

Land Management Plan Compliance Checklist

→ Required for State-owned conservation lands over 160 acres (Updated July 2022) ←

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	1.9
3.	Degree of title interest held by the Board, including reservations and encumbrances such as leases.	18-2.021	1.6 & 1.7
4.	The legal description and acreage of the property.	18-2.018 & 18-2.021	1.1 & Appendix K
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 & 9
6.	An assessment as to whether the property, or any portion, should be declared surplus. <i>Provide Information regarding assessment and analysis in the plan, and provide corresponding map.</i>	18-2.021	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. <i>Please clearly indicate parcels on a map.</i>	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 & 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	1.4 & 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 P
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 & 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	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. <i>Include the advisory group members and their affiliations, as well as the date and location of the advisory group meeting.</i>	259.032	1.8 & Appendix J
27.	Summary of comments and concerns expressed by the advisory group for parcels over 160 acres	18-2.021	1.8 & 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. <i>Include a copy of each County's advertisements and announcements (meeting minutes will suffice to indicate an announcement) in the management plan.</i>	253.034 & 259.032	1.8 & 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. <i>Include manager's replies to the team's findings and recommendations.</i>	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. <i>Use brief descriptions and include USDA maps when available.</i>	18-2.021	3.1 & Figure 5
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 & 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 & 3.5
40.	The identification or resources on the property that are listed in the Natural Areas Inventory. <i>Include letter from FNAI or consultant where appropriate.</i>	18-2.021	3.3, 3.5.1, 3.5.2 3.8, Tables 1 & 2, & Appendix L
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	3.1 through 3.9, 4.5, 4.6, 5.1 & 5.4
42.	Habitat Restoration and Improvement	259.032 & 253.034 ↓	
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.		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 & 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. <i>Include fire management plans - they can be in plan body or an appendix.</i>		4.4, 4.5 & Appendix O
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 & Table 4

43.	***Quantitative data description of the land regarding an inventory of forest and other natural resources and associated acreage. <i>See footnote.</i>	253.034	3.3 & Figure 4
44.	Sustainable Forest Management, including implementation of prescribed fire management	18-2.021, 253.034 & 259.032 ↓	
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 & 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 & Table 4
45.	Imperiled species, habitat maintenance, enhancement, restoration or population restoration	259.032 & 253.034 ↓	
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 & 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 & Table 4
45-F.	Assess the feasibility of managing the lands > 40 contiguous acres as a recipient site for gopher tortoises consistent with rules of the Fish and Wildlife Conservation Commission, as prepared by the agency or cooperatively with a Fish and Wildlife Conservation Commission wildlife biologist.	259.105	3.5.2
45-G.	Economic feasibility of establishing a gopher tortoise recipient site, including the initial cost, recurring management costs and the revenue projections.	259.105	3.5.2 or N/A
46.	***Quantitative data description of the land regarding an inventory of exotic and invasive plants and associated acreage. <i>See footnote.</i>	253.034	4.5.2 & 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 & 253.034 ↓	
48-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		4.3, 4.5.2, & 4.5.3
48-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2 & 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 & 4.5.3
48-E.	Budgets (see requirement for #42-E).		6.1, 6.2 & Table 4

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	18-2.018 & 18-2.021	1.6

	under study for such designation. <i>If yes, provide a list of the appropriate managing agencies that have been notified of the proposed plan.</i>		
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 & 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 & Figure 4
52.	***Quantitative description of the land regarding an inventory of hydrological features and associated acreage. <i>See footnote.</i>	253.034	Figure 4
53.	Hydrological Preservation and Restoration	259.032 & 253.034 ↓	3.2
53-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		3.2, 4.3 & 4.5.4
53-B.	Detailed description of both short and long-term management goals (see requirement for # 42-B).		2.2 & Table 3
53-C.	Measurable objectives (see requirement for #42-C).		2.2
53-D.	Related activities (see requirement for #42-D).		3.2 & 4.5.4
53-E.	Budgets (see requirement for #42-E).		6.1, 6.2 & 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. <i>Include maps of all cultural resources except Native American sites, unless such sites are major points of interest that are open to public visitation.</i>	18-2.018, 18-2.021 & per DHR's request	3.9
55.	***Quantitative data description of the land regarding an inventory of significant land, cultural or historical features and associated acreage.	253.034	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 & 253.034 ↓	3.9
57-A.	Management needs, problems and a desired outcome (see requirement for # 42-A).		3.9 & 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 & Table 4
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****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. <i>See footnote.</i>	253.034	5.1
59.	Capital Facilities and Infrastructure	259.032 & 253.034 ↓	
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 & 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 & Table 4
60.	*** Quantitative data description of the land regarding an inventory of recreational facilities and associated acreage.	253.034	5.1 & Figure 9
61.	Public Access and Recreational Opportunities	259.032 & 253.034 ↓	
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 & Table 4
61-D.	Related activities (see requirement for #42-D).		5.1
61-E.	Budgets (see requirement for #42-E).		6.1, 6.2 & Table 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	done

63.	Place the Executive Summary at the front of the LMP. Include a physical description of the land.	ARC and 253.034	iv
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	iv
65.	Key management activities necessary to achieve the desired outcomes regarding other appropriate resource management.	259.032	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	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	Table 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.

LAND MANAGEMENT PLAN EXECUTIVE SUMMARY

Lead Agency: Palm Beach County Department of Environmental Resources Management

Common Name of Property: Juno Dunes Natural Area

Location: Town of Juno Beach, Palm Beach County, Florida

Total Acreage: 569 (335.6 State-Owned, 202.9 County-Owned, 30.1 leased from Florida Inland Navigation District)

<u>Land Cover Classification</u>	<u>Acreage*</u>	<u>Land Cover Classification</u>	<u>Acreage*</u>
Basin Marsh	91.6	Mesic Flatwoods	14.8
Beach Dune	5.3	Open Water	7.9
Coastal Strand	4.3	Parking Lot	1.0
Depression Marsh	17.6	Scrub	315.0
Hydric Hammock	4.3	Scrubby Flatwoods	38.8
Mangrove Swamp	45.7	Wet Flatwoods	5.5
Maritime Hammock	9.0	Xeric Hammock	14.1

*Includes approximately 6.5 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: 4161

Use: Single X Multiple _____

Management Responsibility:	<u>Agency</u>	<u>Responsibility</u>
	Palm Beach County	All management activities
	Town of Juno Beach	Public safety and law enforcement

Designated Land Use: Natural Area (Conservation)

Sublease(s): None

Encumbrances: Five utility/access easements, one road easement, one conservation easement, setback requirements, two potable water service agreements, one wastewater service agreement

Type Acquisition: Fee Simple Shared Acquisition- Conservation and Recreation Lands funds and Palm Beach County Environmentally Sensitive Lands Bond Referendum funds

Unique Resources: Natural Pamlico Dune Ridge, Florida Scrub
Archaeological/Historical Celestial Railroad, U.S. Highway 1

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 (11 vacant lots in the New Palm Beach Heights subdivision & Holy Spirit Lutheran Church parcel, see Sec 1.5)

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: _____



**MANAGEMENT PLAN FOR
JUNO DUNES NATURAL AREA**

FCT PROJECT # 95-046-P56 – JUNO HILLS

**Original Plan: December 1999
First Update: November 2011
Second Update: November 2022**

Prepared by:

**Palm Beach County
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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 569-acre Juno Dunes Natural Area (natural area) is located in the northeastern portion of Palm Beach County (County). The County owns approximately 202.89 acres of land within the natural area, leases 335.65 acres from the state and leases 30.15 acres from the Florida Inland Navigation District. The County acquired most of the natural area in six purchases from 1992 through 1999. County funds for the acquisitions were provided from the sale of bonds authorized by the Palm Beach County Environmentally Sensitive Lands Bond Issue Referendum of March 12, 1991. State Preservation 2000 matching funds for acquisition of three tracts were provided through the Conservation and Recreation Lands Program and the Florida Communities Trust Program.

Basin marsh, mangrove swamp, scrub, and scrubby flatwoods are the predominant natural communities present on the site. Smaller areas of beach dune, depression march, maritime hammock, mesic flatwoods, and xeric hammock are also present. Thus far, 664 species of plants and 301 species of animals have been recorded on the site, including 26 plant and 41 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 purposes for the acquisition of this natural area were to preserve, restore/enhance and manage the site's ecological and cultural 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 purposes of the site's acquisition. It also has helped the County and the Town of Juno Beach comply with portions of their respective comprehensive plans.

Public use facilities have been constructed; the east side of the site opened to the public in August 2001 and the west side of the site opened to the public in April 2004. Accessible nature trails, hiking trails, bicycle racks, dune overwalk, boardwalks, shade shelters with benches, observation tower, picnic tables, floating boat dock, 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. Main public access to the site is provided through parking facilities on both sides of U.S. Highway 1. Additional access to the site is via two pedestrian/hiking trailheads located on either side of Donald Ross Road, one pedestrian/hiking trailhead on Ellison Wilson Road, and a dune overwalk from the beach. A day-use docking facility allows visitors to access the natural area from the Atlantic Intracoastal Waterway.

The original management plan for the site was completed in December 1999. An updated management plan was completed in December 2011. This updated management plan: 1) identifies the existing natural and cultural 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 managed in accordance with all applicable grant restrictions, lease conditions and management agreement conditions; and 5) identifies public recreational uses that may be accommodated without adversely affecting the site's natural and cultural resources. This management plan identified any changes to the site since the December 2011 plan and also includes information related to the site's connectivity with other conservation areas, 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 2032.

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1. INTRODUCTION

1.1 LOCATION AND DESCRIPTION

Juno Dunes Natural Area (natural area) is located in the northeastern portion of Palm Beach County (County) (Figure 1). The 569-acre natural area is located the Town of Juno Beach (Town). The site is fully acquired.

The nearest state-owned park within a 3-mile radius is John D. MacArthur Beach State Park which is located approximately 2.2 miles southeast of the natural area (Figure 1). The nearest significant waterbodies are the Atlantic Ocean and the Atlantic Intracoastal Waterway (AIWW) which border the natural area to the east and west, respectively. Additionally, the Loxahatchee River/Lake Worth Creek Aquatic Preserve starts in the AIWW 1.25 miles north of the natural area. County-owned natural areas within a 3-mile radius include Jupiter Ridge, 1.1 miles to the north; Frenchman's Forest, 0.6 mile to the southwest; and Pawpaw Preserve, 0.8 mile to the south. Other conservation areas and/or significant preserve areas near the site include Karen Marcus Ocean Park Preserve, 0.9 mile to the north.

Larger, developed county parks within a 3-mile radius of the natural area, listed from north to south, are Carlin Park, Juno Beach Park, Loggerhead Park, Bert Winters Park, and Juno Park (Figure 1). The closest regional and district county park to the natural area is Riverbend/Lox River Battlefield Park, approximately 6.2 miles to the northwest. In addition, there are a number of smaller county parks in the vicinity of the natural area. There also are two municipal parks in the immediate vicinity of the natural area – FIND (Florida Inland Navigation District) Park and Kagan Park. In addition to these public areas, the largest privately owned scrub preserve (Palmwood Scrub) in northern Palm Beach County lies 0.4 mile west of the Natural Area within the Bears Club.

The natural area is composed of a variety of wetlands and landforms. In general, uplands and transitional areas within the site – beach dune, coastal strand, hydric hammock, maritime hammock, mesic flatwoods, scrub, scrubby flatwoods, wet flatwoods, and xeric hammock - exhibit a fair amount relief. Wetlands within and immediately adjacent to the natural area include: the AIWW, basin marsh, depression marsh, and mangrove swamp. Ground elevations within the natural area generally range from -1.2 feet to 48.3 feet North American Vertical Datum [NAVD] (PBC 2017 LIDAR). All of the natural area is located on the Pamlico Ridge (Iverson and Austin 1988).

Basin marsh, mangrove swamp, scrub, and scrubby flatwoods are the predominant natural communities present on the site. Smaller areas of beach dune, coastal strand, depression marsh, hydric hammock, maritime hammock, mesic flatwoods, open water, wet flatwoods, and xeric hammock also are present. Florida Natural Areas Inventory (FNAI) has ranked seven of the intact natural communities present on the natural area as very rare (basin marsh and xeric hammock) or

imperiled (beach dune, coastal strand, maritime hammock, scrub, and scrubby flatwoods) in Florida (FNAI 2022).

The natural area contains important habitat for many rare plant and animal species. Thus far, 664 species of plants and 300 species of animals have been recorded on the site, including 26 plant and 40 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

The Juno Dunes Natural Area has remained, for the most part, as undisturbed native vegetation with minimal past uses. The past uses of the site have caused mostly temporary and/or minor problems on small areas scattered around the perimeter of the site. A county road and a railroad ran through the northeastern portion of the site beginning in the 1890s. The railroad and road were later abandoned, but portions of their rights of way were incorporated into present-day A1A. Several small patches within the natural area may have been cleared and used for pineapple growing, but were abandoned prior to 1940.

Road cuts and a causeway through a wetland were created in an attempt to find a route for Rolling Green Road in the late 1940s. Present-day U.S. 1 and Donald Ross Road divided the site into three pieces in the late 1950s. About the same time, a residence was established in the northwest corner of the site that was later abandoned. The most significant alteration to the site occurred in 1962 with the mosquito ditching of the majority of the historic basin marshes. Off-highway vehicles (OHVs) used the network of roads and trails around wetlands that resulted from the mosquito ditching activities, but these trails were eventually overgrown by vegetation and abandoned by the late 1980s. In some cases, OHVs have created large berms along curves in trails in scrub and along wetland edges, and some slight OHV damage also has occurred within a few depression marshes. Significant trash, construction debris, and junk car dumping has occurred at mosquito ditch road access points, but nearly all of the debris on each tract in the site was removed prior to its acquisition by the County.

Wetlands in the northwest corner of the site were filled with spoil in 1962 during maintenance dredging of the AIWW. In the early 1970s, scraping of scrub, filling of basin marsh, and digging of a borrow pit were associated with the construction of the former sewage treatment plant on Rolling Green Road adjacent to the natural area. In 1979 the Seminole Golf Course established three irrigation wells just south of the natural area. The wells were abandoned and plugged in 2005. An area west of U.S. 1 in the northern portion of the site was scraped and leveled at about the same time for construction of a wastewater lift station. The Juno Ocean Walk RV Resort just north of the natural area was built in the early 1980s without a drainage outlet. Floodwater from

this site has entered the natural area's wetlands after high rainfall events. A parking lot/sale office pad was constructed in 1994 in the northeastern corner of the oceanfront tract, adjacent to A1A, and then abandoned. A more detailed examination of the past uses at Juno Dunes is available in the History section of the 1999 management plan.

1.3 ADJACENT LAND USES AND IMPACTS

All parts of the natural area except for the 30.15-acre FIND parcel, and the part of the oceanfront tract east of County Road A1A (A1A) are designated "Conservation" on the March 2022 Future Land Use Map for the Town (Town of Juno Beach 2022). The FIND parcel and the part of the oceanfront tract east of A1A are designated "Recreation/Open Space" on the Town's Future Land Use Map. The "Conservation" designation is intended to protect important natural environmental features, including endangered and threatened species, and the "Recreation/Open Space" designation is intended to retain open space for public recreation. The Town Charter requires a unanimous vote of all five (5) councilmembers to change the future land use of environmentally sensitive lands.

The oceanfront tract in the natural area is bounded on the north by the Ocean Royale condominium, on the east by the Atlantic Ocean, on the south by Loggerhead Park, and on the west by U.S. 1, a four-lane divided highway that is a major north-south transportation route in coastal Palm Beach County.

The portion of the west tract north of Donald Ross Road is bounded on the north by the Bluffs residential development, the Juno Ocean Walk RV Resort and the Juno Beach Condominium mobile home park; on the east by U.S. 1, a 30-foot by 50-foot parcel owned by the Loxahatchee River District (LRD) that contains an operating wastewater lift station, and the western portion of the Sea Oats condominium; on the south by the Sea Oats condominium, a small property owned by the Town of Jupiter which contains a water tank, the Loggerhead Plaza shopping center and Donald Ross Road; and on the west by the AIWW.

The portion of the west tract south of Donald Ross Road is bounded on the north by Donald Ross Road, and on the east by the Juno Square shopping center, the New Palm Beach Heights subdivision, and the Hampton Inn motel. South of the Hampton Inn, the site is bounded on the east by U.S. 1; on the south by Rolling Green Road, the Town's public works compound and the Beach House Center for Recovery; and on the west by Ellison Wilson Road and a small conservation area that is part of the Holy Spirit Lutheran Church property, and which is contiguous with the natural area. Other properties lying southwest of the U.S. 1/Donald Ross Road intersection include an office building and a Tire Kingdom.

The portion of the west tract located south of Rolling Green Road is bounded on the north by Rolling Green Road; on the east by U.S. 1; on the south by a single-family residential development, known as the Preserve at Juno Beach, and on the west by Ellison Wilson Road.

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 and nearby properties; and the use of wells to provide potable water for the surrounding properties; access to the site by off-highway vehicles (OHVs); dumping; animal mortality from vehicular traffic; and noise, light and litter issues related to use of the adjacent park properties. Additionally, the adjoining AIWW frequently contains seeds from nonnative plants and may facilitate nonnative plant invasions at the natural area.

Domestic animals and pets may cause impacts at the natural area due to residential properties that surround the site and/or the public bringing them onto 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 Juno Dunes 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 and historic 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 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. Although not prohibited by the Natural Areas Ordinance, logging is not appropriate for this natural area since it does not contain commercially-viable quantities of timber. 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 and cultural 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 on the natural area. There are sufficient retail businesses

in the vicinity of the natural area to supply services normally provided by concessionaires. Camping and horseback riding are not appropriate for the site given the rare and imperiled status of many 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 or equestrian use were permitted - and due to the high potential for soil erosion and the naturally wet conditions within the site. Fishing and boating uses can be accommodated on the AIWW, and a docking facility for small boats has been constructed on the FIND tract. 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 13 vacant lots in the New Palm Beach Heights subdivision adjacent to the natural area, most of which contain disturbed mangrove swamp vegetation. Two of these lots were acquired by the County in 2009 and 2020 via tax deed and warranty deed, respectively. The others could be acquired in the same manner or as mitigation for a development project elsewhere if the opportunity arises, or purchased and incorporated into the natural area if funds become available for acquisition. The wetland areas could be restored if these lots were acquired.

Holy Spirit Lutheran Church, located on the west side of Ellison Wilson Road north of Rolling Green Road, owns a narrow strip of land approximately 550 feet long and averaging 40 feet wide on the east side of Ellison Wilson Road that is bordered on three sides by the natural area. The church has granted the County a conservation easement over this area as a condition of expansion of its facilities on the west side of the road. County staff has discussed the possible donation of this strip to the County with church board members, but to date the church wishes to retain ownership of the property. County acquisition of this strip would be beneficial because all of the land on the east side of the road would then be county-owned and there would be a uniform boundary along Ellison Wilson Road.

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 and historical 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). The County-owned 73.5-acre portion of the site also is preserved and protected under the restrictions imposed by a conservation easement granted by the County to the South Florida Water Management District (see Section 1.7 and Appendix D).

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 the 333.65-acre MacArthur tract (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 that runs until the year 2047 (Lease Number 4164; see Section 1.7 and Appendix E). Another 30.15-acre portion of the natural area is managed under the restrictions of a 25-year management lease (automatic 10-year renewal on August 19, 2022 that runs until August 18, 2032; Lease Number MSA-614B), with Florida Inland Navigation District (FIND; Figure 2; see Section 1.7 and Appendix F). Management and use of the 42.92-acre Juno Associates Oceanfront tract (Figure 2) also are limited by the conditions imposed in the Florida Communities Trust (FCT) Grant Award Agreement dated December 9, 1997 (Appendix G).

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, Donald Ross Road, and residential and commercial areas limits the options for prescribed burning.

Management of the AIWW 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 not within an aquatic preserve or a designated area of critical state concern, and is not under study for such a designation.

1.7 EASEMENTS, CONCESSIONS, LEASES AND OTHER ENCUMBRANCES

Below is a summary of the easements, concessions, leases and other encumbrances on Juno Dunes Natural Area. Copies of the recorded easements, leases and other encumbrances that restrict use of, or benefit, the Natural Area are available upon request (Appendix H).

In addition to the encumbrances listed below, one taxing authority, Loxahatchee River Environmental Control District (LRECD, now the Loxahatchee River District) has the right to levy assessments for services provided to lands within its service area, including the Natural Area.

LRECD also may place a lien over affected lands if the assessments are not paid. To date, LRECD has not provided services to, nor levied assessments over, any portion of the Natural Area.

Although setback requirements are in place for portions of the Natural Area fronting U.S. Highway 1 and Donald Ross Road, they do not affect the intended use of the Natural Area as a nature preserve. Similarly, although a Coastal Construction Control Line (CCCL) restricts the seaward construction of structures on a portion of the Juno Associates Oceanfront Tract, just east of Ocean Drive (also known as A1A), the CCCL does not affect the intended use of the tract as a nature preserve. The rights of way for U.S. Highway 1, Ocean Drive, Rolling Green Road, Donald Ross Road and Ellison Wilson Road are not included within the Natural Area's boundaries.

No additional easements, concessions, or leases or other encumbrances are anticipated.

Active Easements, Concessions and Other Encumbrances

1.7.1 New Palm Beach Heights Plat – Affects the Alden and Tax Deed Tracts

The August 16, 1916 plat of New Palm Beach Heights, as amended, specified the dimensions of the Alden and Tax Deed Tracts (Figure 2). The plat also established a 50-foot-wide “paper” road right of way just west of the Alden and Tax Deed Tracts and granted the former landowners reversionary rights to any platted road rights of way that might be abandoned in the future. In 1956, the former landowners conveyed their reversionary rights in the platted road rights of way to the County. In the mid-1990s, the County conveyed its interest in the platted road rights of way to the Town. Ownership of the lands within the paper road right of way just west of the Alden and Tax Deed Tracts should revert to the Town if the right of way is ever abandoned.

1.7.2 Rolling Green, Inc. and Bessemer Properties, Inc. – Restrictions on Sale of Water from Proposed Water Pumping Plant – Has No Adverse Effect on 0.92-acre Parcel near the Southwest Corner of Natural Area

In 1950, Rolling Green, Inc. conveyed a small parcel in the southwest corner of the Natural Area to Bessemer Properties, Inc. (part of present-day MacArthur Foundation Tract, see Figure 2). Pursuant to the deed, if a water pumping plant is ever created on the subject parcel, the water plant operators would be required to sell a portion of their water to Rolling Green, Inc., its successors and assigns, at the same price paid by the owners of lands previously owned by Bessemer Properties, Inc. Since the subject parcel is managed for conservation purposes, this restriction is moot.

1.7.3 Various Owners to FPL – Electric Utility Facility Easements – Various Locations within the Natural Area – Benefit FPL and Its Customers

FPL currently holds four easements that affect the Natural Area. In 1950, FPL acquired a 5-foot by 25-foot, east-west, guywire and anchor easement along the eastern edge of the Natural Area,

approximately 300 feet south of Donald Ross Road. Although this easement may have been used in the past, it is not currently in use.

Between 1975 and 1976, Royal American Industries, Inc. and its predecessor, Intercoastal Properties, Inc., granted FPL three easements that affect the Natural Area. The first easement is located just north of the Donald Ross Road-Ellison Wilson Road intersection, and is roughly perpendicular to the powerline located just north of Donald Ross Road. This 10 feet by 25 feet easement is used for guy wires and anchors. The last two easements are 10-feet-wide and are adjacent to the eastern right of way for Ellison Wilson Road. These two easements run end to end with each other. Together they extend from just north of the Bert Winters Tract, northward approximately 1,351 feet, to just south of the tidal creek. Most or all of these last two easements appear to be unused; the existing concrete power poles are within the Ellison Wilson Road right of way.

1.7.4 Alice Gwynn Watson, et al. to George R. and Virginia E. Smith - Road Easement – Benefits the Western Portion of the Juno Associates Tract; and County to Marina at the Bluffs Condominium Association, Inc. - Partial Easement Reduction of the Road Easement - Benefits the Condominium Association

In August 1954, Alice Gwynn Watson, et al. granted George and Virginia Smith a 66-foot-wide road easement along the eastern edge of the northwest quarter of Section 20 (Township 41 South, Range 43 East). The road easement extended from Mr. and Mrs. Smith's 3.2-acre parcel in the southwest portion of the Juno Associates Tract, northward through the present-day Natural Area and Marina at the Bluffs Condominium property, to the present-day Marcinski Road. Although the portion of the easement lying within the Juno Associates Tract (Figure 2) should have merged with title when Juno Associates Ltd. acquired all of the encumbered and benefitted lands within the Natural Area, the easement was preserved by its inclusion in the Sea Trace PUD plat. The easement also was preserved as an exception to the title when the County acquired the Juno Associates Tract in 1992. Nevertheless, it should be noted that only the County, its successors and assigns can use the portion of the easement that lies within the Natural Area.

On December 6, 1994, the County entered into an agreement with the Marina at the Bluffs Condominium Association, Inc. The purpose of the agreement was to reduce the width of a portion of the road easement lying north of the Natural Area from 66 to 20 feet, to allow the condominium association to construct a maintenance facility just north of the Natural Area. However, it appears that the condominium association never prepared or recorded the required amended easement. As a result, the 66-foot-wide road easement north of the Juno Associates Tract appears to be in full force; this easement benefits the Natural Area by providing management access from Marcinski Road through the condominium property.

1.7.5 Sea Trace Planned Unit of Development (P.U.D.) Plat – Affects the Juno Associates and Juno Associates Oceanfront Tracts

The August 1987 Sea Trace P.U.D. plat specified the dimensions of the Juno Associates and Juno Associates Oceanfront Tracts (identified as “Parcel 1” and “Parcel 2” in the plat, respectively; also see Figure 2). However, since the plat did not create any new easements or road rights of way, it did not affect use of the Juno Associates and Juno Associates Oceanfront Tracts for conservation purposes.

1.7.6 Juno Associates, Ltd to the Town of Juno Beach (Town); and the Town to the Town of Jupiter – Ingress/Egress Easement from Town of Jupiter’s Water Storage Tank to U.S. Highway 1 – Benefits the Town of Jupiter Water Utilities Department

In May 1989, Juno Associates, Ltd granted the Town a permanent 25-foot-wide, approximately 281-feet-long, east-west oriented, nonexclusive ingress/egress easement over the southern boundary of the Juno Associates Tract. The Town conveyed its interest in the easement to the Town of Jupiter in November 1991. The easement allows the Town of Jupiter to construct, repair, install and maintain water facilities between the Town of Jupiter’s water storage tank (just south of the Juno Associates Tract) and the right of way for U.S. Highway 1.

1.7.7 FIND and the County - Lease Agreement for the FIND Tract – Benefits the Natural Area

FIND holds a 100 percent title interest in the approximate 30.15-acre FIND Tract (see Figure 2; Appendix F). The County manages the FIND Tract, which also is known as “MSA 614B”, pursuant to an August 19, 1997 Lease Agreement with FIND. The 25-year term lease contains two automatic 10-year renewal options. The first of the two renewal options was approved by FIND on August 11, 2021, thereby extending the current term of the Lease Agreement through August 18, 2032. The Lease Agreement will automatically renew for an additional ten years on August 19, 2032, unless FIND provides the County with a written termination notice at least ninety days prior to the end of the current lease term.

The Lease Agreement requires the County to: 1) manage the FIND Tract for the conservation, protection, restoration and enhancement of the site’s natural resources, and resource-based public outdoor recreation that is compatible with the conservation and protection of these resources; 2) maintain the leased property free of trash and litter; 3) maintain any improvements located within the leased tract in good working order and repair; and 4) install signage that recognizes FIND’s contribution to the Natural Area. The lease also grants FIND the right to use the tract for mitigation purposes for future FIND and/or U.S. Army Corps of Engineers projects.

1.7.8 Board of Trustees of the Internal Improvement Trust Fund (TIITF) of the State of Florida to the County – Lease Agreement for the MacArthur Foundation and Fisher Tracts in Juno Dunes Natural Area, and a 3-acre Portion of Loxahatchee Slough Natural Area – Benefits the Natural Area

TIITF holds a 100 percent title interest in the 335.65-acre portion of the Natural Area that was purchased with state Preservation 2000 matching funds through the Conservation and Recreation

Lands (CARL) program. The County manages the state-owned MacArthur Foundation and Fisher Tracts (see Figure 2) pursuant to the constraints imposed by the August 19, 1997, 50-year state management lease (Lease Number 4161; Appendix E) from TIITF to the County. This lease runs through August 18, 2047. The original lease, which covered the MacArthur Foundation Tract, was amended on June 15, 1999 to add the Fisher Tract. The lease was amended a second time on October 7, 2010 to add the 3-acre State Lease parcel in Loxahatchee Slough Natural Area, rather than create a new lease for such a small parcel.

The lease, as amended, requires the County to manage the leased premises 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 section 253.023 [now 259.032], Florida Statutes, along with other 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 contained the information required under Section 259.032, F.S. The initial plan was approved by the Division of State Lands of the Florida Department of Environmental Protection (FDEP) in December 2000. The initial update to the management plan was approved by the state's Acquisition and Restoration Council on April 20, 2012. This management plan is the second update of the initial management plan. The next update to the plan will be due in 2033.

1.7.9 County and Town - Interlocal Agreement – Restricts Use of and Benefits the Natural Area

The October 7, 1997 Interlocal Agreement between the County and Town requires the Natural Area to be managed for the conservation, protection and enhancement of the site's natural and historical resources. Use of the Juno Dunes Natural Area is restricted to scientific, educational and passive, natural resource-based, public outdoor recreational activities that are compatible with the preservation and restoration/enhancement of the site's natural resources. The Interlocal Agreement also establishes management, maintenance and public safety/law enforcement responsibilities for the Natural Area. On February 6, 2007, the Interlocal Agreement was amended to: 1) acknowledge that the Natural Area had been renamed from Juno Hills Natural Area to Juno Dunes Natural Area; 2) add responsibilities related to the promotion of ecotourism within the Natural Area and Town; and 3) allow the Town to place bollard style lights just east of the Ocean Drive pedestrian path.

1.7.10 FCT, and the County and Town – Grant Award Agreement – Protects and Restricts Use of the Juno Associates Oceanfront Tract

The 42.92-acre portion of the Natural Area known as the Juno Associates Oceanfront Tract was acquired with matching funds from FCT and therefore is constrained by the conditions imposed in the associated December 9, 1997 Grant Award Agreement. Pursuant to this agreement, the County must manage the grant property for conservation, protection and enhancement of natural and

historical (if any) resources and for compatible, passive, natural resource-based public outdoor recreation. As the grant recipient, the County must provide FCT with at least sixty days prior written notice regarding any proposed lease of any interest in, the operation of any concession on, any sale or option related to the grant property, the granting of any management contracts to a nongovernmental entity, and any use of the FCT project site by any person other than in that person's capacity as a member of the general public. The County may not execute related documents without the prior written approval of FCT. All fees collected from a lease, concession contract, management contract, etc. on a FCT project site shall be reported to FCT and placed in a segregated account solely for the upkeep and maintenance of that site.

Any proposed modification to the approved management plan and/or any site alterations or physical improvements that are not addressed in the approved management plan require prior FCT review and approval.

1.7.11 County to South Florida Water Management District (SFWMD), and County to the Town - Conservation Easements – Protect and Restrict Use of the Natural Area

Three conservation easements have been placed over portions of the natural area. In October 2010, the County granted the SFWMD a BCC-approved standard form conservation easement (R2005-1770) over the Juno Associates, Juno Associates Oceanfront, Parker, Resolution Trust and Community Finance Company Tracts (see Figure 2). In July 2013, the County granted the SFWMD a second conservation easement to protect a 2.07-acre portion of the Juno Associates Tract. This Conservation Easement was required by SFWMD Environmental Resource Permit No. 50-08244-P, which allowed the County to construct a recreational boating facilities and associated environmental restoration/mitigation project within the FIND and Juno Associates Tracts. Then in April 2021, the County granted the Town a conservation easement over the Juno Associates, Juno Associates Oceanfront, Parker, Resolution Trust, Community Finance Company, Tax Deed and Alden Tracts.

