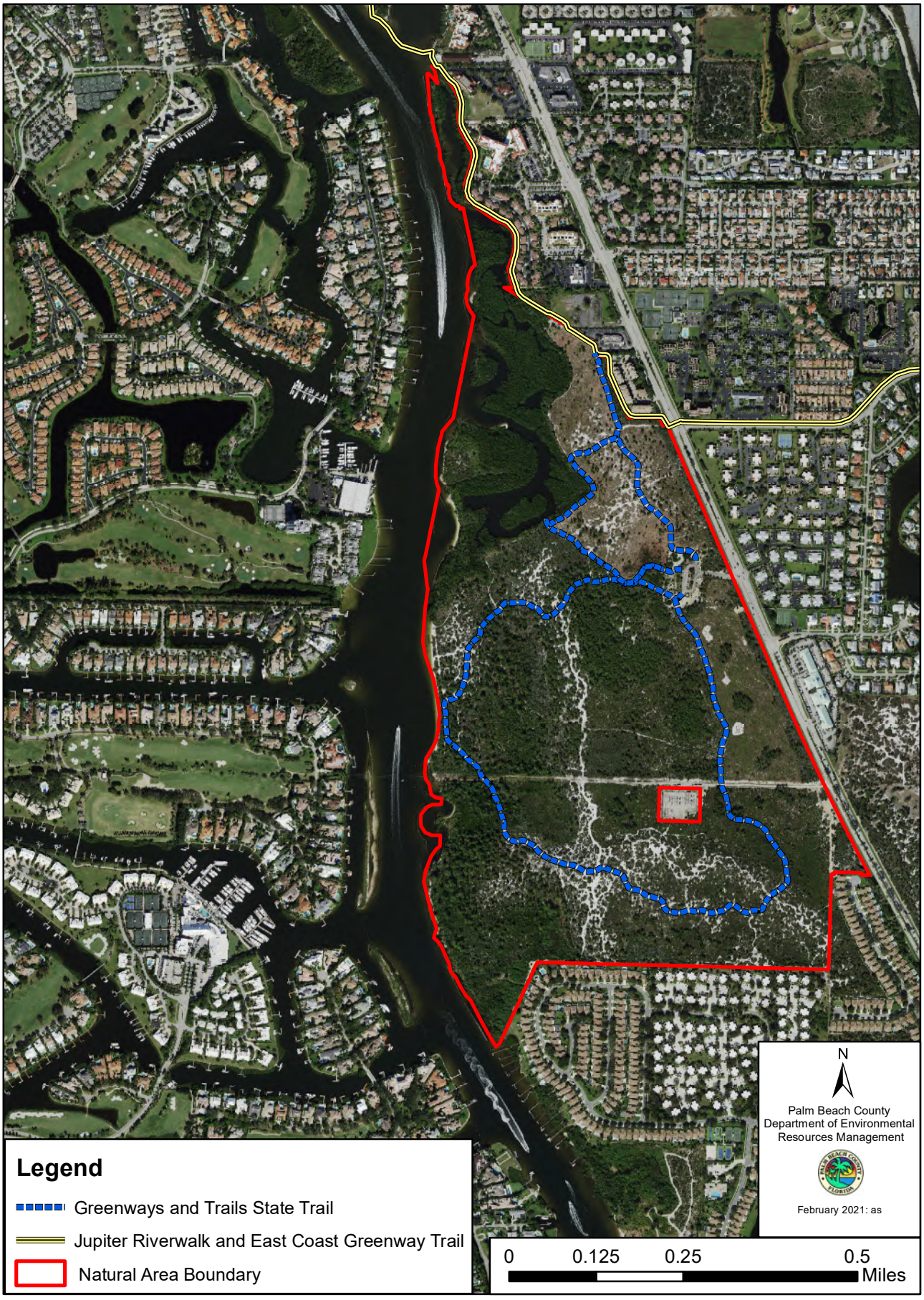


Figure 7. Jupiter Ridge Natural Area Greenways and Trails Map

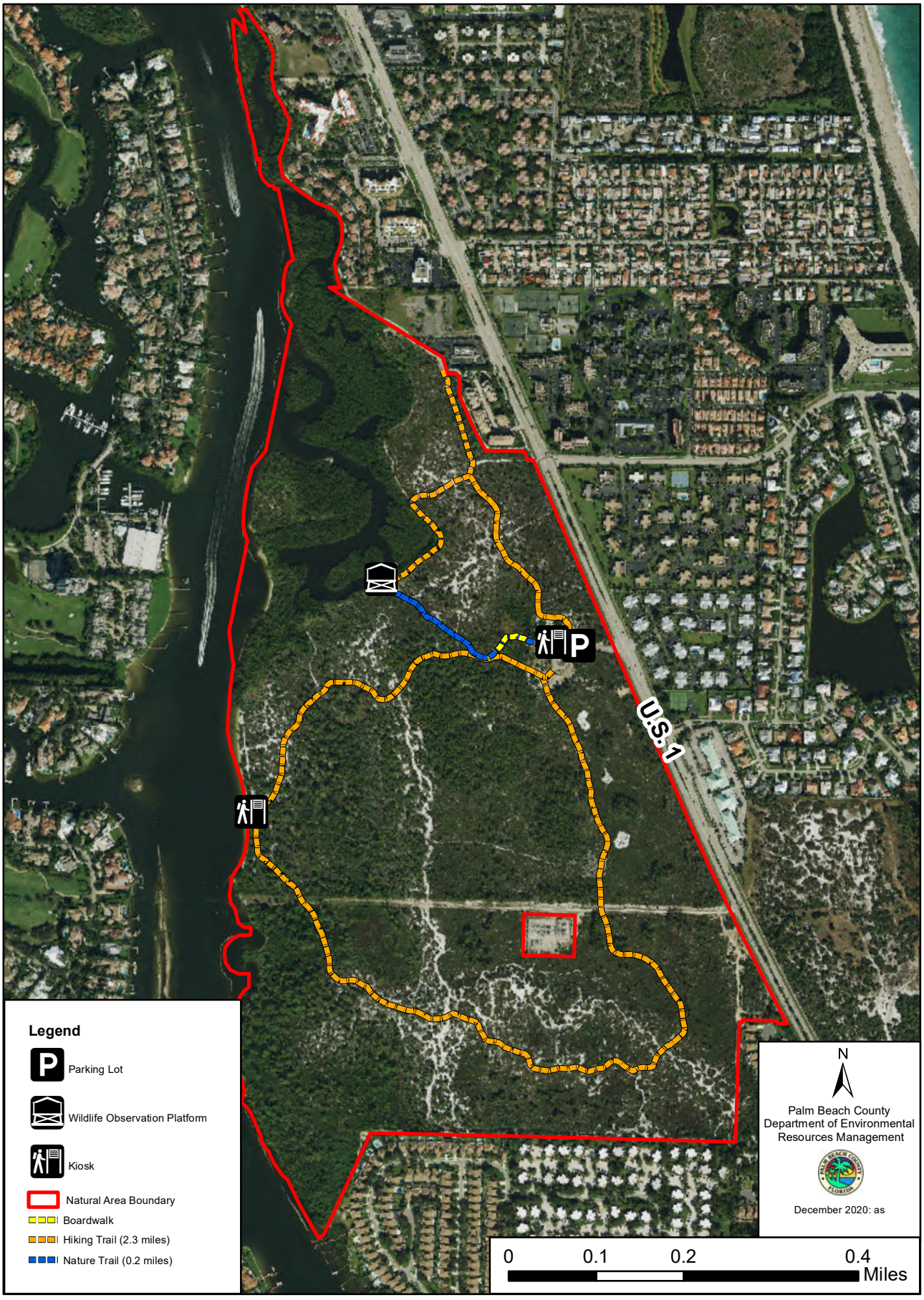


Figure 8. Jupiter Ridge Natural Area Public Use Facilities

Table 1. Listed Plant Species Recorded at Jupiter Ridge Natural Area

		STATUS/RANK DESIGNATION		
SCIENTIFIC NAME	COMMON NAME	USFWS	FDACS	FNAI
Asclepias curtissii	Curtiss' milkweed	N	CE	N
Asimina tetramera	Fourpetal pawpaw	E	E	G1/S1
Cladonia perforata	Perforate reindeer lichen	E	E	G1/S1
Conradina grandiflora	Largeflower false rosemary	N	T	G3/S3
Encyclia tampensis	Florida butterfly orchid	N	CE	N
Halophila johnsonii	Johnson's seagrass	T	E	G2/S2
Lechea cernua	Scrub pinweed	N	T	G3/S3
Lechea divaricata	Spreading pinweed	N	E	G2/S2
Lycopodiella cernua	Nodding club-moss	N	CE	N
Opuntia stricta	Shell-mound pricklypear	N	T	N
Osmunda regalis var spectabilis	Royal fern	N	CE	N
Osmundastrum cinnamomeum	Cinnamon fern	N	CE	N
Polygala smallii	Tiny polygala	E	E	G1/S1
Serenoa repens	Saw palmetto	N	CE	N
Tillandsia balbisiana	Inflated & reflexed wild pine	N	T	N
Tillandsia fasciculata	Common wild pine	N	E	N
Tillandsia flexuossa	Banded airplant	N	T	G5/S3
Tillandsia utriculata	Giant wild pine	N	E	N
Tolumnia bahamensis	Dancinglady orchid	E	E	G3/S1

CE = Commercially-exploited
E = Endangered
FDACS = Florida Department of Agriculture and Consumer Services
FNAI = Florida Natural Areas Inventory
G# = Global Ranking
G#T# = Global Ranking of Species (G) and Subspecies or Variety (T)
N = Not listed
S = State Ranking
T = Threatened
UR = Under Review

USFWS = United States Fish and Wildlife Service

Species presence determined from field surveys conducted by ERM (2005-2021). Status designations assigned by USFWS are from USFWS (undated); status designations assigned by FDACS are from FDACS (2020b); and rank designations assigned by FNAI are from FNAI (2019). Status and rank designations are defined in Appendix C.

Table 2. Listed Animal Species Recorded Jupiter Ridge Natural Area

		LISTING STATUS		
SCIENTIFIC NAME	COMMON NAME	FNAI	USFWS	FWC
Antigone canadensis pratensis	Florida sandhill crane	G5T2/S2	UR	ST
Aphelocoma coerulescens	Florida scrub-jay	G2?/S2	T	FT
Drymarchon corais couperi	Eastern indigo snake	G3/S3	T	FT
Egretta caerulea	Little blue heron	G5/S4	N	ST
Egretta thula	Snowy egret	G5/S3	N	N
Egretta tricolor	Tricolored heron	G5/S4	N	ST
Elanoides forficatus	Swallow-tailed kite	G5/S2	N	N
Eumaeus atala	Atala	G4/S2	N	N
Falco columbarius	Merlin	G5/S2	N	N
Falco peregrinus	Peregrine falcon	G4/S2	N	N
Gopherus polyphemus	Gopher tortoise	G3/S3	C	ST
Haliaeetus leucocephalus	Bald eagle	G5/S3	N	N
Latrodectus bishopi	Red widow spider	G2G3/S2S3	N	N
Pandion haliaetus	Osprey	G5/S3S4	N	N
Passerina ciris ciris	Painted bunting	G5T3/S1S2	N	N
Platalea ajaja	Roseate spoonbill	G5/S2	N	ST
Plegadis falcinellus	Glossy ibis	G5/S3	N	N
Podomys floridanus	Florida deermouse	G3/S3	N	N
Setophaga ruticilla	American redstart	G5/S2	N	N
Sterna dougalii	Roseate tern	G4/S1	T	FT
Sternula antillarum	Least tern	G4/S3	N	ST
Trichechus manatus	West Indian manatee	G2/S2	T	FT

C = Candidate
E = Endangered
FE = Federally-designated Endangered
FT = Federally-designated Threatened
FT(S/A) = Federally-designated Threatened due to Similarity of Appearance
FWC = Florida Fish and Wildlife Conservation Commission
FNAI = Florida Natural Areas Inventory
N = Not listed
SSC = State Species of Special Concern

ST = State-designated Threatened
T = Threatened
T(S/A) = Threatened due to Similarity of Appearance
UR = Under Review
USFWS = United States Fish and Wildlife Service

Species presence determined by field surveys conducted by ERM (1993-2021). Listings by FNAI are from FNAI (2019); listings by FWC are from FWC (2018); and listings by USFWS are from USFWS (undated). Listing categories are defined in Appendix C.

Table 3. Priority Schedule for Site Management Activities

ACTIVITY	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Update management plan	X									
NAMAC review of updated management plan	X									
Public hearing of updated management plan	X									
County Commission approval of updated management plan	X									
Conduct monitoring activities	X	X	X	X	X	X	X	X	X	X
Conduct maintenance invasive/nonnative plant control activities	X	X	X	X	X	X	X	X	X	X
Conduct regular facilities maintenance/mowing	X	X	X	X	X	X	X	X	X	X
Coordinate volunteer work days	X	X	X	X	X	X	X	X	X	X

Table 4. Estimated Annual Management and Maintenance Costs (in 2021 dollars)

Site Management and Maintenance

Prescribed habitat burns or mechanical fuel reduction (personnel and equipment - $27,500 per burn or reduction, 6 burns/reductions in a 10-year period/10 years to next management plan update)	$16,500*
Mowing and maintenance of management accessways/hiking trails (4 times/year)	$2,095*
Fence line maintenance (3 times/year)	$1,571*
Maintenance of public use facilities, including boardwalk, nature trail and trail markers/signs (bi-weekly or as needed) and trimming of hiking trail vegetation (2 times/year)	$10,895*
Site management – monitoring program, annual reports, management plan updates, listed species protection, volunteer coordination and supervision, public outreach, educational materials and intergovernmental coordination	$69,199*
Nonnative/invasive plant control (269 acres @ $100/acre)	$26,900**
Repair/replacement due to damage/vandalism (0.005% of structural facilities cost of $145,298)	$727**
Subtotal – present annual cost	**$127,887**

Capital Facilities Maintenance and Replacement

Removal and replacement of facilities with 10-year expected life (rules signs, miscellaneous signs, natural area signs, credits sign, entrance sign, regulatory signs, trail markers, post and rail fencing) and facilities with 20-year expected life (parking lot, bicycle racks, kiosks, boardwalks, wildlife observation platform, ADA trail, entrance gate and steel maintenance gates)	$145,253
Estimated annual cost over 10 years @ 4% interest rate	$17,910
Removal and replacement of facilities with 10-year expected life and facilities 30 years after the initial installation	$95,185
Estimated annual cost over 20 years @ 4% interest rate	$7,006
Subtotal – estimated annual capital replacement costs	**$24,916**

TOTAL ANNUAL COST (in 2021 dollars) $152,803

* To be performed by existing Palm Beach County personnel.

** Funding for these activities will come from the Palm Beach County Natural Areas Fund, Palm Beach County Natural Areas Stewardship Endowment Fund, Ag Reserve Land Management Fund and/or Palm Beach County General Fund, as may be amended.

NOTE: All facilities and activities listed are subject to annual budgetary funding and appropriations by the Palm Beach County Board of County Commissioners

APPENDIX A

PLANT SPECIES RECORDED AT

JUPITER RIDGE NATURAL AREA

PLANT SPECIES RECORDED AT
JUPITER RIDGE NATURAL AREA
Updated 3/5/2021

SCIENTIFIC NAME	COMMON NAME
*Abrus precatorius** NX (CAT I)	Rosary pea
*Acacia auriculiformis** (CAT I)	Earleaf acacia
Acalypha gracilens	Slender threeseed mercury
Acer rubrum	Red maple
Acrostichum danaeifolium	Giant leather fern
*Agave americana**	American century plant
*Agave sisalana** (CAT II)	Sisal hemp
*Allamanda cathartica**	Golden trumpet
Ambrosia artemisiifolia	Common ragweed
Andropogon floridanus	Florida bluestem
Andropogon glomeratus	Bushy bluestem
Andropogon ternarius	Splitbeard bluestem
Andropogon virginicus	Broomsedge bluestem
Annona glabra	Pond apple
Aristida gyrans	Corkscrew threeawn
Aristida spiciformis	Bottlebrush threeawn
Asclepias curtissii	Curtiss's milkweed
Asimina reticulata	Netted pawpaw
Asimina tetramera	Four-petal pawpaw
*Asparagus aethiopicus** (CAT I)	Sprenger's asparagus-fern
Avicennia germinans	Black mangrove
Azolla filiculoides	American waterfern
Baccharis glomeruliflora	Silverling
Baccharis halimifolia	Groundsel tree
Bacopa caroliniana	Lemon bacopa
Bacopa monnieri	Herb-of-grace
Bejaria racemosa	Tarflower
Bidens alba	Beggarticks
Borrichia frutescens	Bushy seaside oxeye
*Bothriochloa pertusa**	Pitted beardgrass
*Brassica rapa**	Turnip
Buchnera americana	American bluehearts
Bulbostylis barbata	Watergrass
Bulbostylis ciliatifolia	Capillary hairsedge
Bulbostylis warei	Ware's hairsedge
Bursera simaruba	Gumbo-limbo
Callicarpa americana	American beautyberry
Carya floridana	Scrub hickory

Cassytha filiformis	Love vine
*Casuarina equisetifolia** NX (CAT I)(PAP I)	Australian-pine
*Catharanthus roseus**	Madagascar periwinkle
Cenchrus echinatus	Southern sandbur
Cenchrus purpureus	Napiergrass
Cenchrus spinifex	Coastal sandbur
Cephalanthus occidentalis	Common buttonbush
Ceratiola ericoides	Florida rosemary
*Cereus repandus**	Hedge cactus
Chamaecrista fasciculata	Partridge pea
Chamaecrista nictitans	Sensitive pea
Chapmannia floridana	Florida alicia
*Chenopodium ambrosioides**	Mexican tea
Chromolaena odorata	Jack-in-the-bush
Chrysobalanus icaco	Coco plum
Chrysopsis scabrella	Coastalplain goldenaster
Cladina evansii	Powder-puff lichen
Cladina subtenuis	Dixie reindeer lichen
Cladium jamaicense	Jamaica swamp sawgrass
Cladonia leporina	Jester lichen
Cladonia pachycladodes	Cup lichen
Cladonia perforata	Florida perforate cladonia
Cladonia prostrata	Resurrection cladonia
Cladonia rappii	Slender ladder lichen
Cladonia ravenelii	Ravenel's cup lichen
Cladonia sp.	Cladonia
Cnidoscolus stimulosus	Tread-softly
Coccoloba uvifera	Seagrape
*Commelina diffusa**	Common dayflower
Conocarpus erectus	Buttonwood
Conradina grandiflora	Large-flowered rosemary
Conyza canadensis	Canadian horseweed
Coreopsis leavenworthii	Leavenworth's tickseed
*Cortaderia selloana**	Pampas grass
Crinum americanum	String-lily
*Crotalaria lanceolata**	Lanceleaf rattlebox
Crotalaria pallida var. *obovata**	Smooth rattlebox
*Crotalaria retusa**	Rattleweed
Crotalaria rotundifolia	Rabbitbells
Croton glandulosus	Vente conmigo
*Cupaniopsis anacardioides** NX (CAT I)	Carrotwood
Cuphea carthagenesis	Colombian waxweed
Cuscuta exaltata	Tall dodder
Cuscuta sp.	Dodder
*Cyanthillium cinereum**	Little ironweed

*Cycas circinalis**	Queen sago
*Cynodon dactylon**	Bermudagrass
Cyperus esculentus	Yellow nutgrass
Cyperus ligularis	Swamp flatsedge
Cyperus ovatus	Pinebarren flatsedge
Cyperus polystachyos	Manyspike flatsedge
Cyperus surinamensis	Tropical flatsedge
*Dactyloctenium aegyptium**(CAT II)	Durban crowfootgrass
Dalbergia ecastaphyllum	Coinvine
*Dalbergia sissoo** (CAT II)	Indian rosewood
Dalea feayi	Feay's prairieclover
*Desmodium incanum**	Zarzabacoa comun
*Desmodium triflorum**	Threeflower ticktrefoil
Dichanthelium aciculare	Needleleaf witchgrass
Dichanthelium ensifolium	Witchgrass
Dichanthelium portoricense	Hemlock witchgrass
Diodia teres	Poor Joe
Distichlis spicata	Saltgrass
Dodonaea viscosa	Varnishleaf
Dracaena hyacinthoides	Bowstring hemp
Drosera capillaris	Pink sundew
Echinochloa walteri	Coast cockspur
Eleocharis baldwinii	Baldwin's spikerush
Eleocharis interstincta	Knotted spikerush
Eleocharis vivipara	Viviparous spikerush
*Emilia fosbergii**	Florida tassleflower
*Emilia sonchifolia**	Lilac tassleflower
Encyclia tampensis	Butterfly orchid
*Eragrostis ciliaris**	Gophertail lovegrass
Eragrostis elliottii	Elliott's lovegrass
*Eragrostis gangetica**	Slimflower lovegrass
Eragrostis virginica	Coastal lovegrass
Erechtites hieraciifolius	American burnweed
*Eremochloa ophiuroides**	Centipedegrass
Erythrina herbacea	Coralbean
*Eugenia uniflora** (CAT I)	Surinam cherry
Eupatorium capillifolium	Dogfennel
Eupatorium compositifolium	Yankeeweed
Eupatorium leptophyllum	Falsefennel
Eupatorium serotinum	Lateflowering thoroughwort
Euphorbia bombensis	Dixie sandmat
Euphorbia hirta	Pillpod sandmat
Euphorbia hypericifolia	Graceful sandmat
Euphorbia hyssopifolia	Hyssopleaf sandmat
Euphorbia maculata	Spotted sandmat

Euphorbia ophthalmica	Florida hammock sandmat
Euphorbia polyphylla	Lesser Florida spurge
Euphorbia sp.	Spurge
Euphorbia thymifolia	Gulf sandmat
Eustachys petraea	Pinewoods fingergrass
Euthamia caroliniana	Slender flattop goldenrod
Ficus aurea	Strangler fig
*Ficus microcarpa** (CAT I)	Indian laurel
*Ficus pumila**	Climbing fig
Fimbristylis cymosa	Hurricanegrass
Froelichia floridana	Cottonweed
Fuirena breviseta	Saltmarsh umbrellasedge
Fuirena scirpoidea	Southern umbrellasedge
Funastrum clausum	White twinevine
Galactia elliottii	Elliott's milkpea
Galactia regularis	Eastern milkpea
Galactia volubilis	Downy milkpea
Gaura angustifolia	Southern beeblossom
Guilandina bonduc	Gray nicker
Habenaria floribunda	Toothpetal false reinorchid
Halodule wrightii	Shoalweed
Halophila jphnsonii	Johnson's seagrass
Helianthemum corymbosum	Pinebarren frostweed
Helianthemum nashii	Florida scrub frostweed
Helianthus debilis	East coast dune sunflower
Heterotheca subaxillaris	Camphorweed
*Hibiscus acetosella**	African rosemallow
Hibiscus furcellatus	Lindenleaf rosemallow
Hibiscus grandiflorus	Swamp rosemallow
Houstonia procumbens	Innocence
Hypericum cistifolium	Roundpod St. John's-wort
Hypericum fasciculatum	Sandweed
Hypericum gentianoides	Pineweeds
Hypericum hypericoides	St. Andrew's-cross
Hypericum tetrapetalum	Fourpetal St. John's-wort
Ilex cassine	Dahoon
Ilex glabra	Gallberry
Indigofera caroliniana	Carolina indigo
*Indigofera hirsuta**	Hairy indigo
*Indigofera spicata**	Trailing indigo
Ipomoea pes-caprae subsp. *brasiliensis*	Railroad vine
Ipomoea sagittata	Saltmarsh morning-glory
Ipomoea triloba	Littlebell
Iresine diffusa	Juba's bush
Iva imbricata	Seacoast marshelder

Juncus roemerianus	Needle rush
Juncus scirpoides	Needlepod rush
*Kalanchoe pinnata** (CAT II)	Cathedral bells
Lachnanthes caroliana	Carolina redroot
Laguncularia racemosa	White mangrove
*Lantana strigocamara** (CAT I)	Lantana
Lechea cernua	Scrub pinweed
Lechea deckertii	Deckert's pinweed
Lechea divaricata	Spreading pinweed
Lepidium virginicum	Virginia pepperweed
Liatris sp.	Gayfeather
Liatris tenuifolia	Shortleaf gayfeather
Licania michauxii	Gopher apple
Linaria canadensis	Canada toadflax
Linaria floridana	Apalachicola toadflax
Ludwigia curtissii	Curtiss' primrosewillow
Ludwigia maritima	Seaside primrosewillow
Ludwigia octovalvis	Mexican primrosewillow
Ludwigia repens	Creeping primrosewillow
Lupinus diffusus	Skyblue lupine
Lycopodiella appressa	Southern club-moss
Lycopodiella cernuum	Nodding club-moss
*Lygodium microphyllum** NX (CAT I)	Small-leaf climbing fern
Lyonia fruticosa	Coastalplain staggerbush
Lyonia lucida	Fetterbush
*Macroptilium lathyroides**	Wild bushbean
*Melaleuca quinquenervia** NX (CAT I)(PAP I)	Melaleuca
*Melinis repens** (CAT I)	Rose natalgrass
Melothria pendula	Creeping cucumber
Mikania cordifolia	Florida Keys hempvine
Mikania scandens	Climbing hempvine
Millettia pinnata	Karum tree
*Momordica charantia**	Balsampear
Monotropa uniflora	Indianpipe
Myrica cerifera	Wax myrtle
Myrsine cubana	Myrsine
Nephrolepis brownie	Asian sword fern
*Nephrolepis cordifolia** (CAT I)	Tuberous sword fern
Nymphaea capensis var. *zanzibariensis**	Cape blue waterlily
Nymphaea odorata	American white waterlily
Oenothera humifusa	Seabeach eveningprimrose
*Oldenlandia corymbosa**	Flattop mille graines
Ophioglossum petiolatum	Stalked adder's tongue
Opuntia humifusa	Pricklypear
Opuntia sp.	Pricklypear

Opuntia stricta	Shell-mound pricklypear
Osmunda regalis var. *spectabilis*	Royal fern
Osmundastrum cinnamomeum	Cinnamon fern
Oxalis corniculata	Common yellow woodsorrel
Palafoxia feayi	Feay's palafox
Panicum amarum	Bitter panicgrass
*Panicum repens** (CAT I)	Torpedograss
Parmotrema perforatum	Perforated ruffle lichen
Paronychia americana	American nailwort
Parthenocissus quinquefolia	Virginia creeper
Paspalum boscianum	Bull crowngrass
Paspalum conjugatum	Sour paspalum
Paspalum distichum	Knotgrass
*Paspalum notatum**	Bahia grass
Paspalum setaceum	Thin paspalum
*Paspalum urvillei**	Vaseygrass
Paspalum vaginatum	Seashore paspalum
Pectis glaucescens	Sanddune cinchweed
Persea borbonia var. *humilis*	Silk bay
Persea palustris	Swamp bay
Persicaria hydropiperoides	Mild waterpepper
Phlebodium aureum	Golden polypody
Phyla nodiflora	Turkey tangle fogfruit
Phyllanthus abnormis	Drummond's leafflower
Physalis pubescens	Husk tomato
Physalis walteri	Walter's groundcherry
Phytolacca americana	American pokeweed
Piloblephis rigida	Wild pennyroyal
Pinus clausa	Sand pine
Pinus elliottii	Slash pine
Pityopsis graminifolia	Narrowleaf silkgrass
Pleopeltis michauxiana	Resurrection fern
Pluchea baccharis	Rosy camphorweed
Pluchea odorata	Sweetscent
Pluchea foetida	Stinking camphorweed
Poinsettia cyathophora	Paintedleaf
Polanisia tenuifolia	Slendlerleaf clammyweed
Polygala cymosa	Tall pinebarren milkwort
Polygala nana	Candyroot
Polygala polygama	Racemed milkwort
Polygala rugelii	Yellow milkwort
Polygala smallii	Tiny polygala
Polygala violacea	Showy milkwort
Polygonella ciliata	Hairy jointweed
Polygonella polygama	October flower