All three of these conservation easements provide a level of protection that is not affected by the retirement of county and/or state conservation bonds. The referenced conservation easements require the County to retain the land and water areas in their natural or restored condition, and retain and manage those areas as suitable habitat for native fish, plants or wildlife. The conservation easements limit improvements to those that support land management activities and recreational opportunities that have little or no impact on natural resources. The conservation easements also allow for the removal/eradication of nonnative and nuisance plants and animals, and implementation of environmental restoration/enhancement projects.

The County may place a conservation easement over the Former Parks Tract, if it is able to find an environmental agency or nonprofit group willing to accept the easement. The County will not place a conservation easement over the MacArthur Foundation, Fisher or FIND Lease Tracts since the County does not own the land. If/when the seagrass and mangrove restoration project described in Section 4.5.4 is used by FIND as mitigation for one of its projects, FIND will be required to

place a perpetual conservation easement over the 14.47-acre portion of the project site that is owned by FIND.

1.7.12 FIND and County – Two Juno Dunes Shoreline Restoration Project Agreements and One Site Dedication – Benefit Natural Area

FIND and the County entered into Project Agreements on January 16, 2014 and April 26, 2014, for the placement of armor stone along eroding portions of the Natural Area's Intracoastal Waterway shoreline. The first agreement covered those portions of the shoreline that were on, or adjacent to, lands owned by the County and State. The second agreement covered the portion of the shoreline that was on, or adjacent to, lands owned by FIND. The shoreline protection project was completed in June 2015.

The January 2014 Project Agreement requires the County to operate, maintain, manage the shoreline armoring project for a minimum of 25 years, or until June 2040; the armoring project also must be dedicated for public use for at least 25 years. There are no long-term maintenance/management or dedication requirements in the April 2014 Agreement, which protects the FIND shoreline.

1.7.13 Rights of the Public to Use the Lower Portion of the Beach/Shoreline

Members of the public may have the right to use the portion of the beach and/or shoreline lying within the Natural Area and waterward of the high water line of the Atlantic Ocean and/or Intracoastal Waterway.

1.7.14 Existing Encroachments

There are three existing encroachments within the Natural Area. The first encroachment is a concrete flume that extends from the western right of way for U.S. Highway 1 into the eastern portion of the Parker Tract. This flume presumably allows stormwater from the road to drain into the Parker Tract. The flume predates the County's acquisition and therefore is considered an allowable encroachment.

The second encroachment is an approximate 6-foot-wide pedestrian path that lies within the Juno Associates Oceanfront Tract, east of Ocean Drive. Although most of the path is located within the boundaries of the Natural Area, a small portion is located within the road right of way. Since the path predated the County's acquisition of the natural area, it is considered an allowable encroachment. The bollard-style lights just east of the path were approved by the County on February 6, 2007 (see Subsection 1.7.9).

Lastly, the northwest portion of the Seminole Plaza concrete retaining wall was constructed within the MacArthur Foundation Tract prior to the County's acquisition of that tract. Since the maximum

encroachment into the Natural Area was 1.62 feet (Shalloway et al. 1997), the plaza owner was not required to relocate the retaining wall. The natural area fence ties into the existing wall.

Inactive Easements, Concessions and Other Encumbrances

1.7.15 Robert Cook, T. Kenyon Cook and Jupiter Land Company – (Merged with Title) Right of Way Agreement – Encumbered a Portion of the MacArthur Foundation Tract Approximately 1,900 Feet South of Donald Ross Road

A September 23, 1952 Right of Way Agreement, as amended in 1954, granted the Cooks and Jupiter Land Company reciprocating east-west, 50-foot-wide right of way easements between the then proposed Ellison Wilson Road and U.S. Highway 1. The need for the easements became null and void prior to 1965 when U.S. Highway 1 and Ellison Wilson Road were constructed as paved and dirt roads, respectively (Palm Beach County Property Appraiser 1965). Any remaining interest in the easements merged with title when the encumbered properties were acquired by a single owner.

1.7.16 Jan Howard and Rozann S. Smith, and Town of Juno Beach – (Extinguished) Two Annexation Agreements Relative to the Resolution Trust Tract

In 1984 and 1988, the Smiths and the Town entered into two different Annexation Agreements related to the Resolution Trust Tract. The 1984 agreement expired in 1985. Pursuant to the 1988 agreement, the Town agreed to zone the Resolution Trust Tract as “Commercial General,” with certain restrictions, upon its annexation into the Town. In October 2020, the tract’s zoning designation was changed from “Commercial General” to “Environmentally Sensitive Lands” at the County’s request.

1.7.17 Juno Associates, Ltd and the Loxahatchee River Environmental Control District (LRECD) – (Terminated) Agreement for LRECD to Provide Wastewater Hookups to Proposed Buildings within the Juno Associates and Juno Associates Oceanfront Tracts

In August 1991, Juno Associates, Ltd entered into an agreement with LRECD (now the Loxahatchee River District) that required LRECD to reserve capacity within its system for 300 future wastewater connections within the Juno Associates and Juno Associates Oceanfront Tracts. This agreement was amended in November 1992 to transfer all of the reserved wastewater connections to the Juno Associates Oceanfront Tract, and was terminated in its entirety in February 1997.

1.7.18 Juno Associates, Ltd. and Town of Jupiter – (Terminated) Agreement Authorizing the Town of Jupiter to Provide Potable Water Service to a Proposed Single Family Development on the Juno Associates Oceanfront Tract

In May 1994, Juno Associates, Ltd. and the Town of Jupiter entered into an agreement whereby the Town of Jupiter would provide potable water service to a proposed single family development on the Juno Associates Oceanfront Tract. The agreement was terminated in December 1998.

1.7.19 John D. and Catherine T. MacArthur Foundation (MacArthur Foundation) to the County – (Merged with Title/Expired) Temporary Easement and Agreement over a Portion of the MacArthur Foundation Tract lying south of Donald Ross Road – Benefitted the County

On August 15, 1995, the County and MacArthur Foundation entered into a Temporary Easement and Agreement to allow the County to use a small portion of the MacArthur Foundation Tract during an Intracoastal Waterway dredging and beach restoration project. The portion of the easement lying within the MacArthur Foundation Tract merged with title when the County acquired the underlying land in December 1995; the remainder of the easement and agreement ended on April 30, 1996 pursuant to the terms of the agreement.

1.7.20 County to MacArthur Foundation – (Expired) Right of First Refusal over the MacArthur Foundation Tract – Benefitted the MacArthur Foundation

When the County acquired the MacArthur Foundation Tract in December 1995, it granted a twenty-year term “Right of First Refusal” Agreement (Agreement) to the MacArthur Foundation. The Agreement expired at midnight on December 13, 2015, and is no longer in effect.

1.7.21 MacArthur Foundation to the County – (Merged with Title/Expired) Access and Management Easement – Benefitted the County

When the MacArthur Foundation sold the MacArthur Foundation Tract to the County in December 1995, it retained ownership of three road frontage parcels just west of U.S. Highway 1 (present-day Communities Finance Company Tract, Figure 2) and one road frontage parcel just south of Donald Ross Road. As a condition of the sale, the MacArthur Foundation granted the County a nonexclusive Access and Management Easement over all four retained parcels. This easement allowed the County to access the MacArthur Foundation Tract from U.S. Highway 1 and Donald Ross Road via the retained parcels. Minor amendments were made to the easement in 1996 and 1997 as conditions of the sale of the MacArthur Foundation Tract from the County to the State.

The Access and Management Easement expired or merged with title in 2005 and 2006, respectively, when the retained parcels were conveyed to the County for roadway (the Donald Ross Road frontage parcel) or natural areas (the Communities Finance Company Tract) purposes.

1.7.22 County’s Metropolitan Planning Organization (MPO) and BCC – (Expired) Juno Dunes Water Taxi Docking Facility Grant – Provides Boater Access to the Natural Area

On January 13, 2009, the County's MPO and BCC entered into an agreement to fund a docking facility at the Natural Area for use by licensed water taxi operators and the general public. The agreement, which was amended in May 2009 and October 2009, expired on March 31, 2021.

1.7.23 FIND and County – (Expired) Juno Dunes Mitigation, Enhancement and Public Boat Docking Facilities Project Agreement – Benefits the Natural Area

In January 2009, FIND and the County entered into an agreement to fund and construct environmental creation/enhancement and public use facilities projects within the FIND Tract, and adjacent portions of the Natural Area. The terms of the agreement expired in December 2016, when the fifth and final environmental monitoring report was submitted to the SFWMD.

1.7.24 Removed Encroachments

One pre-existing encroachment was removed from the Juno Associates Oceanfront Tract after the County acquired the land. In 1999, FPL relocated a high-voltage electrical transmission line from the western portion of the Ocean Drive right of way to the eastern portion of the U.S. Highway 1 right of way. During the relocation project, existing guy wires running from the transmission line poles to ground anchors at several locations within the Juno Associates Oceanfront Tract were removed. These guy wires appear to have been encroachments, as no easement for the wires was found. The relocation of the transmission line removed these encroachments.

1.8 PLAN DEVELOPMENT AND REVIEW

The BCC approved the initial management plan for this site in December 21, 1999. Subsequent updates to the management plan were approved by the BCC on December 20, 2011. 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 (Appendix I) and recommendations for this site received from FDEP were addressed by ERM in the 2011 management plan and approved by DSL's Acquisition and Restoration Council on April 20, 2012.

The main goal of this management plan is to help ensure that the site's natural and cultural 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 and cultural 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 and conservation easement restrictions, and management agreements and/or lease conditions; 6) evaluates the effect, if any, of existing recreational uses on the site's natural and cultural 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. The draft management plan is sent to NAMAC, Palm Beach Soil and Water Conservation District and the Town as management partner of the site, 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 November 1, 2022 at Palm Beach County's Vista Center in West Palm Beach (Appendix J). A copy of the draft management plan was available through 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 November 18, 2022 meeting of NAMAC. A summary of the public hearing and supporting documentation is included as Appendix J. Members of the public, Palm Beach Soil and Water Conservation District, and Town representatives were invited to comment on this draft management plan at the November 18, 2022 regularly scheduled meeting of NAMAC when the plan was initially discussed by the committee. NAMAC members took those comments into consideration prior to forwarding the draft management plan to the BCC with a recommendation that it be approved. 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. This updated management plan was reviewed and approved by ARC on (month day year) and FCT on (month day year).

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. The “Juno Hills Scrub” ecosite was one of those 14 high-priority sites.

In November 1992 the County purchased the 148-acre portion of the Sea Trace proposed development that lay west of U.S. 1 from Juno Associates, Ltd. for \$10,300,000. This was the first tract acquired for the Juno Dunes Natural Area. In September 1994 the County purchased a 3.5-acre tract from the Resolution Trust Corporation (RTC) for \$320,000. This tract was located just west of U.S. 1 and south of the New Palm Beach Heights subdivision.

In August 1995 the County and the Town submitted a joint application to the Preservation 2000 Program of Florida Community Trust (FCT) for matching state funds for purchase of the Juno Hills Oceanfront project site. In February 1997 the County purchased the oceanfront tract from Juno Associates, Ltd. for \$15,800,000. Matching funds of \$7,453,341 were provided by FCT in December 1997.

In December 1995, the County acquired approximately 334 acres of the Juno Hills CARL project site, located west of U.S. 1, from the MacArthur Foundation for \$14,975,430. The MacArthur Foundation retained ownership of strips on the west side of U.S. 1 and the south side of Donald Ross Road to provide additional right of ways for future expansion of these roads. In August 1996 the County purchased the 2-acre Fisher tract in the Juno Hills CARL project from Harry H. Fisher for \$165,000. This tract is located at the northeast corner of Ellison Wilson and Rolling Green Roads.

The 334-acre MacArthur tract was resold to TIITF in March 1997 to obtain CARL matching funds of \$7,475,427. The resale of the Fisher tract for \$82,500 to TIITF was completed in December 1998. A 50-year management lease from the State to the County for the MacArthur tract was executed on September 15, 1997. The lease was amended in June 1999 to include the Fisher tract.

A 25-year management lease to the County for the 30-acre FIND parcel was executed on August 19, 1997 with a 10-year extension granted on August 19, 2022.

In February 1999 the MacArthur Foundation gave the County a quitclaim deed for approximately 2.7 acres of uplands within the AIWW right of way that are adjacent to the northern portion of the natural area. In August 1999 the County purchased the 3.44-acre Parker tract from Barbara Parker for \$320,000. This tract was located west of U.S. 1 and south of the RTC tract.

By 2005 Watermark Communities, Inc. (WCI), which had purchased most of the MacArthur Foundation's landholdings in a 1999 bulk sale, wanted to be relieved of its obligations to the County to dig a wetland restoration project on the property it sold to the County that subsequently became the Winding Waters Natural Area. The County proposed that WCI donate to the County a number of the strips it owned that the MacArthur Foundation had retained within or adjacent to other natural areas, in exchange for being released from these obligations. The 30-foot-wide strip along U.S. 1 adjacent to the portions of the natural area south of Donald Ross Road was identified as one of these parcels. WCI was amenable to giving this strip to the County, and in March 2006 Communities Finance Corporation, LLC, a WCI subsidiary, donated a 1.86-acre strip.

In June 2009 and February 2020 the County obtained title to two parcels in the New Palm Beach Heights subdivision adjacent to the natural area. The 2009 parcel, containing 0.34 acre of disturbed mangroves, was obtained by tax deed for \$9,800. The 2020 parcel, containing 0.17 acre of disturbed mangroves, was obtained by warranty deed for \$10. These properties are managed as part of the natural area.

And finally, in September 2010, the County's Parks and Recreation Department agreed to transfer management responsibility to ERM for the 2.18-acre portion of Bert Winters Park located on the east side of Ellison Wilson Road in exchange for ERM's transfer of management responsibility for a small strip of another natural area to the Parks and Recreation Department so that it could use that strip as part of the site for a new community center.

The locations of the county-owned, county-leased and county-managed lands are shown in Figure 3. The legal description of the leased property is provided in Appendix K. Information regarding notable events taking place at the natural area during and subsequent to 1992 is in the following chapters: "Management and Restoration Activities" (Chapter 4), "Site Development and Improvement" (Chapter 5) and "Chronology of Major Events" (Chapter 9).

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 purpose for the acquisition of this natural area was to preserve, restore/enhance and manage the site's ecological and historical 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 purpose 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 and historical 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 and historical 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 basin marsh, beach dune, coastal strand, depression marsh, hydric hammock, mangrove swamp, maritime hammock, mesic flatwoods, scrub, scrubby flatwoods, wet flatwoods, and xeric hammock 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 Juno Dunes 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 healthy upland communities (short-term and long-term).

Objective A. Conduct prescribed burns within the appropriate upland 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: Ten prescribed burns have been conducted within flatwoods, scrub, and xeric hammock communities between 2000 and 2021. 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 with upland communities have had mechanical vegetative reduction 9 times between 2010 and 2020. See Section 4.5.1 for detailed information.

Objective C. 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 D. 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 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 fire-dependent wetland communities.

Status: The most recent prescribed burn conducted in management units containing basin marsh was in August 2018 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 AIWW (long-term).

Objective A. Restore/enhance approximately 2,400 feet of shoreline to protect against erosive wave activity.

Objective B. Restore/enhance approximately 930 feet of shoreline of the FIND property to protect against erosive wave activity.

Status: Restoration/enhancement projects for Objectives A and B were initiated in February 2015 and completed June 2015. 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 (short-term and long-term).

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

Status: Ten prescribed burns have been conducted between 2000 and 2021. 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 and long-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.

Objective B. Monitor the site for feral cats, stray dogs, coyotes (*Canis latrans*), 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.

Hydrological Preservation/Restoration

Goal 1. Restore historic hydroperiods and surface water flow patterns as much as possible to help restore the historic basin marsh, depression marsh, and tidal mangrove swamps of the South hydrological restoration project (short-term and long-term).

Objective A. Plug/fill the drainage and mosquito ditches to encourage their colonization by native wetland vegetation. Remove excess fill from the adjacent disturbed upland areas and restore them to wetland and transitional elevations that are conducive to colonization by native wetland/transitional plants. Both of these actions will help restore more natural surface water flows within the affected area.

Objective B. Design and install water control structures to increase the amount of fresh water that is retained on the site in order to raise water levels and extend hydroperiods within the basin and depression marsh communities.

Status: Restoration/enhancement projects for Objectives A and B were done in Phases. Phases I and II were completed in July 2008 in July 2009 respectively. Phase III was completed with some modifications in October 2011. Maintenance of the main channel was completed in January 2015. See section 4.5.4 for detailed information.

Goal 2. Evaluate the success (short-term and long-term) of the South hydrological restoration project.

Objective A. Monitor water levels within the restored mangrove swamp portion of the site and compare the results with pre-project levels.

Objective B. Monitor vegetation within the restored freshwater wetlands to see if the vegetation within these wetlands resembles similar, intact wetlands elsewhere on the site.

Status: Restoration/enhancement projects for Objectives A and B were done in Phases. Phases I and II were completed in July 2008 in July 2009 respectively. Phase III was completed with some modifications in October 2011. Maintenance of the main channel was completed in January 2015. See section 4.5.4 for detailed information.

Goal 3. Create an open water boater access point along the AIWW, known as the FIND restoration project (long-term).

Objective A. Create/enhance approximately 4.3 acres of created mangrove wetlands, 3.1 acres of created seagrass habitat, and 11.5 acres of enhanced mangrove wetlands.

Status: Enhancement projects were completed June 2011. See section 4.5.4 for detailed information.

Goal 4. Evaluate the success (short-term and long-term) of the FIND hydrological preservation/restoration project.

Objective A. Monitor mangrove recruitment within the created and enhanced portions of the site to see if the vegetation within these wetlands resembles similar, intact wetlands elsewhere on the site

Objective B. Monitor seagrass recruitment within the created seagrass habitats to ensure seagrass establishment success.

Status: Enhancement projects for Objectives A and B were completed June 2011. See section 4.5.4 for detailed information.

Cultural and Historical Resources

Goal 1. Protect and preserve the abandoned Celestial Railroad roadbed which lies in the northeastern corner of the site (Florida Master Site 8PB233; short-term and long-term).

Objective A. Conduct pre-construction cultural and historical resource investigations in areas that have not already been investigated for such resources and that will be disturbed as a result of public use facility construction or environmental restoration activities.

Objective B. Avoid disturbances to the soils and native vegetation surrounding any known cultural or historical resource. If additional cultural/historical resources are found within the natural area, the procedures used to protect the newly discovered cultural/historical resource(s) will depend on which agency has the ultimate review authority - FDHR or the County pursuant to Article 9 of the County's Unified Land Development Code.

Status: For Objectives A and B, staff conducted cultural and historical resource investigations prior to completion of the restoration/enhancement of the natural area. See section 3.9 for detailed information.

Sustainable Forest Management

This management objective is not applicable to Juno Dunes 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 (short-term and 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 – E, 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 (short-term and 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 (short-term and long-term).

Status: The County has completed construction of its public use facilities; the east side of the site opened to the public in August 2001 and the west side of the site opened to the public in April 2004. 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 (short-term and long-term).

Objective A. Install and maintain a fence and gate system that is designed to restrict public vehicular access to designated parking areas, 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

Juno Dunes Natural Area contains a remnant of the native upland and wetland communities formerly present in southeastern Florida. Urbanization, road and railroad construction, hydrologic modifications, fire suppression and other human-related disturbances have eliminated or severely modified almost all 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. Beach and dune is present 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 5. All of these soils have been adversely affected by the construction and operation of drainage systems, and the resulting lowering of water tables within and adjacent to the natural area. 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 Anclote

The Anclote series consists of nearly-level, very deep, very-poorly-drained sandy soils. Under natural conditions the water table typically is within 10 inches of the surface for 6 months or more; it recedes below a depth of 20 inches in the dry seasons. Depressional areas are ponded. The lowest areas are covered with water for 2 to 4 months in most years. Typical ecological communities found on Anclote soils include strand swamp and sawgrass marsh. The series is represented at the natural area by Anclote fine sand.

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, and Basinger and Myakka sands, depressional. Slough is the typical ecological community found on Basinger fine sand soils; cypress swamp, swamp hardwoods, and freshwater marshes and ponds are the typical ecological communities present on Basinger, depressional soils.

3.1.3 Beaches

In Palm Beach County, the Beaches soil series consists of narrow strips of tide-washed sand along the Atlantic coastline. The depth to the water table is highly variable, depending on the distance from the water, the height of the beach, the effect of storms, or the time of year. The depth to the water table ranges from 0 to 72 inches or more. South Florida coastal strand is the typical ecological community found on this soil type. This soil is present in the oceanfront portion of the natural area.

3.1.4 Durbin

The Durbin series consists of nearly-level, very deep, very poorly-drained soils present in tidal swamps and tidal marshes. Durbin soils are typically flooded by salt or brackish water during daily high tides. Salt marsh is the typical ecological community. The series is represented on the natural area by Wulfert and Durbin muck.

3.1.5 Myakka

The Myakka series consists of nearly-level to sloping, deep and very deep, poorly-drained to very poorly-drained sandy soils. Under natural conditions the water table is within 18 inches of the surface for 1 to 4 months; the water table may drop below 40 inches in extended dry periods. Depressional areas are covered with standing water for 6 to 9 months or more in most years. South Florida flatwoods is the typical ecological community. The series is represented at the natural area by Basinger and Myakka sands, depressional.

3.1.6 Okeelanta

The Okeelanta series consists of nearly-level, very deep, very-poorly drained, organic soils. Under natural conditions this soil is covered by water or the water table is within 10 inches of the surface 6 to 12 months, except during extended dry periods. Swamp hardwoods and freshwater marshes and ponds are the typical ecological communities found on this soil type. The series is represented on the natural area by Okeelanta muck.

3.1.7 Palm Beach

The Palm Beach series consists of nearly level to sloping, well- to excessively-drained, very deep, sandy soils that have a high shell fragment content. Under natural conditions the water table is below a depth of 120 inches. South Florida coastal strand is the typical ecological community found on this soil type. The series is represented on the natural area by Palm Beach-Urban land complex.

3.1.8 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 as part of the St. Lucie-Paola-Urban land complex.

3.1.9 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.

3.1.10 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 AIWW and other land leveling and filling activities.

3.1.11 Sanibel

The Sanibel series consists of nearly level, very poorly-drained, sandy soils that have a thin organic layer on the surface. Under natural conditions the water table is within 10 inches of the surface for 6 to 12 months. Water covers the surface for 2 to 6 months during wet periods. Freshwater marshes and ponds are the typical ecological communities present on Sanibel soils. The series is represented at the natural area by Sanibel muck.

3.1.12 St. Lucie

The St. Lucie series consists of nearly level to sloping, excessively-drained, very deep, sandy soils. Under natural conditions the water table is below a depth of 72 inches. Sand pine scrub is the

typical ecological community present on this soil. The series is represented at the natural area as part of the St. Lucie-Paola-Urban Land complex.

3.1.13 Urban Land

This mapping unit consists of soils that have been so altered by dredging, filling or regrading that the parent soil can no longer be easily recognized. This mapping unit is represented at the natural area in combination with other soils on the natural area as part of the St. Lucie – Paola – Urban land complex and the Palm Beach – Urban land complex.

3.1.14 Wulfert

Wulfert series consists of level, very deep, very poorly-drained soils present in tidal swamps and marshes. Wulfert soils typically are flooded by salt or brackish water during daily high tides. Mangrove swamp is the typical ecological community present on the Wulfert series. At the natural area, almost all of the areas within this soil series have been mosquito-ditched. The soil series is represented on the natural area by Wulfert and Durbin muck, tidal.

3.2 HYDROLOGY

The natural area contains part of the headwaters of the former Lake Worth Creek, a meandering blackwater creek that flowed northward to join the Loxahatchee River near its mouth at the Jupiter Inlet. Prior to the channelization of Lake Worth Creek and other human-caused alterations, the natural area contained a relatively simple natural system. All the land lying below five feet above sea level and west of present-day A1A was occupied by freshwater wetlands - several very large sawgrass marshes, intermixed with numerous small, scattered depression marshes. These freshwater wetlands were located within basins fed by local rain. Almost all of the land above five feet in elevation and west of present-day A1A was covered by Florida scrub.

Numerous hydrological impacts have occurred to the site, starting as early as the 1890s with the dredging of the AIWW. Other impacts include mosquito ditching, culvert installations, and wellfield installations which are detailed in the previous 2011 management plan. 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 in the portions of the site west of U.S. 1 would be expected to flow into adjacent wetlands, most of which eventually drain into the AIWW. The portion of the property east of U.S. 1 (the oceanfront tract) has no wetlands, and excess stormwater would flow either eastward toward A1A and the Atlantic Ocean, or westward to U.S. 1, both of which are at lower elevations than the majority of the tract.

ERM has constructed two restoration projects designed to restore a more normal hydroperiod to former freshwater wetlands in the interior of the natural area and improve tidal flushing of tidal wetlands in the western portion of the site. In 2008, a fixed weir was installed south of Donald Ross Road and west of the New Palm Beach Heights subdivision in an attempt to return disturbed

estuarine wetlands in the east-central two-thirds of the natural area to freshwater, rain-driven systems. The weir was designed to hold rainfall in the wetlands east and south of the structure and to stop tidal estuarine waters from flowing into these wetlands. Mosquito ditches also were plugged in two upland areas east of Ellison Wilson Road and north of Rolling Green Road to return wetlands in the southwestern portion of the natural area to freshwater, rain-driven systems by severing their connection with the AIWW. Three additional low berm/upland plugs were installed in mosquito ditches north of Donald Ross Road in 2010-2011 to help restore the former basin marsh systems in this portion of the natural area. All of these structures/plugs are currently working as designed, and the “upstream” wetlands have reverted to freshwater systems (See section 4.5.4 for detailed information).

In 2010-2011 a new tidal connection and improved flushing channels were created between the AIWW and disturbed mangrove swamp areas in and adjacent to the FIND tract. To help improve the tidal flushing of the tidal wetlands south of Donald Ross Road, the two 48" culverts underneath Ellison Wilson Road were removed and replaced with a 12' wide box culvert in April 2011. This work was done as mitigation for wetland impacts associated with the Frenchman's Harbor residential development just west of the natural area and south of Donald Ross Road (SFWMD permit application No. 070417-33). Selective maintenance dredging of existing waterways within the natural area was completed in 2015 to further improve tidal flushing within the west-central mangrove swamp community (See section 4.5.4 for detailed information).

A more serious potential threat to the natural area is inundation by rising sea levels caused by global warming. Most of the natural area is 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 eastern 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 will 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 area that lacks a natural community is the “developed area” (Figure 4). This 1.0-acre area includes the parking lot and entrance driveway.

3.3.1 Basin Marsh

Basin marshes are regularly inundated, isolated or mostly isolated freshwater herbaceous wetlands situated in a relatively large basin, usually with shallow to deep zones of aquatic vegetation and patches of shrubs. They occur as large, deep inclusions in fire-maintained upland communities and as inclusions in non-pyrogenic communities. They also may be found along fluctuating lake shorelines, at the bottom of disappearing lakes or at the head of broad, low basins which were former embayments when sea levels were higher. The hydroperiod is generally around 200 days per year (FNAI and FDNR 1990). Typical basin marsh plant species found in the County include American white waterlily (*Nymphaea odorata*), American lotus (*Nelumbo lutea*), spatterdock (*Nuphar advena*), pickerelweed (*Pontederia cordata*), bulltongue arrowhead (*Sagittaria lancifolia*), southern cattail (*Typha domingensis*), Jamaica swamp sawgrass (*Cladium jamaicense*), softstem bulrush (*Schoenoplectus tabernaemontani*), maidencane (*Panicum hemitomon*), smooth beggarticks (*Bidens laevis*), dotted smartweed (*Persicaria punctata*), sand cordgrass (*Spartina bakeri*), sweetscent (*Pluchea odorata*), spadeleaf (*Centella asiatica*), blue waterhyssop (*Bacopa caroliniana*), coastalplain willow (*Salix caroliniana*), elderberry (*Sambucus nigra* subsp. *canadensis*), common buttonbush (*Cephalanthus occidentalis*) and wax myrtle (*Morella cerifera*). Listed animal species found in Palm Beach County that are typically associated with basin marshes include snowy egret (*Egretta thula*), little blue heron (*Egretta caerulea*) and tricolored heron (*Egretta tricolor*) (FNAI and FDNR 1990, Pranty et al. 2006).

Fire maintains open herbaceous basin marshes by restricting shrub invasion. The frequency of natural fire in basin marshes is dependent upon the hydrology of the marsh and its exposure to fire from the surrounding communities. The basin marsh community at the natural area will be allowed to burn at the same time and frequency as the adjacent scrub and scrubby flatwoods communities.

Historically basin marsh covered a much larger portion of the natural area. However, the majority of the basin marshes on the natural area were mosquito-ditched and converted into a community dominated by mangroves that is more typical of mangrove swamp. The change to mangrove swamp is attributable to saltwater intrusion, which occurred as a result of a direct connection to the AIWW. A restoration project was completed post-acquisition that recreated a portion of the basin marsh community (see Section 4.5.4). The natural area currently contains approximately 91.6 acres of basin marsh.

FNAI (2022) ranked basin marsh as G4/S3 - apparently secure globally but very rare and local in Florida, found locally in a restricted range, or vulnerable to extinction due to other factors.

3.3.2 Beach Dune

Beach dune is a predominantly herbaceous community of wide-ranging coastal plants on the vegetated upper beach and first dune above the beach (foredune). Plant species found in the County that are commonly associated with the beach dune community include sea oats (*Uniola paniculata*), marshhay cordgrass (*Spartina patens*), bitter panicgrass (*Panicum amarum*), camphorweed (*Heterotheca subaxillaris*), seacoast marshelder (*Iva imbricata*), crested saltbush (*Atriplex pentandra*), Dixie sandmat (*Chamaesyce bombensis*), railroad vine (*Ipomoea pes-caprae*), beach morning-glory (*Ipomoea imperati*), seashore paspalum (*Paspalum vaginatum*), seashore dropseed (*Sporobolus virginicus*), coastal searocket (*Cakile lanceolata*), seaside jackbean (*Canavalia rosea*), inkberry (*Ilex glabra*), bay cedar (*Suriana maritima*), coastal beach sandmat (*Chamaesyce mesembrianthemifolia*), seagrape (*Coccoloba uvifera*), East Coast dune sunflower (*Helianthus debilis*), seaside joyweed (*Alternanthera maritima*) and beachstar (*Cyperus pedunculatus*). Fire is rare to nonexistent in the beach dune natural community. Beach dune habitat at the natural area covers approximately 5.3 acres.

FNAI (2022) ranked beach dune as G3/S2 – very rare and local throughout its global range and imperiled in Florida because of rarity or vulnerability to extinction.

3.3.3 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*). The only listed animal species occurring in Palm Beach County that is associated with the coastal strand community is gopher tortoise (*Gopherus polyphemus*) (Bartlett and Bartlett 2011b, FNAI and FDNR 1990). 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 northern portion of the former disturbed maritime hammock has been restored as coastal strand and has been included with the coastal strand to the east and the scrub to the west in a single burn unit. The coastal strand community covers approximately 4.3 acres.

FNAI (2022) 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.

3.3.4 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 elliotii*), 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*). Listed animal species typically associated with depression marshes, and that are found in Palm Beach County, include gopher frog (*Lithobates capito*), white ibis (*Eudocimus albus*), wood stork (*Mycteria americana*) and Florida sandhill crane (*Grus canadensis pratensis*) (Bartlett and Bartlett 2011a, FNAI and FDNR 1990, Pranty et al. 2006).

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. 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 17.6 acres.

FNAI (2022) ranked depression marsh as G4/S4 - apparently secure globally and in Florida, but possibly rare in part of its range.

3.3.5 Hydric Hammock

Hydric hammock is characterized as an evergreen hardwood and/or cabbage palm (*Sabal palmetto*) forest with a variable understory often dominated by palms and ferns, occurring on moist soils. Hydric hammock soils are generally saturated, but are inundated only for short periods following heavy rains. The normal hydroperiod is seldom over 60 days per year. This community generally has a closed canopy of oaks and palms, an open understory, and a sparse-to-moderate groundcover of grasses and ferns. Typical hydric hammock plant species whose ranges include the County are cabbage palm, laurel oak, live oak, red cedar (*Juniperus virginiana*), red maple, sweetbay (*Magnolia virginiana*), slash pine, water oak (*Quercus nigra*), swamp dogwood (*Cornus foemina*), American elm (*Ulmus americana*), Walter's viburnum (*Viburnum obovatum*), wax myrtle, common persimmon (*Diospyros virginiana*), swamp bay (*Persea palustris*), eastern poison ivy, myrsine (*Myrsine cubana*), wild coffee (*Psychotria nervosa*), American beautyberry (*Callicarpa*

americana), sugarberry (*Celtis laevigata*), sweetgum (*Liquidambar styraciflua*), flatsedges (*Cyperus* spp.), woodoats (*Chasmanthium* spp.), Carolina scalystem (*Elytraria caroliniensis*), basketgrass (*Oplismenus hirtellus*), maiden ferns (*Thelypteris* spp.), cinnamon fern, royal fern, swamp fern, netted chain fern (*Woodwardia areolata*), Virginia chain fern, golden polypody (*Phlebodium aureum*), shoestring fern (*Vittaria lineata*), wild pines (*Tillandsia* spp.), peppervine (*Nekemias arborea*), rattan vine (*Berchemia scandens*), yellow jessamine (*Gelsemium sempervirens*), greenbriers (*Smilax* spp.), summer grape (*Vitis aestivalis*) and muscadine (*Vitis rotundifolia*).

Hydric hammock is not a fire-maintained community, but it does burn on occasion. When hydric hammock communities burn, the intensity of the fire determines which plant species survive the fire. Cabbage palms are fire tolerant and are favored in hydric hammocks that have experienced high intensity fires. Live oaks can survive low intensity fires, but other hydric hammock species may be killed by fire. Prescribed fire will be allowed to burn into the hydric hammock community as far as available fuels and moisture levels allow it to go. The hydric hammock community covers 4.3 acres.

FNAI (2022) ranked hydric hammock as G4/S4 - apparently secure globally and in Florida, but possibly rare in parts of its range.

3.3.6 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 (*Borrchia 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. Mangrove swamp is a relatively recent community on the natural area, having become well-developed only after 1989. It occurs in the lowest portions of the former basin marsh, where there is good tidal flushing and virtually all of the former basin marsh is underwater at high tide. The mangrove swamp community at the natural area occupies 45.7 acres.

FNAI (2022) ranked mangrove swamp as G5/S4 – demonstrably secure globally and apparently secure in Florida, although it may be rare in parts of its range.

3.3.7 Maritime Hammock

Maritime hammock is characterized as a predominantly evergreen hardwood forest growing on stabilized coastal dunes at varying distances from the shore. Typical maritime hammock plant

species that occur in the County include seagrape, false mastic (*Sideroxylon foetidissimum*), inkwood (*Exothea paniculata*), white stopper (*Eugenia axillaris*), Spanish stopper, Simpson's stopper (*Myrcianthes fragrans*), strangler fig (*Ficus aurea*), gumbo limbo (*Bursera simaruba*), poisonwood (*Metopium toxiferum*), lancewood (*Ocotea coriacea*), blolly, Florida Keys blackbead, wild coffee, snowberry, marlberry (*Ardisia escallonioides*), myrsine and white indigoberry. Maritime hammocks tend to inhibit the spread of fire, which occurs no more frequently than once every 26 to 100 years (FNAI and FDNR 1990). Maritime hammock is present in the oceanfront portion of the natural area; it covers 9.0 acres.

FNAI (2022) ranked maritime hammock as G3/S2 – very rare and local throughout its global range and imperiled in Florida because of rarity or vulnerability to extinction.

3.3.8 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. 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 14.8 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 (2022) ranked mesic flatwoods as G4/S4 - apparently secure globally and in Florida, but possibly rare in part of its range.

3.3.9 Open Water

There are seven areas of open water at the natural area (Figure 4). Six of the open-water areas on the site are created; only one appears to be natural – the one south of the New Palm Beach Heights subdivision. Five of the created open-water areas were excavated to provide additional wildlife foraging areas within restored freshwater and estuarine wetland systems. The sixth area was created as part of a wetland rookery area that will serve as an alternate onsite nesting habitat for local wildfowl. The created open-water areas in the northwestern portion of the site were designed to help improve tidal flushing of the adjacent mangrove swamps. This community does not have a natural hydroperiod or fire frequency. This community occupies about 7.9 acres. Littoral shelves were created along the edges of the open water community to provide a more natural-looking shoreline, enhanced stormwater runoff treatment and additional wildlife habitat.

3.3.10 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 (*Cladonia* spp. and *Cladonia* spp.). Listed animal species found in Palm Beach County that typically are associated with scrub include gopher tortoise (*Gopherus polyphemus*) and Florida scrub-jay (*Aphelocoma coerulescens*) (Bartlett and Bartlett 2011, FNAI and FDNR 1990, NatureServe 2019).

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 reseedling. 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 315.0 acres and is predominately oak 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, and reduce the risk of catastrophic wildfire.

FNAI (2022) ranked scrub as G2/S2 - imperiled both globally and in Florida because of rarity or vulnerability to extinction.

3.3.11 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*). Listed animal species that are typically associated with scrubby flatwoods in Palm Beach County include gopher tortoise and Florida scrub-jay (Abrahamson and Hartnett 1990, Bartlett and Bartlett 2011b, NatureServe 2022).

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, and reduce the risk of catastrophic wildfire. There are 38.8 acres of scrubby flatwoods at the natural area.

FNAI (2022) 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.

3.3.12 Wet Flatwoods

Wet flatwoods are characterized as relatively open-canopy forests of scattered slash pine, with a sparse or absent midstory and a dense groundcover of hydrophytic grasses, herbs and low shrubs. Typical understory plant species that may be found in the County include sweetbay, swamp bay, loblolly bay, pond-cypress, cabbage palm, dahoon, wax myrtle, gallberry, saw palmetto, fetterbush, wiregrass, blue maidencane, toothachegrass (*Ctenium aromaticum*), coastalplain yelloweyed grass (*Xyris ambigua*), Carolina redroot and beaksedges. During the rainy season, water frequently stands on the surface, inundating the wet flatwoods for one month or more per year. Natural fire frequency in wet flatwoods has been estimated at 1 to 10 years. Shorter fire intervals favor grassy wet flatwoods, while longer intervals favor a shrubbier subtype. The recommended burn interval for South Florida wet flatwoods is once every 4 years.

The wet flatwoods community at the natural area currently occupies 5.5 acres. The wet flatwoods community 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 this community, and reduce the risk of catastrophic wildfire.

FNAI (2022) ranked wet flatwoods as G4/S4 - apparently secure globally, but rare in parts of its range, and apparently secure in Florida.

3.3.13 Xeric Hammock

Xeric hammocks are evergreen forests that have developed on well-drained, sandy soils where the exclusion of fire has allowed the development of a closed or nearly-closed canopy of evergreen oaks. The herbaceous layer generally is sparse or absent. Sand live oak is the dominant canopy species, but other canopy species that may be found in the County include Chapman’s oak, laurel oak, sand pine and slash pine. Other typical xeric hammock plant species that may be found in the County include saw palmetto, myrtle oak, fetterbush, sparkleberry, deerberry, American beautyberry, common persimmon, scrub palmetto (*Sabal etonia*), Hercules-club, Florida rosemary, wiregrass, sandyfield beaksedge, witchgrasses, muscadine, earleaf greenbrier (*Smilax auriculata*), Spanish moss and ballmoss (*Tillandsia recurvata*). The only listed animal species found in Palm Beach County that typically is associated with xeric hammock is the gopher tortoise

(Bartlett and Bartlett 2011b; FNAI and FDNR 1990). Although xeric hammock is not a fire-maintained community, it may tolerate occasional cool season burns. Intense fires can destroy xeric hammock. Prescribed fire will be allowed to burn into the xeric hammock community as far as available fuels and moisture levels allow it to go. No attempts will be made to relight a fire in the hammock after it has gone out. Xeric hammock covers approximately 14.1 acres.

FNAI (2022) ranked xeric hammock as G3/S3 - very rare and local throughout its global range but either very rare and local in Florida, found locally in a restricted range, or vulnerable to extinction due to other factors.

3.4 PLANTS AND ANIMALS - OVERVIEW

As of May 2022, 664 species of plants have been recorded at the natural area (Appendix A). Of these, twenty-six have been listed for protection or special management by a government agency or have been ranked by FNAI (Table 1). One hundred seventy-nine 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 May 2022, 301 species of animals have been recorded at the natural area (Appendix B). Forty-one of these species have been listed for protection or special management by a government agency or have been ranked by FNAI (Table 2). Four species of invertebrates and thirteen 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.

3.5 LISTED SPECIES

3.5.1 Plants

Twenty-six 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 7.3.

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 1990; it is regularly 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. 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).

Beach jacquemontia (*Jacquemontia reclinata*)

This perennial vine was introduced to the oceanfront tract prior to 2006 (see Section 4.5.4.2). This species is typically found on the back side of stable oceanfront dunes and in disturbed openings in maritime hammock and coastal strand (Chafin 2000). The introduction of this species into the natural area appears to have been successful, but the long-term survival of the population is not yet known.

Beachstar (*Cyperus pedunculatus*)

This perennial creeping sedge was first recorded on the oceanfront portion of the site in 1990 by Johnson et al. (1993); it is regularly observed at the natural area. This sand-binding, pioneer species is typically found on beaches and is susceptible to being undermined by beach erosion.

Burrowing four-o'clock (*Okenia hypogaea*)

This annual herb was first recorded in the foredune portion of the oceanfront tract in 1990 by Johnson et al. (1993); it is occasionally observed at the natural area. The peanut-like seeds of this pioneer beach plant mature underground (Gann et al. 2016a) and are dispersed by water.

Cinnamon fern (*Osmundastrum cinnamomeum*)

This terrestrial fern was first recorded at the natural area by ERM staff in 1993; it is very rarely 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 1990; 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 Farnsworth in 1988 (Farnsworth 1988); 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).

Florida butterfly orchid (*Encyclia tampensis*)

This epiphytic orchid was first recorded at the natural area by the Institute for Regional Conservation in 1997 (Bradley and Woodmansee 1997); it is occasionally 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).

Florida Keys blackbead (*Pithecellobium keyense*)

One individual of this small tree was recorded at the natural area by ERM staff in 1996. Additional trees were planted on the oceanfront tract in 1998 and 1999 as part of a maritime hammock restoration project. Florida Keys blackbead is typically found in coastal hammocks and strands. It is a larval host plant for two species of butterfly, the Cassius blue butterfly (*Leptotes cassius theonus*) and the large orange sulphur (*Phoebis agarithe*); the flowers also provide nectar for other species of butterflies (Gann et al. 2016b).

Fourpetal pawpaw (*Asimina tetramera*)

This endemic, long-lived shrub was first recorded at the natural area by Farnsworth in 1988 (Farnsworth 1988); it is frequently 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).

Giant wild pine (*Tillandsia utriculata*)

This epiphytic bromeliad was first recorded at the natural area by Farnsworth in 1988 (Farnsworth 1988); it is frequently 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).

Golden leather fern (*Acrostichum aureum*)

This rare fern was first recorded at the natural area by ERM staff in 1990; it is rarely observed at the natural area. Golden leather fern is typically found in mangrove swamps and brackish marshes.

Hand fern (*Ophioglossum palmatum*)

This epiphytic fern was recorded in June 1998 by ERM on a single cabbage palm growing next to a mosquito ditch connecting two wetlands in the southwestern portion of the natural area. The cabbage palm was growing in the ecotone between the wetland and the surrounding scrub. The total known population of this fern was several individuals, all on the same palm. The species has not been seen on the site since that time. Populations of this fern species may fluctuate with rainfall patterns, wildfires, hurricanes and the loss of cabbage palm “boots” (Chafin 2000); it requires very humid/moist conditions and is adversely affected by fire (Nelson 2000). Hand ferns are typically found in hammocks and cypress swamps.

Inflated & reflexed wild pine (*Tillandsia balbisiana*)

This epiphytic bromeliad was first recorded at the natural area in 1989 by Winchester Environmental Associates (1990); it is occasionally 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).

Inkberry (*Scaevola plumieri*)

This shrub was first recorded on the oceanfront tract by ERM staff in March 1995 in the beach dune community. The species was extirpated from the site as a result of severe erosion from storms in the fall of 1995. In 1997 inkberry was planted by ERM on the dune crest at the edge of the coastal strand community. Naturally regenerating individuals are occasionally observed at the natural area. This species is typically found in coastal strands.

Johnson’s seagrass (*Halophila johnsonii*)

This small seagrass with a very limited range was first recorded at the natural area in 2013 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).

Large-flower false rosemary (*Conradina grandiflora*)

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

Nodding club-moss (*Lycopodiella cernua*)

This terrestrial fern ally was first recorded at the natural area in 1989 by Winchester Environmental Associates (1990); it is occasionally observed at the natural area. It is typically found in wet flatwoods, pond margins, bogs, hammocks and ditches.

Pineland lantana (*Lantana depressa*)

This short-lived subshrub was recorded on the oceanfront portion of the site in 1988 by Farnsworth (Farnsworth 1988), in 1997 by the Institute for Regional Conservation (IRC) (Bradley and Woodmansee 1997) and in 2005 by ERM staff. A few plants were seen scattered in open areas in 1988; only one plant was seen in 2005. Because this species frequently hybridizes with the widespread nonnative shrubverbena (*Lantana strigocamara*), it may no longer be present on the natural area. This species is typically found in rocky pinelands.

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

This terrestrial fern was first recorded at the natural area in 1989 by Winchester Environmental Associates (1990); it is frequently 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 Farnsworth in 1988 (Farnsworth 1988); it is frequently observed at the natural area. This species is typically found in pinelands, scrub and coastal upland communities (Gann, et al. 2016d). Saw palmetto is adapted to fire.

Scrub pinweed (*Lechea cernua*)

This endemic forb was recorded at the natural area in 1990 by ERM staff; it is rarely 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 Farnsworth in 1988 (Farnsworth 1988); it is frequently observed at the natural area. It is typically found on dunes and shell middens, and in coastal hammocks.

Small's flax (*Linum carteri* var. *smallii*)

This endemic herb was recorded at the natural area by IRC in July and August 1997 (Bradley and Woodmansee 1997). It has not been observed since that time and may no longer be present. Small's flax is typically found in pinelands.

Spreading pinweed (*Lechea divaricata*)

This herb was first recorded at the natural area by Farnsworth in 1988 (Farnsworth 1988); it is occasionally observed at the natural area. It is typically found in scrub and scrubby flatwoods (Chafin 2000). This species is adapted to fire.

West Indian mahogany (*Swietenia mahagoni*)

This semi-deciduous tree was first recorded at the natural area in 2010 by ERM staff; it is rarely observed at the natural area. It is typically found in tropical hammocks and disturbed areas. West Indian mahogany is susceptible to fire.

3.5.2 Animals

Forty-one 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 recorded on the site from 1988 to 2010, but has not been recorded since. In 2017 the closest site on which a scrub-jay was recorded was the Jupiter Ridge Natural Area, approximately 1.1 miles north of the Juno Dunes Natural Area. 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. ERM will coordinate with FWC on the management of the site for protection of listed animals.

Sea turtle nesting habitat will be maintained through the management of the beach dune community and through enforcement by the Town ordinances and Zoning Code provisions relating to protection of sea turtles and beaches, including restrictions on beachfront lighting and prohibition of the use of mechanical beach-cleaning methods. The Town has installed and will

maintain bollard lights along A1A to reduce beachfront lighting that could disorient adult and hatchling sea turtles.

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 alligator (*Alligator mississippiensis*)

This large aquatic reptile was first recorded at the natural area by ERM staff in 2005; it is occasionally observed at the natural area. It is a carnivore; its diet is primarily snails, aquatic insects and crustaceans when young, and fish, turtles, snakes, small mammals and birds when older (Ashton and Ashton 1991). The American alligator is primarily a freshwater species. It may be present in any water-retaining habitat, including ponds, canals, lakes, rivers, large streams, borrow pits, swamps and marshes (Bartlett and Bartlett 2011b).

American redstart (*Setophaga ruticilla*)

This migratory warbler was first recorded at the natural area by ERM staff in 1998; 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).

Bald eagle (*Haliaeetus leucocephalus*)

This very large bird of prey was first recorded at the natural area by ERM staff in 2013; it is occasionally 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). Although the bald eagle is not known to have nested at the natural area, nests have been recorded elsewhere in Palm Beach County.

Bigmouth sleeper (*Gobiomorus dormitor*)

This carnivorous, benthic fish was first recorded at the natural area by ERM staff in October 1998; it is very rarely observed at the natural area. Localized populations of this species occur along the Florida coast from the southern Indian River Lagoon to Biscayne Bay (Gilmore 1992). The breakwaters constructed to protect the boater access area may provide habitat for this species.

Black-crowned night-heron (*Nycticorax nycticorax*)

This medium-sized wading bird was first recorded at the natural area by ERM staff in 2010; it is rarely observed at the natural area. Black-crowned night-herons hunt small fish, amphibians, snakes and invertebrates in shallow freshwater, estuarine and marine wetlands, usually at night (Maehr and Kale 2005, Pranty et al. 2006). In Florida, they typically nest with other wading birds in large colonies (Pranty et al. 2006). Nesting occurs between December and June; platform nests are constructed in a variety of shrubs and trees (Maehr and Kale 2005, Pranty et al. 2006). This species is not known to nest at the natural area.

Cassius blue butterfly (*Leptotes cassius theonius*)

This small butterfly was first recorded at the natural area by ERM staff in 2005; it is occasionally observed at the natural area. Cassius blue butterflies are locally common along the edges of hammocks, thickets, disturbed areas and gardens (Minno et al. 2005). Its larval food plants include Florida hammock milkpea (*Galactia striata*), eastern milkpea (*Galactia volubilis*), false tamarind (*Lysiloma latisiliquum*), Florida Keys blackbead (*Pithecellobium keyense*), hairypod cowpea (*Vigna luteola*), rosary pea (*Abrus precatorius*) and cape leadwort (*Plumbago auriculata*). Some of these plant species have been recorded on the natural area.

Ceraunus blue butterfly (*Hemiargus ceraunus antibubastus*)

This butterfly was first recorded at the natural area by members of the Atala Chapter of the North American Butterfly Association in 2009; it is occasionally observed at the natural area. The ceraunus blue butterfly inhabits scrubs, sandhills, flatwoods and weedy, disturbed sites (Minno et al. 2005). Its larval food plants include partridge pea (*Chamaecrista fasciculata*), Florida alicia (*Chapmannia floridana*), sensitive pea (*Chamaecrista nictitans*), Carolina indigo (*Indigofera caroliniana*), hairy indigo (*Indigofera hirsute*) and trailing indigo (*Indigofera spicata*). Some of these plant species have been found on the natural area.

Eastern diamond-backed rattlesnake (*Crotalus adamanteus*)

This large, heavy-bodied, venomous snake was first recorded at the natural area in 2012 by County staff; it has not been seen since. The eastern diamond-backed rattlesnake is a carnivore; its diet is primarily small mammals, ranging in size from mice to rabbits (Bartlett and Bartlett 2003). This species typically occurs in pine woods, palmetto scrubland, coastal strand and the Everglades. It may occasionally be found in gopher tortoise burrows (Ashton and Ashton 2008).

Eastern indigo snake (*Drymarchon corais couperi*)

This large, black non-venomous snake was first recorded at the natural area by ERM staff in 1992; it has not been seen since. 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 burrowing owl (*Athene cunicularia floridana*)

One individual of this small, ground-dwelling bird of prey was recorded at the natural area by ERM staff in 2000; it has not been seen since. Burrowing owls feed on insects, lizards, frogs, toads, small rodents and small dead animals (Maehr and Kale 2005, Pranty et al. 2006). In Florida, burrowing owls typically occur in open, well-drained treeless areas where herbaceous ground cover is short, such as pastures, ballfields, road shoulders and mowed strips between airport runways. Burrowing owls may be loosely colonial, and sometimes use abandoned gopher tortoise burrows. There is little suitable habitat at the natural area for this species.

Florida sandhill crane (*Antigone canadensis pratensis*)

This large wading bird was first recorded at the natural area by ERM staff in 2001; 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. OR Florida sandhill crane has been observed nesting on the site.

Florida scrub-jay (*Aphelocoma coerulescens*)

This medium-sized bird was recorded on many occasions at the natural area from 1988 to 2010; it has not been observed at the natural area since 2010. 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 have been difficult to maintain a viable population of Florida scrub-jays at the natural area. However, efforts were made to maintain suitable habitat for this species on the site through prescribed burning. 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. Scrub-jay surveys are no longer conducted at the site, after 3 consecutive annual attempts were made to record the species from the last sighting.

Florida scrub lizard (*Sceloporus woodi*)

This small, endemic lizard was first recorded by ERM staff in 1990; it is rarely observed at the natural area. The Florida scrub lizard feeds primarily on insects, spiders and small arthropods (Branch and Hokit 2008). Its habitats are sand pine scrub and other xeric habitats where dry, well-drained, deep sandy soils with open patches of unvegetated sand are present (Jackson 1973).

Glossy ibis (*Plegadis falcinellus*)

This medium-large wading bird was first recorded at the natural area by ERM staff in 2011; it is 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 frog (*Lithobates capito*)

This relatively large frog was first observed at the natural area by ERM staff in 1992; it is rarely observed at the natural area. This species feeds on invertebrates, smaller frogs and toads (FWC 2013a). It is a burrow associate of the gopher tortoise (Godley 1992). Adults are found in dry, xeric habitats like scrub and scrubby flatwoods, but require temporary or semi-permanent ponds for breeding (Roznik and Johnson 2009). They can disperse up to a mile from a breeding pond. Survival of newly-metamorphosed gopher frogs appears to depend on their ability to quickly locate a burrow after exiting a breeding pond. The natural area provides suitable habitat for adults as well as for eggs and tadpoles.

Gopher tortoise (*Gopherus polyphemus*)

Based on population surveys for this species at the natural area, a relatively large population of this medium-sized terrestrial turtle is present on the site. 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). Although the natural area has 362.81 acres of suitable gopher tortoise habitat, current populations are at carrying capacity and it is not feasible for Juno Dunes Natural Area to be utilized as a recipient site.

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 are used 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.

Gopher tortoise copris beetle (*Copris gopheri*)

This small, shiny, black scarab beetle was first recorded at the natural area by ERM in 2016; it is rarely observed at the natural area. The gopher tortoise copris beetle is endemic to Florida (FWC undated [c]). It is only found associated with gopher tortoise burrows; it feeds on dung left by the tortoises.

Green sea turtle (*Chelonia mydas*)

Green sea turtles are found throughout the world's oceans. In the continental U.S., their nesting range is restricted to Florida, especially the east coast, which includes Palm Beach County (NMFS and USFWS 1991). Adult green sea turtles feed on crabs, jellyfish, invertebrates, and turtlegrass (*Thalassia testudinum*); juveniles feed mostly on invertebrates (Ashton and Ashton 1991). This species uses the oceanfront portion of the natural area solely as a nesting site. The County contracts annually with the Loggerhead Marinelife Center to perform monitoring of green sea turtle nesting at the natural area and public education activities. The number of green sea turtle nests in the survey area over the past 11 years has averaged 90 nests per year (Loggerhead Marinelife Center 2021).

Horn's Aethecerinus long-horned beetle (*Aethecerinus hornii*)

Two individuals of this species were observed on a four-petal pawpaw at the natural area by ERM staff in October 2010. This was the first confirmed observation of Horn's Aethecerinus long-horned beetle in Palm Beach County. This beetle is rarely observed at the natural area. This rare woodboring beetle is endemic to xeric habitats in Florida (NatureServe 2022). Adults of this species feed on decaying hardwood trees.

Least tern (*Sternula antillarum*)

This small tern species was first recorded at the natural area by ERM staff in 1993; it is occasionally 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.

Leatherback sea turtle (*Dermochelys coriacea*)

Leatherback sea turtles range throughout the world's oceans; they tend to be found in colder waters than most sea turtles inhabit. Leatherback sea turtles regularly nest in small numbers along the east coast of Florida, with half of the nests occurring in Palm Beach County (NMFS and USFWS 1992). Adults are mostly carnivorous and feed mainly on jellyfish, but sea urchins, squid, algae and seaweed also may be eaten (Ashton and Ashton 1991). This species uses the natural area solely as a nesting site. The number of leatherback sea turtle nests in the survey area over the past 11 years has averaged 11 nests per year (Loggerhead Marinelifelife Center 2021).

Limpkin (*Aramus guarauna*)

This unusual wading bird was first recorded at the natural area by ERM staff in 2012; it is rarely observed at the natural area. Limpkin feed primarily on applesnails (*Pomacea* spp.) and freshwater clams, although lizards, frogs, worms, insects, crustaceans and other snails also may be taken (Maehr and Kale 2005, Pranty et al. 2006). This species typically inhabits freshwater marshes, cypress swamps and the edges of rivers and creeks (Pranty et al. 2006). The species is not known to nest on the natural area.

Little blue heron (*Egretta caerulea*)

This medium-sized heron was first recorded at the natural area by ERM staff in 1996; it is occasionally 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). This long-necked wading bird nests on the natural area with other wading bird species in the rookery located in the basin marsh community. The rookery was last active in 2012.

Loggerhead sea turtle (*Caretta caretta*)

Loggerhead sea turtles feed on various mollusks, sponges, and other marine invertebrates, as well as on turtlegrass and algae. About 80% of loggerhead nesting in the southeastern U.S. occurs in six Florida counties, including Palm Beach County (NMFS and USFWS 2008). This species uses the oceanfront portion of the natural area solely as a nesting site. The number of loggerhead sea turtle nests in the survey area over the past 11 years has averaged 428 nests per year (Loggerhead Marinelifelife Center 2021).

Magnificent frigatebird (*Fregata magnificens*)

This very large seabird was recorded at the natural area by ERM staff in 2005; it is occasionally observed at the natural area. It feeds on flying fish, squid, and the eggs and young of other seabirds, and frequently chases other seabirds in an attempt to make them drop or regurgitate captured fishes (Pranty et al. 2006). Magnificent frigatebirds typically inhabit the coastal areas of Florida (Maehr and Kale 2005). This species is a colonial nester that builds stick nests in mangroves (Pranty et al. 2006). This species is not known to nest at the natural area.

Merlin (*Falco columbarius*)

This small- to medium-sized falcon was first recorded at the natural area by ERM staff in 2005; it is occasionally 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 regularly 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). Active nests have been observed regularly at the natural area in recent years.

Painted bunting (*Passerina ciris*)

This colorful, migratory songbird species was first recorded at the natural area by ERM staff in 2005; it is occasionally 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 in 1998 by ERM staff; it is occasionally 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 1993; 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 2008; it is 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.

Royal tern (*Thalasseus maximus*)

This seabird was first recorded at the natural area by ERM staff in 1997; it is occasionally observed at the natural area. Royal terns feed on small fish, squid, shrimp and crabs (Pranty et al. 2006). Their habitats include beaches, mudflats, estuaries, mine impoundments and inland lakes. The royal tern is generally restricted to the coastal areas of Florida, but may be found inland in the central portion of the state. This species is a colonial nester; it builds its nest on the ground on sand or shell beaches. The natural area does not contain suitable royal tern nesting habitat.

Snowy egret (*Egretta thula*)

This wading bird was first recorded at the natural area by ERM staff in 2005; 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

long-necked wading bird nests on the natural area with other wading bird species in the rookery located in the basin marsh community. The rookery was last active in 2012.

Southeastern American kestrel (*Falco sparverius paulus*)

This small falcon was recorded at the natural area by ERM in May 1993, but the subspecies has not been seen since that date. Because the sighting was made in the nonmigratory season, it has been treated as a record of the subspecies (FWC 2011). The northern subspecies (*Falco sparverius sparverius*) is present in Florida only as a migrant and winter resident; it cannot be reliably distinguished from the southern subspecies in the field. This species primarily feeds on insects and small vertebrates (Pranty et al. 2006). In Florida, it is found in open woodlands, sandhill and fire maintained savannah pine habitats, as well as pastures and open fields located in residential areas (FWC undated [e]). Southeastern American kestrels nest in cavity trees, in open and semi-wooded habitats such as sandhill and open flatwoods (Maehr and Kale 2005). Although the Southeastern American kestrel is not known to nest on the natural area, dead tree snags will be left in place where they do not pose a public safety problem in order to provide suitable cavity trees for nesting by this subspecies.

Statira sulphur (*Aphrissa statira*)

This large butterfly was first recorded at the natural area by ERM staff in 1998; it is rarely observed at the natural area. Its larval food plant is coinvine (*Dalbergia ecastaphyllum*) (Minno et al. 2005), which is abundant at the natural area. The statira sulphur uses both upland and wetland habitats, such as coastal uplands and the margins of mangroves (Glassberg et al. 2000).

Swallow-tailed kite (*Elanoides forficatus*)

This long-tailed bird of prey was first recorded at the natural area by ERM staff in 2014; 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). A swallow-tailed kite nest was documented on the natural area in 2021 and a successful nest was documented in 2022. A majority of the natural area is located within a proposed Strategic Habitat Conservation Area for swallow-tailed kite as identified by FWC (Endries et al. 2009).

Tricolored heron (*Egretta tricolor*)

This long-necked wading bird was first recorded at the natural area by ERM staff in 1995; it is occasionally 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). This long-necked wading bird nests on the natural area with other wading bird species in the rookery located in the basin marsh community. The rookery was last active in 2012.

West Indian manatee (*Trichechus manatus*)

The West Indian manatee was first recorded at the natural area by ERM staff in 1995 within the AIWW along the northwest corner of the natural area/in the open-water lagoon; it is occasionally 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 AIWW and lack of other suitable vegetation. It is anticipated that manatees will use the boater area on the FIND tract as a resting area. Caution signs to alert boaters to the possible presence of manatees have been posted at the entrance to the area, along with speed zone limitation signs, and information about manatees will be included on other signage and the display materials in the kiosk at that location to educate the public about this species.

Wood stork (*Mycteria americana*)

This large wading bird was first recorded at the natural area by ERM staff in 1995; it is occasionally observed at the natural area. Wood storks feed primarily on fish, but crustaceans, gastropods, amphibians, reptiles, mammals, other birds and arthropods also may be consumed (USFWS 1997 and 2007). They typically inhabit freshwater ponds, wet prairies and marshes, cypress swamps, salt marshes mangroves and flooded agricultural fields (Maehr and Kale 2005, Pranty et al. 2006). In Florida, nesting occurs in large colonies in forested wetlands from November to May, either high in cypress trees or lower in mangroves. Freshwater colony sites must remain flooded throughout the nesting period to protect the young against predation and abandonment (USFWS 1997). The USFWS has documented four wood stork nesting colonies within the County (USFWS 2019). The wood stork is not known to nest at this natural area.

Yellow-crowned night-heron (*Nyctanassa violacea*)

This medium-sized wading bird was first recorded at the natural area by ERM staff in 2005; it is occasionally observed at the natural area. Yellow-crowned night-herons feed on crabs, crayfish and fish (Pranty et al. 2006). This species inhabits beaches, mudflats and mangroves in Florida, and is less commonly found in inland swamps and springs. Yellow-crowned night-herons are fairly common permanent residents in the Florida peninsula. Nesting occurs between March and

June in Florida, usually singly or in small colonies, sometimes with other wading bird species, in a shrub or tree in which a platform has been constructed (Maehr and Kale 2005, Pranty et al. 2006). This species is not known to nest at the natural area.

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 Juno Dunes Natural Area includes a portion of the Present Dune and Pamlico Ridge.