Polygonella robusta	Sandhill wireweed
Polypremum procumbens	Rustweed
Proserpinaca palustris	Marsh mermaidweed
Proserpinaca pectinata	Combleaf mermaidweed
Pseudognaphalium obtusifolium	Rabbit tobacco
Psychotria nervosa	Wild coffee
Pteridium aquilinum	Bracken fern
Quercus chapmanii	Chapman's oak
Quercus geminata	Sand live oak
Quercus laurifolia	Laurel oak
Quercus myrtifolia	Myrtle oak
Quercus virginiana	Live oak
Rhabdadenia biflora	Rubbervine
Rhexia mariana	Pale meadowbeauty
Rhizophora mangle	Red mangrove
Rhynchosia cinerea	Brown-haired snoutbean
Rhynchospora fascicularis	Fascicled beaksedge
Rhynchospora megalocarpa	Sandyfield beaksedge
Rhynchospora microcarpa	Southern beaksedge
*Richardia brasiliensis**	Tropical Mexican clover
*Richardia grandiflora**	Largeflower Mexican clover
Sabal etonia	Scrub palmetto
Sabal palmetto	Cabbage palm
Saccharum giganteum	Sugarcane plumegrass
Sacciolepis striata	American cupscale
Sagittaria lancifolia	Bulltongue arrowhead
Salix caroliniana	Coastalplain willow
*Scaevola taccada** NX (CAT I)	Beach naupaka
*Schefflera actinophylla** (I)	Australian umbrella tree
*Schinus terebinthifolia** NX (CAT I)(PAP I)	Brazilian pepper
Schizachyrium scoparium	Little bluestem
Scleria ciliata	Fringed nutrush
Scoparia dulcis	Sweetbroom
Selaginella arenicola	Sand spike-moss
*Senna occidentalis**	Septicweed
Serenoa repens	Saw palmetto
Sesuvium portulacastrum	Shoreline seapurslane
Setaria parviflora	Knotroot foxtail
Seymeria pectinata	Piedmont blacksenna
*Sida cordifolia**	Llima
Sida rhombifolia	Indian hemp
Sida ulmifolia	Common fanpetals
Sisyrinchium xerophyllum	Jeweled blue-eyed grass
Smilax auriculata	Earleaf greenbrier
Solanum americanum	American black nightshade

Solidago fistulosa	Pinebarren goldenrod
Solidago odora subsp. *chapmanii*	Chapman's goldenrod
Solidago sempervirens	Seaside goldenrod
Sorghastrum secundum	Lopsided Indiangrass
Spartina alterniflora	Saltmarsh cordgrass
Spartina bakeri	Sand cordgrass
Spartina patens	Marshhay cordgrass
Spartina sp.	Cordgrass
*Spermacoce verticillata**	Shrubby false buttonweed
*Sphagneticola trilobata** (CAT II)	Creeping oxeye
*Sporobolus indicus**	Smutgrass
*Stenotaphrum secundatum**	St. augustinegrass
Stipulicida setacea	Pineland scalypink
Stylisma villosa	Hairy dawnflower
*Stylosanthes hamata**	Cheesytoes
Syngonanthus flavidulus	Yellow hatpins
Syringodium filiforme	Manateegrass
Telmatoblechnum serrulatum	Swamp fern
Thalassia testudinum	Turtlegrass
*Thespesia populnea** (CAT I)	Portia tree
Tillandsia balbisiana	Inflated & reflexed wild pine
Tillandsia fasciculata	Common wild pine
Tillandsia flexuosa	Banded airplant
Tillandsia paucifolia	Potbelly airplant
Tillandsia recurvata	Ballmoss
Tillandsia setacea	Southern needleleaf
Tillandsia usneoides	Spanish moss
Tillandsia utriculata	Giant wild pine
Tolumnia bahamensis	Dancinglady orchid
Toxicodendron radicans	Eastern poison ivy
*Tradescantia spathacea** (CAT II)	Oyster-plant
*Tribulus cistoides** (CAT II)	Burrnut
Trichostema dichotomum	Forked bluecurls
*Tridax procumbens**	Coatbuttons
Tripsacum dactyloides	Eastern gamagrass
Turnera ulmifolia	Yellow alder
Uniola paniculata	Seaoats
*Urena lobata** (CAT II)	Caesarweed
*Urochloa distachya**	Tropical signalgrass
Urochloa maxima	Guineagrass
Utricularia gibba	Humped bladderwort
Utricularia subulata	Zigzag bladderwort
Vaccinium myrsinites	Shiny blueberry
Verbesina virginica	White crownbeard
Vigna luteola	Hairypod cowpea

Vitis rotundifolia	Muscadine
Vitis shuttleworthii	Calloose grape
Vittaria lineata	Shoestring fern
Woodwardia virginica	Virginia chain fern
Ximenia americana	Hog plum
Xyris brevifolia	Shortleaf yelloweyed grass
Xyris elliottii	Elliott's yelloweyed grass
Xyris flabelliformis	Savannah yelloweyed grass
Xyris jupicai	Richard's yelloweyed grass
*Zeuxine strateumatica**	Lawn orchid
*Zoysia matrella**	Manila templegrass

NOTES:

* = Nonnative species

(NX) = Species is on the state noxious weed list (Rule 5B-57.007, Florida Administrative Code)

(PAP I) = Species designated as Class I Prohibited Aquatic Plant by FDACS (2008)

(PAP II) = Species designated as Class II Prohibited Aquatic Plant by FDACS (2008)

(CAT I) = Exotic species designated as Category I by FLEPPC (FLEPPC 2019)

(CAT II) = Exotic species designated as Category II by FLEPPC (FLEPPC 2019)

Scientific and common names of vascular plant species generally follow ITIS (2019); Nature Serve (2021); USDA, NRCS (2018); and Wunderlin et al. (2021). Lichens are from Brodo et al. (2001).

APPENDIX B

ANIMAL SPECIES RECORDED AT

JUPITER RIDGE NATURAL AREA

APPENDIX B

ANIMAL SPECIES RECORDED AT THE JUPITER RIDGE NATURAL AREA
Updated 6/3/2021

MOLLUSCA

Bivalvia (Clams and Mussels)

Crassostrea virginica	Eastern oyster

Gastropoda (Snails and Slugs)

Drymaeus multilineatus	Lined treesnail
Euglandina rosea	Rosy wolfsnail
Littoraria angulifera	Mangrove periwinkle
Nerita fulgrans	Antillean nerite

ARTHROPODA

Chelicerata (Spiders)

Arachnida

Argiope argentata	Silver garden spider
Argiope aurantia	Yellow garden spider
Centruroides sp.	Bark scorpion
Geolycosa sp.	Burrowing wolf spider
Latrodectus bishopi	Red widow spider
Leucauge venusta	Orchard orbweaver
Nephila clavipes	Golden silk orbweaver
Phidippus regius	Regal jumping spider

Insecta (Insects)

Coleoptera

Cicindela scutellaris	Festive tiger beetle
Coccinellidae (family)	Ladybird beetle
Dineutus sp.	Whirligig beetle
Ellipsoptera hirtilabris	Moustached tiger beetle
Pasimachus strenuous	Ground beetle
Pasimachus subsulcatus	Ground beetle
Trigonopeltastes delta	Delta flower scarab

Dictyoptera

Arenivaga floridensis	Florida sand cockroach

Eurycotis floridana	Florida woods cockroach
Diptera	
Aedes sp.	Mosquito
Chrysops sp.	Deer fly
Culex sp.	Mosquito
Culicoides sp.	Biting midge
Mallophora bomboides	Florida bee killer
Plecia nearctica	Lovebug
Tabanus sp.	Horse fly
Hemiptera	
Acanthocephala declivis	Leaffooted bug
Gerris sp.	Water strider
Lethocerus sp.	Giant water bug
Tibicen sp.	Cicada
Tibicen latifasciatus	Coastal scissors grinder
Hymenoptera	
*Apis mellifera**	Honeybee
Bombus pensylvanicus	American bumble bee
Dasymutilla occidentalis	Velvet ant
Dasymutilla quadriguttata	Four-spotted velvet ant
Palmodes dimidiatus	Hunting wasp
Pheidole megacephala	Bigheaded ant
Pogonomyrmex badius	Florida harvester ant
Polistes sp.	Paper wasp
*Pseudomyrmex gracilis**	Elongate twig ant
Sceliphron caementarium	Black and yellow mud dauber
*Solenopsis invicta**	Red imported fire ant
Solenopsis sp.	Fire ant
Vespula sp.	Yellowjacket
Xylocopa sp.	Carpenter bee
Lepidoptera	
Agraulis vanillae	Gulf fritillary
Anartia jatrophae	White peacock
Ascia monuste	Great southern white
Calycopis cecrops	Red-banded hairstreak
Colias eurytheme	Orange Sulphur
Cymaenes tripunctus	Three-spotted skipper
Danaus gilippus	Queen
Danaus plexippus	Monarch
Eumaeus atala	Atala

Eumorpha fasciatus	Banded sphinx
Eurema daira	Barred yellow
Eurytides marcellus	Zebra swallowtail
Heliconius charithonia tuckeri	Zebra longwing
Junonia coenia	Common buckeye
Oligoria maculata	Twin-spot skipper
Papilio cresphontes	Giant swallowtail
Phocides pigmalion	Mangrove skipper
Phoebis sennae	Cloudless sulphur
Phyciodes tharos	Pearl crescent
Strymon melinus	Gray hairstreak
Thorybes confusis	Confused cloudywing
Urbanus proteus	Long-tailed skipper
Utetheisa ornatrix	Bella moth

Neuroptera

Myrmeleon sp.	Antlion
Myrmeleontidae (family)	Antlion

Odonata

Anax junius	Common green darner
Anax longipes	Comet darner
Celithemis eponina	Halloween pennant
Celithemis ornata	Ornate pennant
Coryphaeschna ingens	Regal darner
*Crocothemis servilia**	Scarlet skimmer
Enallagma doubledayi	Atlantic bluet
Erythemis simplicicollis	Eastern pondhawk
Erythemis vesiculosa	Great pondhawk
Erythrodiplax minuscula	Little blue dragonlet
Erythrodiplax umbrata	Band-winged dragonlet
Ischnura hastata	Citrine forktail
Ischnura ramburii	Rambur's forktail
Lestes australis	Southern spreadwing
Libellula auripennis	Golden-winged skimmer
Libellula vibrans	Great blue skimmer
Pachydiplax longipennis	Blue dasher
Tramea carolina	Carolina saddlebags
Tramea onusta	Red saddlebags
Tramea sp.	Saddlebags

Orthoptera

Aptenopedes aptera	Wingless Florida grasshopper
Arphia granulata	Southern yellow-winged grasshopper

Dichromorpha viridis	Short-winged green grasshopper
Gryllus sp.	Cricket
Microcentrum retinerve	Lesser angle-winged katydid
Schistocerca americana	American grasshopper
Schistocerca damnifica	Mischievous bird grasshopper

Phasmatodea

Anisomorpha buprestoides	Two-striped walking stick

Malacostraca (Crayfishes, Decapods, and Shrimp)

Aratus pisonii	Mangrove tree crab
Armases cinereum	Squareback marsh crab
Callinectes sapidus	Blue crab
Cardisoma guanhumi	Blue land crab
Clibanarius vittatus	Thinstripe hermit crab
Goniopsis cruenata	Mangrove root crab
Uca sp.	Fiddler

CNIDARIA

Cubozoa (Box jellyfish)

Tripedalia cystophora	Box jellyfish

CHORDATA

Actinopterygii (Fishes)

Anchoa mitchilli	Bay anchovy
Archosargus probatocephalus	Sheepshead
Ariopsis felis	Hardhead catfish
Bagre marinus	Gafftopsail catfish
Caranx hippos	Crevalle jack
Centropomus undecimalis	Common snook
Diapterus auratus	Irish pompano
Eucinostomus argenteus	Spotfin mojarra
Eucinostomus gula	Silver jenny
Eugerres plumieri	Striped mojarra
Gambusia holbrooki	Eastern mosquitofish
Gerres cinereus	Yellowfin mojarra
Lagodon rhomboids	Pinfish
Lutjanus griseus	Gray snapper
Mugil cephalus	Striped mullet
Mugil curema	White mullet
Oligoplites saurus	Leatherjack
Selene vomer	Lookdown

Sphoeroides testudineus	Checkered puffer
Sphyraena barracuda	Great barracuda
Strongylura marina	Atlantic needlefish
Strongylura sp.	Needlefish

Chondrichthyes (Sharks and Rays)

Dasyatis sabina	Atlantic stingray
Dasyatis say	Bluntnose stingray

Amphibia (Amphibians)

Acris gryllus	Southern cricket frog
Anaxyrus quercicus	Oak toad
Dryophytes cinerea	Green treefrog
Dryophytes femoralis	Pine woods treefrog
Dryophytes squirellus	Squirrel treefrog
Gastrophryne carolinensis	Eastern narrow-mouthed toad
Lithobates catesbeianus	America bullfrog
Lithobates grylio	Pig frog
Lithobates sphenocephalus	Southern leopard frog
*Osteopilus septentrionalis**	Cuban treefrog
Scaphiopus holbrooki	Eastern spadefoot

Reptilia

Squamata

*Agama picticauda**	Peter's rock agama
Anolis carolinensis	Green anole
*Anolis sagrei **	Brown anole
Aspidoscelis sexlineata	Six-lined racerunner
Coluber constrictor	North American racer
Coluber flagellum	Coachwhip
Diadophis punctatus	Ring-necked snake
Drymarchon couperi	Eastern indigo snake
*Iguana iguana**	Green iguana
*Leiocephalus carinatus**	Northern curly-tailed lizard
Opheodrys aestivus	Rough greensnake
Ophisaurus ventralis	Eastern glass lizard
Plestiodon egregious	Mole skink
Plestiodon inexpectatus	Southeastern five-lined skink
Sceloporus woodi	Florida scrub lizard
Tantilla relicta	Florida crowned snake

Testudines

Gopherus polyphemus	Gopher tortoise

Terrapene carolina	Eastern box turtle
Aves (Birds)	
Accipitriformes	
Accipiter cooperii	Cooper's hawk
Accipiter striatus	Sharp-shinned hawk
Buteo jamaicensis	Red-tailed hawk
Buteo lineatus	Red-shouldered hawk
Cathartes aura	Turkey vulture
Coragyps atratus	Black vulture
Elanoides forficatus	Swallow-tailed kite
Haliaeetus leucocephalus	Bald eagle
Pandion haliaetus	Osprey
Anseriformes	
Aix sponsa	Wood duck
Anas fulvigula	Mottled duck
Mergus serrator	Red-breasted merganser
Apodiformes	
Chaetura pelagica	Chimney swift
Caprimulgiformes	
Antrostomus carolinensis	Chuck-will's-widow
Antrostomus vociferous	Eastern whip-poor-will
Chordeiles minor	Common nighthawk
Charadriiformes	
Charadrius vociferus	Killdeer
Leucophaeus atricilla	Laughing gull
Sterna dougallii	Roseate tern
Sterna antillarum	Least tern
Tringa solitaria	Solitary sandpiper
Columbiformes	
Columbina passerina	Common ground-dove
*Streptopelia decaocto**	Eurasian collared-dove
Zenaida macroura	Mourning dove
Coraciiformes	
Megaceryle alcyon	Belted kingfisher
Cuculiformes	
Coccyzus americanus	Yellow-billed cuckoo
Falconiformes	

Falco columbarius	Merlin
Falco peregrinus	Peregrine falcon
Falco sparverius	American kestrel
Galliformes	
Meleagris gallopavo	Wild turkey
Gruiformes	
Antigone Canadensis pratensis	Florida sandhill crane
Passeriformes	
Aphelocoma coerulescens	Florida scrub jay
Cardinalis cardinalis	Northern cardinal
Catharus guttatus	Hermit thrush
Corvus brachyrhynchos	American crow
Corvus ossifragus	Fish crow
Cyanocitta cristata	Blue jay
Dumetella carolinensis	Gray catbird
Geothlypis trichas	Common yellowthroat
Hirundo rustica	Barn swallow
Lanius ludovicianus	Loggerhead shrike
Mimus polyglottos	Northern mockingbird
Mniotilta varia	Black-and-white warbler
Myiarchus crinitus	Great crested flycatcher
Passerina ciris ciris	Painted bunting
Passerina cyanea	Indigo bunting
Pipilo erythrophthalmus	Eastern towhee
Pipilo sp.	Towhee
Polioptila caerulea	Blue-gray gnatcatcher
Quiscalus major	Boat-tailed grackle
Quiscalus quiscula	Common grackle
Riparia riparia	Bank swallow
Sayornis phoebe	Eastern phoebe
Seiurus aurocapillus	Ovenbird
Setophaga americana	Northern parula
Setophaga caerulescens	Black-throated blue warbler
Setophaga coronata	Yellow-rumped warbler
Setophaga discolor	Prairie warbler
Setophaga dominica	Yellow-throated warbler
Setophaga fusca	Blackburnian warbler
Setophaga palmarum	Palm warbler
Setophaga pinus	Pine warbler
Setophaga ruticilla	American redstart
Setophaga striata	Blackpoll warbler

Setophaga tigrina	Cape May warbler
Setophaga virens	Black-throated green warbler
*Sturnus vulgaris**	European starling
Tachycineta bicolor	Tree swallow
Thryothorus ludovicianus	Carolina wren
Tiaris bicolor	Black-faced grassquit
Toxostoma rufum	Brown thrasher
Troglodytes aedon	House wren
Tyrannus tyrannus	Eastern kingbird
Vireo griseus	White-eyed vireo
Vireo solitaries	Blue-headed vireo

Pelecaniformes

Ardea alba	Great egret
Ardea herodias	Great blue heron
Bubulcus ibis	Cattle egret
Butorides virescens	Green heron
Egretta caerulea	Little blue heron
Egretta thula	Snowy egret
Egretta tricolor	Tricolored heron
Eudocimus albus	White ibis
Plegadis falcinellus	Glossy ibis
Pelecanus erythrorhynchos	American white pelican
Pelecanus occidentalis	Brown pelican
Platalea ajaja	Roseate spoonbill

Piciformes

Colaptes auratus	Northern flicker
Dryocopus pileatus	Pileated woodpecker
Melanerpes carolinus	Red-bellied woodpecker
Melanerpes erythrocephalus	Red-headed woodpecker
Picoides pubescens	Downy woodpecker
Sphyrapicus varius	Yellow-bellied sapsucker

Psittaciformes

*Myiopsitta monachus**	Monk parakeet

Suliformes

Anhinga anhinga	Anhinga
Phalacrocorax auritus	Double-crested cormorant

Strigiformes

Bubo virginianus	Great horned owl

Mammalia

Canis latrans	Coyote
Dasypus novemcinctus	Nine-banded armadillo
*Felis catus**	Domestic cat
Lontra canadensis	North American river otter
Lynx rufus	Bobcat
Podomys floridanus	Florida deermouse
Procyon lotor	Raccoon
Scalopus aquaticus	Eastern mole
Sciurus carolinensis	Eastern gray squirrel
Spilogale putorius	Eastern spotted skunk
Sylvilagus floridanus	Eastern cottontail
Sylvilagus palustris	Marsh rabbit
Trichechus manatus	West Indian manatee
Urocyon cinereoargenteus	Gray fox

* = Nonnative species

NOTE: Scientific and common names of species generally follow FWC (2018b), FNAI (2019), NatureServe (2021), ITIS (2019) or Arnett (2000).

APPENDIX C

DEFINITIONS OF STATUS AND RANK DESIGNATIONS

FOR LISTED SPECIES AND NATURAL COMMUNITIES

APPENDIX C

DEFINITIONS OF STATUS AND RANK DESIGNATIONS FOR LISTED SPECIES AND NATURAL COMMUNITIES

United States Fish and Wildlife Service (USFWS) - Wildlife and Plants

Species listed in the Code of Federal Regulations (CFR) and protected under the provisions of the Endangered Species Act of 1973 (16 USC 1531-1543, as amended); animals are listed in 50 CFR 17-11 and plants are listed in 50 CFR 17-12.

Endangered (E)	Any species that is in danger of extinction through all or a portion of its range.
Threatened (T)	Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
Candidate (C)	Any species that is under consideration for official listing for which there is sufficient information to support listing.
Similarity of Appearance (S/A)	If a species closely resembles an endangered or threatened species, such species may be treated as endangered or threatened if the Director of USFWS makes a determination that the species shall appear in the list in 50 CFR 17.11 (wildlife) or the list in 50 CFR 17.12 (plants).
Under Review (UR)	Species that have been petitioned for listing and for which a 90-day finding has not been published or for which a 90-day substantial has been published, but a 12-month finding have not yet been published in the Federal Register. Also includes species that are being reviewed through the candidate process, but the Candidate Notice of Review (CNOR) has not yet been signed.

Florida Fish and Wildlife Conservation Commission (FWC) - Animals

Species listed in Chapter 68A-27 of the Florida Administrative Code (F.A.C.) as Florida Endangered and Threatened Species, and protected under that chapter and the Endangered and Threatened Species Act, Section 372.072, Florida Statutes (F.S.).

Federally-designated Endangered and Threatened Species	Species of fish or wild animal life, subspecies or isolated populations of species or subspecies, whether vertebrate or invertebrate, that are native to Florida and are classified as Endangered or Threatened under

(FE) and (FT)	Commission rule by virtue of designation by the United States Departments of Interior or Commerce as endangered or threatened under the Federal Endangered Species Act, 16 U.S.C. § 1531 et seq. and rules.
State-designated Threatened Species (ST)	As designated by the Commission, species of fish or wild animal life, subspecies, or isolated population of a species or subspecies, whether vertebrate or invertebrate, that are native to Florida and are classified as Threatened as determined by paragraph (a), (b), (c), (d), or (e) [in subsequent part of definition] in accordance with Rule 68A-27.0012., F.A.C.
Species of Special Concern (SSC)	Per Rule 68A-27.005, management plans will be developed for the species listed in this rule and the species will be evaluated under the listing criteria in subsection 68A-27.001(3), F.A.C. for listing as a State-designated Threatened species.
Candidate Species	A species of fish or wild animal life, subspecies, or isolated populations of species or subspecies, whether invertebrate or vertebrate, that the Commission has determined warrants listing as a State-designated Threatened Species in accordance with Rule 68A-27.0012, F.A.C., and is awaiting final Commission action to be added to the list of Florida Endangered and Threatened Species in Rule 68A-27.003, F.A.C.

Florida Department of Agriculture and Consumer Affairs (FDACS) - Plants

Species listed in Chapter 5B-40 of the Rules of FDACS, Division of Plant Industry and protected under the Preservation of Native Flora of Florida Act (Section 581.185, F.S.).

Endangered (E)	Species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered species or threatened species pursuant to the federal Endangered Species Act of 1973, as amended.
Threatened (T)	Species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered.
Commercially Exploited (CE)	Species native to the state which are being removed in significant numbers from native habitats in the state and sold or transported for sale.

Florida Natural Areas Inventory (FNAI) - Plants, Animals and Natural Communities

FNAI ranks indicate the global (G) or state (S) status of a species or a natural community. Rank definitions are from FNAI (2018).

FNAI Global Rank Definitions

G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1,000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.

G2 Imperiled globally because of rarity (6 to 20 occurrences or less than 3,000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

G3 Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.

G4 Apparently secure globally (may be rare in parts of range).

G5 Demonstrably secure globally.

G#? Tentative rank (e.g., G2?).

G#T# Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have the same definition as above (e.g., G3T1)

GNR = Element not yet ranked (temporary).

FNAI State Rank Definitions

S1 Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1,000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.

S2 Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3,000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.

S3 Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.

S4 Apparently secure in Florida (may be rare in parts of range).

S5 Demonstrably secure in Florida.

SH Of historical occurrence in Florida, possibly extirpated, but may be rediscovered

APPENDIX D

LEGAL DESCRIPTION OF

JUPITER RIDGE NATURAL AREA

LEGAL DESCRIPTION OF JUPITER RIDGE NATURAL AREA

PROPERTIES LEASED FROM THE STATE OF FLORIDA

PARCEL I

LANDS LYING IN PALM BEACH COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

GOVERNMENT LOTS 6, 7, AND 8 IN SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST; THE SOUTH 889.40 FEET OF GOVERNMENT LOT 8 AND ALL OF GOVERNMENT LOTS 9, 11, 12, 13, 14 AND 15 IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST; GOVERNMENT LOTS 3, 4, 9 AND 10 IN SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AND GOVERNMENT LOTS 3 AND 4 IN SECTION 18, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AS SAID GOVERNMENT LOTS ARE SHOWN ON SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

LESS THE RIGHT-OF-WAY OF STATE ROAD 5, ALSO KNOWN AS U.S. HIGHWAY 1, AS CONVEYED TO THE STATE OF FLORIDA IN DEED BOOK 1116, PAGE 256, AND AS LAID OUT AND IN USE; AND

FURTHER LESS THAT PART OF SAID GOVERNMENT LOT 9 LYING EAST OF THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 5; AND

FURTHER LESS ANY PORTION OF ABOVE DESCRIBED LANDS LYING WEST OF THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGES 4 AND 5; AND

FURTHER LESS THE NORTH 250 FEET OF THE WEST 310 FEET OF GOVERNMENT LOT 3 OF SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

PARCEL II

THAT PART OF SECTIONS 7 AND 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, BOUNDED AS FOLLOWS: ON THE EAST BY THE WESTERLY LINES OF GOVERNMENT LOTS 11 AND 12 OF SAID SECTION 8; ON THE SOUTH BY THE NORTHERLY LINE OF GOVERNMENT LOT 7 IN SAID SECTION 7; ON THE WEST BY THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGE 4; AND ON THE NORTH BY THE SOUTH LINE OF THOSE LANDS IN SAID SECTION 7 DESCRIBED IN FINAL JUDGEMENT IN FAVOR OF PALM BEACH COUNTY RECORDED IN OFFICIAL RECORDS BOOK 2157, PAGE 1952, SAID NORTH LINE BEING

FURTHER DESCRIBED AS FOLLOWS: COMMENCE AT A CONCRETE MONUMENT STAMPED ICW AND BEING A POINT ON THE SOUTH END OF BULKHEAD NO. 5 ACCORDING TO PLAT BOOK 28, PAGES 134 THROUGH 142 INCLUSIVE AND THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY ACCORDING TO PLAT BOOK 17, PAGE 4 ALL OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE NORTH 11°25'06" EAST ALONG SAID EAST RIGHT-OF-WAY LINE, A DISTANCE OF 1105.90 FEET TO A CONCRETE MONUMENT STAMPED ICW AS SHOWN ON SAID PLAT AND BEING THE WEST END OF THE HEREIN DESCRIBED NORTH LINE; THENCE SOUTH 85°47'45" EAST, A DISTANCE OF 258.90 FEET TO A POINT ON THE WESTERLY LINE (ALSO THE MOST NORTHERLY CORNER) OF SAID GOVERNMENT LOT 11 AND BEING THE EAST END OF THE HEREIN DESCRIBED NORTH LINE.

LESS GOVERNMENT LOTS 6 AND 8 IN SAID SECTION 7 AND GOVERNMENT LOTS 13, 14, AND 15 IN SAID SECTION 8, AS SAID LOTS ARE SHOWN ON SUPPLEMMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

ABOVE DESCRIBED PARCEL II IS ALSO KNOWN AS THAT PORTION OF MAINTENANCE SPOIL AREA 607, AS DESCRIBED IN GRANT RECORDED IN DEED BOOK 523, PAGE 340, LYING EAST OF THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGE 4; LESS THAT PART ABUTTING ON GOVERNMENT LOT 1 IN SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH C0UNTY, FLORIDA.