Within the context of Palm Beach County, the Pamlico Ridge within the Juno Dunes 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. One other feature distinct from other conservation areas in Palm Beach County is that the natural area extends from the Atlantic Ocean to the AIWW. It contains the only major scrub in the Treasure Coast region which traverses the primary coastal ridge from the ocean to the coastal estuary. The site also contains 13 intact natural communities.

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 L. 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 (2022) 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. FNAI has noted an area of Scrub within Management Unit 2 as a reference site, which represents a high quality example of that natural community in the State (FNAI 2015).

3.9 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Florida Division of Historical Resources (FDHR), which maintains the Florida Master Site File, identifies two resources within the oceanfront portion of the natural area – the Celestial Railroad (Florida Master Site 8PB233), and the U.S. Highway 1 (Florida Master Site 8PB12192) which runs north-south through the eastern portion of the site. The right of way for U.S. 1 is managed and maintained by the Florida Department of Transportation. The activities proposed in this management plan will have no effect on these resources.

No other archaeological or historical resources are known to exist within the site (Carr et al. 2003; Moser 2005). Any future ground disturbance will be coordinated with FDHR and the Palm Beach County Archaeologist. If any archaeological or historical sites are discovered in the future, FDHR's (Appendix M) and the County's 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 County's 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). Any archaeological investigations that are proposed for the state-owned portion of the site will require a 1A-32 permit from FDHR prior to their commencement.

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 1999. 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 2000 and 2022 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 interlocal agreement, which includes a breakdown of management responsibilities, was approved by the County and the Town in 1997 (see Appendix N). 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 fourteen management units using management accessways, and natural and manmade features as boundaries and firebreaks (Figure 6). The management units have been designed to maximize the long-term diversity of natural communities, and native plant and animal species on the site. Since the last plan (2011), slight changes were made to a few unit boundaries due to closure of an old ORV trail, and to follow management accessways. These units range in size from 17.2 to 75.3 acres, and are small enough to allow for safe and practical fire management. 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 and historical 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 wetlands 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 O).

Surface water flows and hydroperiods within the natural area's wetlands have been adversely affected by a regional lowering of the water table, and by the construction of berms, roads and other man-made features (see Section 3.2). The restoration of more natural hydrological conditions within the natural area is necessary to maintain and restore historic and existing wetlands within the natural area to the greatest extent practicable given the urbanized environment surrounding the site. Activities which have adversely affected the site's hydrology are described in Section 3.2. Hydrological restoration activities completed on site are described in Subsection 4.5.4.

Prior to the site's acquisition by the County, land clearing activities, drainage systems, 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 2002 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. The County also is responsible for maintaining the water control structures located in the restored marshes south of Donald Ross Road.

4.4.4 Arthropod Control Plan

The Juno Dunes 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 basin marsh, depression marsh, and open water areas. 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 several environmental restoration/enhancement projects (see 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, 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 all of the surrounding fire-dependent communities have been significantly altered by 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 O). Development of the fire management plan was coordinated with FFS and FWC. 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.

All of the management units identified for this site will be treated with prescribed fire. Therefore, each management unit also can be considered a "burn unit." 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
2000	Prescribed Burn	Unit 6
2002	Prescribed Burn	Unit 12
2003	Wildfire	Unit 1
2004	2 Prescribed Burns	Units 2 (W) & 4
2005	Prescribed Burn	Unit 2 (E)
2005	Wildfire	Unit 8
2010	Mechanical Vegetation Reduction	Unit 9
2010	Prescribed Burn	Unit 5
2010	Wildfire	Unit 5
2011	Mechanical Vegetation Reduction	Units 9 & 10
2013	Prescribed Burn	Unit 9
2013	Mechanical Vegetation Reduction	Units 1 & 12
2014	Prescribed Burn	Unit 1
2014	Mechanical Vegetation Reduction	Units 13 & 14
2015	Mechanical Vegetation Reduction	Unit 8
2016	Mechanical Vegetation Reduction	Units 7 & 11
2018	Prescribed Burn	Units 11 (E) & 12 (S)
2020	Mechanical Vegetation Reduction	Units 1, 2, 5, 6, 9, 10, & 12
2021	Prescribed Burn	Unit 12 (N)
2022	Wildfire	Unit 8
2022	Mechanical Vegetation Reduction	Units 10, 13, & 14

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.

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 this natural area. This campaign includes informing the 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. The County

will coordinate with the appropriate fire emergency response agencies and Florida Department of Transportation (FDOT) prior to conducting a prescribed burn. 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, one hundred seventy-nine nonnative plant species have been recorded at the natural area – twenty-seven 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. Many 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 Invasive Species Council (FISC 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 too dense or inappropriate for the targeted vegetation community.

Fifty-one (28 percent) of the nonnative plant species recorded at the natural area are designated as either Category I or Category II species by FISC (2019). A current copy of FISC’s list of invasive exotic plant species can be found at <https://floridainvasivespecies.org/>. Fifteen (8 percent) of the nonnative plant species have been designated as noxious weeds by FDACS (2020a) and four (2 percent) have been designated as 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 November 1997 and was completed in January 2002. Follow-up invasive/nonnative plant treatments have been conducted since 2002. 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. In addition to invasive nonnative plant species, invasive native species also can have an adverse impact on fragmented natural

communities. 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. Ruderal species, which are typical of open disturbed sites and do not invade functioning natural communities, are controlled through prescribed burning and avoiding unnecessary disturbances.

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 2.7 acres of Brazilian pepper from the oceanfront tract and in 2003 to remove 10.5 acres of Australian-pine and Brazilian pepper from the FIND tract.

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, four species of invertebrates and fourteen 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.

4.5.3.1 Nonnative Invertebrates

Cabbage white (*Pieris rapae*)

The cabbage white is a pest of cabbage, turnips, and broccoli, wild and garden radishes, and occasionally the native pepperweed (Minno et al. 2005, Glassberg et al. 2000); it is not known to have an adverse effect on other native plants.

Honeybee (*Apis mellifera*)

Although the honeybee 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.

Red imported fire ant (*Solenopsis invicta*)

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.

Scarlet skimmer (*Crocothemis servilia*)

The scarlet skimmer typically is found in low-quality wetlands where low dissolved oxygen levels, introduced fish or other alterations make the habitat unsuitable for native species (Murray and Rose 2013). This species does not appear to be having a negative impact on the natural area.

4.5.3.2 Nonnative/Nuisance Vertebrates

Brown anole (*Anolis sagrei*)

The brown anole 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.

Coyote (*Canis latrans*)

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 regularly 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.

Cuban treefrog (*Osteopilus septentrionalis*)

The Cuban treefrog 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 occasionally 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.

Domestic cat (*Felis catus*)

Dianne Sauve, former Director of Palm Beach County's Animal Care and Control Division, has estimated that there are approximately 200,000 free-roaming cats 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 occasionally 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.

Domestic dog (*Canis lupus familiaris*)

Although members of the public frequently walk their dogs on the natural area, the Natural Areas Ordinance prohibits this activity. Natural area rules signs posted at each public entrance to the site contain a "no pets" statement. Law enforcement officers will inform anyone observed walking a dog on the natural area that pets are not allowed on the site and that the dog walker may be subject to citation under the provisions of the Natural Areas Ordinance. Repeat offenders also may be trespassed from the natural area under the Palm Beach County Parks and Natural Areas Trespass Ordinance (Ordinance 2016-021).

Eurasian collared-dove (*Streptopelia decaocto*)

The Eurasian collared-dove 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 occasionally observed at the natural area. Eurasian collared-doves are not expected to affect the natural area in any significant way.

European starling (*Sturnus vulgaris*)

The European starling 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 occasionally 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.

Green iguana (*Iguana iguana*)

The green 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 frequently 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.

House sparrow (*Passer domesticus*)

The house sparrow is a small, seed-eating bird that builds nests on buildings or in nest boxes in urbanized areas; they are rarely found in large forests, grasslands or deserts (Johnson and Violett 2012). House sparrows aggressively compete with native birds for food and nest sites, and may reduce their nesting success. They also carry diseases that can be spread to native species and humans (Johnson and Violett 2012). This species is occasionally observed at the natural area. It does not currently appear to be affecting the natural area.

Northern curly-tailed lizard (*Leiocephalus carinatus*)

The northern curly-tailed lizard 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 frequently observed at the natural area. This species is not expected to adversely affect the natural area.

Peter's rock agama (*Agama picticauda*)

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.

Raccoon (*Procyon lotor*)

The raccoon is common throughout Florida (FWC undated [d]). 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.

Rock pigeon (*Columba livia*)

Rock pigeons nest in stick and grass nests built on building roofs and ledges, and under bridges or highway overpasses (Pranty et al. 2006). They eat grain and other seeds, and will occasionally eat insects. It is occasionally observed at the natural area. Rock pigeons are not expected to adversely affect the natural area.

Walking catfish (*Clarias batrachus*)

The walking catfish lives primarily in the Everglades and associated canals, but also occurs throughout central and southern Florida (FWC undated [f]). It prefers shallow, highly-vegetated water bodies. It is an opportunistic feeder, consuming a wide variety of plant material, detritus, small fishes and aquatic insects; it also scavenges on dead fishes. The species is noted for its ability to breath air and travel short distances overland by pulling itself along on its pectoral fins. The walking catfish has not had any major detrimental effects on native fish species. This species is occasionally observed at the natural area. There currently are no feasible methods to eradicate this species from ditches and/or canals within or adjacent to the natural area or prevent it from being reintroduced via connections with adjacent water bodies.

4.5.4 Restoration and Enhancement Projects

All of the planned restoration and enhancement projects have been completed at the natural area. Activities conducted included 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), and removal of trash dumped on the site prior to its acquisition/lease by the County. The first beach renourishment project completed in 1999-2000, the maritime hammock restoration completed in 2003, the beach jacquemontia planting completed in 2007, the southern mangrove swamp/basin and depression marsh/hydrologic restoration project completed in 2009, the second beach renourishment project completed in 2009-2010, the seagrass and mangrove swamp restoration project completed on the FIND tract in 2011, and the northern mangrove swamp/depression marsh/hydrologic restoration project completed in 2011 are all detailed in the previous 2011 management plan. Habitat and hydrological restoration projects, completed at this site after 2011 are described in the following subsections and depicted in Figure 7.

Restoration/enhancement activities conducted on the site have already begun to improve the natural communities in terms of biological composition and ecological function. Restoration of the site is considered complete, the amount of disturbed habitat found on the natural area has decreased significantly over the past 23 years. Between 1999 and 2022, all of the areas classified as “Australian Pine”, “Brazilian Pepper”, and “Old World Climbing Fern” in the initial management plan (approximately 5 acres) were restored to one of the following natural communities: basin marsh, mangrove swamp, open water, scrub, scrubby flatwoods, and xeric hammock. During that same timeframe, the amount of disturbed habitat present on the site went from 116.9 acres down to zero acres (ERM 1999 and Figure 4).

4.5.4.1 Native Plantings

Native plantings were conducted on the site between 1998 and 2021 as part of targeted restoration projects. Native planting projects completed to date are described below.

General restoration plantings conducted between 1998 and 2021 included the five phases of the maritime hammock restoration, the three phases of the south hydrological restoration (including rookery island creation), the FIND tract restoration, cabbage palm relocation, dune stabilization during beach renourishment, and the AIWW shoreline stabilization project. Species planted include saw-grass (*Cladium jamaicense*), red mangrove (*Rhizophora mangle*), sea oats (*Uniola paniculata*), seashore paspalum (*Paspalum vaginatum*), saltmarsh cordgrass (*Spartina alterniflora*), and various other shrubs, ferns, grasses and forbs.

In June 2006 and June 2007, 64 Beach jacquemontia (*Jacquemontia reclinata*) plants grown from rooted cuttings by Fairchild Tropical Garden were planted in a transitional area between the maritime hammock and scrub natural communities of the oceanfront tract. Fairchild is currently tracking naturally occurring seedlings within this population to determine *in-situ* seedling survival

rates with FDACS funding. The last survey of this species was conducted by ERM staff in October 2021; there were nine plants in fair condition with four producing flowers and fruits.

Initially, 200 Dancing lady orchids (*Tolumnia bahamensis*) were planted within the scrub vegetation community of Management Units 1, 6, and 7, in September 2018. Two additional plantings occurred in April and August 2019, with 150 and 75 orchids, respectively. All plantings were installed by Pine Jog Environmental Center as part of Fairchild Tropical Garden's Million Orchid Project. The last survey of this species was conducted by ERM staff in July 2021; success rate is very low and flowering has not been observed.

4.5.4.2 Mesic flatwoods restoration

The mesic flatwoods restoration project area is located north of Donald Ross Road (Figure 7). Decades of fire suppression have resulted in a dense, tall palmetto understory and a duff layer over one foot thick. Forty-two acres of understory vegetation were mechanically reduced in January 2015. In March 2022, an 8.6-acre wildfire occurred in the project area just north of the Donald Ross Road bridge. A prescribed burn is needed to reduce the remaining fuels in the area and complete the restoration.

4.5.4.3 AIWW shoreline stabilization/enhancement

Shoreline stabilization and enhancement was needed along the AIWW between Donald Ross Road and the northern boundary of the natural area (Figure 7) as a result of erosion due to boat wakes. This erosion adversely affected the upland communities along this portion of the shore as well as a portion of the mangrove swamp community. The County was awarded funding from FIND through the Waterways Assistance Program effective January 16, 2014 for \$561,450 (50/50 cost share) for placement of 5,700 tons of limestone to stabilize 2,400 feet of shoreline of County property. The County also entered into a Project Agreement with FIND on April 26, 2014 for placement of 2,500 tons of limestone to stabilize 930 feet of shoreline of the FIND property for \$326,115 (no cost share). The project was initiated in February 2015 and completed June 2015. A brontosaurus was used to mow the vegetation and to remove dead trees along the shoreline prior to rock placement. The project included the construction of a series of breakwaters parallel or directly adjacent to the existing shoreline as well as planting of the shoreline with appropriate native species such as mangroves, seashore paspalum, and saltmarsh cordgrass. Breakwater design and placement took into account the shoreline geometry and proximity to the AIWW channel. Construction of the breakwaters has significantly reduced wave action along the shoreline, and planting of native species has further reduced shoreline erosion in this area.

4.5.4.4 Beach Renourishment

The first beach renourishment project to affect lands within the natural area was constructed December 1999 - February 2000. A second beach renourishment project was constructed December 2009 - April 2010. A third beach renourishment project was constructed December

2020 – February 2021. During these projects, beach-compatible sand was dredged from an offshore borrow area and placed along an approximate 2.4-mile stretch of beach, including the oceanfront tract of the natural area. The specifications for both projects called for a design elevation of +7.5 ft. NAVD (North American Vertical Datum), and an average 200-foot wide construction berm. The next beach renourishment project will be constructed no earlier than 2027.

4.6 SOIL AND WATER CONSERVATION

The Beaches, Palm Beach, Paola and St. Lucie soils are listed as sloping soils and have a potential for erosion (Section 3.1, Figure 5). The other soil types found on the site are nearly level soils and have minimal erosion potential. The only soil-disturbing activities that have occurred 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 stabilized by the use of erosion control fabrics and 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. A dune walkover has been constructed to control beach dune erosion at the only point where there is public and management access across the beach dune. 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. Appropriate silt fencing measures were undertaken for site restoration and facility construction activities with the potential to discharge sediment into surface waters. Protection of the Pamlico Ridge and Present Dune will continue to be ensured through the ongoing protection and preservation of this site.

4.7 SECURITY

The Town of Juno Beach Police Department has the primary responsibility for public safety and law enforcement at the portions of the site within the municipal boundaries of Juno Beach, per the terms of the interlocal agreement between the Town and the County (Appendix N). The Palm Beach County Sheriff's Office is responsible for public safety and law enforcement in the unincorporated portions of the site. 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). Currently, Town police open and close the gates to the western parking lot and County Parks and Recreation Department staff open and close the entrance gates to Loggerhead Park, which provides access to the oceanfront tract parking lot.

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 and/or cultural 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 staff and volunteers from local citizens' organizations, businesses and schools provide additional support where feasible and necessary.

4.9 COORDINATION WITH ADJACENT LAND MANAGERS

There are no conservation or park lands of any significant size located adjacent to or in the immediate vicinity of the natural area. The County's Parks and Recreation Department (Parks), the Ocean Royale condominium, the Frenchman's Harbor development, and Holy Spirit Lutheran Church each own, and are responsible for the management of, a small scrub preserve. County staff will coordinate with the appropriate entity when a prescribed burn is planned for a management unit on the natural area that is located near one of these small preserves and with Frenchman's Harbor on any issues related to the wetlands on the natural area that may be affected by the discharge through the box culvert under Ellison Wilson Road that connects to the AIWW. Parks manages Bert Winters Park and Loggerhead Park, as well as the coastal strand and beach dune communities east of A1A north of the natural area and south Loggerhead Park. Any changes in management of the communities on the natural area that would affect those areas will be coordinated with Parks. A Parks staff member serves on NAMAC, the County's advisory committee that is responsible for reviewing management plans and holding public hearings on the plans.

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 is adjacent to 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. As of June 2022 over 35% of the entire corridor was located on off-road paths and approximately 38% of the Florida segment had been completed (East Coast Greenway 2022a and 2022b). In Florida much of the route is on a side path that runs along A1A. Other parts are planned to be routed along the Florida East Coast Railway corridor, especially through Palm Beach, Broward and Miami-Dade Counties. The proposed route of the East Coast Greenway through the natural area is provided in Figure 8. ERM will work with the creators of the East Coast Greenway corridor to ensure that construction and use of the corridor does not adversely affect the natural area.

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 both parking lots and the boat dock. These exhibits help educate the public about the natural and/or cultural 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 Juno Dunes Natural Area webpage. The site's trail guide, current management plan, any restoration project summaries and a free natural areas map application for mobile devices are available upon request to ERM. Printed copies of the site's trail guide are available in brochure boxes attached to kiosks that are adjacent to the parking lots. All printed materials indicate that the Oceanfront portion of the natural area was acquired using FCT funds.

In July 2005 the natural area was selected by the 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 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. Other minor damage included the loss of several panels from the observation shelter on the oceanfront tract, several parking signs needed

replacement, and damaged sections of chain-link fence near the Bluffs and the Hampton Inn. 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 FCT, FIND, and the Town 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, State, and FIND will discuss future plans for the site. All significant events affecting the natural area will be discussed in the next 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 completed hydrologic restoration activities allow the site's wetlands to hold more water for longer periods of time, thereby reducing the effect of changes in rainfall patterns on wetland-dependent plant and animal species.
- 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 9) were carefully chosen, designed and located so that they do not jeopardize the site's natural or historical resources, including the rare and endangered plants, animals and natural communities. The public use facilities also were designed and located to ensure that more than 70 percent of the predominately natural habitat was left intact and protected from human disturbance. All public use facilities are on a preventative maintenance schedule subject to funding availability. Public use facilities have been constructed; the east side of the site opened to the public in August 2001 and the west side of the site opened to the public in April 2004.

With the exception of the boardwalk(s) and day-use boat dock, public use facilities were placed in upland portions of the site as much as possible to reduce the potential for flooding. However, portions of some of the hiking trails go through low lying areas and may hold water during the rainy season or after a significant rain event. Water is not expected to stage over the boardwalks except in a 100-year flood. All of the wetland areas have flooding constraints.

Public uses permitted on this site include nature appreciation and study, hiking, nature photography, bird/wildlife watching, canoeing/kayaking, and picnicking. The relatively small size of the western tract parking lot limits the number of people that are on the site at any given time. With the exception of 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 western tract 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 and boardwalk nature trail. The oceanfront

parking lot on the eastern tract includes two designated ADA-compliant parking spaces. An ADA-compliant concrete nature trail begins at the oceanfront parking lot and leads north to an observation shelter at the top of the dune. Other ADA-compliant public use facilities constructed on the site include boardwalk(s), wildlife observation platform(s), and picnic tables.

The primary public access on the oceanfront tract is via an expansion of the parking lot for Loggerhead Park with spaces for 44 cars and 2 buses, located just east of U.S. 1 (Figure 9). The primary public access on the western tract is via a 10-car, 2-bus parking lot located just west of U.S. 1. A bicycle rack has been installed adjacent to both parking lots to encourage visitors to ride bicycles to the natural area. Restroom facilities, picnic tables, trash cans, and drinking water are available at Loggerhead Park. Because restroom facilities are available on the east side of U.S. 1 at Loggerhead Park, these facilities have not been installed on the western tract of the natural area. Unpaved areas within the parking lots have been landscaped with native plants to provide additional wildlife habitat and to enhance the parking lots' appearance. Entry to the oceanfront parking lot is controlled by the existing Loggerhead Park entrance gate. The County's Parks and Recreation Department open and close the Loggerhead Park gate. Gates have been installed across the driveway to control entry to the western parking lot as well. Town staff open and close the gates to the western parking lot (Appendix N). 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 five pedestrian access points – one on Ellison Wilson road, one on either side of Donald Ross Rd, one on the beach at the dune overwalk, and the day-use docking facility which connects to the Atlantic Intracoastal Waterway. These points provide access for pedestrians.

Approximately 4.7 miles of trail have been created within the natural area (Figure 9). This includes 0.6 miles of accessible paved nature trails, and approximately 4.1 miles of natural-surfaced hiking trails. All of the trails can be accessed from the parking lot and/or from one of the non-vehicular access points.

Two concrete and boardwalk nature trails begin at their respective parking lots. A third nature trail is present at the boat dock. The nature trails are a minimum of 5-feet-wide to accommodate wheelchairs and other non-motorized mobility devices. Interpretative trail signs have been placed along the Oceanfront tract nature trail.

Access to the hiking trail system is from either parking lot (Figure 9), the boat dock, or the pedestrian access points described above. The hiking trail has 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 (by mowing) at a width of ten to twelve feet. However, portions of the hiking trail that are co-located with one of the site's management accessways/firebreaks are wider than twelve feet (see Section 5.4). The boardwalk portion of the hiking trail is a minimum of 5-feet-wide. 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.

Non-trail amenities provided at the natural area include two wildlife observation platforms with benches (one on either side of US 1), an observation tower on the FIND tract, three picnic tables, a dune walkover to the beach, and a floating day-use dock with AIWW access. Both of the wildlife observation platforms are accessible from their respective parking lots via nature trails.

5.2 FENCING AND GATES

Most of the 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, split-rail with wire mesh backing, vinyl-coated chain-link and field fencing. Field fencing with wire mesh backing and the bottom section buried 8 inches was installed by the Department of Transportation along both sides of U.S. 1 to help keep gopher tortoises on the site. Split-rail fencing was installed by the County around the perimeter of both parking lots. Six-foot-tall, vinyl-coated chain-link fencing has been installed at various locations around the perimeter of the site where the natural area borders unfenced residential or commercial properties. Field fencing along both sides of Rolling Green Road was in place when the property was acquired. The developer of the Ocean Royale condo constructed a perimeter wall east from U.S. 1 approximately half the distance along that property line and a fence from that point east to A1A, along the northern boundary of the oceanfront tract. Fencing has not been installed along the western perimeter of the site bordering the AIWW.

Thick vegetation along A1A, Donald Ross Road, and Ellison Wilson Road blocks OHV access. After acquisition of the property, split-rail fence units were installed to block five sand roads that led into the site. Unless an event such as a prescribed burn opens up these road frontages to OHV trespass, the County does not plan to install additional fencing along these roads. If roadside fencing becomes necessary, it will be installed.

A management access gate has been installed wherever a management accessway/firebreak connects to a public road, a parking area, or to an access easement. These gates typically are vinyl-coated chain-link fence gates if the associated fencing is chain-link, although one field gate has been installed in chain-link fencing just north of Rolling Green Road. Field gates have been installed where the associated fencing is split-rail or field fence. Loggerhead Park, which borders the oceanfront tract on the southern side, is fenced and gated. Because the oceanfront tract is accessed through Loggerhead Park, no separate entrance gates are required for that parking lot. Steel swing gates have been installed at the entrance and exit to the parking lot on the west tract.

All of these gates provide 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

Signs identifying the site as a natural area were installed on along U.S. 1 and Donald Ross Road to inform drivers of the existence of the natural area. Entrance signs were installed on U.S. 1, near the entrance to the western parking lot, and in the Loggerhead Marinelife Center parking lot, near the entrance to the nature trail. Two permanent dedication signs were installed near the entrances to both parking lots. Each dedication sign states that the natural area was acquired for environmental preservation and public recreation purposes with funds provided by the County, FCT, and CARL, and is managed by the County with assistance from the Town. The dedication sign also indicates that funding for public outdoor recreational facilities was provided by FIND.

Regulatory signs have been posted at each corner of the natural area and every 500 feet along the perimeter of the natural area. These signs identify Juno Dunes Natural Area as a protected site and cite the County's Natural Areas Ordinance. Access hours and natural area rules signs have been installed adjacent to the parking lots 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. Interpretive signs with descriptive information about the site have been installed along the Oceanfront tract 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 natural area parking lots, and near the picnic tables within the boat basin. Trash receptacles are not provided at 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.

An entrance sign for the boater basin was erected adjacent to the south jetty. There also are signs related to manatee protection near the kiosk and boardwalk. Other signs posted at or near the floating docks notify users that overnight dockage and bicycles are prohibited at the natural area, and that the use of motorized vessels is restricted to the boat basin and docks.

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 6). 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 have been used as part of a designated hiking trail.

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. The management accessways/firebreaks on this site were designed and located to ensure that more than 70 percent of the predominately natural habitat was left intact and protected from human disturbance. 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. Management accessway/firebreak locations were field adjusted to minimize impacts to wetlands and/or avoid steep slopes whenever possible. If a wetland crossing was unavoidable, at-grade crossings were utilized to maintain natural water flow patterns.

5.5 OTHER STRUCTURES AND IMPROVEMENTS

The only other structures constructed within the natural area are a fixed weir south of Donald Ross Road, and a 12-foot box culvert installed underneath Ellison Wilson Road. The weir was designed to hold rainfall in the wetlands east and south of the weir and to stop tidal estuarine waters from flowing into these same wetlands. The box culvert replaced two existing 48-inch culverts and improved tidal flushing within the mangrove swamp south of Donald Ross Road. The box culvert was required as wetland mitigation for the construction of a residential development known as Frenchman's Harbor on the west side of Ellison Wilson Road. These structures were constructed as part of the hydrological restoration project (see Section 4.5.4). The weir has raised the control elevation of the north-central portion of the natural area from approximately 1 foot to 3 feet NGVD (the control elevation of the weir). The County will maintain the fixed weir structure. The Frenchman's Harbor development has the responsibility for the maintenance of the box culvert.

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 east side of the site opened to the public in August 2001 and the west side of the site opened to the public in April 2004. 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 2022.

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 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. Pursuant to an existing Interlocal Agreement, the Town has agreed to open and close the western parking lot gates, and to assist the County with certain volunteer activities and management activities, subject to the availability of town funds, staff and equipment (Appendix N).

6.1 CAPITAL AND MAINTENANCE COSTS

As of July 2022, 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 \$5,819,917. 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 \$306,786 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. USFWS provided grant funds for the maritime hammock restoration (\$29,696) and FIND provided funds for the seagrass and mangrove restoration, freshwater wetland restoration, AIWW shoreline stabilization/enhancement, and public use facilities on FIND's property and the adjacent small areas owned by the State and the County (for a total of \$887,565). The culvert under Ellison Wilson Road was installed by Toll Brothers to meet a wetland mitigation requirement (\$165,000). Grant funds were also received from FDEP for removal of exotic

nonnative plant species (\$100,000), FWC for Gopher Tortoise Habitat Enhancement (\$15,000) and exotic nonnative plant removal (\$75,000), USFWS for hydrological restoration work south of Donald Ross Road (\$24,000), and from NRCS through its Wildlife Habitat Incentive Program (WHIP) for scrub and scrubby flatwoods restoration (\$32,000), primarily control of invasive nonnative plants.

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.

The County has established a Natural Areas Stewardship Endowment Fund that includes funds from restricted gifts and other sources. These funds are invested and the interest earned provides operating funds for county natural areas. The County also has established a Natural Areas Fund to help pay for the development, restoration/enhancement and management of county natural areas. Funding sources for the Natural Areas Fund includes cash payments made in lieu of preservation requirements contained in Article 14, Chapter C (Vegetation Preservation and Protection Ordinance) of the Palm Beach County Unified Land Development Code (ULDC), as well as monies received from the sale of development rights removed from natural area lands, leases of county-owned land in the Agricultural Reserve, and the use of county natural areas as offsite mitigation areas. And lastly, the Pollution Control Recovery Trust Fund, which receives fees related to civil violations under Article 14 of the ULDC, may be used to help pay for restoration/enhancement projects on county natural areas. Even with these possible funding sources, the County recognizes the need for additional management funds. ERM will investigate all possible local, state, or federal sources of land management funds, however, the County will not apply for funds from any grant program whose requirements conflict with the terms and conditions of the FCT grant award agreement. Any fee received by ERM from any public or private entity for projects to offset adverse impacts to imperiled species or their habitats will be deposited into the Natural Areas Fund and used to restore, manage, enhance, repopulate or acquire imperiled species habitat and to implement land management plans for sites with such habitats.

7. MONITORING AND REPORTING

The natural area is managed specifically to preserve, restore/enhance and maintain its natural and historical 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 and FCT 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.

Information on all new listed plant and animal species recorded at the natural area will be provided to FNAI on an annual basis, using one of the forms that are available at <http://www.fnai.org/fieldreportingforms.cfm>, or as otherwise requested by FNAI.

Staff will prepare and submit a stewardship report to FCT once every 5 years. The submittal date for the first 5-year report is October 2024. The County commits to follow up visits performed by FCT. Any revenue collected will be tracked by the County and reported annually to FCT. The stewardship report will be designed to meet the reporting requirements for the FCT-funded portion of the natural area.

The County understands its responsibility for preparing an Annual Revenue Report for each FCT project site, due on July 31 of each year. This report will include revenue earned on the project site during the previous State of Florida fiscal year (July 1-June 30). Any and all fees collected will be placed in a segregated account and used solely for the upkeep and maintenance of the project site.

The County also understands its responsibility to determine whether or not it must submit a State single or project-specific audit for any given fiscal year in accordance with Section 215.97, Florida Statutes; applicable rules of the Department of Financial Services; and Chapters 10.550 (local governmental entities) or 10.650 (nonprofit and for-profit organizations), Rules of the Auditors General.

The requirements imposed by other grant program funds that may be sought for activities associated with the project site shall not conflict with the terms and conditions of the FCT award.

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 P).

9. CHRONOLOGY OF MAJOR EVENTS
1991-2022

Year	Month	Event
1991	January	Grant application submitted by County to CARL Program for matching funds for acquisition of 623 acres
1992	January	Grant application submitted by County to CARL Program for matching funds for acquisition of 251 acres
	November	Juno Associates Tract purchased for \$10,300,000
1993	January	Grant application for acquisition of 359 acres of site submitted to CARL
	November	State Land Acquisition Advisory Council held public hearing on proposed CARL projects in West Palm Beach; local officials, representatives of environmental groups, and citizens expressed support for acquisition of site
	December	Site added to CARL list and acquisition priority rank assigned for 1994 consideration by Governor and Cabinet
1994	June	\$10,000 donation to Natural Areas Fund received from Shivam Hospitality Group, Inc. as mitigation for loss of scrub-jay habitat during development of Hampton Inn motel to north of natural area; funds to be used for two prescribed burns to enhance scrub-jay habitat on natural area
	September	Resolution Trust Corporation tract purchased for \$320,000
		Grant agreement executed with U.S. Fish and Wildlife Service for a prescribed habitat management burn to benefit four-petal pawpaw habitat restoration
1995	March	One small prescribed burn conducted in Unit 2 as part of USFWS grant
	August	Partnership grant application with Town of Juno Beach for acquisition of oceanfront tract submitted to FCT
	December	MacArthur Foundation tract purchased for \$14,975,430
1996	April	One small prescribed burn (approximately 7 acres) conducted in Unit 2 as part of USFWS grant
	August	Fisher tract purchased for \$165,000
	October	Two gopher tortoises relocated from Donald Ross Road right of way into natural area prior to road-widening project
1997	February	Juno Associates Oceanfront tract purchased for \$15,800,000

Year	Month	Event
	March	Sale of MacArthur Foundation tract to State for \$7,475,427
	May	Railroad tie from Celestial Railroad discovered during site restoration work; tie was given to Town for display in the Celestial Railroad room of the Town Hall
	August	25-year management lease executed with FIND for 30-acre tract
	September	50-year management lease to County executed by State
		Management plan for oceanfront tract approved by FCT
		Five-year cooperative agreement executed with USFWS through South Florida Coastal Ecosystems Program for restoration of five acres of former disturbed maritime hammock on oceanfront tract over five-year period; \$4,500 approved for first phase
	October	Interlocal agreement with Town of Juno Beach for management of natural area
		Relocation of approximately 70 trees to disturbed pine flatwood area west of Town's public works compound in association with widening of Donald Ross Road; two culverts under Donald Ross Road at Ellison Wilson Road were removed to eliminate drainage of wetlands north of the road and a mosquito ditch parallel to and just south of Donald Ross Road was filled to reduce drainage of adjacent wetland areas
		State matching funds of \$7,453,854 received from FCT for oceanfront tract
	November	First phase of nonnative plant control program initiated on oceanfront tract – treatment of Brazilian pepper
	December	Wooden dune overwalk structure constructed on oceanfront tract between A1A and the beach to prevent damage to dune by beach visitors
1998	January	Phase 1 of maritime hammock restoration project on oceanfront tract initiated
	April	State Land Management Review team site visit; favorable evaluation report issued in June
	May	Second phase of nonnative plant control program initiated on oceanfront tract – continuation of Brazilian pepper treatment
	June	NAMAC site visit as part of management plan review

Year	Month	Event
	September	Modification of Cooperative Agreement with USFWS for \$4,650 for second year of maritime hammock restoration project
		First annual stewardship report submitted to FCT; copy also provided to FIND
	November	Third phase of nonnative plant control treatment on oceanfront tract – trees, shrubs, and invasive grasses
	December	Sale of Fisher tract to State for \$82,500
1999		FPL relocated high-voltage transmission line from right of way on west side of A1A to right of way on east side of U.S 1
		FDEP grant for \$72,567 received for nonnative plant control
	January	Phase 2 of maritime hammock restoration project on oceanfront tract initiated
	March	BCC accepted quitclaim deed from MacArthur Foundation for approximately 2.7 acres of uplands within the AIWW and west of the MacArthur Foundation parcel purchased previously
	May	Third phase of nonnative plant control treatment on oceanfront tract – use of hydroaxe to clear large stands of Brazilian pepper (approximately 2.7 acres), plus follow-up treatment of remaining stumps; Phase 2 of maritime hammock restoration initiated (clearing of one-acre area)
	June	Amendment No. 1 to lease executed by State – added Fisher property
		Received approval from Florida Coastal Management Program of DCA for \$50,000 matching grant for study on options for pedestrian crossing of U.S. 1 between oceanfront and west tracts
		Photomonitoring initiated on maritime hammock restoration area
		First annual biological monitoring report submitted to FDEP for CARL lands
	August	Parker tract purchased for \$320,000
	September	Open house and public hearing for draft management plan. During the public hearing, a citizen suggested that the name of the natural area be changed to “Juno Dunes” to more accurately describe the oceanfront character of part of the site
	October	Received \$4,830 from USFWS for third year of maritime hammock restoration project
		NAMAC approved name change to Juno Dunes
	December	BCC approval of management plan for entire site

Year	Month	Event
		Phases 1 and 2 of maritime hammock restoration completed
2000		Construction began on public use facilities on oceanfront tract; management accessways completed in May
	January	Phase 3 of maritime hammock restoration project on oceanfront tract initiated
	September	Volunteer events scheduled on oceanfront tract on an as-needed basis (planting native vegetation, mulching planted material, collection of seeds from native plants, trash pickups)
		Prescribed burn conducted in Unit 6 – approximately 48 acres
		Biological monitoring program initiated on oceanfront tract
	November	Final report to DCA Coastal Management Program on pedestrian crossing feasibility study; alternatives for at-grade crossing, tunnel, and overpass determined not to be feasible; no-action alternative selected; only \$14,245 used from \$50,000 grant
	December	State approval of initial management plan
		Five staff gauges and four wells installed for hydrologic monitoring
		Phase 3 of maritime hammock restoration project completed
		Construction of an approximate 2.4-mile long beach renourishment project, which included the eastern portion of the oceanfront tract, began
2001	January	Monthly hydrological monitoring initiated
	February	Construction of the beach renourishment project completed
	March	Problems associated with development of Ocean Royale condominium – dune on west end not adequately stabilized, erosion from stormwater and construction activity, fill covering listed species, encroachments into natural area, trash and construction debris dumped on natural area
	June	Public use facilities completed on oceanfront tract
		Nature trail guide, interpretive stations, and kiosk displays completed for oceanfront tract
		Slide show completed for natural area; available for public presentations on request
		Jupiter of the South, Ltd. provided \$20,000 for future environmental restoration work on natural area as mitigation for development of another property
	August	Public use facilities on oceanfront tract opened to public

Year	Month	Event
		Initial nonnative plant control treatment completed on oceanfront parcel
	October	Received \$6,000 from USFWS for fourth year of maritime hammock restoration project; old parking lot area on north end of tract scraped down and replanted
	December	Photomonitoring stations established and sampled in each management unit
		Majority of management accessways/firebreaks completed
2002		Three cabbage palms with hand ferns attached relocated from FIND tract to restoration area north of Rolling Green Road
	January	Phase 4 of maritime hammock restoration project on oceanfront tract initiated
		Vegetation transects established and sampled in each management unit
		Initial invasive nonnative plant control treatment completed
	August	Prescribed burn conducted in Unit 12; just under 50 acres burned
	November	Received \$9,716 from USFWS for fifth year of maritime hammock restoration project and \$24,000 for environmental and hydrological restoration of freshwater and tidal wetlands
	December	Phase 4 of maritime hammock restoration project completed
2003	January	Phase 5 of maritime hammock restoration project on oceanfront tract initiated
	May	Wildfire burned 0.28-acre area in southeast corner of Unit 1; vehicle driven illegally onto site became stuck on palmettos and caught fire; occupants abandoned vehicle, which was consumed; one suspect confessed and was charge with a misdemeanor by Arson Unit of PBC Fire Rescue
	June	Construction of public use facilities on west tract initiated
		Mechanical removal of Australian-pine and Brazilian pepper on FIND tract initiated
		Palmetto berry pickers warned to stop picking; berries confiscated and spread on site or given to local nursery to grow for future restoration projects on natural areas
		County developed training course for site stewards
	December	Phase 5 of maritime hammock restoration project completed

Year	Month	Event
		Archaeological and Historical Conservancy, Inc. conducted survey and assessment of potential archaeological sites in Palm Beach County; both portion of natural area north of Donald Ross Road and Loggerhead Park (including the Juno Dunes oceanfront tract) were identified as Archaeological Conservation Areas (areas that include ecosystems associated with a medium to high probability of containing archaeological sites)
		Open sand restoration project conducted to clear ½ acre of dwarfed oaks to provide additional open space for scrub-jays and other listed species
2004	February	Public use facilities completed on west tract
		Nature trail guide, interpretive stations, and kiosk displays completed for west tract
	March	Prescribed burn completed in Unit 4 on oceanfront tract (approximately 15 acres)
	April	Public use facilities opened to public on west tract
	May	Permanent photomonitoring stations established in each management unit
		Nine scrub-jays banded; blood samples taken by Archbold Biological Station staff for genetic and West Nile virus research
	June	MacArthur tract and smaller tracts, including oceanfront tract, annexed by Town of Juno Beach
	September	Hurricanes Frances and Jeanne caused minor damage; several parking signs and locks and posters on kiosks replaced
	November	49,682 cubic yards of sand removed from FIND tract for dune restoration project and for fill on several other natural areas
	December	Prescribed burn conducted in Unit 2 (approximately 25 acres ignited; 12.8 acres consumed, 5.2 acres scorched, 7.4 acres unburned)
2005	January	Final abandonment and plugging of three wells on Seminole Golf Club property south of the natural area
	April	Trail guides placed on ERM website
	May	Skid steer used to clear open sand area for scrub-jays due to resprouting of oak species
	June	Channel 20 Naturescope television program filmed on site
	July	Natural area added to Great Florida Birding Trail

Year	Month	Event
		Prescribed burn conducted in Unit 2 (approximately 10 acres burned)
		Wildfire caused by lightning striking a pine tree burned approximately 0.01 acre in northwest portion of Unit 8; fire was extinguished with water by PBC Fire-Rescue
	October	Minor damage to site on October 24 from Hurricane Wilma – downed trees and vegetative debris across management accessways, loss of several panels from observation shelter on oceanfront tract, and damaged sections of chain-link fence near the Bluffs and the Hampton Inn
	December	Grant application submitted to NRCS Wildlife Habitat Incentives Program (WHIP) for six-year program to restore scrubby flatwoods and scrub communities on Juno Dunes and other natural areas through nonnative plant control, construction of firebreaks and prescribed burning; application subsequently approved – approximately \$32,000 total funds to be provided
2006	January	Phase I archaeological assessment conducted by Archaeological and Historical Conservancy, Inc. on portion of natural area south of Donald Ross Road
	March	Donation of 1.86 acres received from Communities Finance Company, LLC
	June	Volunteers assisted with planting on oceanfront tract of 32 endangered <i>Jacquemontia reclinata</i> seedlings grown by Fairchild Tropical Garden
	December	Holy Spirit Lutheran Church granted conservation easement to County over 0.58-acre parcel on east side of Ellison Wilson Road
2007	February	Amendment 1 to interlocal agreement with Town of Juno Beach for site name change, promotion of NENA, and Town responsibility for installation and maintenance of bollard-style lighting on the east side of A1A
		Town of Juno Beach approved site plan for Estates at Juno Beach – 29-lot single-family home residential project, adjacent to southern boundary of natural area
	June	Second planting of 32 <i>Jacquemontia reclinata</i> seedlings on oceanfront tract
	August	Illegal clearing by contractors for Estates at Juno Beach development; settlement agreement reached with Ecclestone

Year	Month	Event
		Signature Homes of Palm Beach, LLC for violation of Natural Areas Ordinance; payment of \$7,091.30 to Natural Areas Fund
		Several groups of saw palmetto berry pickers were warned to stop collecting on the natural area
	October	Quitclaim deed recorded for abandonment of 30.15-acre dredged spoil material easement held by FIND (included 14.47-acre portion of restoration project area on FIND tract)
2008	April	Town of Juno Beach installed shielded bollard-style lights adjacent to pedestrian/bike pathway east of A1A to protect sea turtles
	July	Phase I of hydrological restoration project in area south of Donald Ross Road completed; work involved installation of three culverts, construction of two freshwater ponds and a bird nesting island and pond, and filling of mosquito ditches; work partially supported by a \$24,000 grant from USFWS
	October	Trees planted on rookery island
	December	2,500 sawgrass seedlings planted around ponds
		New management access gate installed on east side of Ellison Wilson Road in conjunction with hydrological restoration project
2009		Reimbursement of \$6,679 from WHIP for invasive plant control treatment
	January	Town update of zoning map; oceanfront parcel designated as environmental sensitive land
		Phase II of hydrological restoration project south of Donald Ross Road initiated (excavation of a freshwater pond and a saltwater pond and weir installation)
	March	FIND restoration project work initiated; 29 cabbage palms relocated from project site to the restoration site south of Donald Ross Road
	April	Two additional staff gauges and one replacement staff gauge installed in constructed ponds; one well was removed during construction of ponds
	June	0.34-acre Schwimer parcel acquired through purchase of tax deed
		4,760 plants installed on FIND tract (shrubs, ferns, grasses, forbs)
	July	Phase II of hydrological restoration project south of Donald Ross Road completed; planting of freshwater pond area; additional plantings for tops of berms, slopes on both freshwater and saltwater sides, and upland areas

Year	Month	Event
		Supplemental planting of trees, shrubs and groundcover species in upland plug area and on island in Phase I part of hydrological restoration project
		Four telephone poles installed at two locations to span mosquito ditches for the hiking trail south of Donald Ross Road
	August	Construction of management accessways completed on west tract; culverts installed at three mosquito ditch crossings; final planting in upland plug area and on island; photopoints established
	September	Illegal planting of nonnative cactus species observed by volunteer steward on west tract along accessible trail near kiosk; plants removed during subsequent volunteer event
	December	Construction of the second beach renourishment project began
2010		Reimbursement of \$6,679 from WHIP for invasive plant control treatment
	January	Wildfire burned 0.94 acres in Unit 7 near observation tower – caused by cigarette; put out with water and plow lines
	February	Beach renourishment project completed; 50,000 sea oats plants installed south of Juno Pier to restore eroded dune
	March	FCT site visit to oceanfront tract; noted that County has made excellent progress in developing and managing the natural area
		Unit 9 (34.6 acres) high-chopped with the Magnum Mulcher
	April	Illegal discharge of water from Juno Ocean Walk condominium damaged management accessway; ERM sent warning letter and Town sent Notice of Violation to condominium board of directors
		Coyotes observed on wildlife cameras and heard by nearby residents
		Eagle Scout candidate built pedestrian bridge over main mosquito ditch south of Donald Ross Road running east from Ellison Wilson Road
		Construction of the second beach renourishment project completed
	June	Prescribed burn conducted in Unit 5 (approximately 22 acres)
		Two coyotes captured and removed from the site
	July	Construction began on Environmental Restoration and Public Use Facility project on the FIND tract

Year	Month	Event
		Approximately 1,027 cubic yards of rock and shells removed from the Juno Beach beach renourishment project were used to improve firebreak adjacent to Sea Oats development, section of firebreak adjacent to the mobile home park, and section of management accessway in pine flatwoods
	September	NAMAC site visit
		Management responsibility transferred to ERM for 2.18-acre portion of Bert Winters Park on the east side of Ellison Wilson Road
		Amendment No. 2 to lease with State approved by BCC - includes approximately 3-acre parcel within County-managed Loxahatchee Slough Natural Area. This property was added to the state lease for this site in order to avoid additional annual lease administration charges from the State
		Staff coordination with FDOT consultant on listed species survey for sidewalk installation project in FDOT right of way on west side of U.S. 1; two areas of shell mound prickly-pear and five tortoise burrows located and mapped
	October	BCC approved granting of conservation easement over county-owned portions of natural area to SFWMD
		Pedestrian bridge installed to cross mosquito ditch to connect hiking trail south of Donald Ross Road to trail entering site from pedestrian access on east side of Ellison Wilson Road
	November	FWC approved grant application for \$15,000 for gopher tortoise habitat management activities in Units 9 and 10, including mechanical chopping of vegetation
2011		Reimbursement of \$6,679 from WHIP for invasive plant control treatment
		Three coyotes captured and removed from the site
	April	Installation of a 12-foot box culvert by Toll Brothers under Ellison Wilson Road, south of Donald Ross Road completed
		18,077 plants installed on FIND tract (trees, shrubs, grasses, forbs)
	May	3,300 red mangrove seedlings installed on FIND tract
		Staff gauge #1 replaced and surveyed
		Mosquito ditches in disturbed wetlands in Unit 10 mowed and backfilled; wetlands regraded to more natural grade

Year	Month	Event
		Phase III of the South Hydrological Restoration began when staff used an excavator to dig a small tidal pond
		Unit 10 (35 acres) vegetation reduced with a Brontosaurus
	June	Public use facilities completed on FIND tract
		Mechanical chopping of vegetation for gopher tortoise habitat enhancement completed; five abandoned cars uncovered during chopping were removed
		Two new staff gauges installed – one in the freshwater pond in Unit 9 near the weir in the southwest corner of Donald Ross Road and U.S. 1 and the other in the restored freshwater wetland in Unit 10 located north of Rolling Green Road
		FWC provided \$6,675 in reimbursement funds for nonnative plant control
		Bucket trapping of tortoises in FDOT right of way initiated by consultant; tortoises trapped were relocated on west tract of natural area
	July	Public use facilities on FIND tract opened to public; opening ceremony held on July 13
	August	Mitigation payment of \$165,000 received from Toll Brothers for impacts on Frenchman’s Harbor development site; funds used for restoration projects on natural area
		Two patches of shell mound prickly pear cacti were relocated out of the path of the FDOT right of way sidewalk
	September	NAMAC review of draft revised plan
	October	An Eagle Scout completed the hiking trail east of Bert Winters Park on Ellison Wilson Road through the upland plug area heading northeast and then east to tie into an existing management road
		Phase III of the South Hydrological Restoration completed when a contractor manually trimmed back low lying vegetation and removed debris from the main channel to increase flushing
	November	Public hearing on draft revised plan
	December	Revised management plan approved by BCC and provided to FDEP
2012		Reimbursement of \$6,000 from WHIP for invasive plant control treatment
		Construction of the FDOT right of way sidewalk north of Donald Ross Road complete

Year	Month	Event
		Volunteers planted a total of 2,000 red mangrove seedlings in the FIND restoration area
	February	A car crashed into the fence on the south side of Rolling Green Road - fence repaired by staff
	April	Revised plan approved by ARC
	May	Unauthorized trail marked with blue flagging cut in Unit 2 – flagging removed and sign stating “Environmentally Sensitive Area, Do Not Enter” installed
2013	March	Units 13 and 14 (35 acres) vegetation reduced with a Brontosaurus
		Prescribed burn conducted in Unit 9 – approximately 52 acres
	April	Units 1 (45 acres) and 12 (32 acres) vegetation reduced with a Brontosaurus
		Construction began for the Preserve at Juno Dunes, the residential project on the southern border of the natural area
	June	The Town of Juno Beach contacted staff about flooding in the southeast portion of the Juno RV Park. During periods of extremely high water levels, on site wetlands end up connecting with the southeast portion of the RV site
	August	Three incidents of berry picking with 8 arrests – totaling 2,525 lbs worth \$1,829
		Trail markers installed along the hiking trails south of Donald Ross Road
		Staff met with the RV Park Property Manager and their engineer from Civil Solutions to discuss the flooding situation. The RV Park plans to add fill to the washed out area on their property
2014	January	The County was awarded funding from FIND through the Waterways Assistance Program for \$561,450 (50/50 cost share) for placement of 5,700 tons of limestone to stabilize 2,400 feet of AIWW shoreline of County property
	April	The County entered into a Project Agreement with FIND for placement of 2,500 tons of limestone to stabilize 930 feet of AIWW shoreline of the FIND property for \$326,115 (no cost share)
	May	Prescribed burn conducted in Unit 1 – approximately 43 acres
		Small wildfire, approximately 30 feet by 30 feet, occurred in Unit 11 - Palm Beach County Fire Rescue was able to quickly access the fire and put it out without incident

Year	Month	Event
		FPL started replacing the power poles along Ellison Wilson Rd. from PGA Blvd. to Donald Ross Road
	August	Twelve <i>Sabal etonia</i> were planted near the Juno West parking lot
	October	Six shellmound pricklypear were planted near the Juno West parking lot
		A grant for \$75,000 was awarded by Florida Fish and Wildlife Conservation Commission for exotic nonnative plant removal
2015	January	Maintenance of the main channel of the South Hydrological Restoration project completed
		Unit 8 (42 acres) vegetation reduced with a Brontosaurus
		Skid steer used to remove three old car frames in Unit 8
	February	AIWW shoreline stabilization project initiated
		Additional fuel reduction work conducted in Unit 1 due to post burn pine tree mortality - a portion of the AIWW shoreline was also mowed to prepare the area for the shoreline stabilization rock work
	June	AIWW shoreline stabilization project complete
		Funding for a two-year study of the four-petal pawpaw population on Juno Dunes to determine the age class structure was provided by the Florida Department of Agriculture and Consumer Services for \$19,740. Monitoring for the study was initiated on the plants south of Donald Ross Rd.
2016	January	Unit 7 (25.6 acres) and Unit 11 (34 acres) vegetation reduced with a Brontosaurus
	March	Staff gauges 2, 6, and 7 were closed since they have tracked the same as other stations within the restored basin since 2011
	June	Monitoring for the 2 nd year of the four-petal pawpaw study was initiated on the plants north of Donald Ross Rd.
		Numerous Florida Butterfly Orchids in Unit 8 were collected from the ground (from rotting, fallen oak tree branches) and relocated throughout the unit
2017	January	A tornado passed through the site causing minor damage to the FIND public use facilities – repairs made by staff
	April	Volunteers installed interpretive signage (developed collaboratively with Marinelife Center) along the Oceanfront hiking trail
	June	Surveys of relocated Butterfly Orchids in Unit 8 showed they were surviving and some were flowering

Year	Month	Event
	August	Three citations issued for saw palmetto berry collection
2018		The footbridge crossing a mosquito ditch just south of Donald Ross Rd. was replaced with an aluminum bridge. An Eagle Scout candidate and volunteers removed the old bridge, formed the base, and manually installed the aluminum bridge
	August	Prescribed burn conducted in the eastern portion of Unit 11 (11.2 acres) and southern portion of Unit 12 (11.2 acres)
	September	Beach portion of the site closed due to red tide
		200 Dancing lady orchids were planted within the scrub vegetation community of Management Units 1, 6, and 7
	October	Posters for the pedestrian entrances were updated and replaced
2019	January	Due to ongoing issues (trash, ants, etc.) with the brochure box at the Oceanfront parking lot, the brochure box was removed. Staff determined it was no longer needed for the 0.25 mile trail that has a detailed map in the kiosk and interpretive signage along the trail
	April	150 Dancing lady orchids were planted within the scrub vegetation community of Management Units 6 and 7
	August	75 Dancing lady orchids were planted within the scrub vegetation community of Management Units 1, 6, and 7
		Six individuals were caught harvesting saw palmetto berries
	September	Seven individuals were caught harvesting saw palmetto berries
2020	April	FPL entered the property without permission. They cut the chain on the gate to gain access to install a pole. They entered with a skid steer and disturbed an area totaling 1,647 square feet
	March	Florida Department of Transportation installed field fence along US 1 with the bottom section buried 8 inches to keep gopher tortoises off of road
	May - June	Portions of Unit 1, 2, 5 and 6 were chopped with a Brontosaurus as part of the FEMA Wildfire Mitigation Project
	July	Settlement Agreement reached with FPL requesting payment of \$12,118 and deliverables to include GIS layer of easements within and adjacent to Palm Beach County Natural Areas
	November	Management road that abuts the Town's Public Works area and the shopping plaza at Rolling Green Rd & US 1 was blown out due to clogged drainage at the plaza - repairs made by staff
2021	March	Prescribed burn conducted in the northern portion of Unit 12, designated as 12b – approximately 26 acres

Year	Month	Event
		Shell material was used to reinforce blowout area (Nov 2020) and to fill in low spots on management roads in Juno West
	April	Staff confirmed an active Swallow-tailed kite nest in a pine tree south of Rolling Green Rd
		The interpretive signs along the Oceanfront tract nature trail were replaced by Marinelife Center
	August	Juno West parking lot was restriped
	October	Juno West parking lot fencing replaced with split-rail with wire backing
2022	March	Wildfire burned 8.6 acres in Unit 8 near Donald Ross Rd bridge
	April	Staff confirmed one active Swallow-tailed kite nest within the southwest portion of the Juno West tract
	May	Avian Research Conservation Institute captured and fitted an adult Swallow-tailed kite with a GPS transmitter tag. Data shows the kite frequently uses Juno Dunes Natural Area to forage
	July	Replaced main entrance and FCT acknowledgment signs at West and Oceanfront tracts along with four identification signs along the perimeter of the site.
	August	Units 10, 13 & 14 (49 acres) vegetation reduced with a Brontosaurus
	September	Town of Juno Beach approval of 10-year update to management plan
		Soil and Water Conservation District approval of 10-year update to management plan
	November	Public hearing on 10-year update to management plan hosted by NAMAC
		NAMAC approval of 10-year update to management plan
2023		ARC approval of 10-year update to management plan
		BCC approval of 10-year update to management plan