ALL THAT PART OF GOVERNMENT LOT 7, LYING WEST OF THE RIGHT-OF-WAY OF STATE ROAD NO. 5 AND ALL THAT PART OF GOVERNMENT LOT 8, LYING WEST OF THE RIGHT-OF-WAY OF SAID STATE ROAD NO. 5 AND LYING NORTH OF THE SOUTH 889.40 FEET THEREOF, SAID LOTS BEING SITUATED IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST, THAT PART OF SUBMERGED LANDS IN GOVERNMENT LOT 1 LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER (LESS R/W INTRACOASTAL WATERWAY) & TRIANGLE PART OF WESTERLY 12.63 FEET OF THE NORTHERLY 329.69 FEET OF THAT PART OF GOVERNMENT LOT 3 SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER.

PROPERTIES NOT SUBJECT TO LEASE

THAT PART OF GOVERNMENT LOT 7 IN SECTION 7; GOVERNMENT LOT 10 IN SECTION 17 AND GOVERNMENT LOTS 3 AND 4 IN SECTION 18, ALL IN TOWNSHIP 41 SOUTH, RANGE 43 EAST, AS SAID GOVERNMENT LOTS ARE SHOWN ON SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925,

WHICH LIE EASTERLY OF THE CENTERLINE OF THE INTRACOASTAL WATERWAY AND WESTERLY OF THE EASTERLY RIGHT OF WAY LINE THEREOF, AS SAID CENTERLINE AND RIGHT OF WAY LINE ARE SHOWN ON PLAT IN PLAT BOOK 17, PAGES 4 AND 5.

7-41-43, S 40 FT OF N 1734.84 FT OF TH PT OF NE ¼ LYG ELY OF & ADJ THERETO E R/W LI OF INTRACOASTAL

A PARCEL OF LAND LYING WITHIN TRACT M-1, ACCORDING TO THE PLAT OF THE RIDGE AT THE BLUFFS, AS RECORDED IN PLAT BOOK 05, PAGES 47 THROUGH 58, IN AND FOR THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF LOT 431, ACCORDING TO THE PLAT OF THE RIDGE AT THE BLUFFS AFORESAID; (THE NORTHERLY LINE OF SAID LOT 431 IS ASSUMED TO BEAR NORTH 87°57'07" WEST AND ALL OTHER BEARINGS ARE RELATIVE THERETO), THENCE NORTH 02°02'53" EAST, A DISTANCE OF 15.75 FEET TO A POINT; THENCE SOUTH 87°57' 07" EAST, PARALLEL WITH THE NORTHERLY LINE OF SEASHORE DRIVE, A DISTANCE OF 91.23 FEET TO A POINT; THENCE SOUTH 29°03'06" EAST, A DISTANCE OF 18.39 FEET TO A POINT; THENCE NORTH 87°57'07" WEST, ALONG SAID NORTHERLY LINE OF SEASHORE DRIVE, A DISTANCE OF 100.73 FEET TO THE POINT OF BEGINNING.

A PARCEL OF LAND LYING IN THE SOUTH 549.10 FEET OF GOVERNMENT LOT 3, SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE INTERSECTION OF THE SOUTH LINE OF SAID GOVERNMENT LOT 3 AND THE WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5 (U.S. HIGHWAY ONE) AS RECORDED IN ROAD PLAT 2, PAGE 110, PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE N89°06'33"W ALONG SAID SOUTH LINE OF GOVERNMENT LOT 3 (BEARING BASE), A DISTANCE OF 31.69 FEET TO THE POINT OF BEGINNING; THENCE N22°53'15"W ALONG A LINE 29.00 FEET WEST OF AND PARALLEL TO SAID WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5, 60.28 FEET; THENCE N89°06'33"W, 232.94 FEET; THENCE N28°15'11"W, 126.53 FEET; THENCE N22°53'15"W, 234.52 FEET; THENCE N02°57'48"W, 123.19 FEET; THENCE N45°00'00"W, 25.70 FEET; THENCE N89°06'33"W, 49.23 FEET TO THE INTERSECTION WITH THE GOVERNMENT MEANDER LINE (AS SURVEYED IN 1855); THENCE S16°08'47"E ALONG SAID MEANDER LINE, 545.02 FEET TO THE INTERSECTION WITH SAID SOUTH LINE OF GOVERNMENT LOT 3; THENCE S89°06'33"E ALONG SAID SOUTH LINE, 329.71 FEET TO THE POINT OF BEGINNING.

APPENDIX E

LAND MANAGEMENT REVEW TEAM REPORT FOR

JUPITER RIDGE NATURAL AREA

Department of Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

June 2, 1998

ENV. RES. MGMT.
Env. Enh. & Restoration
Natural Areas Stewardship
Resource Protection
Mosquito Control
Administration
Director
Deputy Director
Other _____

FOR YOUR FILES
R

Mr. Richard Walesky
Palm Beach County Environmental Resource Management
3323 Belevedere Road, Building 502
West Palm Beach, Florida 33406

Dear Mr. Walesky,

Thank you for your help with the management reviews of Juno Hills and Jupiter Ridge Natural Areas. The reviews were successful and we enjoyed getting to know the area. Please find enclosed the review team report for of Juno Hills and Jupiter Ridge Natural Areas. We have also sent copies to Burt Aaronson, Chair of the Palm Beach County Commission, and informed him that the review team findings should be incorporated into the management plan update for Jupiter Ridge and forthcoming management plan for Juno Hills. This report will also go to the Land Acquisition and Management Advisory Council (LAMAC) in July. If you have questions don't hesitate to call me (850-488-2725), Bill Howell or Amy Knight (850-487-1750).

Sincerely,

Robert R Clark

Robert Clark, Environmental Administrator
Division of State Lands

RC/ak

Enclosure

RECEIVED
JUN - 4 1998
ENVIRONMENTAL RESOURCE MGMT.

Land Management Review of Jupiter Ridge Natural Area, Palm Beach County (Lease No. 4004): April 16, 1998

Prepared by Division of State Lands Staff

Robert Clark, Program Administrator
William Howell, OMC Manager
Amy Knight, Planner

June 1, 1998

Management Review Team Members

Agency Represented	Team member appointed	Team member in attendance
DEP/DRP	Mr. J. B. Miller	Mr. J. B. Miller
DEP Southeast District	Mr. Herb Zebuth	Mr. Herb Zebuth
DACS/DOF	Mr. Jim Rath	Mr. Jim Rath
GFC	Mr. Frank Smith	Mr. Frank Smith
Soil and Water Conservation District	Mr. Patrick Martin (Palm Beach Co.)	none
County Commission	Mr. Richard Walesky (Dade Co.)	Mr. Richard Walesky
Conservation Organization	Mr. Jim Murrian (The Nature Conservancy)	none
Private Land Manager	Mr. Norman Haltrich	Mr. Norman Haltrich

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

Section 8 of CS/CS/HBs 1119 & 1577 (§259.036, F. S.) was enacted to determine whether conservation, preservation, and recreation lands owned by the state Board of Trustees of the Internal Improvement Trust Fund are being managed for the purposes for which they were acquired and in accordance with adopted land-management plans. It establishes land management review teams to evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, or archaeological features, and to evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land-management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, or if the managing agency fails to address the review findings in the updated management plan, the Department shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. No later than the second board meeting in October of each year, the Department shall report the annual review findings of its land management review team.

Review Site

The management review of Jupiter Ridge Natural Area considered approximately 253 acres in Palm Beach County that are managed by Palm Beach County. The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management concept. LAMAC approved the management plan on February 27, 1998 and the management plan update is due in February 2003.

Review Team Analysis

The management review checklist was analyzed as follows: The checklist consisted of two parts: a plan review section that answered whether or not the management plan sufficiently addressed protection/ restoration/ management needs for a series of items; and a field review section that scored to what extent sufficient management actions were being taken for a series of items. For each item in each section the scores for all team members were averaged. Some items received high scores ($\geq$ 2.5) in the field review, which indicates that exceptional management actions are being taken. These items are identified in the checklist results as "Exceptional" and are indicated with a plus (+) in the corresponding checklist (Attachment 1). Items for which the average score was low ($\leq$ 0.5 for plan review; $\leq$ 1.5 for field review) are identified as "Inadequate" in the checklist results, and indicated with a minus (-) in the corresponding checklist (Attachment 1).

Review Team Findings

Checklist results

Exceptional management actions		
I.A.1	Scrub	Management/protection of the scrub community is excellent.
I.A.2	Scrubby flatwoods	Management/protection of the scrubby flatwoods is excellent.
I.A.3	Depression marsh	Management/protection of depression marsh communities is excellent.
I.A.4	Tidal swamp	Management/protection of the tidal swamp community is excellent.
I.B.1.b	Gopher tortoise	Management/protection of gopher tortoises is exceptional.

I.C.1	Listed plant species management	Management/protection of listed plant species is exceptional.
I.C.2	Plants: inventory	The managing agency has done an outstanding job of locating and identifying plant species.
I.C.3	Plants: monitoring	The managing agency is doing an outstanding job of monitoring rare plant species.
III.A.1	Prescribed fire: area	The number of acres being burned through prescribed fire is excellent.
III.A.3	Prescribed fire: quality	The quality of prescribed burns for community maintenance and restoration is exceptional.
III.D.2.a	Non-native plants: control	The managing agency is doing an exceptional job of controlling non-native invasive plants.
III.F.1.b	Poaching: plants	The managing agency is doing an excellent job of controlling plant poaching.

Inadequate items

III.I.5	Funding	Additional funding for resource management should be provided.
V.3	Bicycling	The team found bicycling to be incompatible with the purpose for acquisition.

Recommendations to the managing agency

The following recommendations resulted from a discussion and consensus of review team members.

1. Palm Beach County should request that DEP/Division of State Lands (DSL) determine if the wetlands along the river (approx. 4 acres) immediately north of the natural area are state-owned. If DSL finds that this property is state-owned, the state should amend the lease to incorporate these acres.

2. The team recommends that state CARL management funds be provided to Palm Beach County so that management costs are shared by the county and the state.

The management plan must include responses to the checklist items and the recommendations that are identified above. The checklist items should be addressed in relation to the category(ies) in which they received a low score, e.g. whether the plan

sufficiently addressed protection/ restoration/ management needs, or whether sufficient management actions were being taken.

Is the land being managed for the purpose for which it was acquired?

After completing the checklist, team members were asked to answer "yes" or "no" to this question and given the opportunity to provide general comments. All team members agreed that Jupiter Ridge Natural Area is being managed for the purpose for which it was acquired.

Are actual management practices, including public access, in compliance with the management plan?

After completing the checklist, team members were asked to answer "yes" or "no" to this question and given the opportunity to provide general comments. All team members agreed that actual management practices, including public access, were in compliance with the management plan for this site. Individual team member comments are compiled in Attachment 2.

Management Review Checklist

Jupiter Ridge Natural Area Lease No. 4004

Instructions: Please take time to review the management plan and circle either "Yes" or "No" in the Plan Review section before the field trip. During and after the field review you will be asked to rank items in the checklist from 1 - 3 based on the following criteria: (1) = insufficient; (2) = sufficient; (3) = exceptional.

		Plan Review		Yes = 1 No = 0	Field Review			
		Does the management plan sufficiently address protection/restoration/ management needs?		score	To what extent are sufficient management actions being taken?			score
	I. Natural Resources							
	A. Natural Communitites							
+	1. Scrub	Yes	No	1.0	1	2	3	2.8
+	2. Scrubby flatwoods	Yes	No	1.0	1	2	3	2.7
	3. Xeric hammock	Yes	No	1.0	1	2	3	2.3
	4. Flatwoods	Yes	No	1.0	1	2	3	2.3
+	5. Depression marsh	Yes	No	1.0	1	2	3	2.5
+	6. Tidal swamp	Yes	No	1.0	1	2	3	2.7
	B. Animals							
	1. Listed species management							
	a. Indigo snake; FL scrub lizard	Yes	No	1.0	1	2	3	2.3
+	b. Gopher tortoise	Yes	No	1.0	1	2	3	2.7
	c. FL scrub jay	Yes	No	1.0	1	2	3	2.3
	d. Wading birds	Yes	No	1.0	1	2	3	2.2
	e. Manatee	Yes	No	1.0	1	2	3	2.2
	f. Neotropical migrants	Yes	No	1.0	1	2	3	2.3
	2. Inventory	Yes	No	1.0	1	2	3	2.0
	3. Monitoring	Yes	No	1.0	1	2	3	2.2
	C. Plants							
+	1. Listed species management	Yes	No	1.0	1	2	3	2.7
	Dancing-lady orchid; butterfly orchid Four-petal pawpaw; Pine pinweed; Perforate lichen; Brown-haired snoutbean; Curtiss' milkweed; Large-flowered rosemary Nodding pinweed; Scrub bay; Sand dune spurge Tiny milkwort; Banded wild pine + other wild pine species; rare ferns							
+	2. Inventory	Yes	No	1.0	1	2	3	2.6
+	3. Monitoring	Yes	No	1.0	1	2	3	2.6

Attachment 1

		Plan Review		Yes = 1 No = 0	Field Review			
		Does the management plan sufficiently address protection/restoration/ management needs?		score	To what extent are sufficient management actions being taken?			score
	II. Cultural Resources							
	A. Survey	Yes	No	1.0	1	2	3	2.2
	B. Protection	Yes	No	1.0	1	2	3	2.3
	III. Resource Management							
	A. Prescribed Fire (Nat. comm. maintenance)							
+	1. Area Being Burned (no. acres)	Yes	No	1.0	1	2	3	2.7
	2. Frequency	Yes	No	0.7	1	2	3	2.3
+	3. Quality	Yes	No	1.0	1	2	3	2.7
	B. Restoration of Disturbed Natural Communities							
	1. Mosquito ditches	Yes	No	1.0	1	2	3	2.3
	2. Spoil deposition area	Yes	No	1.0	1	2	3	2.4
	C. Wild Game Management **N/A**							
	1. Wildlife Habitat							
	2. Hunt Quality							
	D. Non-native Invasive Species							
	1. Animals							
	a. Control	Yes	No	1.0	1	2	3	2.2
	b. Monitoring	Yes	No	1.0	1	2	3	2.2
	2. Plants							
+	a. Control	Yes	No	1.0	1	2	3	2.5
	b. Monitoring	Yes	No	1.0	1	2	3	2.2
	E. Hydrologic/Geologic Function							
	1. Hydro-Alteration							
	a. Canals/ditches	Yes	No	1.0	1	2	3	2.0
	b. Soil erosion/disturbances	Yes	No	1.0	1	2	3	2.0
	c. Roads/culverts	Yes	No	1.0	1	2	3	2.0

		Plan Review		Yes = 1 No = 0	Field Review			
		Does the management plan sufficiently address protection/restoration/ management needs?		score	To what extent are sufficient management actions being taken?			score
	2. Ground Water Monitoring							
	a. Quality	Yes	No	0.8	1	2	3	1.7
	b. Quantity	Yes	No	1.0	1	2	3	1.7
	3. Surface Water Monitoring							
	a. Quality	Yes	No	0.8	1	2	3	1.8
	b. Quantity	Yes	No	1.0	1	2	3	2.2
	F. Unauthorized Uses							
	1. Poaching							
	a. Animals	Yes	No	1.0	1	2	3	2.2
+	b. Plants	Yes	No	1.0	1	2	3	2.5
	2. Vandalism	Yes	No	1.0	1	2	3	2.3
	3. Dumping	Yes	No	1.0	1	2	3	2.3
	G. Boundary Delineation	Yes	No	1.0	1	2	3	2.3
	H. Incompatible Adjacent Property Uses							
	1. Land use	Yes	No	1.0	1	2	3	2.2
	2. Storm water/effluent	Yes	No	1.0	1	2	3	2.2
	3. Inholdings/additions	Yes	No	1.0	1	2	3	2.3
	I. Adequate Resources							
	1. Maintenance							
	a. Waste removal	Yes	No	1.0	1	2	3	2.2
	b. Sanitary facilities	Yes	No	1.0	1	2	3	2.2
	2. Public Access							
	a. Roads	Yes	No	1.0	1	2	3	2.2
	b. Trails	Yes	No	1.0	1	2	3	2.3
	c. Parking	Yes	No	1.0	1	2	3	2.2
	3. Infrastructure							
	a. Buildings	Yes	No	1.0	1	2	3	2.2
	b. Equipment	Yes	No	1.0	1	2	3	2.2
	4. Staff	Yes	No	1.0	1	2	3	2.2
-	**5. Funding**	Yes	No	0.8	1	2	3	**1.0**
	IV. Education/Public Outreach	Yes	No	1.0	1	2	3	2.0

Purpose for which Land was Acquired				
		Are uses consistent with purposes for which property was acquired and other restrictions?		Yes = 1 No = 0 score
	V. Managed Area Uses			
	A. Existing Uses			
	1. Hiking	Yes	No	1.0
	2. Small watercraft access	Yes	No	1.0
	3. Scientific research	Yes	No	1.0
	4. Nature appreciation	Yes	No	1.0
	B. Additional Proposed Uses			
	1. Parking facility	Yes	No	1.0
	2. Nature trail	Yes	No	1.0
-	**3. Bicycling**	Yes	No	**0.3**
	4. Observation platform	Yes	No	1.0

Management Review Determination

Jupiter Ridge Natural Area Lease No. 4004

1. Is the land being managed for the purpose for which it was acquired? Yes No

Explanation_____

2. Are actual management practices, including public access, in compliance with the management plan? Yes No

Explanation_____

General comments_____

Review Team Comments

"Need signage for public access; this will assure that the public knows it is open state lands to public use. Excellent management plan. Excellent operational work being conducted. Endangered species surveys conducted and preserved; excellent for plants and animals on site."

"Create database for inventory and monitoring."

"Support state funding for land management."

"Need to prescribe burn more often. Pine flatwoods should be burned at least every 3 years; scrubby flatwoods should be burned on a 3 to 7 year rotation; scrub should be burned on a 7 to 25 year rotation. Initiate a drift net survey for herptiles; consider an overpass walkway across A1A connecting two tracts on the area. Develop an interpretive nature trail describing plant communities through which it passes. consider the use of Clivus Multram composting toilets for sanitary facilities. Place more emphasis on exotic plant control. Free up and relax public access to Jupiter ridge-- it is public property paid for by taxpayers: encourage reasonable public use!"

"Palm Beach County has been, and is doing, a good job of managing its natural areas."

APPENDIX F

INTERLOCAL AGREEMENT FOR

JUPITER RIDGE NATURAL AREA

CFN 20080220043
OR BK 22693 PG 0030
RECORDED 06/11/2008 13:46:38
Palm Beach County, Florida
Sharon R. Bock, CLERK & COMPTROLLE
Pgs 0030 - 70; (41pgs)

R2008 0405

INTERLOCAL AGREEMENT
BETWEEN
THE TOWN OF JUPITER, FLORIDA
AND
PALM BEACH COUNTY
FOR
THE MANAGEMENT OF THE JUPITER RIDGE NATURAL AREA

THIS AGREEMENT, made and entered into on this _____ day of MAR 11 2008, 2008, by and between the Town of Jupiter, a Florida municipal corporation (the "Town"), and Palm Beach County, Florida, a political subdivision of the State of Florida (the "County"), hereinafter referred to as "the parties."

WITNESSETH:

WHEREAS, on March 12, 1991, the voters of Palm Beach County approved a $100 million bond referendum for the acquisition of environmentally sensitive lands; and

WHEREAS, certain property known as the Jupiter Ridge Natural Area (the "Natural Area") is located within the Town of Jupiter and was designated as one of the high-priority sites to be acquired with funds from this bond referendum; and

WHEREAS, 195.38 acres of the Natural Area were purchased by the County and resold to the Board of Trustees of the Internal Improvement Trust Fund (BTIITF) of the State of Florida (the "State"); and

WHEREAS, on May 17, 1994, the County entered into a Lease Agreement (No. 4004, R94-604D) with the State to manage these 195.38 acres and the adjacent 32.64 acres of sovereign lands, for a term of 50 years; and

WHEREAS, on April 2, 1996, the County approved Amendment No. 1 to this Lease Agreement (R96-444D) to provide for County management of an additional 32.98-acre tract that had been purchased by the County and resold to the State; and

WHEREAS, on September 3, 1996, the County entered into an Interlocal Agreement with the Town (R96-1227D) to manage the Natural Area with the assistance of the Town; and

WHEREAS, on October 1, 1996, the County accepted a quit-claim deed from the John D. and Catherine T. MacArthur Foundation for a 6-acre tract of land adjacent to the Natural Area (5G-1); and

WHEREAS, on June 16, 1998, the County accepted a quit-claim deed from the Jupiter Yacht Club, Ltd. for a 1.68-acre tract of land adjacent to the Natural Area (3L-2); and

WHEREAS, on August 18, 1998, the County approved Amendment No. 2 to the Lease Agreement (R98-1241D), to provide for County management of an additional 2.72-acre tract of

state-owned lands (the above-cited Lease and Amendments 1 and 2 of said Lease are attached hereto as Exhibit "A"); and

WHEREAS, as a condition of development approval (Town Council R12-06, as R112-06), Tierra del Sol at Jupiter, LLC ("Tierra del Sol"), the owner of a property adjacent to the Natural Area, was required to: (1) donate a 0.99-acre preserve to the County; (2) provide $10,000 to the County's Natural Areas Stewardship Endowment Fund for the perpetual maintenance of the preserve; (3) grant the County a perpetual ingress and egress easement over a segment of the Riverwalk multiuse path ("Riverwalk") to provide vehicular access for maintenance activities on the preserve and the adjacent Natural Area; and (4) construct a segment of the Riverwalk within the Natural Area or provide sufficient funds for such construction; and

WHEREAS, on November 9, 2007, Tierra del Sol conveyed the perpetual ingress and egress easement over the segment of the Riverwalk on its property to the County, a legal description of which is attached as Exhibit "B"; and

WHEREAS, on January 25, 2008, Tierra del Sol conveyed the 0.99-acre preserve to the County, along with $10,000 for perpetual maintenance of the preserve; and

WHEREAS, the above-cited properties that are leased to or owned by the County and a 0.4-acre adjacent tract owned by the County have been included in and are managed as part of the Natural Area, which is legally described in Exhibit "C"; and

WHEREAS, the State has agreed to allow the construction of a segment of the Riverwalk multiuse path within the Natural Area as part of the expansion of public access and use facilities on the Natural Area, as documented in Exhibit "D", and this segment of the Riverwalk multiuse path is more particularly depicted/described in Exhibit "E"; and

WHEREAS, the County is willing to work with the Town to jointly oversee the construction of that segment of the Riverwalk multiuse path to be built within the Natural Area by Tierra del Sol and to manage the Natural Area in cooperation with the Town, and

WHEREAS, the Natural Area is a part of the Northeast Everglades Natural Area ("NENA") project, a cooperative effort to connect various natural areas and trail systems in northern Palm Beach and southern Martin Counties; and

WHEREAS, in order for NENA to succeed in converting a collection of natural areas, educational facilities, greenways and blueways into a destination, various management groups and governmental agencies must cooperate and form partnerships; and

WHEREAS, the County's Lease Agreement with the State, as amended, requires that a management plan (the "Management Plan" or the "Plan") be prepared for the Natural Area and updated periodically, and the County is currently working to update the Natural Area's Management Plan, which was approved by the State on February 27, 1998; and

WHEREAS, the County and the Town wish to enter into this Interlocal Agreement (the "Agreement") to establish use, management, and maintenance responsibilities for the expanded Natural Area and the segment of the Riverwalk to be constructed therein, and to reflect their commitment to promoting NENA; and

WHEREAS, this Agreement will become part of the updated Management Plan for the Natural Area; and

WHEREAS, this Agreement shall supersede in all respects that Interlocal Agreement previously entered into between the County and the Town on September 3, 1996 (R-96-1227D); and

WHEREAS, the Natural Area is of significant biological, environmental and educational value to the Town and the County, and it is in the best interests of the residents and citizens of the Town and the County for the Natural Area to be managed by the County in cooperation with the Town in order to preserve the site in its natural state with intact native Florida ecosystems for future generations; and;

WHEREAS, the Florida Interlocal Cooperation Act of 1969 (Section 163.01, Florida Statutes) allows governmental units to enter into intergovernmental agreements to make the most efficient use of their powers by enabling them to cooperate with each other on a basis of mutual advantage.

NOW, THEREFORE, in consideration of the mutual covenants, agreements and representations herein contained, and for other good and valuable consideration, the receipt and sufficiency of which the parties expressly acknowledge, the parties to this Agreement agree as follows:

ARTICLE I - IN GENERAL

1. The parties hereto acknowledge and agree that the WHEREAS clauses set forth above are true and correct, and are fully incorporated into this Agreement.

2. The County and the Town agree that the County, with the assistance of the Town, shall manage certain real property located within the corporate limits of the Town of Jupiter, Florida, known as the "Jupiter Ridge Natural Area", which real property is more particularly described in Exhibit "C" attached hereto and made a part hereof. The Town agrees to comply with the terms of the Lease Agreement, as amended (Exhibit "A") and to refrain from taking any action that interferes with or prevents the County from performing its obligations under the Lease, as amended.

3. The County shall manage the Natural Area in cooperation with the Town, in a manner that protects ecosystems and populations of listed species that exist in Palm Beach County and preserves the existing biological communities of the Natural Area in their natural state as examples of high-quality scrub, flatwoods, depression marsh, and tidal swamp ecosystems in Palm Beach County.

4. It is the intent of the parties that the Natural Area shall be used and managed solely as a nature preserve, to protect and enhance natural and historical resources, to provide scientific and educational benefits, and to provide passive, natural-resource-based recreational opportunities for residents of and visitors to the Town and the County that are compatible with the conservation, protection and enhancement of the Natural Area. The Natural Area shall be kept in its natural state, such that present and future generations may be able to experience the natural values currently exhibited on the Natural Area, acts of God or other events beyond the control of the County and the Town notwithstanding.

5. The parties shall use their best efforts to prevent the unauthorized use of the Natural Area or any use not compatible with the management of the site as a natural area or nature preserve, or any use not provided for in the Management Plan.

6. The Natural Area shall be open to the public. The locations of public access points and any restrictions on access shall be described in the Management Plan.

7. This Agreement shall be effective upon execution by both parties and shall continue until the Lease Agreement, as amended, is terminated, unless otherwise terminated as provided herein.

8. The County's performance and obligations under this Agreement and any amendment hereto are contingent upon an annual appropriation by the Board of County Commissioners. The Town's performance and obligations under this Agreement and any amendment hereto are contingent upon an annual appropriation by the Town Council.

9. If a party fails to fulfill its obligations under this Agreement or any amendment hereto in a timely and proper manner, the party not in default shall have the right to terminate the Agreement by giving written notice of the deficiency and the party's intent to terminate, if not corrected. The party in default shall then have sixty (60) days from receipt of notice to correct the stated deficiency. If the defaulting party fails to correct the deficiency within this time, and unless otherwise agreed by the parties, the party not in default may exercise the right to terminate the Agreement.

10. All formal notices between the parties shall be deemed received if hand-delivered or sent by certified mail, return receipt requested, to a party's designated contact person. Notices shall be deemed sufficient when addressed to the other party's contact person at the following address, with a copy to the below-cited counsel:

a. Town of Jupiter
Town Manager
210 Military Trail
Jupiter, Florida 33458

With copy to:
Thomas J. Baird
Town Attorney
11891 U. S. Hwy. One, Suite 100
North Palm Beach, Florida 33408

b. Palm Beach County
Department of Environmental Resources Management
2300 N. Jog Road – 4th Floor
West Palm Beach, Florida 33411-2743

With copy to:
County Attorney's Office, ERM Attorney
Palm Beach County
301 N. Olive Avenue, 6th Floor
West Palm Beach, Florida 33401

Should any party change its address or designated contact person, written notice of such change shall promptly be sent to the other party.