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11. FIGURES

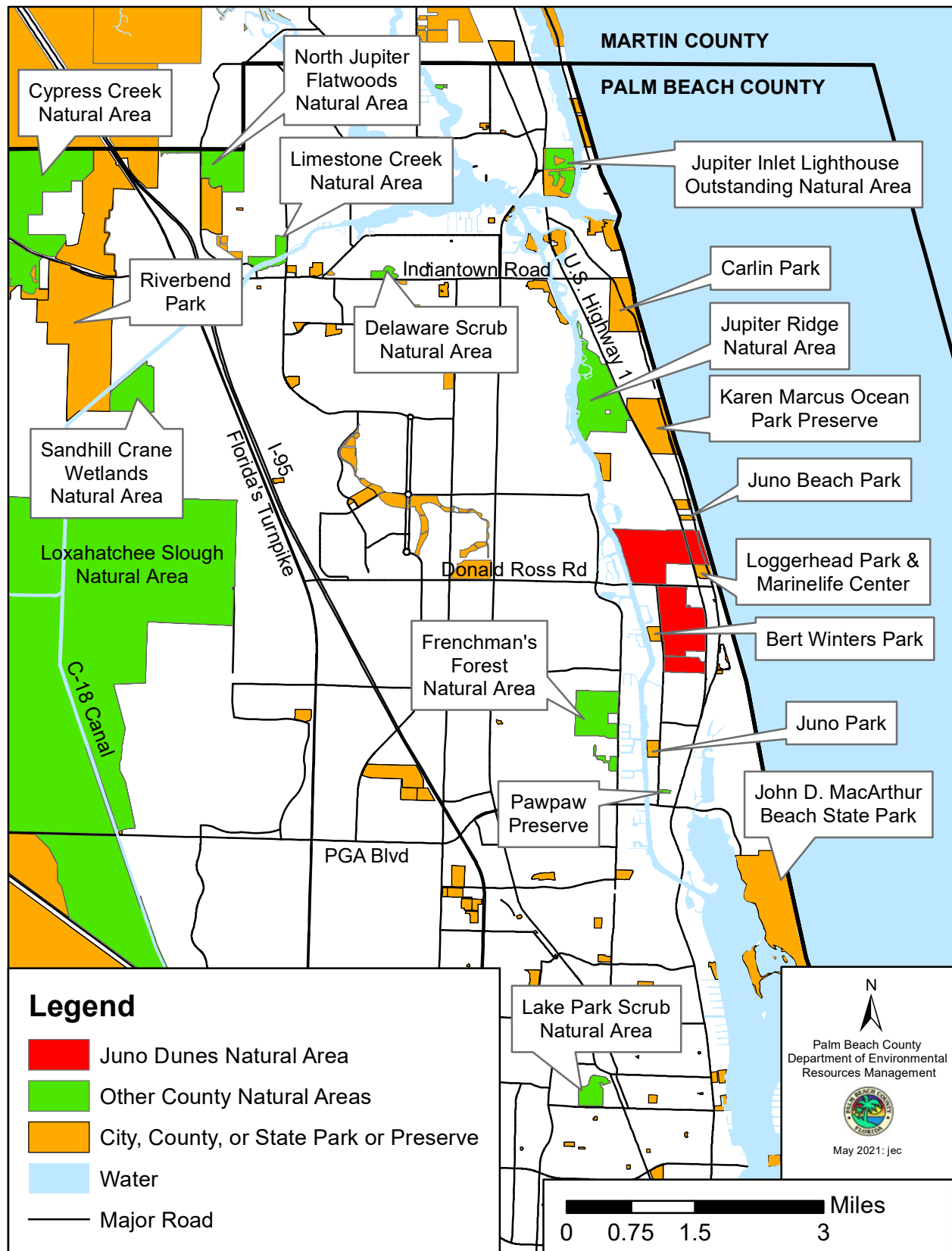


Figure 1. Juno Dunes Natural Area Location Map

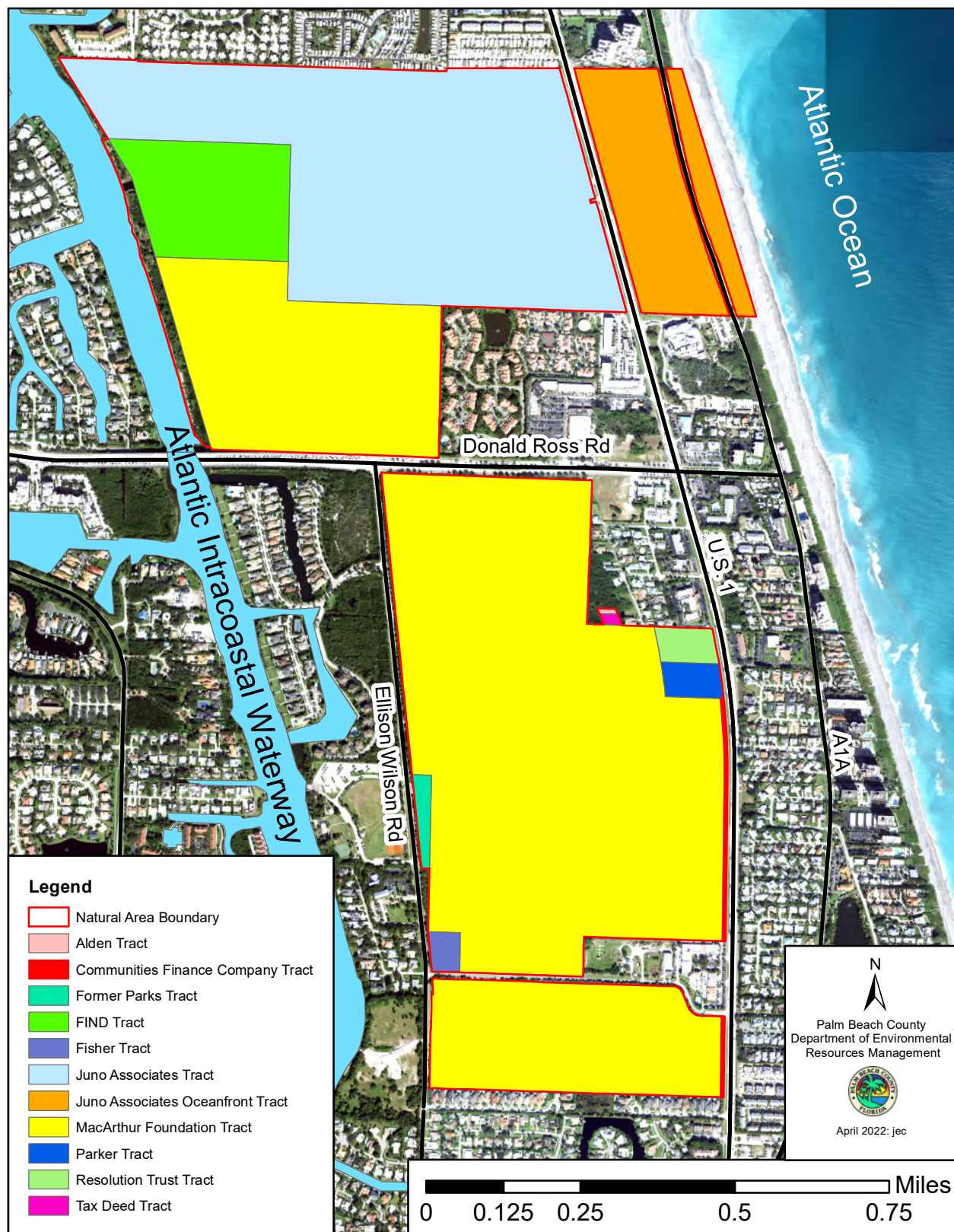


Figure 2. Juno Dunes Natural Area Tract Map

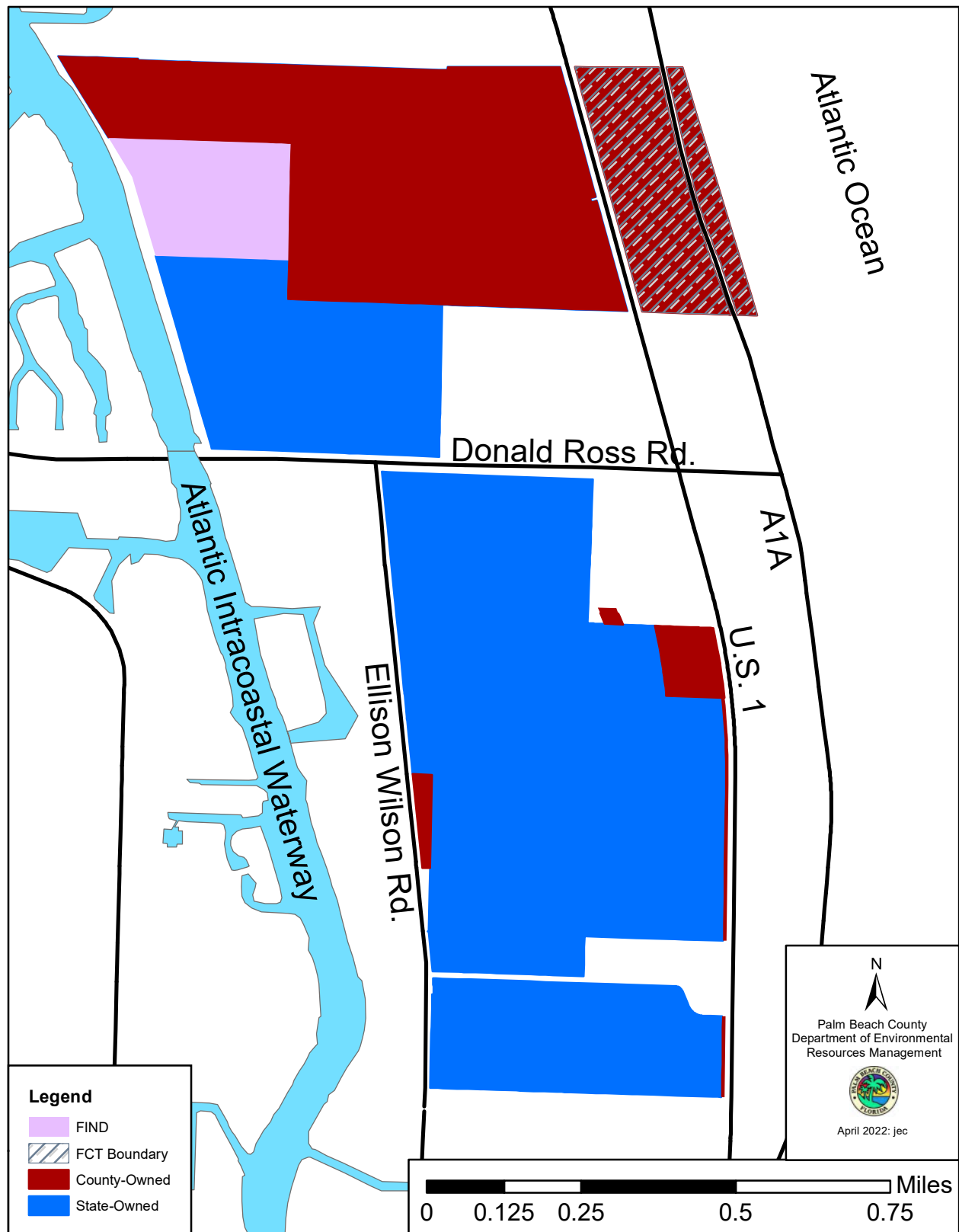


Figure 3. Juno Dunes Natural Area Ownership Map

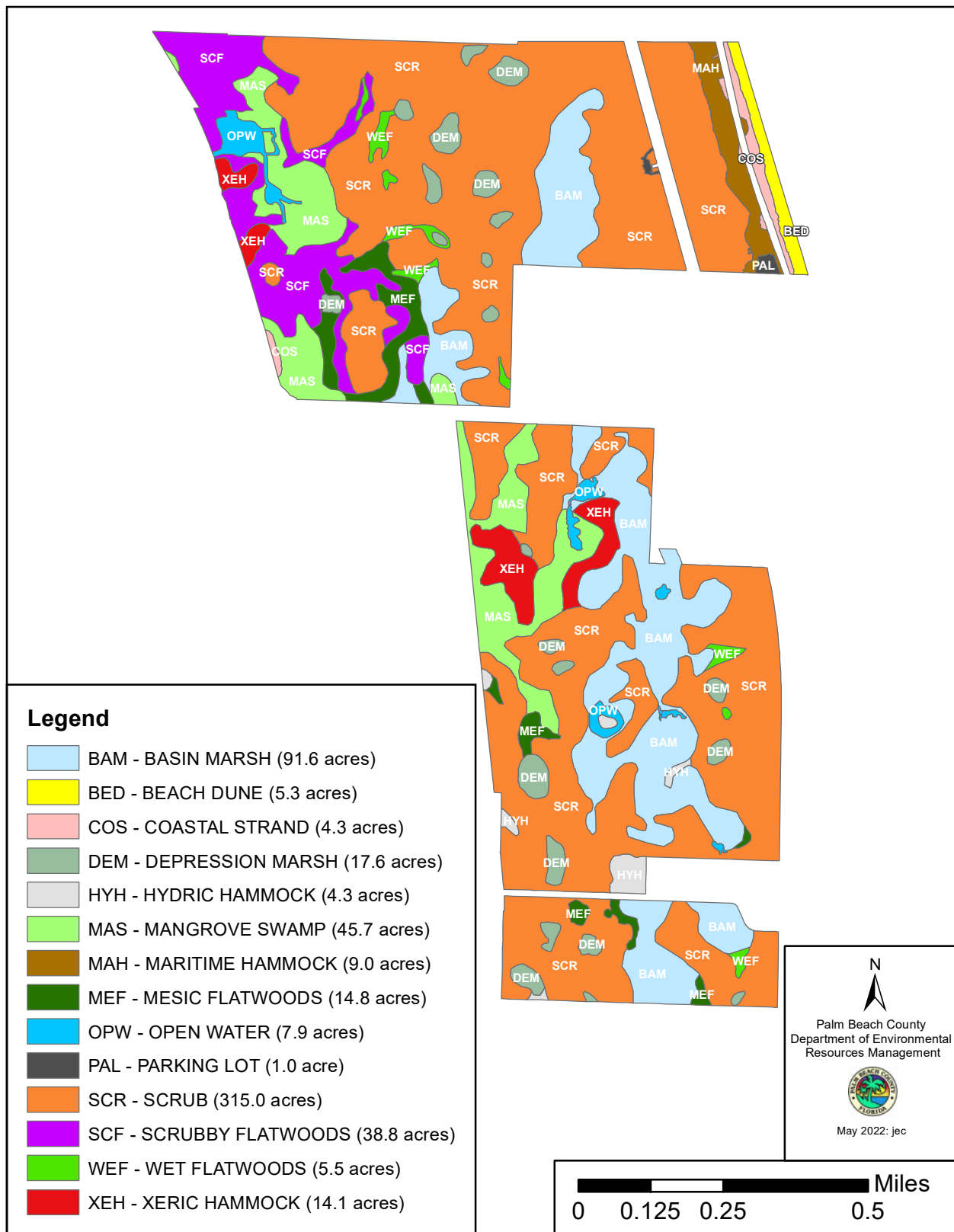


Figure 4. Juno Dunes Natural Area Vegetation Communities Map

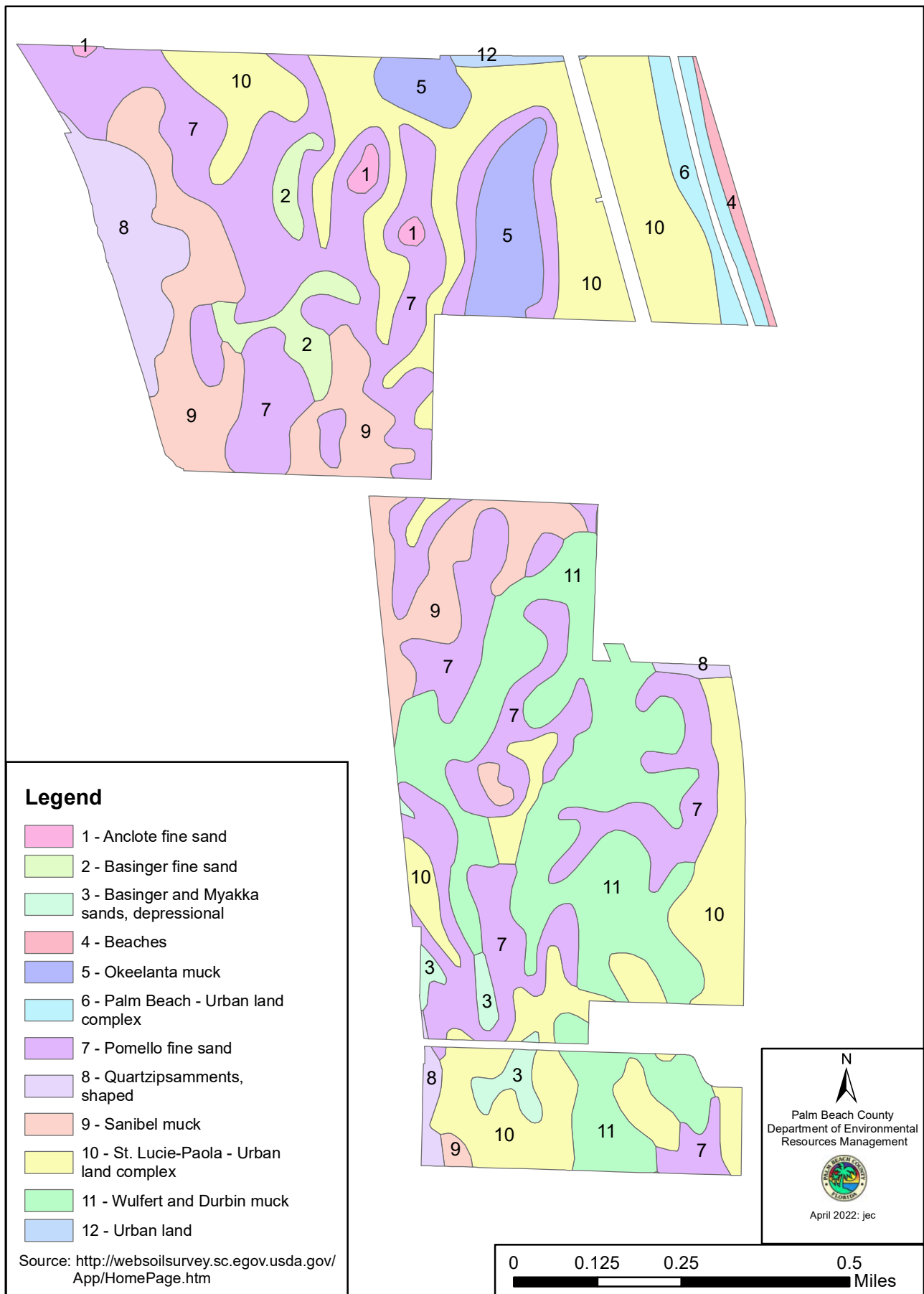


Figure 5. Juno Dunes Natural Area Soils Map

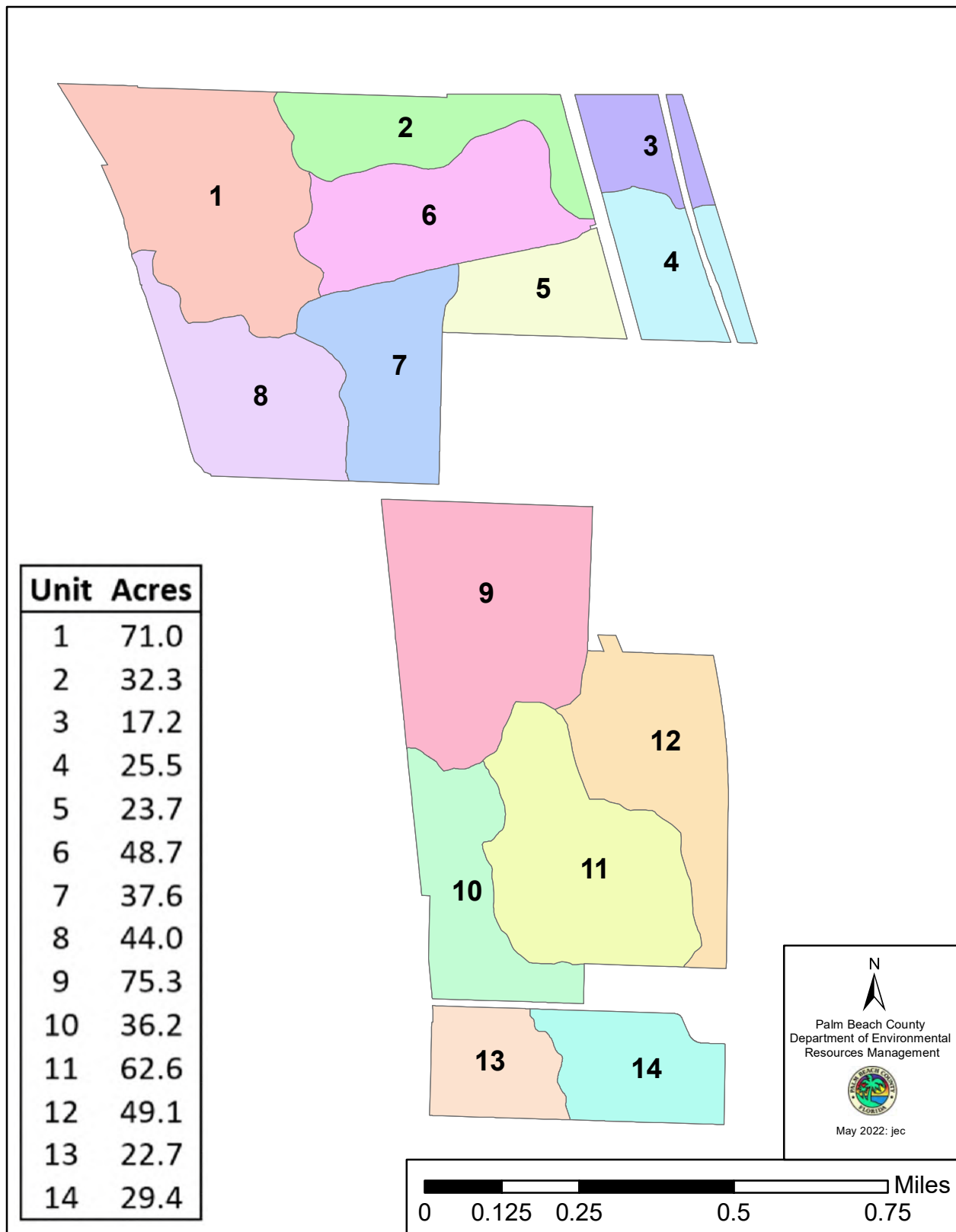


Figure 6. Juno Dunes Natural Area Management Units Map

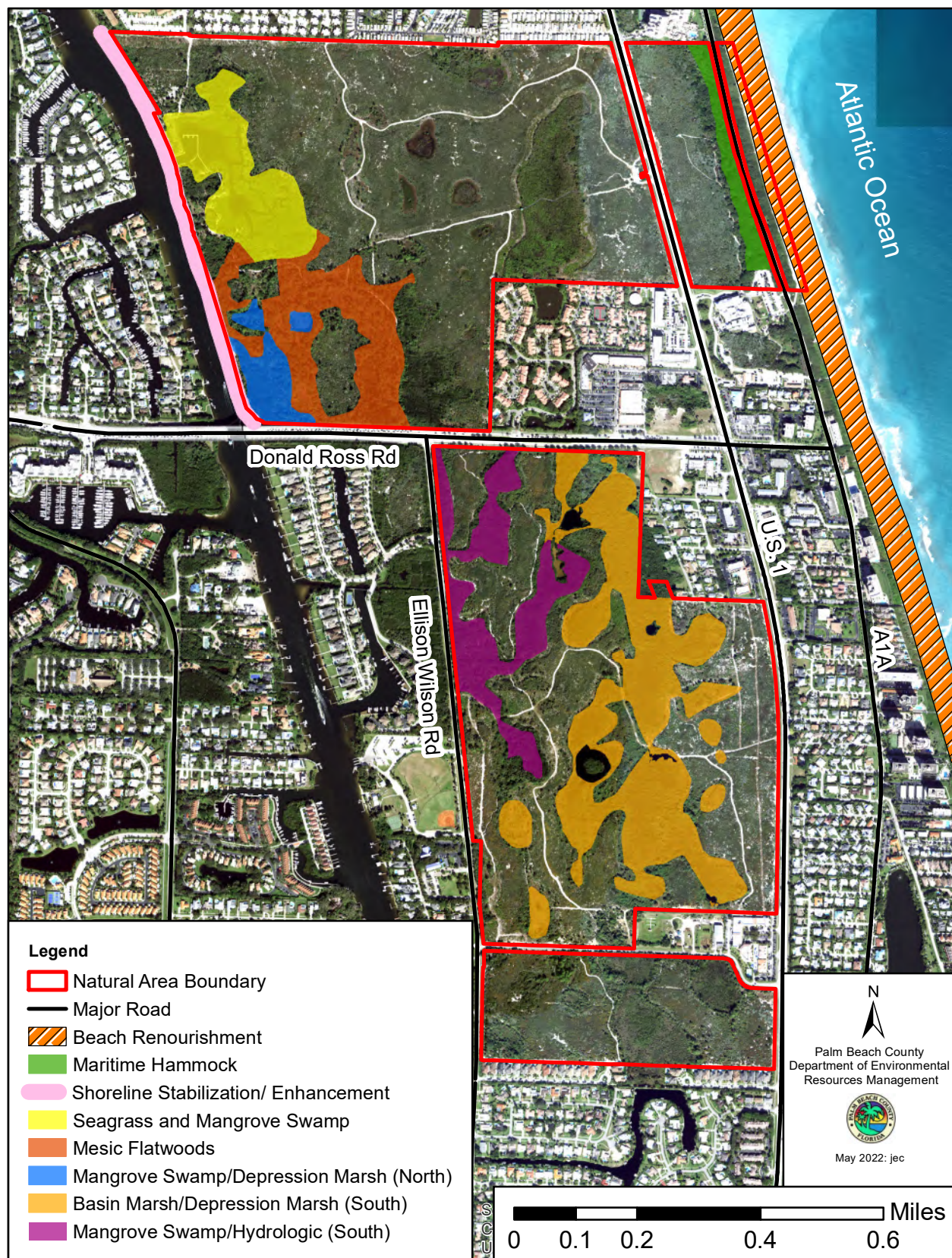


Figure 7. Juno Dunes Natural Area Restoration Map

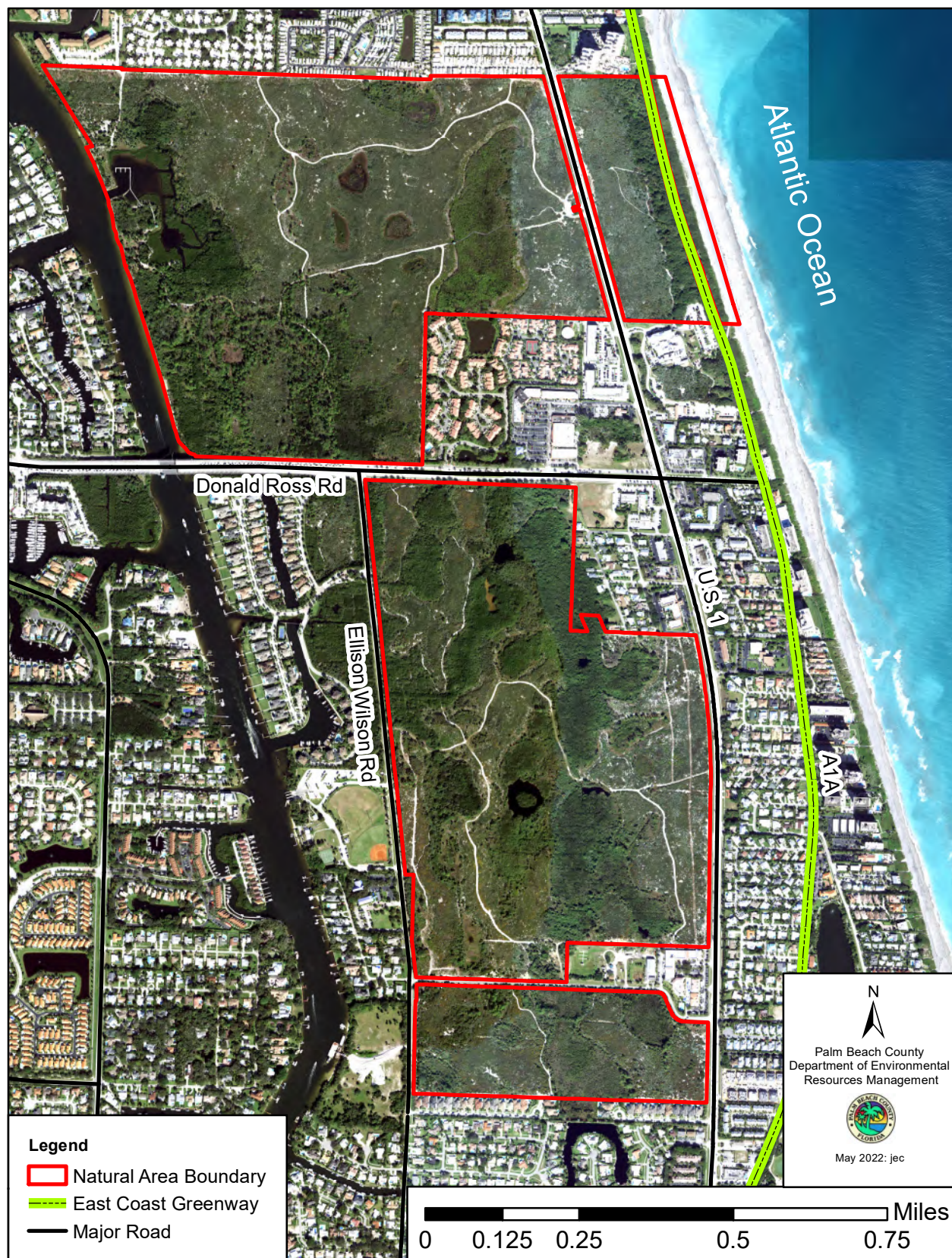


Figure 8. Juno Dunes Natural Area Greenways & Trails Map



Figure 9. Juno Dunes Natural Area Public Use Facilities Map

12. TABLES

Table 1. Listed Plant Species Recorded at Juno Dunes Natural Area

		STATUS/RANK DESIGNATIONS		
SCIENTIFIC NAME	COMMON NAME	USFWS	FDACS	FNAI
<i>Acrostichum aureum</i>	Golden leather fern	N	T	G5/S3
<i>Asclepias curtissii</i>	Curtiss's milkweed	N	E	N
<i>Asimina tetramera</i>	Four-petal pawpaw	E	E	G1/S1
<i>Conradina grandiflora</i>	Large-flowered rosemary	N	T	G3/S3
<i>Cyperus pedunculatus</i>	Beachstar	N	E	N
<i>Encyclia tampensis</i>	Butterfly orchid	N	CE	N
<i>Halophila johnsonii</i>	Johnson's seagrass	N	E	G2/S2
<i>Jacquemontia reclinata</i>	Beach jacquemontia	E	E	G1/S1
<i>Lantana depressa</i>	Pineland lantana	N	E	G2T1/S1
<i>Lechea cernua</i>	Scrub pinweed	N	T	G3/S3
<i>Lechea divaricata</i>	Spreading pinweed	N	E	G2/S2
<i>Linum carteri</i> var. <i>smallii</i>	Small's flax	N	E	G2T2/S2
<i>Lycopodiella cernua</i>	Nodding club-moss	N	CE	N
<i>Okenia hypogaea</i>	Burrowing four-o'clock	N	E	G3?/S2
<i>Ophioglossum palmatum</i>	Hand fern	N	E	G4/S2
<i>Opuntia stricta</i>	Shell-mound pricklypear	N	T	N
<i>Osmunda cinnamomeum</i>	Cinnamon fern	N	CE	N
<i>Osmunda regalis</i> var. <i>spectabilis</i>	Royal fern	N	CE	N
<i>Pithecellobium keyense</i>	Florida Keys' blackbead	N	T	N
<i>Scaevola plumieri</i>	Inkberry	N	T	N
<i>Serenoa repens</i>	Saw palmetto	N	CE	N
<i>Swietenia mahagoni</i>	Mahogany	N	T	G3G4/S3
<i>Tillandsia balbisiana</i>	Inflated & reflexed wild pine	N	T	N
<i>Tillandsia fasciculata</i>	Common wild pine	N	E	N

Table 1. Listed Plant Species Recorded at the Juno Dunes Natural Area (concluded)

SCIENTIFIC NAME	COMMON NAME	STATUS/RANK DESIGNATIONS		
		USFWS	FDACS	FNAI
<i>Tillandsia flexuosa</i>	Banded airplant	N	T	G5/S3
<i>Tillandsia utriculata</i>	Giant wild pine	N	E	N

CE = Commercially-exploited

E = Endangered

FDACS = Florida Department of Agriculture and Consumer Services

FNAI = Florida Natural Areas Inventory

G# = Global Ranking

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

G#T# = Global Ranking of Species (G) and Subspecies or Variety (T)

N = Not listed

S = State Ranking

T = Threatened

TNR = Taxonomic subgroup has yet been ranked

UR = Under Review

USFWS = United States Fish and Wildlife Service

Species presence determined from field surveys conducted by Farnsworth (1988) and Gann (1995) and from data collected by ERM (1992-2022). Status designation assigned by USFWS (undated); status designation assigned by FDACS (2020b); and rank designation assigned by FNAI (2019). Status and rank designations are defined in Appendix C.

Table 2. Listed Animal Species Recorded at Juno Dunes Natural Area

SCIENTIFIC NAME	COMMON NAME	STATUS/RANK DESIGNATIONS		
		USFWS	FWC	FNAI
<i>Aethecerinus hornii</i>	Horn's Aethecerinus long-horned beetle	N	N	G2/S2
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	FT(S/A)	G5/S4
<i>Antigone Canadensis pratensis</i>	Florida sandhill crane	UR	ST	G5T2/S2
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	T	FT	?G2/S2
<i>Aphrissa statira</i>	Statira sulphur	N	N	G5/S2S3
<i>Aramus guarauna</i>	Limpkin	N	N	G5/S3
<i>Athene cunicularia floridana</i>	Florida burrowing owl	N	ST	G4T3/S3
<i>Caretta caretta</i>	Loggerhead sea turtle	T	FT	G3/S3
<i>Chelonia mydas</i>	Green sea turtle	T	FT	G3/S2S3
<i>Corpris gopheri</i>	Gopher tortoise copris beetle	N	N	G2/S2
<i>Crotalus adamanteus</i>	Eastern diamond-back rattlesnake	UR	N	G4/S3
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E	FE	G2/S2
<i>Drymarchon couperi</i>	Eastern indigo snake	T	FT	G3/S3
<i>Egretta caerulea</i>	Little blue heron	N	ST	G5/S4
<i>Egretta thula</i>	Snowy egret	N	N	G5/S3
<i>Egretta tricolor</i>	Tricolored heron	N	ST	G5/S4
<i>Elanoides forficatus</i>	Swallow-tailed kite	N	N	G5/S2
<i>Falco columbarius</i>	Merlin	N	N	G5/S2
<i>Falco peregrinus</i>	Peregrine falcon	N	N	G4/S2
<i>Falco sparverius paulus</i>	Southeastern American kestrel	N	ST	G5T4/S3
<i>Fregata magnificens</i>	Magnificent frigatebird	N	N	G5/S1
<i>Gobiomorus dormitor</i>	Bigmouth sleeper	N	N	G4/S2
<i>Gopherus polyphemus</i>	Gopher tortoise	C	ST	G3/S3
<i>Haliaeetus leucocephalus</i>	Bald eagle	N	N	G5/S3
<i>Hemiargus ceraunus antibubastus</i>	Ceraunus blue butterfly	T(S/A)	FT(S/A)	N
<i>Latrodectus bishopi</i>	Red widow spider	N	N	G2G3/S2S3
<i>Leptotes cassius theonus</i>	Cassius blue butterfly	T(S/A)	FT(S/A)	N

Table 2. Listed Animal Species Recorded at the Juno Dunes Natural Area (concluded)

SCIENTIFIC NAME	COMMON NAME	STATUS/RANK DESIGNATIONS		
		USFWS	FWC	FNAI
<i>Lithobates capito</i>	Gopher frog	UR	N	G3/S3
<i>Mycteria americana</i>	Wood stork	T	FT	G4/S2
<i>Nyctanassa violacea</i>	Yellow-crowned night-heron	N	N	G5/S3
<i>Nycticorax nycticorax</i>	Black-crowned night-heron	N	N	G5/S3
<i>Pandion haliaetus</i>	Osprey	N	SSC	G5/S3S4
<i>Passerina ciris ciris</i>	Painted bunting	N	N	G5T3/S3
<i>Platalea ajaja</i>	Roseate spoonbill	N	ST	G5/S2
<i>Plegadis falcinellus</i>	Glossy ibis	N	N	G5/S3
<i>Sceloporus woodi</i>	Florida scrub lizard	N	N	G2G3/S2 S3
<i>Setophaga ruticilla</i>	American redstart	N	N	G5/S2
<i>Sterna antillarum</i>	Least tern	N	ST	G4/S3
<i>Thalasseus maximus</i>	Royal tern	N	N	G5/S3
<i>Thalasseus sandvicensis</i>	Sandwich tern	N	N	G5/S2
<i>Trichechus manatus</i>	West Indian manatee	T	FT	G2/S2

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

G# = Global Ranking

G#T# = Global Ranking of Species (G) and
Subspecies or Variety (T)

N = Not listed

S# = State Ranking

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 from field surveys conducted by Farnsworth (1988) and Gann (1995) and from data collected by ERM (1992-2022). Status designation assigned by USFWS (undated); status designation assigned by FWC (2018); and rank designation assigned by FNAI (2019). Status and rank designations are defined in Appendix C.