11. As a condition precedent to any party bringing a lawsuit for breach of this Agreement or any amendment thereto, that party must first notify the other party in writing of the nature of the purported breach and must seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually-acceptable method of nonbinding alternative dispute resolution with a qualified third party. The parties shall equally share the costs for dispute resolution services. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement or any amendment hereto. All negotiations held pursuant to this provision shall be confidential to the extent permitted by law.

12. Any costs or expenses (including reasonable attorney's fees) associated with the enforcement of the terms and conditions of this Agreement or any amendment thereto shall be borne by the respective parties--provided, however, that this clause pertains only to the parties to this Agreement.

13. This Agreement shall be recorded in the Public Records of Palm Beach County, Florida, as required by Chapter 163, Florida Statutes.

14. Any and all legal action to enforce this Agreement and any amendment thereto shall be brought in Palm Beach County, Florida. This Agreement and any amendment thereto shall be governed by the laws of the State of Florida. No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or further exercise thereof.

15. Each party to this Agreement shall be solely responsible for its own actions and negligence and, to the extent permitted by law, the County shall indemnify, defend and hold harmless the Town against all actions, claims or damages arising out of the County's negligence in connection with the Agreement and any amendment hereto, and the Town shall indemnify, defend and hold harmless the County against all actions, claims or damages arising out of the Town's negligence in connection with the Agreement and any amendment hereto. The foregoing indemnification shall not constitute a waiver of sovereign immunity beyond the limits set forth in Section 768.28, Florida Statutes, nor shall the same be construed to constitute agreement by either party for such other party's negligent, willful or intentional acts or omissions. This indemnification provision shall survive the termination or expiration of this Agreement.

16. Without waiving the right to sovereign immunity as provided by Section 768.28, Florida Statutes, the County and the Town acknowledge to be insured for General Liability and Automobile Liability under Florida sovereign immunity statutes with coverage limits of $100,000 Per Person and $200,000 Per Occurrence; or such monetary waiver limits that may change and be set forth by the Legislature. In the event the Town maintains third-party Commercial General Liability and Business Auto Liability in lieu of exclusive reliance on self-insurance under Section 768.28, Florida Statutes, the Town shall agree to maintain said insurance policies at limits not less than $500,000 combined single limit for bodily injury or property damage. The County and the Town agree to maintain or to be insured for Worker's Compensation & Employer's Liability insurance in accordance with Chapter 440, Florida Statutes. When requested, either party shall provide an affidavit or Certificate of Insurance evidencing insurance, insurance and/or sovereign immunity status, which the other party agrees to recognize as acceptable for the above-mentioned coverages. Compliance with the foregoing requirements shall not relieve the County or the Town of its liability and obligations under the Agreement or any amendments thereto.

17. The parties shall maintain, in accordance with generally-accepted governmental auditing standards, all financial and nonfinancial records and reports directly or indirectly related to the negotiation or performance of this Agreement or any amendment hereto, including supporting documentation for any service rates, expenses, research or reports. The parties shall have the right to examine in accordance with generally-accepted governmental auditing standards all records directly or indirectly related to this Agreement or any amendment thereto. Such examination may be made only upon reasonable notice, time and place. In the event the parties should become involved in a legal dispute with a third party arising from performance under this Agreement or any amendment hereto, the parties shall extend the period of maintenance for all records relating to this Agreement or any amendment hereto until the final disposition of the legal dispute, and all such records shall be made readily available to the other party.

18. The failure to insist on strict performance of or the waiver of any covenant, condition, or provision of this Agreement by any party shall not relieve the other party from performing any other obligation strictly in accordance with the terms of this Agreement. No waiver shall be effective unless in writing and signed by the party against whom enforcement is sought. Such waiver shall be limited to provisions of this Agreement specifically referred to

therein and shall not be deemed a waiver of any other provision. No waiver shall constitute a continuing waiver unless the writing states otherwise.

19. The captions and section designations herein set forth are for convenience only and shall have no substantive meaning.

20. In the event that any provision of this Agreement or any amendment hereto is held by a court of competent jurisdiction to be invalid or is otherwise unenforceable, such provision shall be deemed null and void and shall be severable but shall not invalidate any other provision of this Agreement or any amendment hereto.

21. This Agreement may only be amended by a written document executed by the parties.

22. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which shall constitute one and the same Agreement.

23. This Agreement shall be construed without regard to any presumption or other rule requiring construction against the party causing this Agreement to be drafted.

24. Nothing contained herein shall be deemed to authorize the delegation of the constitutional or statutory duties of state, County, or municipal officers.

25. The parties shall be considered independent contractors, and no party shall be considered an employee or agent of any other party. Nothing in this Agreement shall be interpreted to establish any relationship other than that of independent contractor between the parties and their respective employees, agents, subcontractors, or assigns during or after the performance of this Agreement.

26. The parties hereby assure that no person shall be excluded on the grounds of race, color, religion, sex, age, disability, marital status, sexual orientation, national origin or ancestry from participation in, denied the benefits of, or be otherwise subjected to discrimination in any activity under this Agreement.

27. The parties shall allow public access to all relevant documents and materials, in accordance with the provisions of Chapter 119, Florida Statutes. Should a party assert any exemptions to the requirements of Chapter 119 and related statutes, the burden of establishing such exemption, by way of injunctive or other relief as provided by law, shall be upon that party.

28. This Agreement represents the entire understanding between the parties, and supersedes all other negotiations, representations, or agreements, whether written or oral, relating to this Agreement.

ARTICLE II - JOINT RESPONSIBILITIES

29. The County and the Town shall jointly oversee the construction by Tierra del Sol of a segment of the Riverwalk within the Natural Area as part of the expansion of public use facilities on the site. The responsibilities of the County and the Town related to the construction, management and use of the Riverwalk and any associated security and public information facilities shall be included in the next scheduled update of the Management Plan.

30. The County and the Town shall ensure the safety of the public on the Natural Area segment of the Riverwalk and on the segment adjacent to the Natural Area when operating maintenance vehicles or equipment on these segments and when conducting a prescribed burn on the Natural Area. When operating maintenance vehicles or equipment on the Riverwalk, each party shall post a caution sign at the entrance to the Riverwalk at U.S. 1 and at the north end of the segment of the Riverwalk on the Natural Area to inform Riverwalk users that maintenance work is in progress and shall operate maintenance vehicles and equipment in a safe and careful manner. When conducting a prescribed burn on the Natural Area, the County and the Town shall ensure that the segments of the Riverwalk on and adjacent to the Natural Area are closed to public use, that the Natural Area is closed to public use, and that appropriate warning signs are posted at the entrance to the Riverwalk at U.S. 1 and at the north end of the segment of the Riverwalk on the Natural Area, at the main entrance to the Natural Area, and at any access points on the boundary of the Natural Area.

31. The County, in cooperation with the Town, shall manage the Natural Area for habitat preservation and passive recreation, keeping the property in its natural state except for the development and maintenance of fences, firebreaks, management roads, observation platforms, nature trails, hiking trails and other public use facilities and ongoing management activities appropriate for a nature preserve, as provided for and described in the Management Plan. Long-term management of the Natural Area shall be in accordance with the Management Plan and any updates thereto and shall include, but shall not be limited to, controlling invasive vegetation and exotic or nuisance animals, monitoring listed plant and animal species, and prescribed burning and other mechanical or chemical methods of maintaining healthy natural community structure and function. A detailed division of responsibilities for the management of the Natural Area shall be provided in the Management Plan.

32. Any signs, literature or advertising created by the County and/or the Town shall identify the Natural Area as being publicly-owned and operated as a passive, natural resource-based public outdoor recreational site.

33. The parties shall encourage students, residents and visitors to use the Natural Area for educational and passive recreational purposes.

34. Should any unforeseen events or activities, either natural or human-caused, severely limit or eliminate the natural values presently on the Natural Area, the future of the Natural Area will be jointly determined by the County and the Town.

ARTICLE III - RESPONSIBILITIES OF THE COUNTY

35. The County shall include all environmental centers and trails within the Town that fall within the NENA vision plan on any NENA literature it creates, with the intent of promoting tourism in the Town's natural areas, educational facilities and trails.

36. The County, in coordination with the Town, shall prepare and submit to the State a revised Management Plan every ten years, or as required by Chapter 234.035(5), Florida Statutes. The revised Management Plan shall meet all the requirements of the Lease Agreement, as amended, and all future amendments thereto and applicable state statutes. The County shall provide a draft of the revised Management Plan to the Town for review and comment prior to presentation of the draft revised Management Plan at a meeting of the County's Natural Areas Management Advisory Committee ("NAMAC"). The revised Management Plan shall be subject to approval by both the Palm Beach County Board of County Commissioners and the BTIITF (as delegated by the BTIITF to the state Acquisition and Restoration Council [ARC]). Any subsequent interim revisions made between scheduled revisions of the approved Management Plan shall be made in coordination with the Town.

37. The County shall apply for any applicable funds available from the State for management purposes, and shall attempt to minimize management costs through the involvement of volunteers.

38. The County shall comply with all requirements of the Lease Agreement (Exhibit "A"), as amended, and all future amendments thereto in its management of the Natural Area.

39. The County shall erect and maintain signs and/or monuments identifying the Natural Area as being open to the public, as having been purchased with funds from the State and the County, and as being managed by the County with the cooperation of the Town. Credit for the donation of portions of the Natural Area shall be given in the Management Plan and the educational materials prepared for the public.

40. The County shall secure the Natural Area with fencing, gates and signage to discourage unauthorized activities, such as the dumping of trash and off-road vehicle usage, while permitting public access to the Natural Area for passive recreational activities, environmental education and scientific research. The County shall maintain these fences, gates and signs.

41. Subject to a budget approved by the Palm Beach County Board of County Commissioners, the County shall construct, repair and maintain, and replace as needed certain physical improvements within the Natural Area to encourage public use of the Natural Area as a nature preserve, with the exception of the Riverwalk referenced in Article II – Joint Responsibilities, Paragraph 29 and Article IV – Responsibilities of the Town, Paragraph 51. Prior to construction, repair or replacement of the public use facilities, the County shall seek approval from the Town Council, as required by the Town Code. Such facilities may include, but are not limited to, a parking lot, hiking and interpretive trails, educational displays (kiosks

and informational signs), and a bicycle rack. The County shall use its best efforts to plan, construct and maintain these facilities, taking into primary consideration the sensitivity and needs of the biological communities and, secondarily, the intended research, educational and recreational uses of the Natural Area. The facilities shall be developed and operated in a manner that allows the general public reasonable access for observation and appreciation of the significant natural resources within the Natural Area without causing harm to those resources.

42. The County shall include in the Management Plan a provision that the segment of the Riverwalk to be constructed within the Natural Area shall be designated as a paved natural area access road under the provisions of the County's Natural Areas Ordinance (No. 94-13). The hours of use for this segment may be designated separately from the hours of use designated for the Natural Area.

43. The County shall maintain all trails, kiosks and other facilities constructed within the Natural Area, with the exception of the Riverwalk and associated facilities referenced in Article IV – Responsibilities of the Town, Paragraph 51).

44. The County shall prepare and maintain kiosk displays, trail guides, fact sheets, brochures and other educational materials describing the natural resources, uses, and joint management of the Natural Area.

45. The County shall manage the Natural Area in a manner that protects ecosystems and populations of listed species throughout the County.

46. The County shall identify a County employee as the contact person to interact with the Town in planning for and managing the Natural Area, to review requests to perform scientific research and other activities that may require a special permit, and to answer public inquiries about the Natural Area.

ARTICLE IV - RESPONSIBILITIES OF THE TOWN

47. The Town shall display the NENA logo on mutually-agreed-upon signage created by the County and/or the Town and shall provide, at a minimum, a location within the Town offices or the Jupiter Community Center, as appropriate, for the distribution of NENA literature.

48. The Town shall assume primary responsibility for public safety and law enforcement within the Natural Area.

50. The Town shall maintain the segments of the Riverwalk located within and immediately adjacent to the Natural Area during the term of this Agreement. The Town shall perform all maintenance and repair of the Riverwalk and associated infrastructure (e.g., bollard lighting, concrete multiuse path, fencing, signage, kiosk, etc.) and shall manage the public use of the Natural Area segment of the Riverwalk to prevent any damage to the Natural Area. The Town shall allow the County to operate maintenance vehicles on the Riverwalk as necessary to conduct management activities on the Natural Area.

51. The Town shall designate public uses of the Riverwalk segment of the Natural Area in order to ensure that the Riverwalk segment is safely shared and enjoyed by different user groups and that the Natural Area is protected from damage. Such uses shall be consistent with the provisions of the County's Natural Areas Ordinance.

52. The Town shall assist the County with volunteer activities and maintenance activities within the Natural Area, such as the removal of invasive vegetation, trash and debris, subject to the availability of Town funds, staff and equipment. The Town shall also assist the County with periodic prescribed burns at the Natural Area, in accordance with the Management Plan.

53. The Town shall review any draft revisions to the Management Plan, shall timely provide comments, if any, to the County, and shall comply with the Management Plan.

54. The Town shall expeditiously review, through appropriate Town departments and boards, any engineering design plans that include the Natural Area and require approval by the Town. Notwithstanding the foregoing, such expedited review of design plans or applications in no way implies or ensures a favorable review of such plans or applications. The Town also agrees, where possible, to waive any fees required for construction or management activity permits issued by the Town for the Natural Area.

55. In reviewing any proposed changes to, uses of, or activities on, real property immediately adjacent to the Natural Area, the Town shall consider the protection of the biological communities on the Natural Area and the potential for adverse impacts to the species present.

56. The Town shall identify a Town employee as the contact person to interact with the County in planning for and managing the Natural Area.

(The remainder of this page intentionally left blank)

WHEREFORE, the parties hereto have set their hands and seals on the day set forth next to their signatures.

R2008 0405

ATTEST:

PALM BEACH COUNTY, FLORIDA, BY ITS BOARD OF COUNTY COMMISSIONERS

Sharon R. Bock, Clerk & Comptroller

BY: _____
Deputy Clerk

DATE: MAR 11 2008

BY: _____
Addie L. Greene, Chairperson

DATE: MAR 11 2008

(SEAL)

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

BY: _____
Assistant County Attorney

DATE: 2/28/08

APPROVED AS TO TERMS AND CONDITIONS:

_____
Richard E. Walesky, Director
Palm Beach County Dept. of
Environmental Resources Management

ATTEST:

BY: _____
Sally M. Boylan, Town Clerk

DATE: 2/21/08

(SEAL)

TOWN OF JUPITER, FLORIDA, BY ITS COUNCIL

BY: _____
Karen J. Golonka, Mayor

DATE: 2/20/08

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

BY: _____
Thomas J. Baird, Town Attorney

DATE: February 21, 2008

OAL8102

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

LEASE AGREEMENT
JUPITER RIDGE NATURAL AREA

Lease No. 4004

THIS LEASE AGREEMENT, made and entered into this 15th day of June 1994. by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA hereinafter referred to as "LESSOR," and PALM BEACH COUNTY, hereinafter referred to as "LESSEE."

LESSOR, for and in consideration of mutual covenants and agreements hereinafter contained, does hereby lease to said LESSEE, the lands described in paragraph 2 below, together with the improvements thereon, and 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, Department of Environmental Protection

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

3. TERM: The term of this lease shall be for a period of fifty years commencing on June 15, 1994, and ending on June 14, 2044, unless sooner terminated pursuant to the provisions of this lease.

4. PURPOSE: LESSEE shall manage the leased premises only for the conservation and protection of natural and historical resources and for resource based public outdoor recreation which is compatible with the conservation and protection of these public lands, as set forth in subsection 253.023(11), Florida Statutes, along with other related uses necessary for the accomplishment of this purpose as designated in the Management 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 conformity with this lease.

7. 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.

8. MANAGEMENT PLAN: LESSEE shall prepare and submit a Management Plan for the leased premises in accordance with Chapters 18-2 and 18-4, Florida Administrative Code, within 12 months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the Management Plan is approved.

LESSEE shall provide LESSOR with an opportunity to participate in all phases of preparing and developing the Management Plan for the leased premises. The Management 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 applications, design or building contracts until the Management 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 Management Plan shall emphasize the original management concept as approved by LESSOR at the time of

acquisition which established the primary public purpose for which the leased premises were acquired. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by LESSEE and LESSOR at least every five (5) years. LESSEE shall not use or alter the leased premises except as provided for in the approved Management Plan without the prior written approval of LESSOR. The Management Plan prepared under this lease shall identify management strategies for exotic species, if present. The introduction of exotic species is prohibited, except when specifically authorized by the approved Management Plan.

9. EASEMENTS: All easements granted subsequent to the date of this lease including, but not limited to, utility easements are expressly prohibited without the prior written approval of LESSOR. Any easement not approved in writing by LESSOR shall be void and without legal effect.

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

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

12. 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.

13. INSURANCE REQUIREMENTS: During the term of this lease LESSEE shall procure and maintain policies of fire, extended risk, and liability insurance coverage. The extended risk and fire insurance coverage shall be in an amount equal to the full insurable replacement value of any improvements or fixtures located on the leased premises. The liability insurance coverage shall be in amounts not less than $100,000.00 per occurrence and $200,000.00 per accident for personal injury, death, and property damage on the leased premises. Such policies of insurance shall name LESSOR, the State of Florida and LESSEE as co-insureds. LESSEE shall submit written evidence of having procured all insurance policies required herein prior to the effective date of this lease and shall submit annually thereafter, written evidence of maintaining such insurance to the Bureau of Land Management Services, Mail Station #130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399. LESSEE shall purchase all policies of insurance from a financially-responsible insurer duly authorized to do business in the State of Florida. Any certificate of self-insurance shall be issued or approved by the Insurance Commissioner, State of Florida. The certificate of self-insurance shall provide for casualty and liability coverage. LESSEE shall immediately notify LESSOR and the insurer of any erection or removal of any building or other improvement on the leased premises and any changes affecting the value of any improvements and shall request the insurer to make adequate changes in the coverage to reflect the changes in value. LESSEE shall be financially responsible for any loss due to failure to obtain adequate insurance coverage, and the failure to maintain such policies or certificate in the amounts set forth shall constitute a breach of this lease.

14. LIABILITY: Each party is responsible for all personal injury and property damage attributable to the negligent acts or omissions of that party and the officers, employees and agents thereof. Nothing herein shall be construed as an indemnity or a waiver of sovereign immunity enjoyed by any party hereto, as

provided in Section 768.28, Florida Statutes, as amended from time to time, or any other law providing limitations on claims.

15. 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 ad valorem taxes and 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.

16. 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 or conditions, but the same shall continue in full force and effect, and no waiver of LESSOR of any 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.

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

18. 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.

19. 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 the utilities turned off when the leased premises are surrendered.

20. 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.

21. 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 during the term of this lease. 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 the provisions of Chapter 119, Florida Statutes.

22. CONDITION OF PREMISES: LESSOR assumes no liability or obligation to LESSEE with reference to the conditions of the leased premises. The leased premises herein are leased by LESSOR to LESSEE in an "as is" condition, with LESSOR assuming no responsibility for the care, repair, maintenance or improvement of the leased premises for the benefit of LESSEE.

23. 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.

24. 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 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: Department of Environmental Protection
Division of State Lands
Bureau of Land Management Services
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

LESSEE: Richard Walesky, Director
Palm Beach County Department of Environmental Resources Management
3111 South Dixie Highway, Suite 146
West Palm Beach, Florida 33405

COPY TO: Palm Beach County Attorney's Office
Governmental Center
301 N. Olive Avenue, Suite 601
West Palm Beach, Florida 33401
Attn: Heidi Juhl, Esq.

25. 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 (60) days of such notice. In the event

LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty (60) 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 and attorneys' fees or maintain this lease in full force and effect and exercise all rights and remedies herein conferred upon LESSOR.

26. 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 Florida Statutes, Chapter 376 and Chapter 403 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. This paragraph shall not be construed as a limitation upon LESSEE's obligations regarding indemnification and payment of costs and fees as set forth in Paragraph 14 of this lease, nor upon any other obligations or responsibilities of LESSEE as set forth herein. 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 period of the applicable agency.

27. 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, LESSEE shall give written notification to the Bureau of Land Management Services, Division of State Lands, Department of Environmental Protection, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399 at least six (6) months prior to the release of any or all 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 the 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 building on the leased premises shall be turned over to the Division. If the improvements do not meet all conditions as set forth in paragraphs 19 and 36 herein, LESSEE shall pay all costs necessary to meet the prescribed conditions.

28. BEST MANAGEMENT PRACTICES: LESSEE shall implement applicable Best Management Practices for all activities conducted under this lease in compliance with paragraph 18-2.004(1)(d), 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.

29. 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.

30. 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.

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

32. 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 Department of State, Division of Historical Resources. The Management Plan prepared pursuant to Chapters 18-2 and 18-4, Florida Administrative Code, 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.

33. SOVEREIGNTY SUBMERGED LANDS: This lease does not authorize the use of any lands located waterward of the mean or ordinary high water line of any lake, river, stream, creek, bay, estuary, or other water body or the waters or the air space thereabove.

34. DUPLICATE ORIGINALS: This lease is executed in duplicate originals each of which shall be considered an original for all purposes.

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

36. MAINTENANCE OF IMPROVEMENTS: LESSEE shall maintain the real property contained within the leased premises and the improvements located thereon, in a state of good condition, working order and repair including, but not limited to, keeping the leased premises free of trash or litter, meeting all building and safety codes in the location situated, maintaining the

planned improvements as set forth in the approved Management Plan and maintaining 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; provided, however, that any removal, closure, etc, of the above improvements shall be acceptable when the proposed activity is consistent with the goals of conservation, protection and enhancement of the natural and historical resources within the leased premises and with the approved Management Plan.

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

38. SIGNS: LESSEE shall ensure that the area is identified as being publicly owned and operated as a public outdoor recreational facility in all signs, literature and advertising and shall erect signs identifying the leased premises as being open to the public. If federal grants or funds are used by LESSEE for any project on the leased premises LESSEE shall erect signs identifying the leased premises as a federally assisted project.

39. 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.

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

Gloria Maddox
Witness
Gloria Maddox
Print/Type Witness Name

Odessa Hunter
Witness
Odessa Hunter
Print/Type Witness Name

By: _____ (SEAL)
CHIEF, BUREAU OF LAND MANAGEMENT SERVICES, DIVISION OF STATE LANDS DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 15th day of June 1994, by Daniel T. Crabb, Chief, Bureau of Land Management Services, Division of State Lands, Department of Environmental Protection, who is personally known to me and who did not take an oath.

(SEAL)

SYLVIA Y. SCOTT
MY COMMISSION # CC295550 EXPIRES
July 25, 1997
BONDED THRU TROY FAIN INSURANCE, INC.

Sylvia Y. Scott
Notary Public, State of Florida

Sylvia Y. Scott
Print/Type Notary Name

Commission Number: CC295550

My Commission Expires: July 25, 1997

Approved as to Form and Legality

By: _____
DEP Attorney

BOARD OF COUNTY COMMISSIONERS OF
PALM BEACH COUNTY, FLORIDA

Robert Johnson
Witness
ROBERT JOHNSON
Print/Type Witness Name

Sarah Wright
Witness
SARAH WRIGHT
Print/Type Witness Name

By: Mary McCarty (SEAL)
Its: Chair

R94-604 D MAY 17 1994

Approved as to Form and Legal Sufficiency

By: _____
County Attorney

DOROTHY H. WILKEN, CLERK
Board of County Commissioners
By _____
DEPUTY CLERK

BOARD OF COUNTY COMMISSIONERS PALM BEACH COUNTY FLORIDA

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 17th day of May 1994, by Mary McCarty, as _____, Board of County Commissioners of Palm Beach County, Florida, who is/are personally known to me and who did (did not) take an oath.

Willa Oswalt
Notary Public, State of Florida

Willa Oswalt
Print/Type Notary Name

Commission Number: 364437

My Commission Expires:

(SEAL)

BOARD OF COUNTY COMMISSIONERS PALM BEACH COUNTY FLORIDA

WILLA OSWALT
COMMISSION # CC364437
EXPIRES MAY 6, 1998
BONDED THRU
ATLANTIC BONDING CO., INC.

LEGAL DESCRIPTION OF THE LEASED PREMISES

PARCEL I

LANDS LYING IN PALM BEACH COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

GOVERNMENT LOTS 6, 7, AND 8 IN SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST; THE SOUTH 889.40 FEET OF GOVERNMENT LOT 8 AND ALL OF GOVERNMENT LOTS 9, 11, 12, 13, 14 AND 15 IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST; GOVERNMENT LOTS, 3, 4, 9 AND 10 IN SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AND GOVERNMENT LOTS 3 AND 4 IN SECTION 18, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AS SAID GOVERNMENT LOTS ARE SHOWN ON SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

LESS THE RIGHT-OF-WAY OF STATE ROAD 5, ALSO KNOWN AS U.S. HIGHWAY 1, AS CONVEYED TO THE STATE OF FLORIDA IN DEED BOOK 1116, PAGE 256, AND AS LAID OUT AND IN USE; AND

FURTHER LESS THAT PART OF SAID GOVERNMENT LOT 9 LYING EAST OF THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 5; AND

FURTHER LESS ANY PORTION OF ABOVE DESCRIBED LANDS LYING WEST OF THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGES 4 AND 5; AND

FURTHER LESS THE NORTH 250 FEET OF THE WEST 310 FEET OF GOVERNMENT LOT 3 OF SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

PARCEL II

THAT PART OF SECTIONS 7 AND 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, BOUNDED AS FOLLOWS: ON THE EAST BY THE WESTERLY LINES OF GOVERNMENT LOTS 11 AND 12 OF SAID SECTION 8; ON THE SOUTH BY THE NORTHERLY LINE OF GOVERNMENT LOT 7, IN SAID SECTION 7; ON THE WEST BY THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGE 4; AND ON THE NORTH BY THE SOUTH LINE OF THOSE LANDS IN SAID SECTION 7 DESCRIBED IN FINAL JUDGEMENT IN FAVOR OF PALM BEACH COUNTY RECORDED IN OFFICIAL RECORDS BOOK 2157, PAGE 1952, SAID NORTH LINE BEING FURTHER DESCRIBED AS FOLLOWS: COMMENCE AT A CONCRETE MONUMENT STAMPED ICW AND BEING A POINT ON THE SOUTH END OF BULKHEAD NO. 5 ACCORDING TO PLAT BOOK 28, PAGES 134 THROUGH 142 INCLUSIVE AND THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY ACCORDING TO PLAT BOOK 17, PAGE 4 ALL OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE NORTH 11°25'06" EAST ALONG SAID EAST RIGHT-OF-WAY LINE, A DISTANCE OF 1105.90 FEET TO A CONCRETE MONUMENT STAMPED ICW AS SHOWN ON SAID PLAT AND BEING THE WEST END OF THE HEREIN DESCRIBED NORTH LINE; THENCE SOUTH 85°47'45" EAST, A DISTANCE OF 258.90 FEET TO A POINT ON THE WESTERLY LINE (ALSO THE MOST NORTHERLY CORNER) OF SAID GOVERNMENT LOT 11 AND BEING THE EAST END OF THE HEREIN DESCRIBED NORTH LINE.