Table 3. Priority Schedule for Site Management Activities

ACTIVITY	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
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 2022 dollars)**Site Management and Maintenance**

Prescribed habitat burns or mechanical fuel reduction (personnel and equipment - \$27,500 per burn or reduction, 14 burns/reductions in a 10-year period/10 years to next management plan update)	\$38,500*
Mowing and maintenance of management accessways/hiking trails (4 times/year)	\$1,809*
Fence line maintenance (3 times/year)	\$1,357*
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)	\$18,095*
Site management – monitoring program, annual reports, management plan updates, listed species protection, volunteer coordination and supervision, public outreach, educational materials and intergovernmental coordination	\$117,920*
Nonnative/invasive plant control (569 acres @ \$181/acre)	\$103,023**
Repair/replacement due to damage/vandalism (0.5% of structural facilities cost of \$1,246,192)	\$6,231**
<i>Subtotal – present annual cost</i>	\$286,935

Capital Facilities Maintenance and Replacement

Removal and replacement of facilities with 10-year expected life (rules signs, miscellaneous signs, natural area signs, credits signs, entrance signs, regulatory signs, trail markers, fencing) and facilities with 20-year expected life (parking lots, bicycle racks, kiosks, dune overwalk, observation platforms, observation tower, boardwalks, picnic tables, boat dock, and maintenance gates)	\$162,134
<i>Estimated annual cost over 10 years @ 4% interest rate</i>	\$11,933
Removal and replacement of facilities with 10-year expected life and facilities 30 years after the initial installation (ADA trails)	\$107,578
<i>Estimated annual cost over 20 years @ 4% interest rate</i>	\$7,918
<i>Subtotal – estimated annual capital replacement costs</i>	\$19,851

TOTAL ANNUAL COST (in 2022 dollars)**\$306,786**

* 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

APPENDIXES

APPENDIX A

PLANT SPECIES RECORDED AT THE JUNO DUNES NATURAL AREA

APPENDIX A

PLANT SPECIES RECORDED AT THE JUNO DUNES NATURAL AREA

Updated 6/14/2022

<u>Scientific Name</u>	<u>Common Name</u>
<i>Abrus precatorius</i> * NX (I)	Rosary pea
<i>Acacia auriculiformis</i> * (I)	Earleaf acacia
<i>Acalypha arvensis</i> *	Field copperleaf
<i>Acer rubrum</i>	Red maple
<i>Acrostichum aureum</i>	Golden leather fern
<i>Acrostichum danaeifolium</i>	Giant leather fern
<i>Acrostichum</i> sp.	Leather fern
<i>Aeschynomene viscidula</i>	Sticky jointvetch
<i>Agalinis fasciculata</i>	Beach false foxglove
<i>Agalinis linifolia</i>	Flaxleaf false foxglove
<i>Agalinis purpurea</i>	Purple false foxglove
<i>Agave americana</i> *	American century plant
<i>Agave angustifolia</i> *	Caribbean century plant
<i>Agave sisalana</i> * (II)	Sisal hemp
<i>Agave</i> sp.	Agave
<i>Albizia lebbbeck</i> * (I)	Woman's tongue
<i>Aletris lutea</i>	Yellow colicroot
<i>Aleurites moluccanus</i> *	Candlenut tree
<i>Aloe</i> sp.*	Aloe
<i>Alternanthera flavescens</i>	Yellow joyweed
<i>Alternanthera maritima</i>	Seaside joyweed
<i>Alysicarpus vaginalis</i> *	White moneywort
<i>Amaranthus spinosus</i> *	Spiny amaranth
<i>Ambrosia artemisiifolia</i>	Common ragweed
<i>Ammannia latifolia</i>	Toothcups
<i>Amphicarpum muhlenbergianum</i>	Blue maidencane
<i>Andropogon glomeratus</i>	Bushy bluestem
<i>Andropogon longiberbis</i>	Hairy bluestem
<i>Andropogon ternarius</i>	Splitbeard bluestem
<i>Andropogon virginicus</i>	Broomsedge bluestem
<i>Annona glabra</i>	Pond apple
<i>Antigonon leptopus</i> * (II)	Coral vine
<i>Ardisia elliptica</i> * NX (I)	Shoebuttton
<i>Ardisia escallonioides</i>	Marlberry
<i>Aristida gyrans</i>	Corkscrew threeawn
<i>Aristida purpurascens</i>	Arrowfeather threeawn

Aristida rhizomorpha
Aristida spiciformis
Aristida stricta var. *beyrichiana*
Asclepias curtissii
Asclepias tuberosa
Asimina reticulata
Asimina tetramera
*Asparagus aethiopicus** (I)
*Asparagus setaceus**
Atriplex pentandra
Avicennia germinans
Axonopus fissifolius
Axonopus furcatus
Azolla filiculoides
Baccharis glomeruliflora
Baccharis halimifolia
Bacopa caroliniana
Bacopa monnieri
Balduina augustifolia
*Bambusia vulgaris**
Bartonia verna
Batis maritima
Bejaria racemosa
Bidens alba
*Billbergia pyramidalis**
*Bischofia javanica** (I)
Boehmeria cylindrica
Boerhavia diffusa
Boltonia diffusa
Borrichia frutescens
*Bothriochloa pertusa**
*Bougainvillea glabra**
Bulbostylis ciliatifolia
Bursera simaruba
Cakile lanceolata
Calliandra sp.*
Callicarpa americana
*Callisia repens**
*Callistemon citrinus**
Calliandra sp.*
Canavalia rosea
*Canna x generalis**
*Caperonia palustris**

Florida threeawn
 Bottlebrush threeawn
 Wiregrass
 Curtiss's milkweed
 Butterflyweed
 Netted pawpaw
 Four-petal pawpaw
 Sprenger's asparagus-fern
 Common asparagus-fern
 Crested saltbush
 Black mangrove
 Common carpetgrass
 Big carpetgrass
 American waterfern
 Silverling
 Groundsel tree
 Blue waterhyssop
 Herb-of-grace
 Coastalplain honeycombhead
 Common bamboo
 White screwstem
 Saltwort
 Tarflower
 Beggarticks
 Foolproofplant
 Javanese bishopwood
 False nettle
 Red spiderling
 Smallhead doll's daisy
 Bushy seaside oxeye
 Pitted beardgrass
 Lesser bougainvillea
 Capillary hairsedge
 Gumbo limbo
 Coastal searocket
 Stickpea
 American beautyberry
 Creeping inchplant
 Crimson bottlebrush
 Santa maria
 Seaside jackbean
 Garden canna
 Sacatrapo

<i>Carex longii</i>	Long's sedge
<i>Carex vexans</i>	Florida hammock sedge
<i>Carica papaya</i>	Papaya
<i>Carissa macrocarpa</i> *	Natal plum
<i>Carphephorus corymbosus</i>	Florida paintbrush
<i>Carphephorus odoratissimus</i>	Vanillaleaf
<i>Carya aquatica</i>	Water hickory
<i>Carya floridana</i>	Scrub hickory
<i>Cassytha filiformis</i>	Love vine
<i>Casuarina equisetifolia</i> * NX (I)	Australian-pine
<i>Casuarina glauca</i> * NX (I)	Suckering Australian-pine
<i>Catharanthus roseus</i> *	Madagascar periwinkle
<i>Cenchrus echinatus</i>	Southern sandbur
<i>Cenchrus spinifex</i>	Coastal sandbur
<i>Cenchrus tribuloides</i>	Sanddune sandbur
<i>Centella asiatica</i>	Spadeleaf
<i>Centrosema virginianum</i>	Spurred butterfly pea
<i>Cephalanthus occidentalis</i>	Common buttonbush
<i>Ceratiola ericoides</i>	Florida rosemary
<i>Cereus repandus</i> *	Peruvian applecactus
<i>Chamaecrista fasciculata</i>	Partridge pea
<i>Chamaecrista nictitans</i>	Sensitive pea
<i>Chamaecrista pilosa</i> *	Hairy sensitive pea
<i>Chara</i> sp.	Muskgrass
<i>Chenopodium ambrosioides</i> *	Mexican tea
<i>Chiococca alba</i>	Snowberry
<i>Chromolaena odorata</i>	Jack-in-the-bush
<i>Chrysobalanus icaco</i>	Coco plum
<i>Chrysopsis scabrella</i>	Coastalplain goldenaster
<i>Cissus verticillata</i>	Possum grape
<i>Citrus x aurantium</i> *	Grapefruit; sour orange; sweet orange
<i>Cladina evansii</i>	Powder-puff lichen
<i>Cladina subtenuis</i>	Reindeer lichen
<i>Cladium jamaicense</i>	Jamaica swamp sawgrass
<i>Cladonia leporina</i>	Jester lichen
<i>Cladonia</i> sp.	Cladonia
<i>Clathrus columnatus</i>	Columned stinkhorn
<i>Clitoria mariana</i>	Atlantic pigeonwings
<i>Clusia rosea</i>	Pitchapple
<i>Cnidoscolus stimulosus</i>	Tread-softly
<i>Coccoloba diversifolia</i>	Pigeon plum
<i>Coccoloba uvifera</i>	Seagrape
<i>Cocos nucifera</i> * (II)	Coconut palm

<i>Commelina diffusa</i> *	Common dayflower
<i>Commelina erecta</i>	Whitemouth dayflower
<i>Conocarpus erectus</i>	Buttonwood
<i>Conoclinium coelestinum</i>	Blue mistflower
<i>Conradina grandiflora</i>	Largeflower false-rosemary
<i>Conyza canadensis</i>	Canadian horseweed
<i>Coreopsis leavenworthii</i>	Leavenworth's tickseed
<i>Costus</i> sp.*	Costus
<i>Crinum americanum</i>	String-lily
<i>Crinum asiaticum</i> *	Poisonbulb
<i>Crotalaria lanceolata</i> *	Lanceleaf rattlebox
<i>Crotalaria pallida</i> var. <i>obovata</i> *	Smooth rattlebox
<i>Crotalaria pumila</i>	Low rattlebox
<i>Crotalaria retusa</i> *	Rattleweed
<i>Crotalaria rotundifolia</i>	Rabbitbells
<i>Crotalaria spectabilis</i> *	Showy rattlebox
<i>Croton glandulosus</i>	Vente conmigo
<i>Croton linearis</i>	Pineland croton
<i>Croton michauxii</i>	Michaux's croton
<i>Croton punctatus</i>	Gulf croton
<i>Cupaniopsis anacardioides</i> * NX (I)	Carrotwood
<i>Cuscuta exaltata</i>	Tall dodder
<i>Cuscuta</i> sp.	Dodder
<i>Cycas circinalis</i> *	Queen sago
<i>Cynodon dactylon</i> *	Bermudagrass
<i>Cyperus compressus</i>	Poorland flatsedge
<i>Cyperus croceus</i>	Baldwin's flatsedge
<i>Cyperus distinctus</i>	Swamp flatsedge
<i>Cyperus esculentus</i> *	Yellow nutgrass
<i>Cyperus haspan</i>	Haspan flatsedge
<i>Cyperus involucratus</i> * (II)	Umbrella plant
<i>Cyperus lecontei</i>	Leconte's flatsedge
<i>Cyperus ligularis</i>	Swamp flatsedge
<i>Cyperus odoratus</i>	Fragrant flatsedge
<i>Cyperus ovatus</i>	Pinebarren flatsedge
<i>Cyperus polystachyos</i>	Manyspike flatsedge
<i>Cyperus rotundus</i> *	Nutgrass
<i>Cyperus surinamensis</i>	Tropical flatsedge
<i>Dactyloctenium aegyptium</i> * (II)	Durban crowfootgrass
<i>Dalbergia ecastaphyllum</i>	Coinvine
<i>Dalbergia sissoo</i> * (II)	Indian rosewood
<i>Dalea carnea</i>	Whitetassels
<i>Dalea feayi</i>	Feay's prairieclover

<i>Dalea pinnata</i>	Summer farewell
<i>Desmodium floridanum</i>	Florida ticktrefoil
<i>Desmodium incanum</i> *	Zarabacoa comun
<i>Desmodium tortuosum</i> *	Dixie ticktrefoil
<i>Desmodium triflorum</i> *	Threeflower ticktrefoil
<i>Dichanthelium commutatum</i>	Variable witchgrass
<i>Dichanthelium dichotomum</i>	Cypress witchgrass
<i>Dichanthelium ensifolium</i>	Witchgrass
<i>Dichanthelium portoricense</i>	Hemlock witchgrass
<i>Dichanthelium strigosum</i>	Roughhair witchgrass
<i>Digitaria ciliaris</i>	Southern crabgrass
<i>Digitaria filiformis</i>	Shaggy crabgrass
<i>Digitaria longiflora</i> *	Indian crabgrass
<i>Digitaria</i> sp.	Crabgrass
<i>Diodia virginiana</i>	Virginia buttonweed
<i>Dioscorea bulbifera</i> * NX (I)	Air-potato
<i>Distichlis spicata</i>	Saltgrass
<i>Distimake dissectus</i>	Noyau vine
<i>Dracaena hyacinthoides</i> * (II)	Bowstring hemp
<i>Drosera capillaris</i>	Pink sundew
<i>Duranta erecta</i> *	Golden dewdrops
<i>Dyopsis lutescens</i> *	Areca palm
<i>Echinochloa walteri</i>	Coast cockspur
<i>Echites umbellatus</i>	Devil's potato
<i>Eclipta prostrata</i>	False daisy
<i>Eleocharis baldwinii</i>	Baldwin's spikerush
<i>Eleocharis elongata</i>	Slim spikerush
<i>Eleocharis geniculata</i>	Canada spikerush
<i>Eleocharis interstincta</i>	Knotted spikerush
<i>Eleocharis nigrescens</i> *	Black spikerush
<i>Eleocharis vivipara</i>	Viviparous spikerush
<i>Elephantopus elatus</i>	Tall elephantsfoot
<i>Eleusine indica</i> *	Indian goosegrass
<i>Emilia fosbergii</i> *	Florida tasselflower
<i>Emilia sonchifolia</i> *	Lilac tasselflower
<i>Encyclia tampensis</i>	Florida Butterfly orchid
<i>Epipremnum pinnatum</i> cv. <i>Aureum</i> * (II)	Golden pothos
<i>Eragrostis amabilis</i> *	Feather lovegrass
<i>Eragrostis atrovirens</i> *	Thalia lovegrass
<i>Eragrostis ciliaris</i> *	Gophertail lovegrass
<i>Eragrostis elliottii</i>	Elliott's lovegrass
<i>Eragrostis gangetica</i> *	Slimflower lovegrass
<i>Eragrostis virginica</i>	Coastal lovegrass

Erechtites hieraciifolius
*Eremochloa ophiuroides**
Eriocaulon decangulare
Ernodea littoralis
Eryngium baldwinii
Erythrina herbacea
Eugenia foetida
*Eugenia uniflora** (I)
*Eulophia graminea**
Eupatorium capillifolium
Eupatorium compositifolium
Eupatorium leptophyllum
Eupatorium serotinum
Euphorbia blodgettii
Euphorbia bombensis
*Euphorbia graminea**
Euphorbia hirta
Euphorbia hypericifolia
Euphorbia hyssopifolia
Euphorbia mesembrianthemifolia
Euphorbia ophthalmica
Euphorbia polyphylla
Euphorbia thymifolia
Euploca polyphylla
Eustachys glauca
Eustachys petraea
Euthamia caroliniana
*Ficus altissima**
Ficus aurea
*Ficus benamina**
*Ficus microcarpa** (I)
Fimbristylis autumnalis
Fimbristylis caroliniana
Fimbristylis cymosa
Fimbristylis puberula
Forestiera segregata
Froelichia floridana
Fuirena breviseta
Fuirena pumila
Fuirena scirpoidea
Funastrum clausum
Gaillardia pulchella
Galactia regularis

Fireweed
 Centipedegrass
 Tenangle pipewort
 Beach creeper
 Baldwin's eryngo
 Coralbean
 Spanish stopper
 Surinam cherry
 Eulophia ground orchid
 Dogfennel
 Yankeeweed
 Falsefennel
 Lateflowering thoroughwort
 Limestone sandmat
 Dixie sandmat
 Grassleaf spurge
 Pillpod sandmat
 Graceful sandmat
 Hyssopleaf sandmat
 Coastal beach sandmat
 Florida hammock sandmat
 Lesser Florida spurge
 Gulf sandmat
 Pineland heliotrope
 Saltmarsh fingergrass
 Pinewoods fingergrass
 Slender flattop goldenrod
 Council tree
 Strangler fig
 Weeping fig
 Indian laurel
 Slender fimbry
 Carolina fimbry
 Hurricanegrass
 Hairy fimbry
 Florida swampprivet
 Cottonweed
 Saltmarsh umbrellasedge
 Dwarf umbrellasedge
 Southern umbrellasedge
 White twinevine
 Firewheel
 Downy milkpea

Galactia volubilis
Galium hispidulum
*Gardenia angusta**
Gaura angustifolia
*Gomphrena serrata**
Gratiola hispida
*Grevillea robusta**
Guapira discolor
Guilandina bonduc
Habenaria floribunda
Habenaria repens
Halophila decipiens
Halophila johnsonii
Helenium amarum
Helianthemum corymbosum
Helianthemum nashii
Helianthus debilis
Heliotropium angiospermum
Heterotheca subaxillaris
Hexasepalum teres
Hibiscus furcellatus
Houstonia procumbens
Hydrocotyle umbellata
Hydrocotyle verticillata
Hymenocallis latifolia
Hypericum brachyphyllum
Hypericum cistifolium
Hypericum fasciculatum
Hypericum gentianoides
Hypericum hypericoides
Hypericum sp.
Hypericum tetrapetalum
Hypoxis juncea
Hyptis alata
Ilex cassine
*Ilex cornuta**
Ilex glabra
Indigofera caroliniana
*Indigofera hirsuta**
Indigofera miniata
*Indigofera spicata**
Ipomoea alba
Ipomoea pes-caprae subsp. *brasiliensis*

Eastern milkpea
 Coastal bedstraw
 Cape jasmine
 Southern beeblossom
 Prostrate globe amaranth
 Rough hedgehyssop
 Silkoak
 Blolly
 Gray nicker
 Toothpetal false reinorchid
 Waterspider false reinorchid
 Caribbean seagrass
 Johnson's seagrass
 Bitterweed
 Pinebarren frostweed
 Florida scrub frostweed
 East Coast dune sunflower
 Scorpionstail
 Camphorweed
 Poor joe
 Lindenleaf rosemallow
 Innocence
 Manyflower marshpennywort
 Whorled marshpennywort
 Perfumed spiderlily
 Coastalplain St. John's-wort
 Roundpod St. John's-wort
 Peelbark St. John's-wort
 Pineweeds
 St. Andrew's-cross
 St. John's-wort
 Fourpetal St. John's-wort
 Fringed yellow stargrass
 Musky mint
 Dahoon
 Chinese holly
 Gallberry
 Carolina indigo
 Hairy indigo
 Coastal indigo
 Trailing indigo
 Moonflowers
 Railroad vine

*Ipomoea quamoclit**
Ipomoea sagittata
*Ipomoea triloba** NX
Iresine diffusa
Iva imbricata
*Ixora coccinea**
Jacquemontia reclinata
Juncus marginatus
Juncus megacephalus
Juncus scirpoides
*Kalanchoe daigremontiana**
*Kalanchoe delagoensis**
*Kalanchoe pinnata** (II)
Kosteletzkya pentacarpos
*Kyllinga brevifolia**
Lachnanthes caroliana
Lachnocaulon anceps
Lachnocaulon beyrichianum
Laguncularia racemosa
*Landoltia punctata** (II)
Lantana depressa
Lantana involucrata
*Lantana strigocamara** (I)
Lechea cernua
Lechea deckertii
Lechea divaricata
Lechea torreyi
Leersia hexandra
Lemna valdiviana
Lepidium virginicum
Leptochloa fusca
*Leucaena leucocephala** NX (II)
Liatris chapmanii
Liatris tenuifolia
Licania michauxii
*Ligustrum japonicum**
Linaria canadensis
Linaria floridana
*Lindernia crustacea**
Linum carteri var. *smallii*
Linum floridanum
Ludwigia alata
Ludwigia curtissii

Cypressvine
 Saltmarsh morning-glory
 Littlebell
 Juba's bush
 Seacoast marshelder
 Scarlet jungleflame
 Beach jacquemontia
 Grassleaf rush
 Bighead rush
 Needlepod rush
 Devil's backbone
 Chandelier plant
 Life plant
 Virginia saltmarsh mallow
 Shortleaf spikesedge
 Carolina redroot
 Whitehead bogbutton
 Southern bogbutton
 White mangrove
 Dotted duckweed
 Pineland lantana
 Buttonsage
 Shrubverbena
 Scrub pinweed
 Deckert's pinweed
 Spreading pinweed
 Piedmont pinweed
 Southern cutgrass
 Valdivia duckweed
 Virginia pepperweed
 Bearded sprangletop
 White leadtree
 Chapman's gayfeather
 Shortleaf gayfeather
 Gopher apple
 Japanese privet
 Canadian toadflax
 Apalachicola toadflax
 Malaysian false pimpernel
 Small's flax
 Florida yellow flax
 Winged primrosewillow
 Curtiss' primrosewillow

<i>Ludwigia lanceolata</i>	Lanceleaf primrosewillow
<i>Ludwigia maritima</i>	Seaside primrosewillow
<i>Ludwigia microcarpa</i>	Smallfruit primrosewillow
<i>Ludwigia octovalvis</i>	Mexican primrosewillow
<i>Ludwigia peruviana</i> * (I)	Peruvian primrosewillow
<i>Ludwigia repens</i>	Creeping primrosewillow
<i>Lupinus diffusus</i>	Skyblue lupine
<i>Lycopodiella appressa</i>	Southern club-moss
<i>Lycopodiella caroliniana</i>	Slender club-moss
<i>Lycopodium cernuum</i>	Nodding club-moss
<i>Lygodium microphyllum</i> * NX (I)	Old World climbing fern
<i>Lyonia fruticosa</i>	Coastalplain staggerbush
<i>Lyonia lucida</i>	Fetterbush
<i>Lythrum alatum</i>	Winged loosestrife
<i>Macroptilium lathyroides</i> *	Wild bushbean
<i>Malvaviscus arboreus</i> var. <i>drumondii</i> *	Texas waxmallow
<i>Malvaviscus penduliflorus</i> *	Turkscap mallow
<i>Mangifera indica</i> *	Mango
<i>Manihot esculenta</i> *	Cassava
<i>Mecardonia acuminata</i>	Axilflower
<i>Melaleuca quinquenervia</i> * NX (I)	Melaleuca
<i>Melia azedarach</i> * (II)	Chinaberrytree
<i>Melinis repens</i> * (I)	Rose natalgrass
<i>Melochia corchorifolia</i> *	Chocolateweed
<i>Melochia spicata</i>	Bretonia peluda
<i>Melothria pendula</i>	Creeping cucumber
<i>Mentzelia floridana</i>	Poorman's patch
<i>Metopium toxiferum</i>	Poisonwood
<i>Micranthemum glomeratum</i>	Manatee mudflower
<i>Microsorium grossum</i> *	Serpent fern
<i>Mikania cordifolia</i>	Florida Keys hempvine
<i>Mikania scandens</i>	Climbing hempvine
<i>Mitreola petiolata</i>	Lax hornpod
<i>Mollugo verticillata</i> *	Indian chickweed
<i>Momordica charantia</i> *	Balsampear
<i>Monotropa uniflora</i>	Indianpipe
<i>Monstera deliciosa</i> *	Swiss-cheese plant
<i>Morella cerifera</i>	Wax myrtle
<i>Morinda royoc</i>	Redgal
<i>Morus rubra</i>	Red mulberry
<i>Muhlenbergia capillaris</i>	Hairawn muhly
<i>Murraya paniculata</i> *	Orange jessamine
<i>Musa x paradisiaca</i> *	Common banana

Myrsine cubana
Nekemias arborea
*Nephrolepis brownii** (I)
*Nephrolepis cordifolia** (I)
Nephrolepis exaltata
*Nephrolepis falcata**
Neptunia pubescens
*Nerium oleander**
*Neyraudia reynaudiana** NX (I)
Nymphaea capensis var. *zanzibariensis**
Nymphaea odorata
*Ochrosia elliptica**
*Oecoclades maculata**
Oenothera humifusa
Oenothera laciniata
Okenia hypogaea
*Oldenlandia corymbosa**
Ophioglossum palmatum
Opuntia austrina
*Opuntia cochenillifera**
Opuntia sp.
Opuntia stricta
Osmunda regalis var. *spectabilis*
Osmundastrum cinnamomeum
Oxalis corniculata
Palafoxia feayi
Panicum amarum
Panicum dichotomiflorum
Panicum hemitomon
Panicum hians
*Panicum repens** (I)
Panicum rigidulum
Panicum tenerum
Panicum virgatum
Parietaria floridana
Paronychia americana
Parthenocissus quinquefolia
Paspalum boscianum
Paspalum conjugatum
Paspalum distichum
*Paspalum notatum**
Paspalum setaceum
*Paspalum urvillei**

Myrsine
Peppervine
Asian sword fern
Tuberous sword fern
Wild Boston fern
Fishtail sword fern
Tropical puff
Oleander
Burmareed
Cape blue waterlily
American white waterlily
Elliptic yellowwood
Monk orchid
Seabeach eveningprimrose
Cutleaf eveningprimrose
Burrowing four-o'clock
Flattop mille grains
Hand fern
Pricklypear, Devil's tongue
Cochineal cactus
Pricklypear
Shell mound prickly-pear
Royal fern
Cinnamon fern
Common yellow woodsorrel
Feay's palafox
Bitter panicgrass
Fall panicgrass
Maidencane
Gaping panicum
Torpedograss
Redtop panicum
Bluejoint panicum
Switchgrass
Florida pellitory
American nailwort
Virginia creeper
Bull crowngrass
Sour paspalum
Knotgrass
Bahia grass
Thin paspalum
Vaseygrass

Paspalum vaginatum
*Passiflora ciliate**
*Passiflora edulis**
Passiflora suberosa
Pectis glaucescens
Pectis prostrata
Peltandra virginica
Pentalinon luteum
Persea borbonia
Persea borbonia var. *humilis*
Persea palustris
Persicaria hydropiperoides
Phlebodium aureum
Phoenix sp.*
Phragmites australis
Phyla nodiflora
Phyllanthus abnormis
Phyllanthus sp.
*Phyllanthus tenellus**
*Phymatosorus scolopendria**(I)
Physalis angulata
Physalis arenicola
Physalis pubescens
Physalis walteri
Phytolacca americana
Pilea microphylla
Piloblephis rigida
Pinguicula pumila
Pinus clausa
Pinus elliotii
Piriqueta cistoides
Pithecellobium keyense
*Pittosporum tobira**
Pityopsis graminifolia
Plantago virginica
Pluchea baccharis
Pluchea foetida
Pluchea odorata
Poinsettia cyathophora
Poinsettia heterophylla
Polanisia tenuifolia
Polygala cymosa
Polygala incarnata

Seashore paspalum
 Fringed passionflower
 Passionfruit
 Corkystem passionflower
 Sanddune cinchweed
 Spreading cinchweed
 Green arrow arum
 Wild allamanda
 Red bay
 Silk bay
 Swamp bay
 Mild waterpepper
 Golden polypody
 Date palm
 Common reed
 Turkey tangle fogfruit
 Drummond's leafflower
 Phyllanthus
 Mascarene Island leafflower
 Serpent fern
 Cutleaf groundcherry
 Cypresshead groundcherry
 Husk tomato
 Walter's groundcherry
 American pokeweed
 Artillery plant
 Wild pennyroyal
 Small butterwort
 Sand pine
 Slash pine
 Pitted stripeseed
 Keys' blackbead
 Japanese cheesewood
 Narrowleaf silkgrass
 Southern plantain
 Rosy camphorweed
 Stinking camphorweed
 Sweetscent
 Paintedleaf
 Fiddler's spurge
 Slender clammyweed
 Tall pinebarren milkwort
 Procession flower

Polygala nana
Polygala polygama
Polygala ramosa
Polygala rugelii
Polygala violacea
Polygonum deloppyrum
Polygonum nesomii
Polygonum polygamum
Polypremum procumbens
Pontederia cordata
*Portulaca amilis**
*Portulaca oleracea**
Portulaca pilosa
*Pouzolzia zeylanica**
Proserpinaca pectinata
Pseudognaphalium obtusifolium
Psilotum nudum
Psychotria nervosa
Pteridium aquilinum
Pterocaulon pycnostachyum
Ptilimnium capillaceum
Quercus chapmanii
Quercus geminata
Quercus laurifolia
Quercus minima
Quercus myrtifolia
Quercus pumila
Quercus virginiana
Randia aculeata
Rhabdadenia biflora
Rhexia mariana
Rhizophora mangle
Rhynchosia cinerea
Rhynchospora colorata
Rhynchospora divergens
Rhynchospora fascicularis
Rhynchospora filifolia
Rhynchospora intermedia
Rhynchospora inundata
Rhynchospora megalocarpa
Rhynchospora microcarpa
Rhynchospora microcephala
Rhynchospora nitens

Candyroot
 Racemed milkwort
 Low pinebarren milkwort
 Yellow milkwort
 Showy milkwort
 Hairy jointweed
 Largeflower jointweed
 October flower
 Rustweed
 Pickerelweed
 Paraguayan purslane
 Little hogweed
 Pink purslane
 Pouzol's bush
 Combleaf mermaidweed
 Rabbit tobacco
 Whisk-fern
 Wild coffee
 Bracken fern
 Blackroot
 Mock bishopsweed
 Chapman's oak
 Sand live oak
 Laurel oak
 Dwarf live oak
 Myrtle oak
 Running oak
 Live oak
 White indigoberry
 Rubbervine
 Pale meadowbeauty
 Red mangrove
 Brown-haired snoutbean
 Starrush whitetop
 Spreading beaksedge
 Fascicled beaksedge
 Threadleaf beaksedge
 Pinebarren beaksedge
 Narrowfruit horned beaksedge
 Sandyfield beaksedge
 Southern beaksedge
 Bunched beaksedge
 Shortbeak beaksedge

<i>Rhynchospora plumosa</i>	Plumed beaksedge
<i>Rhynchospora tracyi</i>	Tracy's beaksedge
<i>Richardia brasiliensis</i> *	Tropical Mexican clover
<i>Richardia grandiflora</i> *	Largeflower Mexican clover
<i>Richardia scabra</i> *	Rough Mexican clover
<i>Ricinus communis</i> * (II)	Castorbean
<i>Rivina humilis</i>	Rougeplant
<i>Rottboellia cochinchinensis</i> * NX	Itchgrass
<i>Russelia equisetiformis</i> *	Firecracker plant
<i>Sabal etonia</i>	Scrub palmetto
<i>Sabal palmetto</i>	Cabbage palm
<i>Sabatia grandiflora</i>	Largeflower rosegentian
<i>Saccharum giganteum</i>	Sugarcane plumegrass
<i>Sacciolepis indica</i> *	Indian cupscale
<i>Sacciolepis striata</i>	American cupscale
<i>Sagittaria lancifolia</i>	Bulltongue arrowhead
<i>Sagittaria latifolia</i>	Broadleaf arrowhead
<i>Sagittaria</i> sp.	Arrowhead
<i>Salix caroliniana</i>	Coastalplain willow
<i>Salsola kali</i> *	Prickly Russian thistle
<i>Salvinia minima</i> * (I)	Water spangles
<i>Sambucus nigra</i> subsp. <i>canadensis</i>	Elderberry
<i>Scaevola plumieri</i>	Inkberry
<i>Scaevola taccada</i> var. <i>sericea</i> * NX (I)	Beach naupaka
<i>Schefflera actinophylla</i> * (I)	Australian umbrella tree
<i>Schinus terebinthifolius</i> * NX (I)	Brazilian pepper
<i>Schizachyrium scoparium</i>	Little bluestem
<i>Schoenolirion albiflorum</i>	White sunnybell
<i>Schoenoplectus tabernaemontani</i>	Softstem bulrush
<i>Scleria baldwinii</i>	Baldwin's nutrush
<i>Scleria ciliata</i>	Fringed nutrush
<i>Scleria georgiana</i>	Slenderfruit nutrush
<i>Scleria</i> sp.	Nutrush
<i>Scleria triglomerata</i>	Tall nutrush
<i>Scoparia dulcis</i>	Sweetbroom
<i>Selenicereus</i> sp.*	Moonlight cactus
<i>Senna occidentalis</i> *	Septicweed
<i>Serenoa repens</i>	Saw palmetto
<i>Sesuvium portulacastrum</i>	Shoreline seapurslane
<i>Setaria parviflora</i>	Knotroot foxtail
<i>Severinia buxifolia</i> *	Chinese boxorange
<i>Seymeria pectinata</i>	Piedmont blacksenna
<i>Sida cordifolia</i> *	Llima