LESS GOVERNMENT LOTS 6 AND 8 IN SAID SECTION 7 AND GOVERNMENT LOTS 13, 14 AND 15 IN SAID SECTION 8, AS SAID LOTS ARE SHOWN ON SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

ATL8101

R96 444 D

APR 02 1996

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

AMENDMENT NO. 1 TO LEASE NUMBER 4004

JUPITER RIDGE NATURAL AREA

THIS LEASE AMENDMENT is entered into this 6th day of May 1996, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter referred to as "LESSOR", and PALM BEACH COUNTY, FLORIDA, hereinafter referred to as "LESSEE";

W I T N E S S E T H

WHEREAS, LESSOR, by virtue of Section 253.03, Florida Statutes, holds title to certain lands and property for the use and benefit of the State of Florida; and

WHEREAS, on June 15, 1994, LESSOR and LESSEE entered into Lease No. 4004;

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased property;

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. The legal description of the leased premises set forth in Exhibit A of Lease No. 4004 is hereby amended to include the real property described in Exhibit "A", a copy of which is attached hereto and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease No. 4004 except as amended hereby, shall remain unchanged and in full force and

effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

IN WITNESS WHEREOF, the parties have caused this Lease Amendment 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

Tara Hayes
Witness

Tara Hayes
Printed or Typed Name

Tara Hayes
Witness

Tara Hayes
Printed or Typed Name

By: Daniel T. Crabb (SEAL)
CHIEF, BUREAU OF LAND MANAGEMENT SERVICES, DIVISION OF STATE LANDS, DEPARTMENT OF ENVIRONMENTAL PROTECTION

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 3rd day of May 1996 by Daniel T. Crabb, as Chief, Bureau of Land Management Services, Division of State Lands, 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, who is personally known to me.

Gloria H. Maddox
Notary Public, State of Florida
Printed, typed or stamped name: Gloria H. Maddox

(SEAL)

Commission No. _____

My Commission Expires:

Approved as to Form and Legality

By: Lucy L. Hope
DEP Attorney

BOOK 1865 PAGE 186

R96 4440

BOARD OF COUNTY COMMISSIONERS

OF PALM BEACH COUNTY

Joan Haverly
Witness

Joan Haverly
Printed or Typed Name

April C. Smith
Witness

APRIL C. SMITH
Printed or Typed Name

By: _____ (SEAL)

Its: CHAIR APR 02 1996

R96 444 D

"LESSEE"

DOROTHY H. WILKEN, CLERK
Board of County Commissioners

By _____
DEPUTY CLERK

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 2nd day of April, 1996 by Ken Foster, as Chairman, for and on behalf of the Board of County Commissioners of Palm Beach County, Florida. He/she is personally known to me.

My Commission Expires:

WILLA OSWALT
COMMISSION # CC 364437
EXPIRES MAY 6, 1998
ATLANTIC BONDING CO., INC.

_____
Notary Public, State of Florida
Printed, typed or stamped name:

Commission No. _____

My Commission Expires:

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

_____
COUNTY ATTORNEY

BOOK 1865 PAGE 187

R96 444D

THIS DOCUMENT WAS PREPARED BY
AND RETURN TO:

JUL-12-1995 3:21PM 95-219799
ORB 8828 Pg 1629

Heidi Juhl
Assistant County Attorney
301 N. Olive Avenue, Suite 601
West Palm Beach, FL 33401

COUNTY DEED

THIS DEED, made this 5th day of July, A.D. 1995, by PALM BEACH COUNTY, FLORIDA, a political subdivision of the State of Florida, Grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OFTHE STATE OF FLORIDA, located at c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Blvd., Mail Station 115, Tallahassee, FL, 32399-3000, Grantee.

WITNESSETH: That Grantor, for and in consideration of the sum of $10.00 to it in hand paid by Grantee, receipt whereof is hereby acknowledged, has granted, bargained and sold to Grantee, its successors and assigns forever, the following described land lying and being in Palm Beach County, Florida:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF;

Together with all of the Grantor's interest relating to timber rights, water rights, mineral and oil/gas rights; streams, canals, ditches and other water bodies; alleys, roads, streets and easements included within the above-described lands or providing access to the above-described lands.

NOTE: The Grantee, by acceptance of this deed, intends that all reservations in favor of the Grantee in prior deeds of record be merged in the fee simple title vested in Grantee and thereby extinguished by this conveyance.

IN WITNESS WHEREOF, Grantor has caused these presents to be executed in its name by its Board of County Commissioners acting by the Chairperson or Vice-Chairperson of said Board, the day and year aforesaid.

(OFFICIAL SEAL)

R94 50 -D

ATTEST:
DOROTHY H. WILKEN, Clerk

By: Tina M. Blair
Deputy Clerk
P.O. Box 1989
West Palm Beach, FL 33402-1989

PALM BEACH COUNTY, FLORIDA
BY ITS BOARD OF COUNTY COMMISSIONERS

By: _____
Chairperson
P.O. Box 1989
West Palm Beach, FL 33402-1989

JUL 05 1995

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

By _____
County Attorney
P.O. Box 1989
West Palm Beach, FL 33402-1989

APPROVED BY BOARD OF COUNTY COMMISSIONERS, PALM BEACH COUNTY, ON JANUARY 18, 1994 BY RESOLUTION NO. R-94-50

By: _____
Assistant County Attorney
P.O. Box 1989
West Palm Beach, FL 33402-1989

BOOK 1865 PAGE 188

R96 444 D

ORB 8828 Pg 1630

EXHIBIT "A"

LEGAL DESCRIPTION OF THE PROPERTY

ALL THAT PART OF GOVERNMENT LOT 7, LYING WEST OF THE RIGHT-OF-WAY OF STATE ROAD NO. 5 AND ALL THAT PART OF GOVERNMENT LOT 8, LYING WEST OF THE RIGHT-OF-WAY OF SAID STATE ROAD NO. 5 AND LYING NORTH OF THE SOUTH 889.40 FEET THEREOF, SAID LOTS BEING SITUATED IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

BOOK 1865 PAGE 189 R96 444D

ATL1

R98 1241D AUG 18 1998

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT

TRUST FUND OF THE STATE OF FLORIDA

AMENDMENT NUMBER 2 TO LEASE NUMBER 4004

THIS LEASE AMENDMENT is entered into this 30th day of September, 1998, by and between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, hereinafter roferred to as "LESSOR" and PALM BEACH COUNTY,FLORIDA, hereinafter referred to as "LESSEE";

W I T N E S S E T H

WHEREAS, LESSOR, by virtue of Section 253.03, Florida Statutes, holds title to certain lands and property for the use and benefit of the State of Florida; and

WHEREAS, on June 15, 1994, LESSOR and LESSEE entered into Lease Number 4004; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add submerged lands to the leased property.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the parties hereto agree as follows:

1. The legal description of the leased premises set forth in Exhibit "A" of Lease Number 4004 is hereby amended to include the submerged lands described in Exhibit "A," attached hereto, and by reference made a part hereof.

2. It is understood and agreed by LESSOR and LESSEE that in each and every respect the terms of the Lease Number 4004 except as amended shall remain unchanged and in full force and effect and the same are hereby ratified, approved and confirmed by LESSOR and LESSEE.

IN WITNESS WHEREOF, the parties have caused this Lease

Amendment 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

By: _____ (SEAL)
DANIEL T. CRABB, CHIEF,
BUREAU OF PUBLIC LAND
ADMINISTRATION, DIVISION
OF STATE LANDS, DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Print/Type Witness Name

"LESSOR"

Witness

Print/Type Witness Name

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 30th day of September, 1998, by Daniel T. Crabb, as Chief, Bureau of Public Land Administration, Division of State Lands, 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. He is personally known to me.

Notary Public, State of Florida

OFFICIAL NOTARY SEAL
PATRICIA TOLODAY
COMMISSION NUMBER
CC545665
MY COMMISSION EXPIRES
APR. 18,2000

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: _____
DEP Attorney

PALM BEACH COUNTY, FLORIDA
By Its Board of County Commissioners

AUG 18 1998

Carla Valcarcel
Witness

By: _____ (SEAL)

Carla Valcarcel
Print/Type Witness Name

Chairman Burt Aaronson
~~Chairman Burt Aaronson~~
Print/Type Name

Stephanie Carrillo
Witness

Title: _____

STEPHANIE CARRILLO
Print/Type Witness Name

"LESSEE"

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

R98 1241D

_____
County Attorney

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this AUG 18 1998 day of _____, 1998, by Burt Aaronson, as Chairman, for and on behalf of the Board of County Commissioners of Palm Beach County, Florida. He/she is personally known to me.

_____
Notary Public, State of Florida

Willa Oswalt
Commission # CC 729238
Expires May 6, 2002
BONDED THRU
ATLANTIC BONDING CO., INC.

_____
Print/Type Notary Name

Commission Number:

Commission Expires:

DOROTHY H. WILKEN, *CLERK*
Board of County Commissioners
By _____
DEPUTY CLERK

EXHIBIT A
LEGAL DESCRIPTION

SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST, THAT PART OF SUBMERGED LANDS IN GOVERNMENT LOT 1 LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER (LESS R/W INTRACOASTAL WATERWAY) & TRIANGLE PART OF WESTERLY 12.63 FEET NORTH OF 329.69 OF THAT PART OF GOVERNMENT LOT 3 SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER.

"GRANTOR PROPERTY"

A PARCEL OF LAND LYING IN THE SOUTH 549.10 FEET OF GOVERNMENT LOT 3, SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE INTERSECTION OF THE SOUTH LINE OF SAID GOVERNMENT LOT 3 AND THE WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5 (U. S. HIGHWAY ONE) AS RECORDED IN ROAD PLAT 2, PAGE 110, PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE N89°06'33"W ALONG SAID SOUTH LINE OF GOVERNMENT LOT 3 (BEARING BASIS), 31.69 FEET ; THENCE N22°53'15"W, 60.28 FEET; THENCE N89°06'33"W, 232.94 FEET; THENCE N28°15'11"W, 126.53 FEET; THENCE N22°53'15"W, 234.52 FEET; THENCE N02°57'48"W, 123.19 FEET; THENCE N45°00'00"W, 25.70 FEET; THENCE N89°06'33"W, 49.23 FEET TO THE INTERSECTION WITH THE GOVERNMENT MEANDER LINE (AS SURVEYED IN 1855); THENCE N16°08'47"W ALONG SAID MEANDER LINE, 29.29 FEET TO THE INTERSECTION WITH THE NORTH LINE OF THE SOUTH 549.10 FEET OF SAID GOVERNMENT LOT 3; THENCE S89°06'33"E ALONG SAID NORTH LINE, 98.23 FEET; THENCE S02°57'48"E, 163.11 FEET; THENCE S22°53'15"E, 228.96 FEET; THENCE S28°15'11"E, 100.84 FEET; THENCE S60°50'25"E, 18.15 FEET; THENCE S89°06'33"E, 227.74 FEET TO THE INTERSECTION WITH SAID WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5; THENCE S22°53'15"E ALONG SAID WEST RIGHT-OF-WAY LINE, 87.60 FEET TO THE POINT OF BEGINNING.

CONTAINING 23,113 SQUARE FEET, MORE OR LESS.

LEGAL DESCRIPTION OF JUPITER RIDGE NATURAL AREA

PROPERTIES LEASED FROM THE STATE OF FLORIDA

PARCEL I

LANDS LYING IN PALM BEACH COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

GOVERNMENT LOTS 6, 7, AND 8 IN SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST; THE SOUTH 889.40 FEET OF GOVERNMENT LOT 8 AND ALL OF GOVERNMENT LOTS 9, 11, 12, 13, 14 AND 15 IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST; GOVERNMENT LOTS 3, 4, 9 AND 10 IN SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AND GOVERNMENT LOTS 3 AND 4 IN SECTION 18, TOWNSHIP 41 SOUTH, RANGE 43 EAST; AS SAID GOVERNMENT LOTS ARE SHOWN ON SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

LESS THE RIGHT-OF-WAY OF STATE ROAD 5, ALSO KNOWN AS U.S. HIGHWAY 1, AS CONVEYED TO THE STATE OF FLORIDA IN DEED BOOK 1116, PAGE 256, AND AS LAID OUT AND IN USE; AND

FURTHER LESS THAT PART OF SAID GOVERNMENT LOT 9 LYING EAST OF THE EAST RIGHT-OF-WAY LINE OF STATE ROAD 5; AND

FURTHER LESS ANY PORTION OF ABOVE DESCRIBED LANDS LYING WEST OF THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGES 4 AND 5; AND

FURTHER LESS THE NORTH 250 FEET OF THE WEST 310 FEET OF GOVERNMENT LOT 3 OF SECTION 17, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

PARCEL II

THAT PART OF SECTIONS 7 AND 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, BOUNDED AS FOLLOWS: ON THE EAST BY THE WESTERLY LINES OF GOVERNMENT LOTS 11 AND 12 OF SAID SECTION 8; ON THE SOUTH BY THE NORTHERLY LINE OF GOVERNMENT LOT 7 IN SAID SECTION 7; ON THE WEST BY THE EASTERLY RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGE 4; AND ON THE NORTH BY THE SOUTH LINE OF THOSE LANDS IN SAID SECTION 7 DESCRIBED IN FINAL JUDGEMENT IN FAVOR OF PALM BEACH

COUNTY RECORDED IN OFFICIAL RECORDS BOOK 2157, PAGE 1952, SAID NORTH LINE BEING FURTHER DESCRIBED AS FOLLOWS: COMMENCE AT A CONCRETE MONUMENT STAMPED ICW AND BEING A POINT ON THE SOUTH END OF BULKHEAD NO. 5 ACCORDING TO PLAT BOOK 28, PAGES 134 THROUGH 142 INCLUSIVE AND THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY ACCORDING TO PLAT BOOK 17, PAGE 4 ALL OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE NORTH 11°25'06" EAST ALONG SAID EAST RIGHT-OF-WAY LINE, A DISTANCE OF 1105.90 FEET TO A CONCRETE MONUMENT STAMPED ICW AS SHOWN ON SAID PLAT AND BEING THE WEST END OF THE HEREIN DESCRIBED NORTH LINE; THENCE SOUTH 85°47'45" EAST, A DISTANCE OF 258.90 FEET TO A POINT ON THE WESTERLY LINE (ALSO THE MOST NORTHERLY CORNER) OF SAID GOVERNMENT LOT 11 AND BEING THE EAST END OF THE HEREIN DESCRIBED NORTH LINE.

LESS GOVERNMENT LOTS 6 AND 8 IN SAID SECTION 7 AND GOVERNMENT LOTS 13, 14, AND 15 IN SAID SECTION 8, AS SAID LOTS ARE SHOWN ON SUPPLEMMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925.

ABOVE DESCRIBED PARCEL II IS ALSO KNOWN AS THAT PORTION OF MAINTENANCE SPOIL AREA 607, AS DESCRIBED IN GRANT RECORDED IN DEED BOOK 523, PAGE 340, LYING EAST OF THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY, AS SAID RIGHT-OF-WAY LINE IS SHOWN ON PLAT IN PLAT BOOK 17, PAGE 4; LESS THAT PART ABUTTING ON GOVERNMENT LOT 1 IN SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

ALL THAT PART OF GOVERNMENT LOT 7, LYING WEST OF THE RIGHT-OF-WAY OF STATE ROAD NO. 5 AND ALL THAT PART OF GOVERNMENT LOT 8, LYING WEST OF THE RIGHT-OF-WAY OF SAID STATE ROAD NO. 5 AND LYING NORTH OF THE SOUTH 889.40 FEET THEREOF, SAID LOTS BEING SITUATED IN SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA.

SECTION 7, TOWNSHIP 41 SOUTH, RANGE 43 EAST, THAT PART OF SUBMERGED LANDS IN GOVERNMENT LOT 1 LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER (LESS R/W INTRACOASTAL WATERWAY) & TRIANGLE PART OF WESTERLY 12.63 FEET OF THE NORTHERLY 329.69 FEET OF THAT PART OF GOVERNMENT LOT 3 SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST LYING WESTERLY OF MEANDER HIGH WATER LINE OF JUPITER RIVER.

PROPERTIES NOT SUBJECT TO LEASE

THAT PART OF GOVERNMENT LOT 7 IN SECTION 7; GOVERNMENT LOT 10 IN SECTION 17 AND GOVERNMENT LOTS 3 AND 4 IN SECTION 18, ALL IN TOWNSHIP 41 SOUTH, RANGE 43 EAST, AS SAID GOVERNMENT LOTS ARE SHOWN ON

SUPPLEMENTAL PLAT OF A PORTION OF TOWNSHIP 41 SOUTH, RANGE 43 EAST, APPROVED BY THE U.S. SURVEYOR GENERAL FOR FLORIDA ON MARCH 14, 1925, WHICH LIE EASTERLY OF THE CENTERLINE OF THE INTRACOASTAL WATERWAY AND WESTERLY OF THE EASTERLY RIGHT OF WAY LINE THEREOF, AS SAID CENTERLINE AND RIGHT OF WAY LINE ARE SHOWN ON PLAT IN PLAT BOOK 17, PAGES 4 AND 5.

7-41-43, S 40 FT OF N 1734.84 FT OF TH PT OF NE ¼ LYG ELY OF & ADJ THERETO E R/W LI OF INTRACOASTAL

A PARCEL OF LAND LYING WITHIN TRACT M-1, ACCORDING TO THE PLAT OF THE RIDGE AT THE BLUFFS, AS RECORDED IN PLAT BOOK 05, PAGES 47 THROUGH 58, IN AND FOR THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF LOT 431, ACCORDING TO THE PLAT OF THE RIDGE AT THE BLUFFS AFORESAID; (THE NORTHERLY LINE OF SAID LOT 431 IS ASSUMED TO BEAR NORTH 87°57'07" WEST AND ALL OTHER BEARINGS ARE RELATIVE THERETO), THENCE NORTH 02°02'53" EAST, A DISTANCE OF 15.75 FEET TO A POINT; THENCE SOUTH 87°57' 07" EAST, PARALLEL WITH THE NORTHERLY LINE OF SEASHORE DRIVE, A DISTANCE OF 91.23 FEET TO A POINT; THENCE SOUTH 29°03'06" EAST, A DISTANCE OF 18.39 FEET TO A POINT; THENCE NORTH 87°57'07" WEST, ALONG SAID NORTHERLY LINE OF SEASHORE DRIVE, A DISTANCE OF 100.73 FEET TO THE POINT OF BEGINNING.

A PARCEL OF LAND LYING IN THE SOUTH 549.10 FEET OF GOVERNMENT LOT 3, SECTION 8, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE INTERSECTION OF THE SOUTH LINE OF SAID GOVERNMENT LOT 3 AND THE WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5 (U.S. HIGHWAY ONE) AS RECORDED IN ROAD PLAT 2, PAGE 110, PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; THENCE N89°06'33"W ALONG SAID SOUTH LINE OF GOVERNMENT LOT 3 (BEARING BASE), A DISTANCE OF 31.69 FEET TO THE POINT OF BEGINNING; THENCE N22°53'15"W ALONG A LINE 29.00 FEET WEST OF AND PARALLEL TO SAID WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 5, 60.28 FEET; THENCE N89°06'33"W, 232.94 FEET; THENCE N28°15'11"W, 126.53 FEET; THENCE N22°53'15"W, 234.52 FEET; THENCE N02°57'48"W, 123.19 FEET; THENCE N45°00'00"W, 25.70 FEET; THENCE N89°06'33"W, 49.23 FEET TO THE INTERSECTION WITH THE GOVERNMENT MEANDER LINE (AS SURVEYED IN 1855); THENCE S16°08'47"E ALONG SAID MEANDER LINE, 545.02 FEET TO THE INTERSECTION WITH SAID SOUTH LINE OF GOVERNMENT LOT 3; THENCE S89°06'33"E ALONG SAID SOUTH LINE, 329.71 FEET TO THE POINT OF BEGINNING.

Florida Department of
Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ENV. RES. MGMT.
Env. Enh. & Restoration ☐
Natural Resources Stewardship ☑ Kay
Resources Protection ☐
Mosquito Control ☐
Finance & Support Services ☐
Director ☐
Deputy Director ☐
Other_____ ☐

April 9, 2007

Mr. Richard Walesky, Director
Palm Beach County
Department of Environmental Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, Florida 33411-2743

Re: Jupiter Ridge Natural Area Lease #4004

Dear Mr. Walesky:

The Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approves the location and construction of the 300-foot long segment of the Jupiter Riverwalk on a portion of the Jupiter Ridge Natural Area.

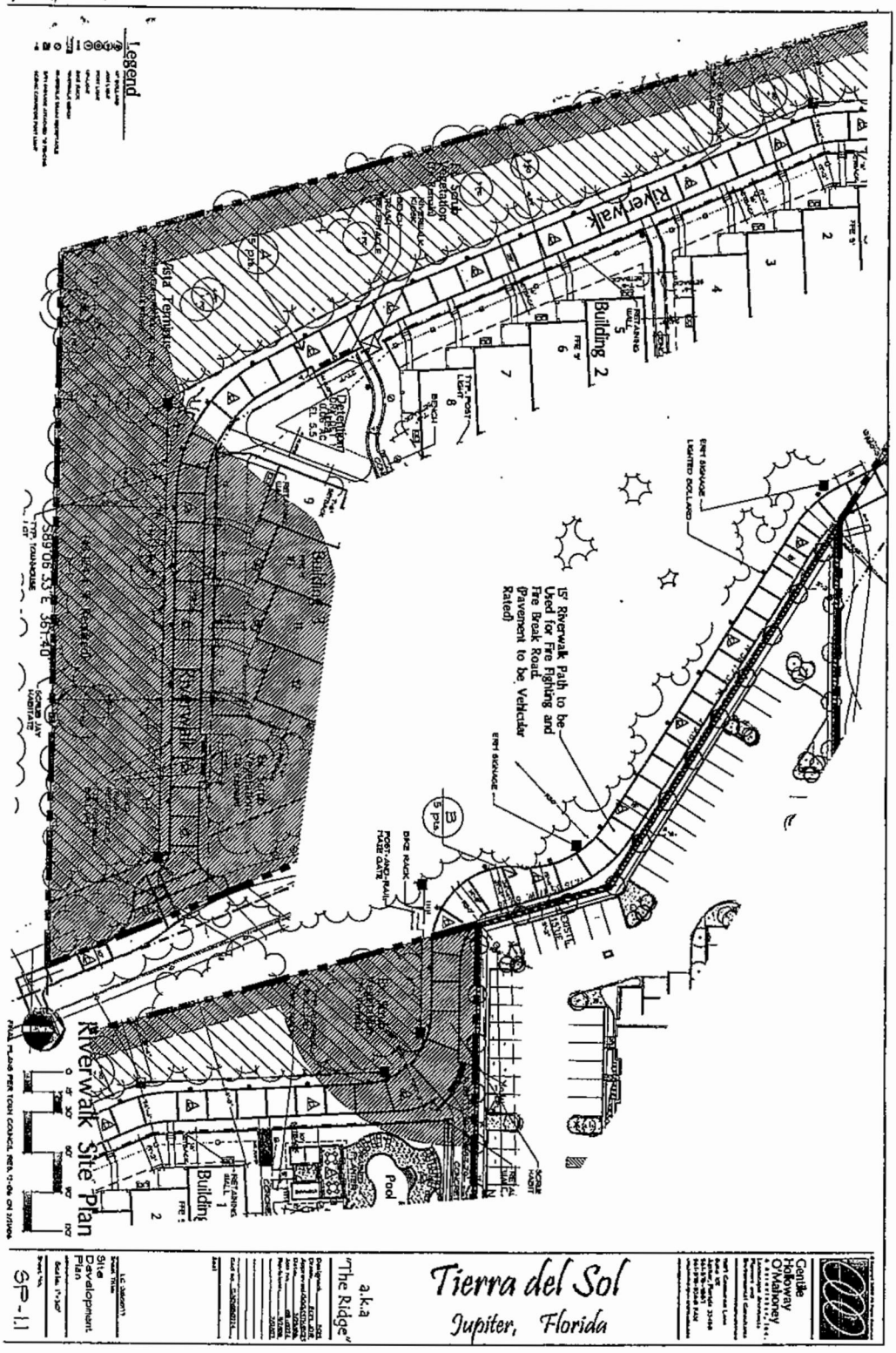
Approval of this construction project does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by the management plan may require a permit or other authorization from federal and state agencies 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,

Paula L. Allen
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

RECEIVED
APR 11 2007
ENVIRONMENTAL RESOURCES MANAGEMENT

Exhibit "E"



STATE OF FLORIDA, COUNTY OF PALM BEACH
I, SHARON R. BOCK, Clerk and Comptroller
certify this to be a true and correct copy of the original
filed in my office on March 11, 2008
dated at West Palm Beach, FL on March 11, 2008
By: Diane Brown
Deputy Clerk

APPENDIX G

FIRE MANAGEMENT PLAN FOR

JUPITER RIDGE NATURAL AREA

APPENDIX G
FIRE MANAGEMENT PLAN FOR JUPITER RIDGE NATURAL AREA

This plan contains generalized procedures that apply to all burns conducted on Jupiter Ridge Natural Area (natural area) (also see Section 4.5.1 of the natural area management plan). Prescribed burn units (burn units) are typically equivalent to the site's management units (see Figure 5 of the natural area management plan). A prescribed burn plan shall be prepared for each burn unit during the burn planning process.

1. GOALS

The primary goal of the prescribed burn program is to reintroduce fire to the coastal strand, depression marsh, mesic flatwoods, scrub, and scrubby flatwoods natural communities at a frequency and intensity that will maintain these communities in various stages of maturity within the natural area. Ideally, the prescribed fire will be allowed to burn in a "patchy" fashion to mimic natural fire patterns. The resulting patchwork of burned and unburned areas within a burn unit will produce a mosaic of vegetation, thereby maximizing diversity within and among communities. This will provide habitat for species which typically use, or may even be restricted to, communities in a particular state of maturity. Additional goals related to the reintroduction of fire include: 1) improving habitat for plant and animal species, including listed species that depend upon fire-maintained communities; 2) helping to control invasive/non-native vegetation; and 3) reducing fuel loads to prevent catastrophic wildfires. Unit-specific goals will be established as part of each burn prescription including a desired percent consumption of ground cover and understory, and acceptable percent crown scorch and consumption.

2. GENERAL PROCEDURES

The Incident Command System is used on all prescribed burns. This system uses a pre-established chain-of-command to ensure that all communications and activities related to the prescribed burn are conducted in an organized manner. Since the Incident Command System is used by Palm Beach County Fire-Rescue and the Florida Department of Agriculture and Consumer Services' Florida Forest Service (FFS), staff from these agencies can easily assist during a prescribed burn if additional personnel are needed.

2.1 Personnel

The Palm Beach County Department of Environmental Resources Management (ERM) will provide the personnel necessary to conduct prescribed burns. Additional personnel may be requested from Palm Beach County Fire-Rescue, Palm Beach County Parks and Recreation Department, FFS, the Florida Park Service, the Florida Fish and Wildlife Conservation Commission, and trained volunteers.

Each burn team will be headed by an Incident Commander (IC) who will supervise the prescribed burn. The IC will receive authorization from FFS for any prescribed burn, oversee the burn, and make final decisions and adjustments during the burn. The IC, who may be assisted by staff, will prepare the prescribed burn plan, conduct pre-burn coordination with other agencies and homeowners' groups, make crew assignments and coordinate communications.

2.2 Equipment

ERM will provide the equipment necessary to conduct prescribed burns. All burn crew shall wear Nomex fire-resistant outer clothing, leather lace-up boots with non-slip soles, fire-resistant gloves, a plastic firefighter's helmet and eye protection, and shall carry an emergency fire shelter and personal drinking water. All crew members have been issued radios for communication during burns. A first-aid kit shall be kept in each truck.

ERM also will supply 4-wheel-drive pickup trucks (equipped with water tanks, pumps, and hoses), all-terrain vehicles, round-point shovels, fire rakes, fire flaps and drip torches for crew use during the prescribed fire. Other fire-suppression equipment such as tractor-mounted plow units, pumper trucks and fire engines may be supplied by assisting agencies.

2.3 Pre-burn Activities:

- Prepare specific burn prescription plan for each burn unit
- Complete pre-burn notifications
- Establish perimeter firebreaks
- Inspect burn unit to identify potentially hazardous areas or species protection needs
- Assemble and inspect necessary equipment
- Make burn crew assignments
- Prepare maps and materials for pre-burn briefing
- Notify local agencies, officials, adjacent residents and businesses
- Arrange for law enforcement and backup assistance, if necessary
- Monitor weather forecasts as the proposed burn day approaches

2.4 Burn Day Activities:

- Obtain burn authorization from FFS
- Mobilize burn crew and equipment
- Notify adjacent residents and others who have requested prior notification of the burn
- Post burn notices on site and on adjacent highways and other roads, as needed
- Obtain weather forecast for burn unit and other information necessary to determine that burn parameters will comply with prescription
- Coordinate with Palm Beach County Sheriff's Office to have deputies notify visitors to the natural area of the need to leave the site because of the pending burn
- Conduct pre-burn safety and ignition plan briefing for burn team

- Monitor weather forecasts and record on-site weather data
- Conduct test fire; conduct main burn if test fire is successful
- Mop-up and extinguish hot spots

2.5 Post-burn Activities:

- Monitor burn for rekindling of fire
- Remove burn notice signs
- Conduct post-burn review and briefing
- Evaluate burn for success in meeting environmental objectives; conduct post-burn monitoring at regular intervals
- Evaluate burn plan and burn crew for areas of improvement

3. FIRE MANAGEMENT PRESCRIPTION PREPARATION

A burn prescription will be developed for each burn unit prior to conducting a prescribed burn within that unit. The burn prescription is a carefully prepared legal document that provides strategies for reintroducing fire to the natural area in the safest manner possible. Preparation of the fire prescription involves the consideration of several factors, including, but not limited to:

- Size, location and boundaries of the burn unit
- Topography and soils of the burn unit
- Habitat type, density and crown height
- Fuel load
- Proximity of smoke-sensitive areas and any precautions taken to avoid impacts to adjacent communities, businesses and public infrastructure
- Weather-related conditions, including Dispersion Index, Drought Index, temperature, wind speed and relative humidity
- Fire behavior, including fire methods, desired behavior and outcome
- Post burn evaluations
- Fine fuel moisture
- Staffing and equipment availability
- Time needed to complete the burn
- Specific goals and objectives

APPENDIX H

FLORIDA NATURAL AREAS INVENTORY LETTER AND REPORT FOR JUPITER RIDGE NATURAL AREA

FLORIDA
Natural Areas
INVENTORY

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

January 5, 2021

Allison Sauve Spall
Department of Environmental Resources Management
Palm Beach County
2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411

Dear Ms. Spall,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). At your request we have produced the following report for your project area.

The purpose of this Standard Data Report is to provide objective scientific information on natural resources located in the vicinity of a site of interest, in order to inform those involved in project planning and evaluation. This Report makes no determination of the suitability of a proposed project for this location, or the potential impacts of the project on natural resources in the area.

Project: Jupiter Ridge Natural Area

Date Received: 12/22/2020

Location: Palm Beach County

Based on the information available, this site appears to be located on or very near a significant region of scrub habitat, a natural community in decline that provides important habitat for several rare species within a small area.

Element Occurrences

A search of our maps and database indicates that we currently have many element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

Federally Listed Species

Our data indicate federally listed species are present on or very near this site, specifically four-petal pawpaw (*Asimina tetramera*), tiny polygala (*Polygala smallii*), perforate reindeer lichen (*Cladonia perforata*) (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The element occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Florida Resources
and Environmental
Analysis Center

Institute of Science
and Public Affairs

The Florida State University

*Several of the species and natural communities tracked by the Inventory are considered **data sensitive**. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

CLIP

The enclosed map shows natural resource conservation priorities based on the Critical Lands and Waters Identification Project. CLIP is based on many of the same natural resource data developed for the Florida Forever Conservation Needs Assessment, but provides an overall picture of conservation priorities across different resource categories, including biodiversity, landscapes, surface waters, and aggregated CLIP priorities (that combine the individual resource categories). CLIP is also based primarily on remote sensed data and is not intended to be the definitive authority on natural resources on a site.

For more information on CLIP, visit http://www.fnai.org/clip.cfm .

Managed Areas

Portions of the site appear to be located within the Jupiter Ridge Natural Area, managed by Palm Beach County.

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are

designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. **The maps contain sensitive environmental information, please do not distribute or publish without prior consent from FNAI.** FNAI data may not be resold for profit.

Thank you for your use of FNAI services. If I can be of further assistance, please contact me at (850) 224-8207 or at kbrinegar@fnai.fsu.edu.

Sincerely,

Kerri Brinegar

Kerri Brinegar
GIS / Data Services

Encl

Jupiter Ridge Natural Area

Site boundaries are approximate.

Palm Beach County

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FLORIDA Natural Areas INVENTORY

CLIP v4.0 Resource Priorities

Biodiversity Resource Category

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Landscape Resource Category

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

Surface Water Resource Category

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

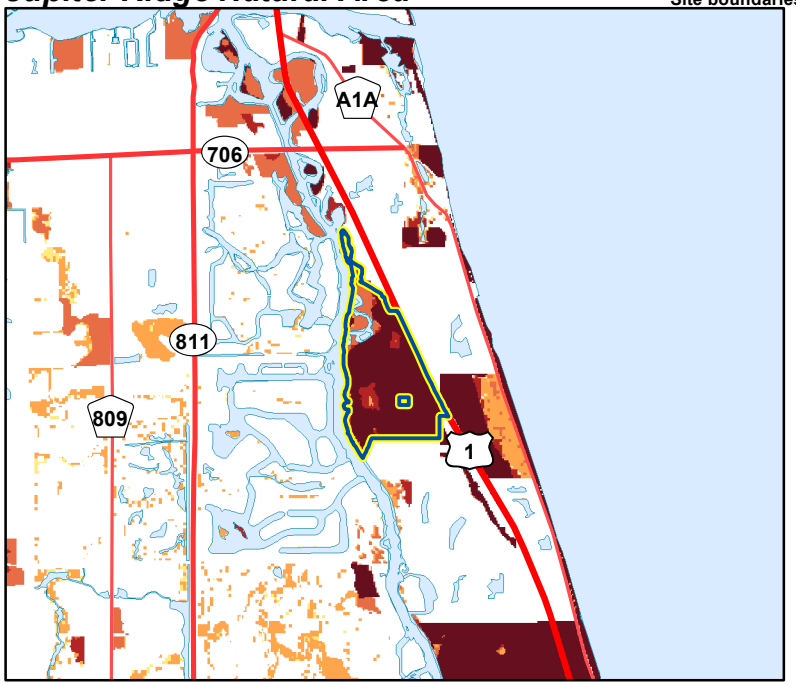
Aggregated CLIP Priorities

- Priority 1 - highest
- Priority 2
- Priority 3
- Priority 4
- Priority 5

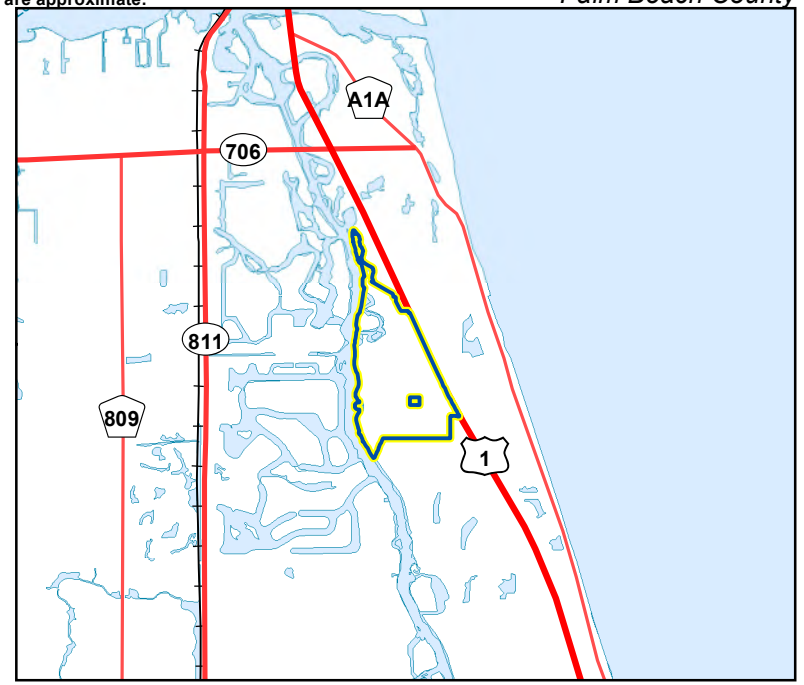
- Site Boundary

Map should not be interpreted without accompanying documents.

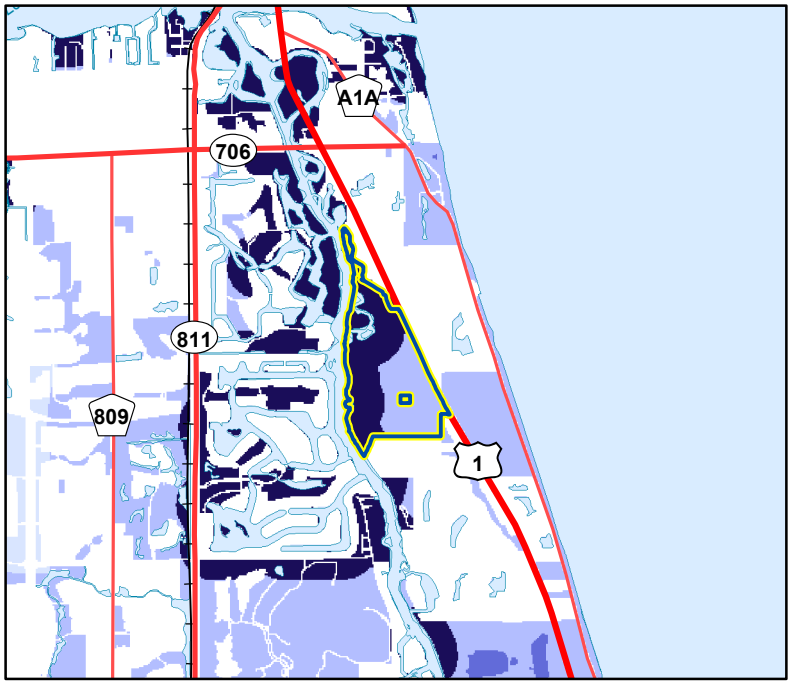
Critical Lands and Waters Identification Project (CLIP) is a cooperative effort between the FSU Florida Natural Areas Inventory, UF Center for Landscape Conservation Planning, and FL Fish & Wildlife Conservation Commission, with additional funding from FL Dept of Environmental Protection and US Fish & Wildlife Service.



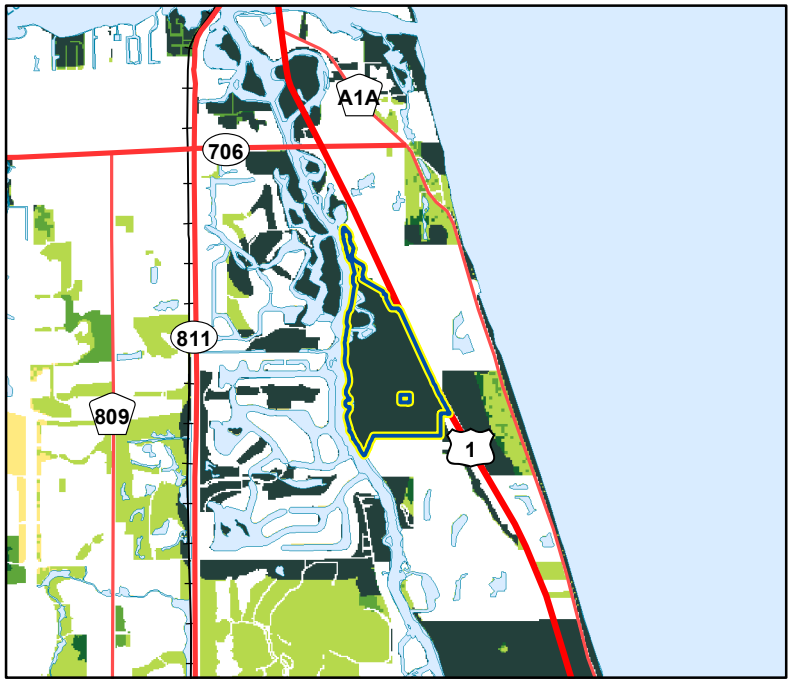
CLIP Biodiversity Resource Priorities



CLIP Landscape Resource Priorities



CLIP Surface Water Resource Priorities



CLIP Aggregated Resource Priorities

0 0.5 1 2 3 4 Miles

Map produced by KAB
1/5/2021

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Florida Natural Areas Inventory

Managed Area Element Summary

Jupiter Ridge Natural Area

SCIENTIFIC NAME	COMMON NAME	Global rank	State rank	Federal status	State status
PLANTS					
Asimina tetramera	four-petal pawpaw	G1	S1	E	E
Chamaesyce cumulicola	sand-dune spurge	G2	S2	N	E
Cladonia perforata	perforate reindeer lichen	G1	S1	E	E
Conradina grandiflora	large-flowered rosemary	G3	S3	N	T
Lechea cernua	nodding pinweed	G3	S3	N	T
Lechea divaricata	pine pinweed	G2	S2	N	E
Polygala smallii	tiny polygala	G1	S1	E	E
Tillandsia flexuosa	banded wild-pine	G5	S3	N	T
Tolumnia bahamensis	dancing-lady orchid	G3	S1	N	E
REPTILES					
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Sceloporus woodi	Florida Scrub Lizard	G2G3	S2S3	N	N

Note: *Summary includes all documented and likely species occurrence records currently in the FNAI database.*

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FNAI ELEMENT OCCURRENCE REPORT on or near

Jupiter Ridge Natural Area

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
APHECOER* (X)415	*Aphelocoma coerulescens*	Florida Scrub-Jay	G2?	S2	T	FT	2017	2008: 205 acres of scrub and scrubby flatwoods (N09PAL01FLUS). 1988-08-03: sand pine scrub, mostly mature pines except for east-central portion burned 10-15 years ago (F88FAR12FLUS)..	Extirpated in 2018 (U18AUD01FLUS); last known breeding pair was seen in 2016 and 1 bird in 2017 (U18AUD01FLUS). Various documentations of jays since 1987 (F87JOH13FLUS) with the most being 6 family groups in 1993 (Iverson in N09PAL01FLUS) and 13 birds in at least 3 family groups in 1988 (F88FAR12FLUS).
APHECOER* (X)424	*Aphelocoma coerulescens*	Florida Scrub-Jay	G2?	S2	T	FT	1989-10	1989: SCRUB (.730).	Jays have been extirpated from Palm Beach County as of 2018 and from this site at an earlier unknown date (U18AUD01FLUS). 1989-10: 3 BIRDS SEEN (U91COX01FLUS).
APHRSTAT*10	*Aphrissa statira*	Statira	G5	S2S3	N	N	2011-09-29	2011-09-29: These sites are along the Intracoastal Waterway. There is scrub and mangrove habitat along the shoreline trail, and the conservation land is being restored (F11EDW01FLUS). 2008-06-21: This EO is based on butterfly count data collected in a 15-mile diameter circle that is generally urbanized, although the specific sites where butterflies were seen are more natural. Because it was a count, there is no habitat description provided for the sites.	2011-09-29: Five adults seen at Jupiter Ridge Natural Area (F11EDW01FLUS). 2008-06-21: A total of 34 adults were seen among three sites during the 2008 North American Butterfly Palm Beach North Count (F11EDW01FLUS).
BEACDUNE*82	Beach dune		G3	S2	N	N	1999	FAIRLY WIDE, POSSIBLY RENOURISHED. SOME DUNE FORMATION AT BASE OF STEEP RISE TO ROAD. SEA OATS DOMINANT, PASPALUM, BEACH ELDER, AND SEA PURSLANE FAIRLY COMMON. PATCHY REMIREA. MARITIMA.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1990-04-13) (U05FNA02FLUS).

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
BEACDUNE*83	Beach dune		G3	S2	N	N	1999	FOREDUNE AREA BACKED BY AUSTRALIAN PINE - PARKING LOT, BATH HOUSES, AND PLAYGROUND BUILT WHERE STRAND WOULD BE.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1990-04-13) (U05FNA02FLUS). SEA OATS (UNIOLA PANICULATA) PLUS BEACH ELDER (IVA IMBRICATA) CACTUS (OPUNTIA STRICTA), STINGING NETTLE (CNIDOSOCOLUS STIMULOSUS) AND BEACH STAR (REMIREA MARITIMA).
CARECARE*2	*Caretta caretta*	Loggerhead Sea Turtle	G3	S3	T	FT	2012	Atlantic Coast beaches and dunes. Some beaches are adjacent to dense development whereas others lie within managed natural areas.	Nesting beaches of the Southeast Florida genetic subunit as defined by Shamblin et al. (2011) (A11SHA01FLUS). This includes all observed and likely habitat from Hutchinson Island south to Key Biscayne. From 2008-2012, the surveyed beaches had annual nesting densities ranging from 2.69 to 948.71 nests per km; nesting density was highest near the middle of the occurrence on beaches near Jupiter and Tequesta (U13FWC01FLUS).
CHAMCUMU*25	*Chamaesyce cumulicola*	sand-dune spurge	G2	S2	N	E	1993-11-15	Scrub.	150+/- flowering and fruiting plants over 20+/- acres.
CLADPERF*23	*Cladonia perforata*	perforate reindeer lichen	G1	S1	E	E	2020-05-08	Coastal scrub	2020: Over 8600 plants estimated, persisting mostly in small clumps of 10-20 plants but with a few clumps of 1000s. 2009: estimated population of thousands of individual thalli. 2005: 2 permanent sampling stations surveyed, 59 lichen clusters recorded at southern transect, 768 clusters at northern transect (N09PAL01FLUS). 2003: 5000+ INDIVIDUALS ON APPROX 5 ACRES (PNDFAR01FLUS). 1995-05-22: SMALL POPULATION IN OPENINGS
COASSTRA*46	Coastal strand		G3	S2	N	N	1999	NONE GIVEN.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-05-17) (U05FNA02FLUS). SEA GRAPE ON CLIFF FACE ABOVE BEACH AND SERENOA REPENS ON CREST. A STAND AT THE N END OF THE PARK INCLUDES LIVE OAK AND WHITE INDIGO BERRY. (SEE U91COX01 FOR COMPLETE PLANT LIST - OVER 50 SPECIES.)

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
COASSTRA*81	Coastal strand		G3	S2	N	N	1999	DENSE SHRUBS 10-12' HIGH ON W SIDE A1A DROPPING TO 7-5' E OF A1A. MOSTLY TROPICAL SPECIES. VINES ABUNDANT. CASUARINA FOREST TO WEST.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1990-04-13) (U05FNA02FLUS). EUGENIA FOETIDA-ABUNDANT; CHIOCOCCA ALBA-A; RANDIA PUNCTATA-A; METOPIUM TOXIFERUM-OCCASIONAL. COCCOLOBA UVIFERA-A; PARTHENOCISSUS QUINQUEFOLIA-A; SOPHORA TOMENTOSA-RARE; SERENOA REPENS-LOCALLY ABUNDANT.
CONRGRAN*12	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1988-01	WOODED DUNE W/ SAND PINE & SCRUB OAKS IN WHITE SAND.	SCRAGGLY SHRUBS IN UNDERSTORY,TO 1 M TALL. IN FLOWER ON 4-21-62. CALYX TO 7.5 MM LONG. COROLLA LAVENDER W/ MAGENTA SPOTS. LEAVES STRONGLY REVOLUTE, WHITE CANESCENT BELOW. ALSO REPORTED BY POPENOE (1981) B81POP01.
CONRGRAN*42	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1988-06-14	OPEN SCRUB. DOMINATED BY DWARFED OAKS, LOW SAND PINES WITH SCATTERED ROSEMARY BALDS AND GRASSY AREAS (SEE MAP ATTACHED) MOSTLY IN W. CENTRAL PORTION OF SCRUB.	SOME PLANTS FLOWERING. OVER 500 PLANTS.
CONRGRAN*46	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1988-08-09	DENSE OAK SCRUB WITH LITTLE OPEN GROUND EXCEPT UNDER SAND PINES IN N. SECTOR. BISECTED BY COMMERICAL DEVELOPMENT. SEE MAP ATTACHED.	20 PLANTS SEEN OVER CA. 1 ACRE AREA-NOT FLOWERING.
CONRGRAN*47	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	2003	1993: sand pine scrub, mostly mature pines except for east central portion burned 10 to 15 years age (F94PAL01).	2003: population estimate for entire site is 100 plants. ERM staff recorded 76 plants in southeastern portin of the property (N09PAL01FLUS). 1993-06-11: 50 plants over about 5 acres. Plants under mature sand pines with open scrub understory. Not in FL or FR (F88FAR12). Approximately 1000 plants scattered over approximately 200 acres (F94PAL01).

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
CONRGRAN*48	*Conradina grandiflora*	large-flowered rosemary	G3	S3	N	T	1993-06-11	DWARFED SCRUB OAK AND SCRUBBY FLATWOODS WITH SLASH PINE OVERSTORY.	75 PLANTS OVER ABOUT 50 ACRES. SEE MAP ATTACHED. PLANTS IN FLOWER (F88FAR13). APPROXIMATELY 125 FLOWERING PLANTS OVER 15 ACRES (F94PAL01).
DERMCORI*1	*Dermochelys coriacea*	Leatherback Sea Turtle	G2	S2	E	FE	2012	Atlantic coast beaches and dunes.	Observed and likely nesting beaches from Georgia border to Cape Florida. Between 2008-2012, the surveyed beaches had annual nesting densities ranging from 0.03 to 20.75 nests per kilometer (U13FWC01FLUS). Nesting densities are highest on beaches in the vicinity of Jupiter.
DS*19467	*Data Sensitive Element*	Data Sensitive	G1	S1	E	E	2006	Data Sensitive	Data Sensitive
DS*22173	*Data Sensitive Element*	Data Sensitive	G1	S1	E	E	2006-07-19	Data Sensitive	Data Sensitive
DS*2359	*Data Sensitive Element*	Data Sensitive	G3	S1	N	E	1991-06-25	Data Sensitive	Data Sensitive
DS*26230	*Data Sensitive Element*	Data Sensitive	G1	S1	E	E	1988-08-09	Data Sensitive	Data Sensitive
DS*26231	*Data Sensitive Element*	Data Sensitive	G1	S1	E	E	2009-02-10	Data Sensitive	Data Sensitive
DS*7816	*Data Sensitive Element*	Data Sensitive	G1	S1	E	E	2009-12-30	Data Sensitive	Data Sensitive
DS*8627	*Data Sensitive Element*	Data Sensitive	G5	S3	N	T	2006	Data Sensitive	Data Sensitive
GLANMARI*41	*Glandularia maritima*	coastal vervain	G3	S3	N	E	1933-05-12	BEACH.	MUSEUM SPECIMEN: FLOWERING AND FRUITING; COLLECTED BY E. WEST 12 MAY 1933, UF #20979.
GOPHPOLY*364	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	1988-06-14	OPEN SCRUB, DOM. IN DIFFERENT AREAS BY DWARFED OAKS, LOW SAND PINES, ROSEMARY BALD AND GRASSY AREAS. DISTURBANCE INCLUDES DUMPING, OLD ORV TRAILS, ARTIFICIAL WETLANDS & SPOIL PILES.	50 ACTIVE BURROWS SEEN, RANGE IN SIZE FROM SMALL TO LARGE.
GOPHPOLY*557	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	2009-02-10	Dwarf oak scrub	1988: 1 tortoise; 2009: 1 burrow documented

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Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*558	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	2005	1988-08-03: sand pine scrub, mostly mature pines except for east-central portion burned 10-15 years ago (F88FAR12FLUS).	2005: 47 active and 29 inactive burrows observed in six transects across approximately 17% of the site. Using these data and 0.614 conversion factor, population estimate for the site is 47 animals (N09PAL01FLUS). 1988-08-03: One animal seen, plus numerous tracks and burrows. see attached map (F88FAR12FLUS).
GOPHPOLY*578	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	ZZ	No general description given	SPEC. (UM-106316), COLLECTOR N/A, DATE N/A.
GOPHPOLY*690	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	C	ST	1989-10	OCCURS WITH SCRUB (.730).	No EO data given
HALILEUC*1432	*Haliaeetus leucocephalus*	Bald Eagle	G5	S3	N	N	2003	2005-07-12: Source does not provide a description.	Nest status: Active, 2003, 2002, 2001, 2000, 1999;(U03FWC01FLUS)
JACQRECL*13	*Jacquemontia reclinata*	beach jacquemontia	G1	S1	E	E	2017-07-12	Coastal strand	The species was reported present in 1991 (U91COX01FLUS). 21 plants observed in 2006 (U08FTG01FLUS). At least 4 counted in 2017 (F18SUR02FLUS).
LECHCERN*149	*Lechea cernua*	nodding pinweed	G3	S3	N	T	2006-11	2006-11-00: abundant in open areas of disturbed scrub (N09PAL01FLUS). 1993-11-15: Scrub.(F94PAL01FLUS).	2006-11-00: On a one-day survey staff counted 2,200 individuals over 70% of the property and estimated population to be over 3,100 for the entire Jupiter Ridge Natural Area (N09PAL01FLUS). 1993-11-15: 500+/- fruiting plants over 200+/- acres.(F94PAL01FLUS).
LECHDIVA*9	*Lechea divaricata*	pine pinweed	G2	S2	N	E	2008	2008: plants in open sandy areas in scrub (N09PAL01FLUS). 1993-06-11: Scrub dominated by sand pine and oaks; grades into scrubby flatwoods (F94PAL01FLUS).	2008: 14 plants on west side of property along intracoastal waterway, south of Florida Power and Light Access Road (N09PAL01LFUS). 1993-06-11: 150+/- flowering plants over approximately 30 acres (F94PAL01FLUS).
LITHCAPI*72	*Lithobates capito*	Gopher Frog	G2G3	S3	N	N	1996	1996: ATLANTIC RIDGE COASTAL SCRUB; EPHEMERAL SANDY MARGIN DEPRESSION MARSHES ON-SITE MAY SERVE AS BREEDING SITES. 2003: xeric oak scrub with sand live and myrtle oaks, saw palmetto, and hog plum (U03GRI01FLUS). Immediately bordered on north by intensive development.	Ca. 1996: Griffiths observed one frog at tortoise burrow during rain (U03GRI01FLUS). MAY 1991: ORZELL OBSERVED ONE FROG AT ENTRANCE TO GOPHER TORTOISE BURROW FOLLOWING HEAVY MORNING RAIN (P91ORZ01FLUS).

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FNAI ELEMENT OCCURRENCE REPORT on or near

Jupiter Ridge Natural Area

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
MARIHAMM*14	Maritime hammock		G3	S2	N	N	1999	SEE ALSO PALM-4 IN U90JOH03 FOR MORE DESCRIPTIVE DATA.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-07-17) (U05FNA02FLUS). VERY FINE HAMMOCK. NATIVE PLANTS NOTED IN THE HAMMOCK INCLUDE: GUAPIRA DISCOLOR, DRYPETES LATERIFLORA, CITHAREXYLUM FRUTICOSUM, COCCOLOBA DIVERSIFOLIA, C. UVIFERA, PYSCHOTRIA NERVOSA, VITIS MUNSONIANA, EUGENIA AXILLARIS, E. FOETIDA, PARTHENOCISSUS QUIQUIFOLIA, EXOTHEA PANICULATA, BUSERA SIMAROUBA, ZANTHOXYLUM FAGARA, ERYTHRINA HERBACEA, SCHOEPFIA CHYSOPHYLLOIDES, CAEALPINA BONDUC, PASSIFLORA SUBEROSA, METOPIUM TOXIFERM, RIVINA HUMILIS, CHIOCCOCA ALBA, SABAL PALMETTO, RANDIA ACULEATA, FORESTIERA SEGREGATA, AND MORUS RUBRA (SEE LIST ATTACHED) (U91HEN04FLUS).
MARIHAMM*28	Maritime hammock		G3	S2	N	N	1999	NONE GIVEN.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1990-04-07) (U05FNA02FLUS). QUERCUS VIRGINIANA CANOPY PLUS SCATTERED MASTIC (MASTICHODENDRON FOETIDISSIMUM) WITH AN UNDERSTORY OF SERENOA REPENS, RAPANEA PUNCTAT, PSYCHOTRIA NERVOSA AND CHRYSOBALNUS ICACO.
MELAINDI*3	*Melanoplus indicifer*	East Coast Scrub Grasshopper	G1	S1	N	N	2001-09-01	1963-12-14: No description given (U08ALM01FLUS).	2001-09-01: Two specimens were collected (N05LAM01FLUS). 1963-12-14: One specimen was collected here (U08ALM01FLUS). 1947-09-28: Thirteen specimens were collected in this Palm Beach county (U08ALM01FLUS). 1947-09-13: Six specimens were collected here (U08ALM01FLUS).

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MICRBRAC*2	*Microphis brachyurus*	Opossum Pipefish	G4G5	S2	SC	N	1981	COASTAL RIVER.	21 FEB 1959: 1 SPECIMEN COLLECTED FROM JUPITER INLET (UF-062479); 26 DEC 1960: SW BRANCH OF LOXAHATCHEE RIVER (UF-063061); 28 MAY 1961: 1 SPECIMEN TAKEN FROM SW BRANCH OF LOXAHATCHEE RIVER (UF-059912); 30 AUG 1964: 1 SPECIMEN COLLECTED FROM SW BRANCH OF LOXAHATCHEE RIVER ("SIMS CREEK") (UF-061617); 1977-1981: SPECIMENS TAKEN FROM LOXAHATCHEE RIVER (UNDGIL02).
OKENHYPO*18	*Okenia hypogaea*	burrowing four-o'clock	G3?	S2	N	E	2017-07-12	2017-07-12: Plants were found growing along a narrow strip of beach (approximately 5m wide) ocean side of predominantly sea oats and sea grape. 1990-04-13: UNDERNEATH WOODEN STAIRS BETWEEN A1A AND BEACH.	2017-07-12: Counted approximately 184 plants (approximately a tenth were flowering) along 760 m of beach front. 1990-04-13: FLOWERING CLUSTER OF PLANTS COVERING 15-20 SQUARE FEET.
OKENHYPO*24	*Okenia hypogaea*	burrowing four-o'clock	G3?	S2	N	E	1991-07-17	NONE GIVEN OTHER THAN "LOTS OF NATIVE SCAEVOLA." OCCURS WITH BEACH DUNE (EO #.083). SEE ALSO PALM-2, IN U90JOH03 FOR A DESCRIPTION OF THE SITE.	2017-07-12: Failed to find. 1991-07-17: ABUNDANT IN THE SW CORNER IN DISTURBED GROUND - NEAR A PATCH OF CASUARINA. OCCURS ELSEWHERE IN PARK TOO. 1977-09-08 Specimen #16702FA collected
SCELWOOD*53	*Sceloporus woodi*	Florida Scrub Lizard	G2G3	S2S3	N	N	2017-07-07	Sand pine and oak scrub	21 specimens were collected between 1968-1970 (S68JACSMFLUS, S70JACSMFLUS). In 1986, 42 scrub lizards were observed (U86ENG01FLUS). In 2017, 4 scrub lizards were observed (U18ENG04FLUS). Two sites have been extirpated due to development.
SCRUB**** (X)253	Scrub		G2	S2	N	N	1981-05-09	1-3 M OAK SCRUB, SOME 4-5 M SAND PINES; BEING CLEARED FAIRLY RAPIDLY.	1-3 M SCRUB OAKS, SOME 4-5 M SAND PINES.
SCRUB**** (X)441	Scrub		G2	S2	N	N	1988-08-03	NARROW STRIP OF SCRUB SANDWICHED BETWEEN US1 AND MANGROVES ALONG THE INTRACOASTAL WATERWAY. MAP ATTACHED.	MATURE SAND PINE SCRUB WITH DENSE UNDERSTORY OF MYRTLE OAK AND SAW PALMETTO. SPECIES LIST ATTACHED.

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SCRUB****254	Scrub		G2	S2	N	N	1999	2-3 M OAK SCRUB, SOME BEING DEVELOPED. * [DIRECTIONS]: SIDE US-1 E. TO SRA1A.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1988-06-14) (U05FNA02FLUS). 2-3 M SCRUB OAKS. F88FAR03 -- OAKS MOSTLY QUERCUS GEMINATA. ASLO PATCHES OF ROSEMARY (CERATIOLA ERICOIDES), CLUMPS OF SAND PINES, AND GRASSY AREAS (SEE MAP AND SPCEIES LIST ATTACHED).
SCRUB****392	Scrub		G2	S2	N	N	1999	LOW OAK SCRUB WITH PATCHES OF SANDPINE AND ROSEMARY NEAR LAGOON	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1988-08-03) (U05FNA02FLUS). DOMINATED BY QUERCUS MYRTIFOLIA WITH Q. GEMINATA, Q. CHAPMANII, XIMENIA AMERICANA AND LYONIA FRUTICOSA ALSO ABUNDANT. TWO PLANTS OF ASIMINA TETRAMERA SEEN, CA 40 REPORTED FROM SITE. F88FAR02: 80 PLANTS TAGGED.
SCRUB****434	Scrub		G2	S2	N	N	1999	MIXTURE OF SCRUB, SCRUBBY FLATWOODS AND FLATWOODS.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1988-07-06) (U05FNA02FLUS). SCRUB DOMINATED BY SAND PINES AND ROSEMARY. SCRUBBY FLATWOODS BY SLASH PINE AND SCRUB OAKS. FLATWOODS BY SLASH PINE WITH SAW PALMETTO/WIREGRASS UNDERSTORY.
SCRUB****440	Scrub		G2	S2	N	N	2015-11-14	Dwarfed (3' tall) oak scrub on high sand ridges west of US 1 with wetlands (cattail and willow) scattered throughout and with Lyonia lucida and Quercus myrtifolia scrubby flatwoods ecotones in between	This site was chosen by FNAI in 2009 to represent a high quality, reference condition scrub for use in the FWC Objective Based Vegetation Monitoring program. The site has been monitored twice to record vegetation structure and composition. Data for 2009 and 2015 sampling available through FNAI (OBVM reference community project, ongoing with FWC). Dwarfed (3' tall) oak scrub on high sand ridges (see attached species list).

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SCRUB****729	Scrub		G2	S2	N	N	1999	3 SUB-COMMUNITIES IN THE SCRUB HABITAT: DUNE BACK WITH SEAGRAPE, STRAND TYPE VEGETATION DOMINATED BY SERENOA REPENS, AND SCRUB ON A SLIGHT RIDGE NEAR THE CANAL. NO BURNING RECENTLY; DIVERSITY IS LOW. AUSTRALIAN PINES IN SEVERAL PLACES.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1989-10) (U05FNA02FLUS). MIXTURE OF TROPICAL AND TEMPERATE SPECIES: COCCOLOBA UVIFERA, QUERCUS VIRGINIANA, LYONIA FERRUGINEA, L. LUCIDA, PERSEA BORBONIA AND RAPANEA PUNCTATA. OTHERS: SERENOA REPENS, HYPERICUM SP., CASUARINA, SMILAX SP., VITIS AESTIVALIS.
SCRUB****730	Scrub		G2	S2	N	N	1999	No general description given	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1989-10) (U05FNA02FLUS). PINUS CLAUSA, QUERCUS GEMINATA, Q. MYRTIFOLIA, LYONIA FERUGINEA, XIMENIA AMERICANA, SERENOA REPENS, MYRICA CERIFERA, CERATIOLA ERICOIDES, CONRADINA GRANDIFLORA, SHINUS TEREBINTHISFOLIUS, ARISTIDA STRICTA, ANDROPOGON VIRGINICUS, SMILAX SP., VITIS RODUNTIFOLIA, LICHEN, ETC.
SCRUFLAT*31	Scrubby flatwoods		G2	S2?	N	N	1999	THROUGHOUT PARK IN MOSAIC AMONGST SCRUB AND MESIC OR WET FLATWOODS.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1984-) (U05FNA02FLUS). SLASH PINE, TURKEY OAK, SCRUB OAKS.

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Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 69104					
Documented					
Aphrissa statira	Statira	G5	S2S3	N	N
Chamaesyce cumulicola	sand-dune spurge	G2	S2	N	E
Cladonia perforata	perforate reindeer lichen	G1	S1	E	E
Conradina grandiflora	large-flowered rosemary	G3	S3	N	T
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Lechea cernua	nodding pinweed	G3	S3	N	T
Scrub		G2	S2	N	N
Documented-Historic					
Aphelocoma coerulescens	Florida Scrub-Jay	G2?	S2	T	FT
Likely					
Asimina tetramera	four-petal pawpaw	G1	S1	E	E
Jacquemontia reclinata	beach jacquemontia	G1	S1	E	E
Lechea divaricata	pine pinweed	G2	S2	N	E
Maritime hammock		G3	S2	N	N
Melanoplus indicifer	East Coast Scrub Grasshopper	G1	S1	N	N
Mesic flatwoods		G4	S4	N	N
Mycteria americana	Wood Stork	G4	S2	T	FT
Sceloporus woodi	Florida Scrub Lizard	G2G3	S2S3	N	N
Tolumnia bahamensis	dancing-lady orchid	G3	S1	N	E
Trichechus manatus	West Indian Manatee	G2G3	S2	T	FT
Potential					
Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	G3T3	S1	E	FE
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	ST
Coelorachis tuberculosa	Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa	cutthroatgrass	G3	S3	N	E
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Dicerandra immaculata var. immaculata	Lakela's balm	G1T1	S1	E	E
Drymarchon couperi	Eastern Indigo Snake	G3	S2?	T	FT
Elytraria caroliniensis var. angustifolia	narrow-leaved Carolina scalystem	G4T2	S2	N	N
Eretmochelys imbricata	Hawksbill Sea Turtle	G3	S1	E	FE
Glandularia maritima	coastal vervain	G3	S3	N	E
Halophila johnsonii	Johnson's seagrass	G2Q	S2	T	E
Heterodon simus	Southern Hognose Snake	G2	S2S3	N	N
Linum carteri var. smallii	Small's flax	G2T2	S2	N	E
Lithobates capito	Gopher Frog	G2G3	S3	N	N
Nemastylis floridana	celestial lily	G2	S2	N	E
Podomys floridanus	Florida Mouse	G3	S3	N	N
Polygala smallii	tiny polygala	G1	S1	E	E
Prosthechea cochleata	clamshell orchid	G4G5	S2	N	E
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rivulus marmoratus	Mangrove Rivulus	G4G5	S3	SC	N
Roystonea regia	Florida royal palm	G2G3	S2	N	E
Schizachyrium niveum	scrub bluestem	G1G2	S1S2	N	E
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

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Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Trichomanes punctatum ssp. floridanum	Florida filmy fern	G4G5T1	S1	E	E
Matrix Unit ID: 69105					
Documented					
Asimina tetramera	four-petal pawpaw	G1	S1	E	E
Cladonia perforata	perforate reindeer lichen	G1	S1	E	E
Dermochelys coriacea	Leatherback Sea Turtle	G2	S2	E	FE
Scrub		G2	S2	N	N
Scrubby flatwoods		G2	S2?	N	N
Tillandsia flexuosa	banded wild-pine	G5	S3	N	T
Documented-Historic					
Aphelocoma coerulescens	Florida Scrub-Jay	G2?	S2	T	FT
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Likely					
Caretta caretta	Loggerhead Sea Turtle	G3	S3	T	FT
Chelonia mydas	Green Sea Turtle	G3	S2S3	T	FT
Coastal strand		G3	S2	N	N
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Jacquemontia reclinata	beach jacquemontia	G1	S1	E	E
Lechea divaricata	pine pinweed	G2	S2	N	E
Maritime hammock		G3	S2	N	N
Melanoplus indicifer	East Coast Scrub Grasshopper	G1	S1	N	N
Mycteria americana	Wood Stork	G4	S2	T	FT
Sceloporus woodi	Florida Scrub Lizard	G2G3	S2S3	N	N
Tolumnia bahamensis	dancing-lady orchid	G3	S1	N	E
Trichechus manatus	West Indian Manatee	G2G3	S2	T	FT
Potential					
Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	G3T3	S1	E	FE
Chamaesyce cumulicola	sand-dune spurge	G2	S2	N	E
Charadrius melodus	Piping Plover	G3	S2	T	FT
Coelorachis tuberculosa	Piedmont jointgrass	G3	S3	N	T
Coleataenia abscissa	cutthroatgrass	G3	S3	N	E
Conradina grandiflora	large-flowered rosemary	G3	S3	N	T
Dicerandra immaculata var. immaculata	Lakela's balm	G1T1	S1	E	E
Drymarchon couperi	Eastern Indigo Snake	G3	S2?	T	FT
Elytraria caroliniensis var. angustifolia	narrow-leaved Carolina scalystem	G4T2	S2	N	N
Eretmochelys imbricata	Hawksbill Sea Turtle	G3	S1	E	FE
Glandularia maritima	coastal vervain	G3	S3	N	E
Halophila johnsonii	Johnson's seagrass	G2Q	S2	T	E
Lechea cernua	nodding pinweed	G3	S3	N	T
Linum carteri var. smallii	Small's flax	G2T2	S2	N	E
Lithobates capito	Gopher Frog	G2G3	S3	N	N
Nemastylis floridana	celestial lily	G2	S2	N	E
Peromyscus polionotus niveiventris	Southeastern Beach Mouse	G5T1	S1	T	FT
Podomys floridanus	Florida Mouse	G3	S3	N	N
Polygala smallii	tiny polygala	G1	S1	E	E

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Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Prosthechea cochleata	clamshell orchid	G4G5	S2	N	E
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rivulus marmoratus	Mangrove Rivulus	G4G5	S3	SC	N
Roystonea regia	Florida royal palm	G2G3	S2	N	E
Schizachyrium niveum	scrub bluestem	G1G2	S1S2	N	E
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Trichomanes punctatum ssp. floridanum	Florida filmy fern	G4G5T1	S1	E	E

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Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
E, T = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
E, PDL = Species currently listed endangered but has been proposed for delisting.
E, PT = Species currently listed endangered but has been proposed for listing as threatened.
E, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
PE = Species proposed for listing as endangered
PS = Partial status: some but not all of the species' infraspecific taxa have federal
PT = Species proposed for listing as threatened
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

C = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
FXN = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

E = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
T = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

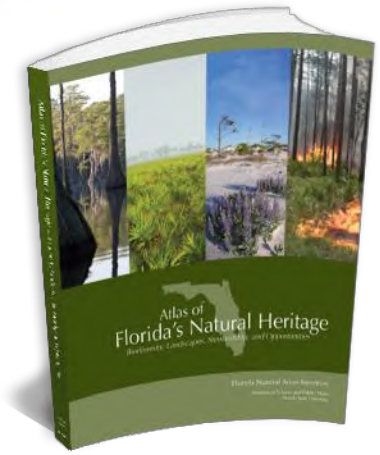
The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

ON SALE NOW

Atlas of Florida's Natural Heritage

Biodiversity, Landscapes, Stewardship, and Opportunities

The Florida Natural Areas Inventory is pleased to announce the publication of the ***Atlas of Florida's Natural Heritage: Biodiversity, Landscapes, Stewardship, and Opportunities***. This high-quality, full-color *Atlas* is sure to become a standard reference for anyone involved in the conservation, management, study, or enjoyment of Florida's rich natural resources. We hope the *Atlas* will inspire, educate, and raise awareness of and interest in biodiversity and conservation issues.



Learn more about the Atlas, view sample pages and order your copy today at:
https://www.fnai.org/atlas.cfm

Follow our blog – *FNAI News & Notes*:

http://fnai.blogspot.com/

and

FOLLOW US ON facebook

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax

Florida Natural Areas Inventory

Managed Area Element Summary

Jupiter Ridge Natural Area

SCIENTIFIC NAME	COMMON NAME	Global rank	State rank	Federal status	State status
PLANTS					
Asimina tetramera	four-petal pawpaw	G1	S1	E	E
Chamaesyce cumulicola	sand-dune spurge	G2	S2	N	E
Cladonia perforata	perforate reindeer lichen	G1	S1	E	E
Conradina grandiflora	large-flowered rosemary	G3	S3	N	T
Lechea cernua	nodding pinweed	G3	S3	N	T
Lechea divaricata	pine pinweed	G2	S2	N	E
Polygala smallii	tiny polygala	G1	S1	E	E
Tillandsia flexuosa	banded wild-pine	G5	S3	N	T
Tolumnia bahamensis	dancing-lady orchid	G3	S1	N	E
REPTILES					
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Sceloporus woodi	Florida Scrub Lizard	G2G3	S2S3	N	N

Note: *Summary includes all documented and likely species occurrence records currently in the FNAI database.*

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
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Florida Natural Areas Inventory

Managed Area Element Summary

Jupiter Ridge Natural Area

SCIENTIFIC NAME	COMMON NAME	Global rank	State rank	Federal status	State status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
(850) 224-8207
(850) 681-9364 Fax

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
LE, PDL = Species currently listed endangered but has been proposed for delisting.
LE, PT = Species currently listed endangered but has been proposed for listing as threatened.
LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
F(XN) = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future. (ST* for Ursus americanus floridanus (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for Neovison vison pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant

to the U.S. Endangered Species Act.
LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.

APPENDIX I

LETTER OF COMPLIANCE WITH LOCAL GOVERNMENT
COMPREHENSIVE PLAN

July 22, 2021

Debra Drum, Director
Palm Beach County
Department of Environmental Resources Management
2300 N Jog Road, 4th Floor
West Palm Beach, FL 33411

Reference: Jupiter Ridge Natural Area
Revised Management Plan – Letter of Consistency

Dear Ms. Drum,

Per your request, the Town has reviewed the revised Management Plan for Jupiter Ridge Natural Area, 2021. Our review has shown that the updated plan is consistent with the Town's Comprehensive Plan.

In addition to the review of the document, our staff has visited the site on several occasions and has found that all work is consistent with what was in the original Management Plan.

The Jupiter Ridge Natural Area has developed into one of the premier natural areas in Palm Beach County, and we commend you and your staff. If the Town can provide further assistance to you on this issue, please do not hesitate to contact my office.

Very truly yours,

Matthew Benoit
Town Manager

cc: Barrett Cruce, Natural Resources Supervisor

APPENDIX J

NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE MEMBERS AND AFFILIATIONS

NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE MEMBERS REPORT
August 20, 2021

Seat ID	Current Member	Role Type	Race Code	Gender	Contact Info	Seat Requirement	Appoint Date	Reappoint Date	Expire Date
Seat 1	Steve Coughlin	Member	CA	M	South Florida Water Management District 3301 Gun Club Road West Palm Beach, Fl 33406 scoughli@sfwmd.gov 561-682-2603	Management of Natural Areas	11/1/2011	6/8/2021	9/30/2023
Seat 2	Richard Moyroud	Member	CA	M	Mesozoic Landscapes, Inc 7667 Park Lane Road Lake Worth, Fl 33449 moyroud@prodigy.net 561-967-2630	Biological Scientist	11/1/1999	6/8/2021	9/30/2023
Seat 3	Jessica Miles	Member	CA	F	Palm Beach State College 3160 PGA Blvd, MS #45 Palm Beach Gardens, Fl 33410 milesj@palmbeachstate.edu	Professional Educator	8/17/2021		9/30/2024
Seat 4	Michelle Thompson	Member	CA	F	City of Greenacres 501 Swain Blvd Greenacres, Fl 33463 MThompson@greenacresfl.gov	Local Municipal Government Parks and Recreation Program	10/1/2017	6/8/2021	9/30/2023
Seat 5	Jennifer Cirillo*	Member	CA	F	Palm Beach County Parks and Recreation Department 27090 6th Ave South Lake Worth, Fl 33461 JCirillo@pbcgov.org	Palm Beach County Parks and Recreation Department Staff	10/16/2018	10/5/2021*	9/30/2021
Seat 6	Evelyn Parkes-Brier*	Member	HA	F	Parkes & Shaffer, CPA, P.A. 420 Clematis Street West Palm Beach, Fl 33401 parkescpa@msn.com parkes@parkesbutnercpa.com	Citizen having an interest in preservation and conservation of natural areas	10/16/2018	10/5/2021*	9/30/2021
Seat 7	Andrea McMillan	Member	AA	F	4251 Tazewell Court West Palm Beach, Fl 33409 adm@amcmillanlaw.com 561-612-5700	Citizen having an interest in preservation and conservation of natural areas	8/17/2021		9/30/2024

* If approved by BCC at the 10/5/2021 meeting.

AILY LAW JOURNAL

notice to bid

MENT FOR BID

be received by the Commissioners, Palm rida, in the Office of y Engineering & Pub- ment, Roadway Pro- ocated at 2300 North Floor, West Palm 411-2745, up to 2:00 and opened on Tues- , 2021, for furnishing or, Equipment and for the Construction

ORE ROAD, B DRIVE TO AKE DRIVE CH COUNTY NO. 2017516

ed via standard ship- as UPS, FedEx, USPS, 0 North Jog Road, 3W-33, West Palm 411-2745 up to the ve.

ed via hand delivery services) from 1:00 m. on the bid due utside the Engineer- rks Lobby at 2300 hird Floor Room 3E- :00 p.m. in this loca-

requirements for Bid eration, and award the Contract Docu- osted on the follow- inty web site: alm-beach.fl.us/web vice tract Documents for the above URL and hyperlink. Contrac- nload and print the ts (Plans, Specifica- al Forms, check list ms" and any other

nts will be available ent for a non- ee of $50. The Con- t Palm Beach Coun- uction Division at dvance to arrange

bmitted in accord- Documents, includ- to the General Pro- d accompanied by referenced therein.

re-Bid Meeting will y, August 26, 2021 eleconference. The only be attended y calling (561) 776- PIN 903287 at the and time. Attend- meeting is manda- ers and highly rec- ongly encouraged o the extent you the pre-bid meet- and obtain an au- meeting by con- County Roadway t (561) 684-4150.

Commissioners re- ject any or all Bids. d of County Com- ch County, Florida.

RCUIT COURT &

TY, a political sub- of Florida, by and f County Commis-

UNTY ENGINEER or

0000654686-01

TO BID

notice to bid

Act or who require translation services should contact Javier Gamboa at 561-656-5989 or jgamboa@pbia.org at least seven days in advance of the Pre-bid Conference. Hearing impaired individuals are requested to telephone the Florida Relay System at #711.

By Order of the Board of Commissioners, Palm Beach County, Florida.

BOARD OF COUNTY COMMISSIONERS
Palm Beach County, Florida
8-22, 8-29/2021

0000655913-01

LEGAL NOTIFICATION

Notice is hereby given Cooper Construction Management & Consulting; Inc. for The School District of Palm Beach County (Owner) will receive:

Proposals for the Districtwide Hurricane Shelter Water Bottle Filler Project located at various Palm Beach County School sites. There are a total of fourteen (14) school locations: Boca Raton HS, Boynton Beach HS, Dr. Mary M. Bethune ES, Forest Hill HS, Independence MS, John I. Leonard HS, Lake Shore MS, Pahokee MS, Palm Beach Central HS, Palm Beach Gardens HS, Park Vista HS, Seminole Ridge HS, West Boca Raton HS & West Gate ES

Scope of work:

Includes but is not limited to the replacement and or the addition of (26) Twenty-six existing drinking fountains that have the Water bottle filling feature. This work will include selective demolition, electrical, plumbing and wall finishes such as the replacement and/or repairs to the existing wall stucco, ceramic tile, drywall and repairs to the masonry. The drinking fountains will be procured by the School District of Palm Beach County. Note: The functionality and operation of the fountains will be such that all fountains must operate in the absence of electrical power.

RFI's must be submitted on or before September 13, 2021, at 3:00pm EST. Sealed Proposals are due on or before Friday, September 24, 2021, no later than 3:00 PM Eastern Standard Time; Bids received after 3:00 PM Eastern will not be accepted.

A Bid Bond in the amount of 5% of the Subcontractor's Proposal will be required for all Subcontractor Proposals exceeding $100,000.00. Payment and Performance bond will be required for all subcontract agreements that exceed $100,000.00

Proposals will be received in a sealed opaque envelope at Cooper Construction Management's office located at 354 Hiatt Drive, Suite 140, Palm Beach Gardens, FL 33418 or electronically via Smart Bid.

Proposal documents are currently available. Interested Bidders shall contact Andres Fischborn at afischborn@coopercmc.com via e-mail only for access to bid documents. Bid documents will be made available through Smart Bid at the subcontractor's request or can be ordered through and picked up at Thomas Printworks located at 1335 Old Okeechobee Rd, Suite 1200 West Palm Beach, FL. 33401 (561) 802-3599.

A non-mandatory pre-proposal meeting and site visit is scheduled for all interested subcontractors on September 08, 2021 at Dr. M. Bethune ES at 3:00 PM located at 1501 Avenue U, West Palm Beach and on September 09, 2021 at John I Leonard HS at 3:00 PM located at 4710 10th Ave. N Greenacres, FL (Pre-proposal site visit meeting is not mandatory but recommended)

In accordance with The School District of Palm Beach County Small Business Enterprise (SBE) Policy, there is an es-

notice to bid

beach.fl.us/webapp/vssp/AltSelfService

Note: In accordance with Palm Beach County Code 2-351 through 2-358, "Cone of Silence" hereby applies and shall be in effect as of the deadline to submit the proposal, bid, or other response to a competitive solicitation, and is defined as the prohibition on any communication, except for written correspondence, regarding a particular Request for Proposal, Request for Qualification, bid, or any other competitive solicitation between any person or person's representative seeking an award from such competitive solicitation, and/or any County Commissioner or Commissioner's staff, or any employee authorized to act on behalf of the Commission to award a particular contract and shall terminate at the time the Board, or a County Department authorized to act on behalf of the Board, awards or approves a contract, rejects all bids or responses, or otherwise takes action which end the solicitation.

The proposals should be sent to:

Holly B. Knight, P.E.,
Contracts Section Manager
Engineering & Public Works
Department, Roadway
Production Division
2300 N. Jog Road, Room 3W-33
West Palm Beach, FL 33411-2745

Pursuant to the Palm Beach County Code Section 2-80.20 – 2-80.40 (EBO Ordinance), the County will provide contracting opportunities for S/M/WBEs in the area of professional services pursuant to Section 287.055, Florida Statutes, as amended, known as the "Consultants' Competitive Negotiation Act" (CCNA). Responses will be evaluated based on the selection criteria set out in the County's PPM# CW-O-048 and the Affirmative Procurement Initiatives (APIs) determined by the County's Goal Setting Committee. The APIs for this solicitation are: 20% Minimum Mandatory SBE and M/WBE Evaluation Preference for Professional Services (for African Americans). Ordinance References: 2-80.27(3)(e) and 2-80.27(4)(b). An M/WBE goal was applied to this contract because the most recent data on M/WBE utilization indicates that contracts of this type have exhibited significant disparities in the utilization of available M/WBEs.

If a mandatory SBE or M/WBE goal applies to this solicitation, then any proposal that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a proposer is unable to comply with a required goal, such proposer shall submit a request for a waiver or partial waiver at least 7 days prior to the proposal due date. If a proposer requests a waiver from a goal from the Office of EBO at least 7 days prior to the proposal due date, then the proposal due date will be extended pending the outcome of a waiver request. Additionally if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and Countywide PPM CW-O-043 for further information on the County's EBO Program.

A Non-Mandatory Pre-Proposal Meeting will be held on Thursday, August 26, 2021 at 10:00 a.m. Via Teleconference Only – Phone: (561) 776-2160, PIN 771891. The purpose of the meeting is to provide a general overview of the anticipated scope of work and the anticipated typical section, and to respond to general questions about the project. It will be noted that the anticipated scope of work and typical section are not necessarily final and interested consultants are encouraged to

notice to bid

TOWN OF PALM
Advertisement for Proposals
Bid No. 2021-21
TENNIS COURT MAINTENANCE

Online proposals for an Invitation for Bid (ITB) for Tennis Court Maintenance Services for Town of Palm Beach (the "Town") will be received by the Town's Purchasing Division through our eProcurement platform (Negometrix), until 2:00 P.M. on September 20, 2021.

The Town of Palm Beach, Florida ("Town") is soliciting proposals for Tennis Court Maintenance Services from qualified and experienced professional firms ("Proposer"), readily available to provide the services outlined in this solicitation.

Companies desiring a copy of the RFP may obtain such documents from the Town's website at www.townofpalmbeach.com, (click "Doing Business", click "Bids and Requests for Proposals", scroll down to Current Negometrix Town Published Solicitations and follow the instructions).

The Town only accepts online submittal of proposals through Negometrix, the eProcurement platform linked to the Town website, promoting a greener footprint.

If you are not registered through the website you are required to do so (at NO charge). The RFP is also advertised through DemandStar and Public Purchase, however proposals must be submitted through the Town website. Written Proposals will not be accepted. For further information, contact the Purchasing Office, 951 Okeechobee Road, Suite D, West Palm Beach, FL 33401, Telephone (561) 227-7001.

The Town reserves the right to accept or reject any and all submittals and to waive any technicalities or irregularities therein. The Town further reserves the right to award the contract to that proposer whose proposal best complies with the RFP specifications. No proposer may withdraw their proposals for a period of one hundred and eighty (180) days from the date set for the opening thereof.

Eugene M Bitteker
Senior Buyer
8-22/2021

00 00655329-01

public auction

NOTICE OF PUBLIC SALE: Sisters Towing & Transportation, Inc. gives Notice of Foreclosure of Lien and intent to sell these vehicles on 09/02/2021 at 10:00 AM at 6907 Southern Blvd, West Palm Beach FL 33413-1629 pursuant to subsection 713.78 of the Florida Statutes. Sisters Towing & Transportation, Inc. reserves the right to accept or reject any and/or all bids.
19XFC2F52GE087241 2016 HONDA
1FALP42X0VF111474 1997 FORD
1FTRW12W54KC21133 2004 FORD
1G6DA1E33C0139523 2012 CADILLAC
1G8ZS57N08F144327 2008 SATURN
1GKEK63U64J317917 2004 GMC
1N4AL11D06N374841 2006 NISSAN
1UJBJ0BR8H1750489 2017 JAYCO
2C3CDZFJ5LH159526 2020 DODGE
2HKRL18641H533406 2001 HONDA
2T2GK31U17C013458 2007 LEXUS
3FAHP0HA3AR206500
2010 FORTE TRAILER
3FAHP0HA5BR120638 2011 FORD
3VW5E69M33M005839
2003 VOLKSWAGEN
54DCDJ1B9KS810365 2019 CHEVROLET
5NMS53AA1LH272323 2020 HYUNDAI
5TDKK3DC2FS529304 2015 TOYOTA
JS3TE62V524154484 2002 SUZUKI
JTLZE4FE2B1141706 2011 TOYOTA

public notice

NOTICE OF PUBLIC HEARING

The Palm Beach County Natural Areas Management Advisory Committee will hold an open house/public hearing on the 10-year updated draft management plan (draft plan) for the County-managed Jupiter Ridge Natural Area on August 31, at the Vista Center Hearing Room Chamber, located at 2300 North Jog Road, West Palm Beach, FL. The open house will be from 5:30 pm to 6:00 pm. The public hearing will start at 6:30 pm. The purpose is to allow public comment on the draft plan. The draft plan is available upon request. For more information, please contact Allison Spall at 561-233-2464 or **aspall@pbcgov.org.**

PALM BEACH COUNTY
NATURAL AREAS MANAGEMENT
ADVISORY COMMITTEEE

By: Environmental Resources Management
8-22/2021

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NOTICE OF PUBLIC HEARING

The Palm Beach County Natural Areas Management Advisory Committee will hold an open house/public hearing on the 10-year updated draft management plan (draft plan) for the County-managed Jupiter Ridge Natural Area on August 31, at the Vista Center Hearing Room Chamber, located at 2300 North Jog Road, West Palm Beach, FL. The open house will be from 5:30 pm to 6:00 pm. The public hearing will start at 6:30 pm. The purpose is to allow public comment on the draft plan. The draft plan is available upon request. For more information, please contact Allison Spall at 561-233-2464 or **aspall@pbcgov.org.**

PALM BEACH COUNTY
NATURAL AREAS MANAGEMENT
ADVISORY COMMITTEE
8-22/2021

By: Environmental Resources Management

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THE SCHOOL BOARD OF PALM BEACH COUNTY ANNOUNCES THE FOLLOWING PUBLIC MEETINGS THAT WILL BE BROADCAST LIVE AND RECORDED FOR LATER VIEWING VIA OUR WEBSITE (UNLESS OTHERWISE NOTED)

DATE: WEDNESDAY, August 25, 2021
TIME: 2 p.m.
PURPOSE: SPECIAL MEETING: 1) Policy 1.03 School Board Meetings - Development; 2) Executive Orders and Emergency Rules

PUBLIC COMMENT ON OTHER ITEMS CAN BE MADE IN ONE OF TWO WAYS
1. IN PERSON:
The public can attend the meeting in a room or rooms at the Fulton-Holland Educational Services Center. Speakers must be signed up in advance of the meeting by calling the Board Office at: 561-434-8136, 561-434-8139, 561-434-7481, OR 561-434-8038. THE DEADLINE TO SIGN UP TO SPEAK IS NOON THE DAY OF THE MEETING.

2. BY RECORDED MESSAGE:
Public comment can also be received by leaving a voice-recorded message that will be played in the meeting by calling: 561-684-5103. Comments are limited to 3 minutes for recorded speakers. Please be sure to state FULL NAME in message as no anonymous comments will be accepted. DEADLINE TO BE INCLUDED IN THIS MEETING IS NOON THE DAY OF THE MEETING.

SAFETY PROTOCOLS FOR ENTERING FHESC: Temperatures will be taken before entrance is permitted. Facial coverings (masks) are requested. Social distancing required. Rooms will have a

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PALM BEACH COUNTY DEPARTMENT OF
ENVIRONMENTAL RESOURCES MANAGEMENT
NATURAL RESOURCES STEWARDSHIP DIVISION

SUMMARY OF THE AUGUST 31, 2021 NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE PUBLIC HEARING ON THE DRAFT JUPITER RIDGE NATURAL AREA MANAGEMENT PLAN

Vista Center
2300 North Jog Road
West Palm Beach, Fl 33411

The public hearing was advertised in the *Palm Beach Post*, a local newspaper, on August 22, 2021, announced at the Palm Beach County (PBC) Board of County Commissioners' (BCC) meeting on August 17, 2021, advertised on the County's webpage and posted on the property in the kiosk, in compliance with Chapter 259.032 (10), Florida Statutes.

One Natural Areas Management Advisory Committee (NAMAC) member, five Department of Environmental Resources Management (ERM) staff members, two PBSO Wildlands Task Force deputies and no members of the public attended the public hearing. **Richard Moyroud**, chair of NAMAC, opened the public hearing at 6:30 p.m. He informed the attendees that this was a public hearing required by the State of Florida to inform citizens about the second ten-year update of the Jupiter Ridge Natural Area Management Plan. The initial management plan was approved by the BCC in November 1996 and by the State Land Acquisition and Management Advisory Council in February 1998 and the first update was approved by the BCC in June 2010 and by the State Land Acquisition and Management Advisory Council in July 2010.

Mr. Moyroud said that he received no speaker cards.

Allison Spall, Senior Environmental Analyst, Natural Areas Stewardship Division, ERM, stated that she was the staff person responsible for preparing the ten-year update to the Jupiter Ridge Management Plan. Ms. Spall gave a short summary of the changes made to the management plan. The format was revised to comply with the current state statutory requirements and newly created templates. The tables, site history, and references were updated. A chronology of major events was updated, as well as a goals and management objectives section that is now required by the State. The figures in the management plan were updated using standard symbols. A PowerPoint presentation was made discussing the changes since the last plan and an overall discussion of the plan.

This plan will be presented to NAMAC for review and comment on 9/17/2021. The plan will then be sent to ARC for their 90 day review on 9/20/2021. There were no further verbal comments from the staff.

Mr. Moyroud thanked ERM staff for the presentation and closed the public hearing at 6:55 p.m.

Jupiter Ridge Natural Area Management Plan

Public Hearing
August 31, 2021

Summary of Changes Since 2nd updated Plan

Vegetation Changes

- Disturbed Scrubby Flatwoods in southwest portion transitioned to Coastal Strand Swamp and Mangrove Swamp
- Scrubby Flatwoods in south central portion transitioned to Mesic Flatwoods and Scrub
- Mesic Flatwoods adjacent to parking lot transitioned to Scrubby Flatwoods
- Marine/Estuarine Tidal Swamp had a name change by FNAI to Mangrove Swamp
- Open Water was changed to Estuarine Unconsolidated Substrate based on vegetative characteristics as defined by FNAI

Management Units

- Management Unit 6 was expanded to include all of the "no burn" zone that was in Management Unit 1

Restoration

- 2012 shoreline restoration and restoration plantings
- 2017 shoreline restoration plantings

Public Use Facilities

- Addition of a hiking trail off of the northern hiking trail loop that links to the Riverwalk Multiuse Trail
- Removal of the parking lot restroom

Location

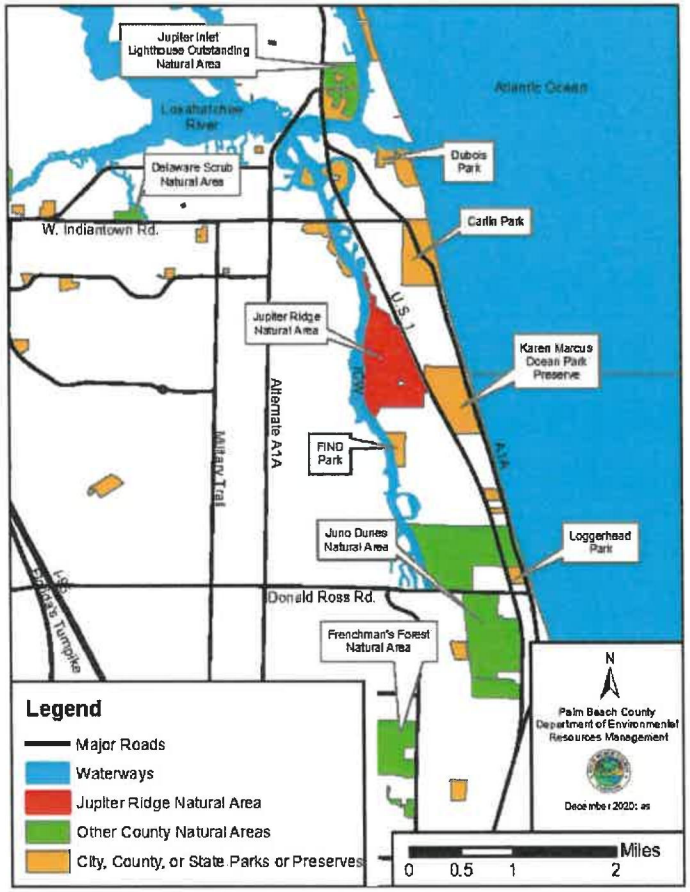


Figure 1. Jupiter Ridge Natural Area Location Map

11-1

The 269-acre Jupiter Ridge Natural Area is located in the northeast portion of Palm Beach County within the Town of Jupiter.

Ownership

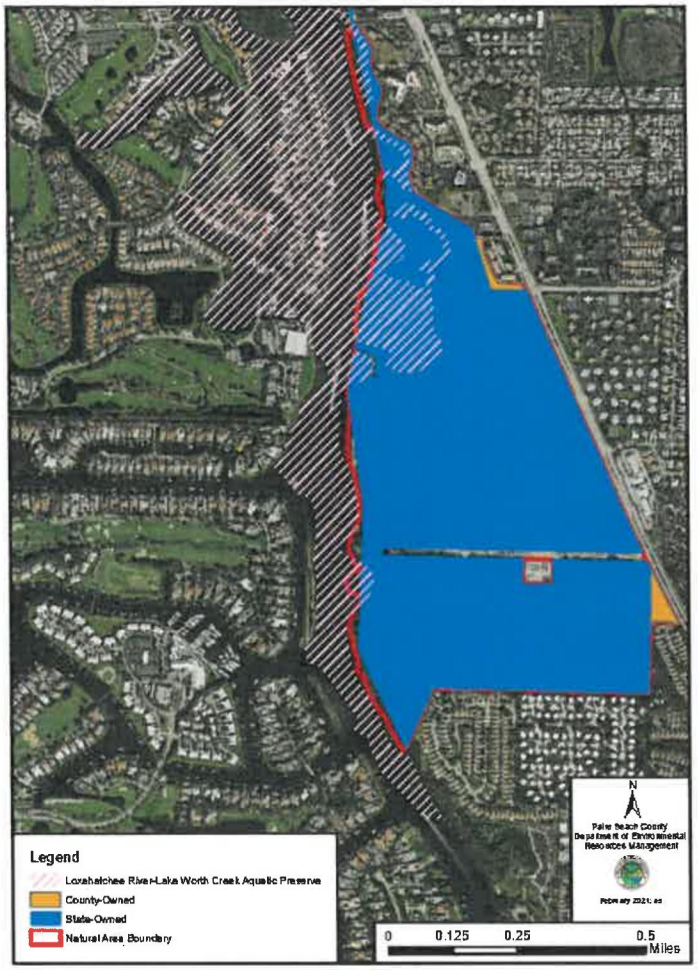


Figure 2. Jupiter Ridge Natural Area Ownership Map

11-2

The County owns approximately 3 acres of land within the natural area, and leases and manages 266 acres pursuant to a Lease Agreement with the State of Florida.

Jupiter Ridge Natural Area Vegetation Communities

- Coastal Strand (1.3 acres)
- Depression Marsh (3.4 acres)
- Disturbed Scrub (3.1 acres)
- Estuarine Unconsolidated Substrate (12.2 acres)
- Mangrove Swamp (31.5 acres)
- Mesic Flatwoods (8 1 acres)
- Parking Lot (0.6 acres)
- Scrub (162.1 acres)
- Scrubby Flatwoods (41.4 acres)
- Shell Rock Road (5.3 acres)

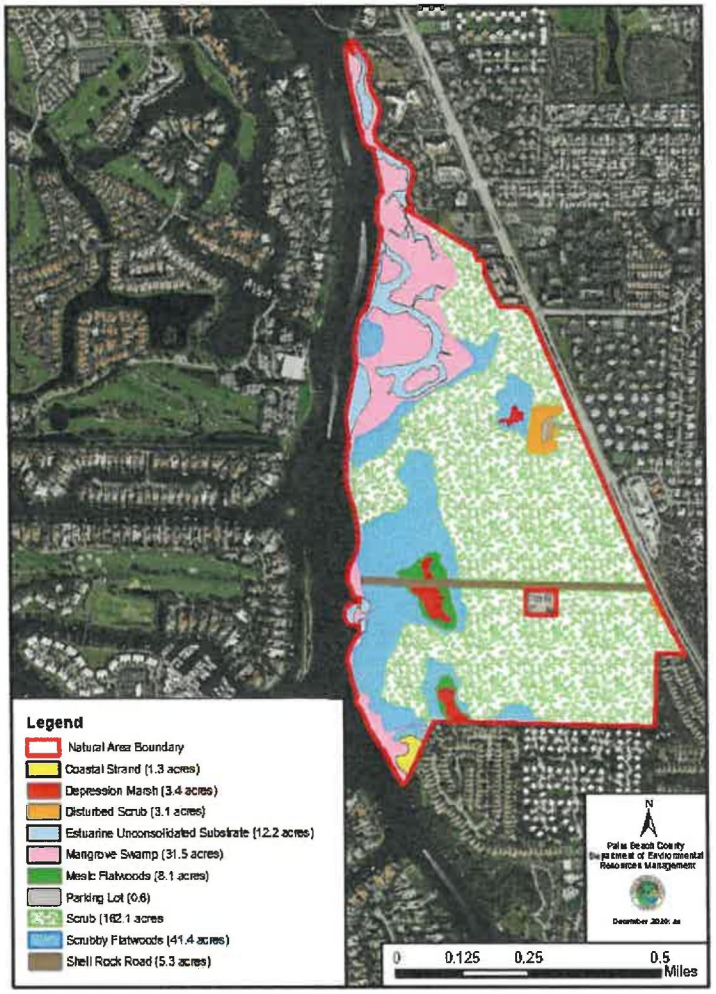


Figure 4. Jupiter Ridge Natural Area Vegetation Community

Management Units

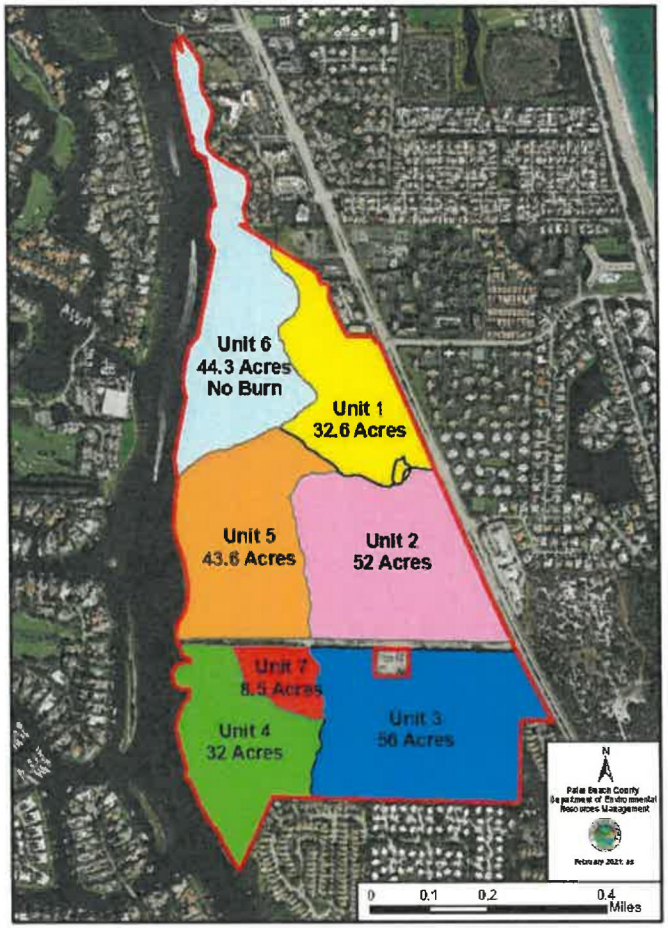


Figure 5. Jupiter Ridge Natural Area Management Units

11-5

Management Unit 6 was expanded to include all of the "no burn" zone that was in Management Unit 1

Prescribed Fire

- Development-related smoke management concerns dictate extremely narrow weather conditions in which prescribed burning may take place at the natural area

- Prescribed burns were conducted in Management Unit 1 in 1997, Management Unit 6 in 2005, and Management Unit 7 in 2012

- Staff may investigate the use of micro-burns at this site

Mechanical Vegetation Reduction

Unit 3 - pre-reduction (2008)

Unit 3 - 18 months post-reduction

- Mechanical reduction activities are performed in lieu of burning
- Management Units 3 and 7 in 2008; Management Units2,3 and 4 in 2013; Management Units 1 and 3 in 2014; Management Units 1 and 4 in 2015; Management Units 1 and 2 in 2019; and Management Units 1-5 and 7 in 2020
- Sand and slash pine thinning occurred in Management Units 2 and 5 in 2015

Mangrove Swamp Restoration/Enhancement

- In July 1995, FDEP awarded the County a $40,000 grant for the restoration of a section of the mangrove swamp habitat in the northwest portion of the site.

- The goal of the project was to create estuarine wetlands and improve existing mangrove wetlands.

- In July 1998, approximately 0.5 acres of Australian-pines were removed and the area was scraped down to wetland elevations. Red mangroves, varnishleaf, spartina and green buttonwood were planted in this area.

- In June 1999, as part of the same FDEP grant, approximately 4.3 acres of Australian-pine and Brazilian pepper were removed along the ICW.

ICW Shoreline Stabilization Enhancement

- Shoreline stabilization and enhancement was needed along the ICW as a result of erosion due to boat wakes. Erosion was noted within the scrub and scrubby flatwoods communities and, to a lesser extent, within the mangrove swamp community along the ICW.

- An erosion control project, including limerock wavebreaks and mangrove planters, was completed for a total of approximately 6,000 feet of the impacted sections of the shoreline.

- Twenty-one oyster reef breakwaters were constructed parallel to the western shoreline.

- Construction of the breakwaters has significantly reduced wave action along the shoreline.

Native Plantings

- General restoration plantings conducted between 1999 and 2017 included the installation of approximately 2,300 red mangroves and 1,358 native shrubs and gasses along the western shoreline. These plants were installed in the mangrove swamp community. Species planted in these areas included red mangrove, green button wood, varnishleaf, and cordgrass.

- In September 2018 and April 2019, 516 Dancing lady orchids were planted within the scrub vegetation community under Florida rosemary plants. In August 2019 an additional 800 orchids were planted on the site. All plantings were installed by Pine Jog Environmental Center as part of Fairchild Tropical Garden's Million Orchid Project.

Existing Public Use Facilities and Access

- Public access is via U.S. 1, "Ski Beach" and the Riverwalk multiuse trail.
- Public use facilities include: an accessible nature trail, hiking trail, multiuse trail, boardwalk, and wildlife observation platform with benches.
- The site officially opened to the public April 2001.

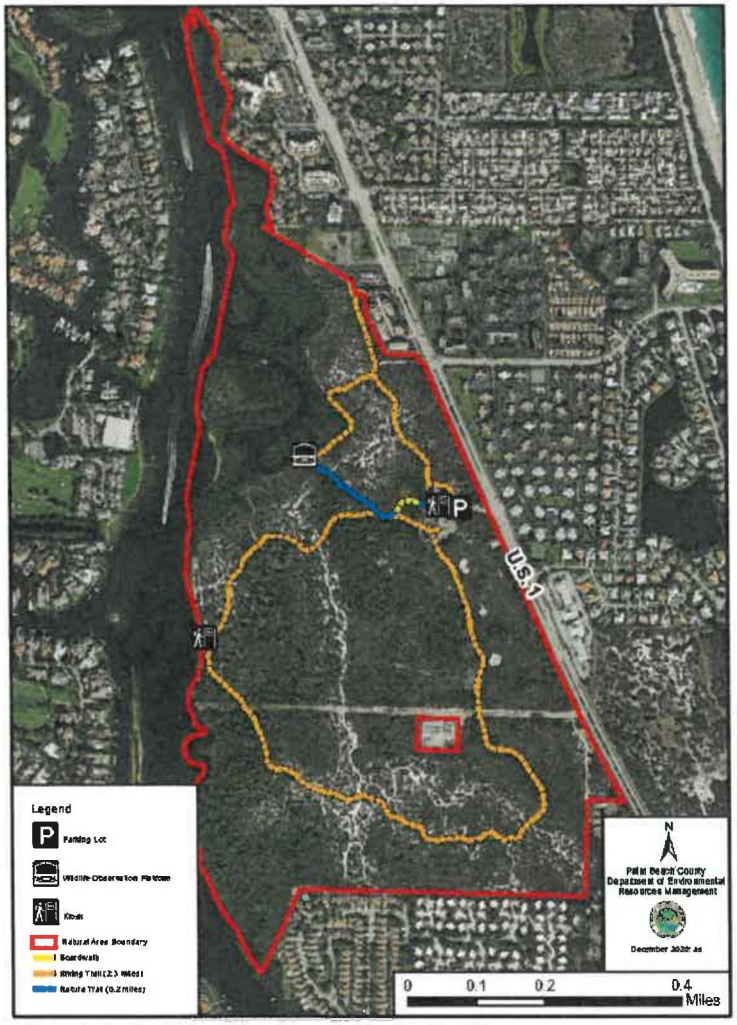
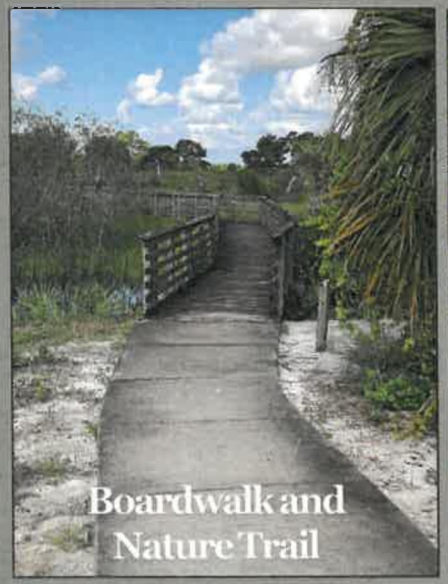
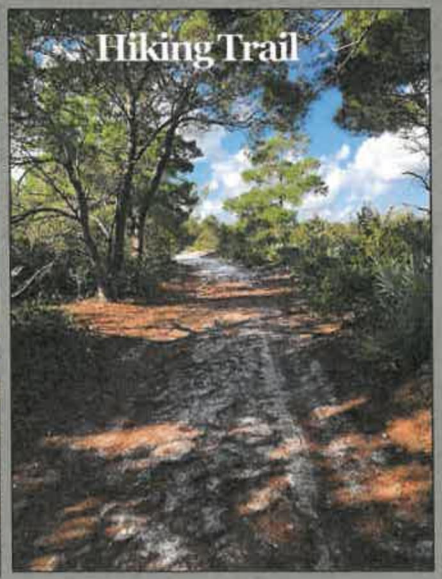


Figure 8. Jupiter Ridge Natural Area Public Use Facilities

Existing Public Use Facilities and Access

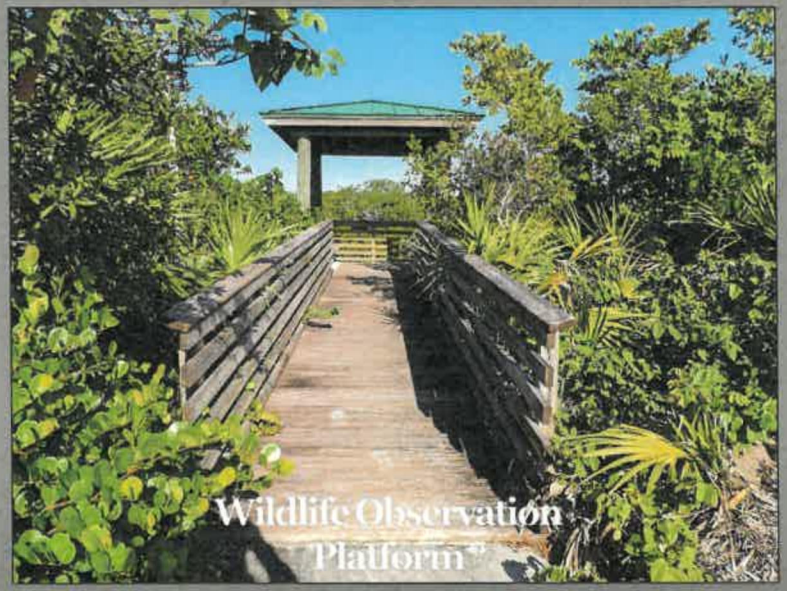

Boardwalk and Nature Trail


Hiking Trail


Main Bike Rack


Riverwalk Entrance


Main Kiosk


Wildlife Observation Platform


"Ski Beach" Kiosk

Security

- Management access gates and signage have been installed.
- Most of the site's perimeter has been fenced to prevent unauthorized access into the natural area.
- The Palm Beach County Sheriff's Office Wildlands Task Force regularly patrols the site.

Going Forward

- No additional public uses or public use facilities are proposed.
- No additional restoration projects are proposed.
- Invasive/nonnative plant and nonnative/nuisance animal control programs will be continued (The natural recruitment of appropriate native plant species into the previously restored areas will be encouraged).
- Outreach events including trash removal will continue indefinitely.

Questions?