<i>Sida rhombifolia</i>	Indian hemp
<i>Sida ulmifolia</i>	Common fanpetals
<i>Sideroxylon tenax</i>	Tough bully
<i>Sisyrinchium angustifolium</i>	Narrowleaf blue-eyed grass
<i>Sisyrinchium xerophyllum</i>	Jeweled blue-eyed grass
<i>Smilax auriculata</i>	Earleaf greenbrier
<i>Smilax laurifolia</i>	Laurel greenbrier
<i>Smilax</i> sp.	Greenbrier
<i>Solanum americanum</i>	American black nightshade
<i>Solanum chenopodioides</i>	Black nightshade
<i>Solidago fistulosa</i>	Pinebarren goldenrod
<i>Solidago odora</i> subsp. <i>chapmanii</i>	Chapman's goldenrod
<i>Solidago stricta</i>	Wand goldenrod
<i>Sonchus oleraceus</i> *	Common sowthistle
<i>Sophora tomentosa</i> var. <i>truncata</i>	Yellow necklacepod
<i>Sorghum bicolor</i> *	Broomcorn
<i>Sorghum halepense</i> *	Johnson grass
<i>Spartina alterniflora</i>	Saltmarsh cordgrass
<i>Spartina bakeri</i>	Sand cordgrass
<i>Spartina patens</i>	Marshhay cordgrass
<i>Spartina</i> sp.	Cordgrass
<i>Spermacoce remota</i>	Woodland false buttonweed
<i>Spermacoce verticillata</i> *	Shrubby false buttonweed
<i>Sphagneticola trilobata</i> * (II)	Creeping oxeye
<i>Sphagnum</i> sp.	Sphagnum
<i>Sporobolus indicus</i> *	Smutgrass
<i>Sporobolus junceus</i>	Pineywoods dropseed
<i>Sporobolus virginicus</i>	Seashore dropseed
<i>Stachytarpheta jamaicensis</i>	Blue porterweed
<i>Stenotaphrum secundatum</i>	St. Augustinegrass
<i>Stillingia aquatica</i>	Corkwood
<i>Stillingia sylvatica</i>	Queensdelight
<i>Stipulicida setacea</i>	Pineland scalypink
<i>Stylosanthes hamata</i> *	Cheesytoes
<i>Swietenia mahagoni</i>	West Indian mahogany
<i>Symphyotrichum bahamense</i>	Bahaman aster
<i>Symphyotrichum carolinianum</i>	Climbing aster
<i>Syngonanthus flavidulus</i>	Yellow hatpins
<i>Syzygium jambos</i> *(II)	Rose-apple
<i>Tabernaemontana divaricata</i> *	Pinwheel flower
<i>Talipariti tiliaceum</i> * (II)	Mahoe
<i>Tecoma capensis</i> *	Cape honeysuckle
<i>Telmatoblechnum serrulatum</i>	Swamp fern

<i>Terminalia catappa</i> * (II)	West Indian almond
<i>Terminalia muelleri</i> * (II)	Australian almond
<i>Thelypteris interrupta</i>	Hottentot fern
<i>Thelypteris kunthii</i>	Southern shield fern
<i>Thelypteris palustris</i>	Marsh fern
<i>Thespesia populnea</i> * (I)	Portia tree
<i>Tiedemannia filiformis</i> subsp. <i>filiformis</i>	Water cowbane
<i>Tillandsia balbisiana</i>	Inflated & reflexed wild pine
<i>Tillandsia fasciculata</i>	Common wild pine
<i>Tillandsia flexuosa</i>	Banded airplant
<i>Tillandsia paucifolia</i>	Potbelly airplant
<i>Tillandsia recurvata</i>	Ballmoss
<i>Tillandsia setacea</i>	Southern needleleaf
<i>Tillandsia usneoides</i>	Spanish moss
<i>Tillandsia utriculata</i>	Giant wild pine
<i>Toxicodendron radicans</i>	Eastern poison ivy
<i>Tradescantia fluminensis</i> * (I)	Small-leaf spiderwort
<i>Tradescantia spathacea</i> * (II)	Oyster-plant
<i>Tradescantia zebrina</i> *	Wandering-jew
<i>Tribulus cistoides</i> * (II)	Burnnut
<i>Trichostema dichotomum</i>	Forked bluecurls
<i>Tridax procumbens</i> * NX	Coatbuttons
<i>Trifolium repens</i> *	White clover
<i>Triglochin striata</i>	Arrowgrass
<i>Triplasis americana</i>	Perennial sandgrass
<i>Turnera ulmifolia</i> *	Yellow alder
<i>Typha domingensis</i>	Southern cattail
<i>Typha</i> sp.	Cattail
<i>Uniola paniculata</i>	Seaoats
<i>Urena lobata</i> * (I)	Caesarweed
<i>Urochloa distachya</i> *	Tropical signalgrass
<i>Urochloa fusca</i> *	Browntop signalgrass
<i>Urochloa maxima</i> * (II)	Guineagrass
<i>Urochloa mutica</i> * (I)	Paragrass
<i>Urochloa ramosa</i> *	Dixie signalgrass
<i>Utricularia foliosa</i>	Leafy bladderwort
<i>Utricularia simulans</i>	Fringed bladderwort
<i>Utricularia subulata</i>	Zigzag bladderwort
<i>Vaccinium myrsinites</i>	Shiny blueberry
<i>Verbena scabra</i>	Harsh vervain
<i>Verbesina virginica</i>	White crownbeard
<i>Vicia acutifolia</i>	Fourleaf vetch
<i>Vigna luteola</i>	Hairy pod cowpea

<i>Viola lanceolata</i>	Bog white violet
<i>Vitex trifolia</i> * (II)	Simpleleaf chaste tree
<i>Vitis aestivalis</i>	Summer grape
<i>Vitis cinerea</i> var. <i>floridana</i>	Florida grape
<i>Vitis rotundifolia</i>	Muscadine
<i>Vitis shuttleworthii</i>	Caloose grape
<i>Vittaria lineata</i>	Shoestring fern
<i>Waltheria indica</i>	Sleepy morning
<i>Washingtonia robusta</i> * (II)	Washington fan palm
<i>Woodwardia virginica</i>	Virginia chain fern
<i>Ximenia americana</i>	Hog plum
<i>Xyris brevifolia</i>	Shortleaf yelloweyed grass
<i>Xyris caroliniana</i>	Carolina yelloweyed grass
<i>Xyris elliotii</i>	Elliott's yelloweyed grass
<i>Xyris flabelliformis</i>	Savannah yelloweyed grass
<i>Xyris jupicai</i>	Richard's yelloweyed grass
<i>Xyris</i> sp.	Yelloweyed grass
<i>Youngia japonica</i> *	Oriental false hawksbeard
<i>Yucca aloifolia</i>	Spanish bayonet
<i>Yucca guatemalensis</i> *	Bluestem yucca
<i>Zanthoxylum clava-herculis</i>	Hercules-club
<i>Zanthoxylum fagara</i>	Wild lime
<i>Zeuxine strateumatica</i> *	Lawn orchid
<i>Zoysia matrella</i> *	Manila templegrass
<i>Zoysia</i> sp.*	Templegrass

NOTES:

* = Nonnative species

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

(I) = Exotic species designated as Category I by FISC (FISC 2019)

(II) = Exotic species designated as Category II by FISC (FISC 2019)

Scientific and common names of species generally follow Rule 5B-40.0055 and Rule 5B-57.007, Florida Administrative Code; FNAI (2011); NatureServe (2011); ITIS (2011); and Wunderlin and Hansen (2011). Lichens are from Brodo et al. (2001).

APPENDIX B

ANIMAL SPECIES RECORDED AT THE JUNO DUNES NATURAL AREA

APPENDIX B

ANIMAL SPECIES RECORDED AT THE JUNO DUNES NATURAL AREA

Updated 06/16/22

Scientific Name

Common Name

MOLLUSCA

Gastropoda (Snails and Slugs)

Drymaeus multilineatus

Lined treesnail

CRUSTACEA

Malacostraca (Crayfishes, Decapods, and Shrimp)

Aratus pisonii

Mangrove tree crab

Armases cinerum

Squareback marsh crab

Callinectes sapidus

Blue crab

Cardisoma guanhumi

Blue land crab

Coenobita clypeatus

Land hermit

Farfantepenaeus duorarum

Northern pink shrimp

Ocypode quadrata

Atlantic ghost crab

Palaemonetes sp.

Grass shrimp

Uca sp.

Fiddler

CHELICERATA

Arachnida (Spiders, Scorpions and Harvestmen)

Argiope aurantia

Yellow garden spider

Eriophora ravilla

Tropical orbweaver

Gasteracantha cancriformis

Spinybacked orbweaver

Latrodectus bishopi

Red widow spider

Leucauge venusta

Orchard orbweaver

Limulus Polyphemus

Horseshoe crab

Nephila clavipes

Golden silk orbweaver

Phidippus regius

Regal jumping spider

MANDIBULATA

Diplopoda (Millipedes and Centipedes)

Narceus sp.

Millipede

Insecta (Insects)

Odonata

Anax junius
Brachymesia gravida
Celithemis eponina
Celithemis ornata
Coryphaeschna ingens
*Crocothemis servilia**
Erythemis plebeja
Erythemis simplicicollis
Erythrodiplax minuscula
Erythrodiplax umbrata
Ischnura hastata
Ischnura ramburii
Libellula auripennis
Orthemis ferruginea
Pachydiplax longipennis
Perithemis tenera
Tamea carolina
Tamea lacerata
Tamea onusta
Triacanthagyna trifida

Common green darner
Four-spotted pennant
Halloween pennant
Ornate pennant
Regal darner
Scarlet skimmer
Pin-tailed pondhawk
Eastern pondhawk
Little blue dragonlet
Band-winged dragonlet
Citrine forktail
Rambur's forktail
Golden-winged skimmer
Roseate skimmer
Blue dasher
Eastern amberwing
Carolina saddlebags
Black saddlebags
Red saddlebags
Phantom darner

Orthoptera

Arphia granulata
Microcentrum sp.
Romalea microptera
Schistocerca alutacea
Schistocerca americana
Schistocerca damnifica
Schistocerca obscura

Southern yellow-winged grasshopper
Angle-winged katydid
Eastern lubber grasshopper
Leather-colored bird grasshopper
American grasshopper
Mischievous bird grasshopper
Obscure bird grasshopper

Dictyoptera

Arenivaga floridensis

Florida sand cockroach

Hemiptera

Metcalfa pruinosa
Ormenaria rufifascia

Citrus flatid planthopper
Palm flatid planthopper

Heteroptera

Acanthocephala femorata
Oncopeltus fasciatus
Reduvius sp.
Spartocera fusca

Florida leaf-footed bug
Large milkweed bug
Assassin bug
Leaf-footed bug

Homoptera

Dactylopius confusus
Tibicen sp.

Cochineal insect
Cicada

Coleoptera

Aethecerinus hornii

Horn's Aethecerinus long-horned beetle

Chrysomela scripta
Cicindela scutellaris
Copris gopher
Dineutus sp.
Photuris sp.
Strategus antaeus

Cottonwood leaf beetle
Festive tiger beetle
Gopher tortoise copris beetle
Whirligig beetle
Firefly
Ox beetle

Diptera

Apachekolos tenuipes
Chrysops sp.
Culex sp.
Liohippелates pusio
Promachus fitchii
Tabanus sp.

Robber fly
Deer fly
Mosquito
Eye gnat
Giant robber fly
Horse fly

Mantodea

Stagmomantis carolina

Praying mantis

Neuroptera

Myrmeleontidae sp.

Antlion

Lepidoptera

Agraulis vanillae
Anartia jatrophae
Aphrissa statira
Ascia monuste
Calycopis cecrops
Colias eurytheme
Composia fidelissima
Danaus gilippus
Danaus plexippus
Dryas iulia
Erynnis horatius
Eumorphia fasciata
Eurema daira
Eurytides marcellus
Heliconius charithonia tuckeri

Gulf fritillary
White peacock
Statira sulphur
Great southern white
Red-banded hairstreak
Orange sulphur
Faithful beauty
Queen
Monarch
Julia
Horace's duskywing
Banded sphinx
Barred yellow
Zebra swallowtail
Zebra longwing

Hemiargus ceraunus antibubastus
Hylephila phyleus
Hyles lineata
Junonia coenia
Leptotes cassius
Limenitis archippus
Marpesia petreus
Nathalis iole
Papilio cresphontes
Papilio palamedes
Papilio polyxenes
Phoebis agarithe
Phoebis philea
Phoebis sennae
Phyciodes phaon
Phyciodes tharos
*Pieris rapae**
Polygonus leo
Pyrgus communis
Pyrgus oileus
Pyrgus sp.
Strymon melinus
Utetheisa bella
Vanessa atalanta

Ceraunus blue
 Fiery skipper
 White-lined sphinx
 Common buckeye
 Cassius blue
 Viceroy
 Ruddy daggerwing
 Dainty sulphur
 Giant swallowtail
 Palamedes swallowtail
 Black swallowtail
 Large orange sulphur
 Orange-barred sulphur
 Cloudless sulphur
 Phaon crescent
 Pearl crescent
 Cabbage white
 Hammock skipper
 Common checkered-skipper
 Tropical checkered-skipper
 Skipper
 Gray hairstreak
 Bella moth
 Red admiral

Hymenoptera

*Apis mellifera**
Bombus pensylvanicus
Crematogaster sp.
Dasymutilla occidentalis
Pogonomyrmex badius
Polistes sp.
Scolia bicincta
Solenopsis geminata
*Solenopsis invicta**
Vespula sp.
Xylocopa sp.

Honeybee
 Bumble bee
 Acrobat ant
 Velvet ant
 Florida harvester ant
 Paper wasp
 Double-banded scoliid
 Fire ant
 Red imported fire ant
 Yellowjacket
 Carpenter bee

CRANIATA

Amphibia (Amphibians)

Amphiuma means
Anaxyrus quercicus
Anaxyrus terrestris

Two-toed amphiuma
 Oak toad
 Southern toad

Dryophytes cinerea
Dryophytes femoralis
Dryophytes squirella
Gastrophryne carolinensis
Lithobates capito
Lithobates sphencephalus
*Osteopilus septentrionalis**
Pseudacris ocularis

Green treefrog
Pine woods treefrog
Squirrel treefrog
Eastern narrow-mouthed toad
Gopher frog
Southern leopard frog
Cuban treefrog
Little grass frog

Actinopterygii (Fishes)

*Clarias batrachus**
Eucinostomus sp.
Gambusia affinis
Gobiomorus dormitor
Lepisosteus platyrhincus
Lobotes surinamensis
Mugil cephalus
Poecilia latipinna
Sphoeroides testudineus
Sphyraena barracuda

Walking catfish
Mojarra
Eastern mosquitofish
Bigmouth sleeper
Florida gar
Atlantic tripletail
Striped mullet
Sailfin molly
Checkered puffer
Great barracuda

Chelonia (Turtles)

Apalone ferox
Caretta caretta
Chelonia mydas
Chelydra serpentina
Dermochelys coriacea
Gopherus polyphemus
Kinosternon baurii
Pseudemys floridana peninsularis
Terrapene carolina

Florida softshell
Loggerhead sea turtle
Green sea turtle
Snapping turtle
Leatherback sea turtle
Gopher tortoise
Striped mud turtle
Peninsula cooter
Eastern box turtle

Crocodylia (Crocodilians)

Alligator mississippiensis

American alligator

Reptilia (Snakes and Lizards)

*Agama picticauda**
Anolis carolinensis
*Anolis sagrei**
Aspidoscelis sexlineata
Cemophora coccinea
Coluber constrictor
Coluber flagellum
Crotalus adamanteus

Peter's rock agama
Green anole
Brown anole
Six-lined racerunner
Scarletsnake
North American racer
Coachwhip
Eastern diamondback rattlesnake

Diadophis punctatus
Drymarchon corais couperi
*Iguana iguana**
*Leiocephalus carinatus**
Nerodia clarkia compressicauda
Nerodia fasciata
Nerodia taxispilota
Opheodrys aestivus
Ophisaurus attenuates
Pantherophis alleghaniensis
Pantherophis guttatus
Plestiodon inexpectatus
Sceloporus woodi
Tantilla relict
Thamnophis sauritus

Ring-necked snake
Eastern indigo snake
Green iguana
Northern curly-tailed lizard
Mangrove saltmarsh snake
Southern watersnake
Brown watersnake
Rough greensnake
Slender glass lizard
Eastern ratsnake
Red cornsnake
Southeastern five-lined skink
Florida scrub lizard
Florida crowned snake
Eastern ribbonsnake

Aves (Birds)

Podicipediformes

Podilymbus podiceps

Pied-billed grebe

Pelecaniformes

Anhinga anhinga
Fregata magnificens
Pelecanus occidentalis
Phalacrocorax auritus

Anhinga
Magnificent frigatebird
Brown pelican
Double-crested cormorant

Ciconiiformes

Ardea alba
Ardea herodias
Bubulcus ibis
Butorides virescens
Cathartes aura
Coragyps atratus
Egretta caerulea
Egretta thula
Egretta tricolor
Eudocimus albus
Mycteria americana
Nyctanassa violacea
Nycticorax nycticorax
Platalea ajaja
Plegadis falcinellus

Great egret
Great blue heron
Cattle egret
Green heron
Turkey vulture
Black vulture
Little blue heron
Snowy egret
Tricolored heron
White ibis
Wood stork
Yellow-crowned night-heron
Black-crowned night-heron
Roseate spoonbill
Glossy ibis

Anseriformes

Aix sponsa
Anas fulvigula
Lophodytes cucullatus
Mergus serrator

Wood duck
Mottled duck
Hooded merganser
Red-breasted merganser

Accipitriformes

Circus cyaneus
Elanoides forficatus
Haliaeetus leucocephalus
Rostrhamus sociabilis plumbeus

Northern harrier
Swallow-tailed kite
Bald eagle
Everglade snail kite

Falconiformes

Accipiter cooperii
Accipiter striatus
Buteo jamaicensis
Buteo lineatus
Buteo platypterus
Falco columbarius
Falco peregrinus
Falco sparverius
Falco sparverius paulus
Pandion haliaetus

Cooper's hawk
Sharp-shinned hawk
Red-tailed hawk
Red-shouldered hawk
Broad-winged hawk
Merlin
Peregrine falcon
American kestrel
Southeastern American kestrel
Osprey

Galliformes

Colinus virginianus
*Gallus gallus domesticus**

Northern bobwhite
Domestic chicken

Gruiformes

Aramus guarana
Gallinula galeata
Grus canadensis pratensis

Limpkin
Common gallinule
Florida sandhill crane

Charadriiformes

Actitis macularius
Arenaria interpres
Calidris alba
Calidris minutilla
Charadrius vociferus
Gallinago delicata
Himantopus mexicanus
Larus argentatus
Larus delawarensis
Leucophaeus atricilla

Spotted sandpiper
Ruddy turnstone
Sanderling
Least sandpiper
Killdeer
Wilson's snipe
Black-necked stilt
Herring gull
Ring-billed gull
Laughing gull

Pluvialis squatarola
Sterna antillarum
Thalassius maximus
Thalassius sandvicensis
Tringa semipalmata
Tringa solitaria

Black-bellied plover
Least tern
Royal tern
Sandwich tern
Willet
Solitary sandpiper

Columbiformes

*Columba livia**
Columbina passerina
*Streptopelia decaocto**
Zenaida macroura

Rock pigeon
Common ground-dove
Eurasian collared-dove
Mourning dove

Cuculiformes

Coccyzus americanus

Yellow-billed cuckoo

Strigiformes

Athene cunicularia floridana
Bubo virginianus
Megascops asio
Strix varia

Florida burrowing owl
Great horned owl
Eastern screech-owl
Barred owl

Caprimulgiformes

Caprimulgus carolinensis

Chuck-will's-widow

Apodiformes

Chaetura pelagica

Chimney swift

Coraciiformes

Megaceryle alcyon

Belted kingfisher

Piciformes

Colaptes auratus
Dryocopus pileatus
Melanerpes carolinus
Picoides pubescens

Northern flicker
Pileated woodpecker
Red-bellied woodpecker
Downy woodpecker

Passeriformes

Agelaius phoeniceus
Aphelocoma coerulescens
Bombycilla cedrorum
Cardinalis cardinalis
Contopus virens
Corvus ossifragus

Red-winged blackbird
Florida scrub-jay
Cedar waxwing
Northern cardinal
Eastern wood-pewee
Fish crow

Cyanocitta cristata
Dumetella carolinensis
Geothlypis trichas
Hirundo rustica
Lanius ludovicianus
Mimus polyglottos
Mniotilta varia
Myiarchus crinitus
*Passer domesticus**
Passerina ciris
Pipilo erythrophthalmus
Polioptila caerulea
Progne subis
Quiscalus major
Quiscalus quiscula
Regulus calendula
Riparia riparia
Sayornis phoebe
Seiurus aurocapilla
Setophaga americana
Setophaga caerulescens
Setophaga coronata
Setophaga discolor
Setophaga palmarum
Setophaga pinus
Setophaga ruticilla
Setophaga striata
*Sturnus vulgaris**
Tachycineta bicolor
Thryothorus ludovicianus
Toxostoma rufum
Turdus migratorius
Tyrannus dominicensis
Vireo griseus
Vireo olivaceus

Mammalia (Mammals)

*Canis latrans**
*Canis lupus familiaris**
Dasyurus novemcinctus
Didelphis virginiana
*Felis catus**
Lontra canadensis
Lynx rufus

Blue jay
 Gray catbird
 Common yellowthroat
 Barn swallow
 Loggerhead shrike
 Northern mockingbird
 Black-and-white warbler
 Great crested flycatcher
 House sparrow
 Painted bunting
 Eastern towhee
 Blue-gray gnatcatcher
 Purple martin
 Boat-tailed grackle
 Common grackle
 Ruby-crowned kinglet
 Bank swallow
 Eastern phoebe
 Ovenbird
 Northern parula
 Black-throated blue warbler
 Yellow-rumped warbler
 Prairie warbler
 Palm warbler
 Pine warbler
 American redstart
 Blackpoll warbler
 European starling
 Tree swallow
 Carolina wren
 Brown thrasher
 American robin
 Gray kingbird
 White-eyed vireo
 Red-eyed vireo

Coyote
 Domestic dog
 Nine-banded armadillo
 Virginia opossum
 Domestic cat
 North American river otter
 Bobcat

<i>Procyon lotor</i>	Raccoon
<i>Scalopus aquaticus</i>	Eastern mole
<i>Sciurus carolinensis</i>	Eastern gray squirrel
<i>Spilogale putorius</i>	Eastern spotted skunk
<i>Sylvilagus floridanus</i>	Eastern cottontail
<i>Trichechus manatus</i>	West Indian manatee
<i>Urocyon cinereoargenteus</i>	Gray fox

* = Nonnative species

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

APPENDIX C

DEFINITIONS OF DESIGNATIONS AND RANKS FOR LISTED SPECIES AND NATURAL COMMUNITIES

APPENDIX C

DEFINITIONS OF DESIGNATIONS AND RANKS 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; definitions are from 16 USC 1532 and 50 CFR 17.50.

Endangered (E) Any species which is in danger of extinction through all or a portion of its range other than a species of the Class Insecta determined by the Secretary [of the Interior] to constitute a pest whose protection under the provisions of this chapter would present an overwhelming and overriding risk to man

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

If a species is not endangered or threatened, but it 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) and that the notation (S/A) shall appear in the status column following the letter “E” for endangered or the letter “T” for threatened, due to its similarity of appearance to an endangered or threatened species – for example, E (S/A) or T (S/A).

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.); definitions are from Rule 68A-27.001, F.A.C. as revised in May 2011.

**Federally-designated
Endangered and
Threatened Species
(FE) and (FT)** 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 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 thereto.

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. The designation of a species as threatened shall include all subspecies unless stated otherwise in Commission rule.
Species of Special Concern (SSC)	Per Rule 68A-27.005: During the moratorium period created in subsection 68A-27.0012(4), F.A.C.: 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. If the Commission determines that the species warrants listing as a State-designated Threatened species, final Commission action on the listing shall include removing reference to the species from this rule. If the species evaluation demonstrates the species does not qualify for listing as a State-designated Threatened species, the Commission will remove the species from this rule upon completion of a management plan. After a biological status review is conducted and a management plan is approved, the Commission will decide whether a species should remain listed when the species is determined to be data deficient pursuant to the Guidelines for Using the IUCN Red List Categories and Criteria.

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.); definitions are from that Act

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. Pub. L. No. 93-205 (87 Stat. 884).
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 subject to 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. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Rank definitions are from FNAI (2022).

FNAI Global Rank Definitions

- 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 the 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 Rank Definitions

- 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.
- 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 ranked (temporary).

APPENDIX D
CONSERVATION EASEMENT

Name:

Address:



CFN 20100395417
OR BK 24144 PG 0589
RECORDED 10/18/2010 14:06:59
Palm Beach County, Florida
Sharon R. Bock, CLERK & COMPTROLLER
Pgs 0589 - 595; (7pgs)



CFN 20100375906
OR BK 24117 PG 1417
RECORDED 10/05/2010 09:56:28
Palm Beach County, Florida
Sharon R. Bock, CLERK & COMPTROLLER
Pgs 1417 - 1423; (7pgs)

Return to:

South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Prepared by:

Palm Beach County Department of Environmental Resources Management
2300 North Jog Road, 4th Floor
West Palm Beach, FL 33411

DEED OF CONSERVATION EASEMENT FOR JUNO DUNES NATURAL AREA

THIS DEED OF CONSERVATION EASEMENT is given this ^{4th} day of October, 2010, by Palm Beach County, a political subdivision of the State of Florida, whose business mailing address is 301 N. Olive Avenue, West Palm Beach, Florida 33401 ("Grantor") to the South Florida Water Management District, a public corporation of the State of Florida existing by virtue of Chapter 25270, Laws of Florida, 1949, and operating pursuant to Chapter 373, Florida Statutes (F.S.) and Title 40E, Florida Administrative Code, as a multipurpose water management district with its principal office at 3301 Gun Club Road, West Palm Beach, FL 33406 ("Grantee"). As used herein, the term Grantor shall include any and all successors or assigns of the Grantor, and all subsequent owners of the "Property" (as hereinafter defined) and the term Grantee shall include any successor or assign of Grantee.

WITNESSETH

WHEREAS, Grantor is the owner of that certain real property situated in Palm Beach County, Florida, more specifically described in Exhibit "A" attached hereto and incorporated herein (the "Property"); and

WHEREAS, Grantor desires that the Property be preserved and maintained in perpetuity as part of the County's Natural Areas System; and

WHEREAS, the Grantor is agreeable to granting and securing to the Grantee a perpetual conservation easement as defined in Section 704.06; F.S., over the Property and Grantee is willing to accept such conservation easement; and

WHEREAS, the Florida Communities Trust has awarded the Grantor a grant partially reimbursing the Grantor's costs in acquiring all or a portion of the Property and restricted the use of that portion of the Property to purposes consistent with the Florida Forever grant program through a Grant Award Agreement (R96-353D), between the Florida Communities Trust and the Grantor, and the Grantee is in agreement that the restrictions thus placed on the Property are consistent with the intent to ensure the perpetual maintenance and protection of said Property; and

WHEREAS, the Grantee acknowledges that any change to this conservation easement that affects the Property shall be subject to review and approval by the Florida Communities Trust prior to implementation of that change, for so long as the terms and conditions of the Grant Award Agreement, as may be amended from time to time, are in effect for the Property.

NOW, THEREFORE, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of Florida and in particular Section 704.06, F.S., Grantor hereby voluntarily grants, creates, and establishes a conservation easement for and in favor of the Grantee upon the Property of the nature and character and to the extent hereinafter set forth, which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

1. **Purpose.** It is the purpose of this conservation easement (Easement) to assure that the Property will be retained forever predominantly in its natural condition and that the land and water areas will be retained and managed in a manner that will protect native plant and animal communities. Grantee will hold this Easement exclusively for conservation purposes.
2. **Rights of Grantee.** To accomplish the purpose of this Easement, the following rights are conveyed to Grantee by this Easement:
 - a. To enter upon the Property at reasonable times in order to enforce the rights herein, provided that such entry shall not unreasonably interfere with the use and quiet enjoyment of the Property by the Grantor; and
 - b. To enjoin any activity on or use of the Property that is inconsistent with this Easement and to enforce the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use.
3. **Reserved Rights.** Grantor reserves to itself and to its successors and assigns all rights accruing from ownership of the Property, including the right to engage in, or permit or invite others to engage in, all uses of the Property that are not expressly prohibited herein and that are not inconsistent with the purpose of this Easement. Without limiting the generality of the foregoing, the following rights are expressly reserved:
 - a. The Grantor may construct, maintain and operate public use facilities for the purpose of educating the public about the natural resources of the Property or for the purpose of providing opportunities for recreational activities which have minimal or no impact on natural resources or ecosystems; and
 - b. The Grantor may place signs or markers as necessary to identify property boundaries, trails, restoration areas or other site features or activities related to management and maintenance or the passive recreational use of the Property; and
 - c. The Grantor may construct and maintain management roads, firebreaks, trails, walkways, docks, and facilities necessary to support the public use and land management activities; and

- d. The Grantor may remove or kill, by any lawful means, exotic or nuisance vegetation and animal species, conduct prescribed burns, and conduct other management activities necessary to carry out conservation purposes; and
 - e. The Grantor may conduct site restoration or enhancement projects determined by the Grantor not to conflict with the purpose of this Easement.
- 4. **Prohibited uses and activities.** Subject to the reserved rights stated in Section 3, the following uses and activities are prohibited in or on the Property:
 - a. Construction or placing of buildings, roads, signs, billboards, advertising, utilities, or other structures on or above the ground, other than those roads, structures or signs that may be authorized herein and are consistent with or necessary to accomplish the purpose of this Easement; and
 - b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste or unsightly or offensive materials; and
 - c. Removal or destruction of trees, shrubs, other vegetation, or wildlife; and
 - d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface; and
 - e. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and interior fencing (perimeter fencing shall not be considered a violation of this subparagraph); and
 - f. Acts or uses detrimental to such aforementioned retention of land or water areas; and
 - g. Acts or uses which are detrimental to the preservation of any features or aspects of the Property having historical or archaeological significance, except for those lawful acts necessary to achieve natural area restoration.
- 5. **Access.** No right of access by the general public is conveyed or restricted by this Easement.
- 6. **Operation and Upkeep.** Grantee shall not be responsible for any costs and liabilities related to the operation, upkeep and maintenance of the Property.
- 7. **Enforcement.** Enforcement of the terms, provisions and restrictions of this Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor shall not be deemed or construed to be a waiver of Grantee's rights hereunder.
- 8. **Assignment.** Upon prior written approval by Grantor, this Easement may be transferred or assigned by Grantee to another organization qualified to hold such interests under applicable State laws. Transfers or assignments shall be accomplished by written amendment of this Easement.
- 9. **Severability.** If any provision of this Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Easement shall not be affected thereby, as long as the purpose of the Easement is protected.

10. **Amendment.** This Easement may be amended, altered, released or revoked only by written agreement between the parties hereto and their assigns or successors, which shall be filed in the public records in Palm Beach County.
11. **Notices.** All notices, consents, approval or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor.
12. **Entire Agreement.** This Easement, (including the Exhibits hereto and any written amendments thereto, executed by all parties), constitutes the entire Easement, and supersedes all prior agreements and understandings, oral and written, between the parties with respect to the subject matter hereof.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purpose imposed with this Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Grantor hereby covenants with said Grantee that Grantor has good right and lawful authority to convey this Easement.

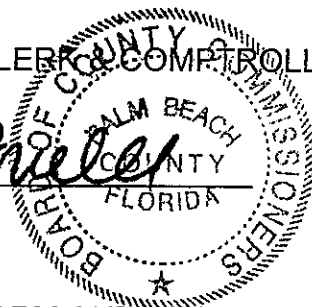
IN WITNESS WHEREOF, the Parties hereto have executed this Conservation Easement this 5th day of October, 2010.

PALM BEACH COUNTY, FLORIDA
BY ITS BOARD OF COUNTY COMMISSIONERS

By: 
Burt Aaronson, Chair

ATTEST:
SHARON R. BOCK, CLERK & COMPTROLLER

By: 
Deputy Clerk



APPROVED AS TO FORM AND LEGAL
SUFFICIENCY CONDITIONS

By: 
Assistant County Attorney

APPROVED AS TO TERMS AND

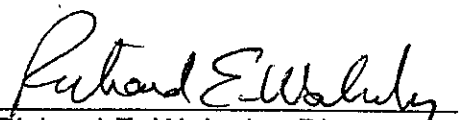
By: 
Richard E. Walesky, Director
Department of Environmental
Resources Management

EXHIBIT A
LEGAL DESCRIPTION OF THE PROPERTY

Juno Dunes
Legal Descriptions

WCI Donation Tract:

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the Northeast Quarter (NE $\frac{1}{4}$) of the Southwest Quarter (SW $\frac{1}{4}$) of said Section 28, Township 41 South, Range 43 East, within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the South 170.92 feet of Government Lot 4, lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the North 572.20 feet of the South 743.12 feet of Government Lot 4, lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5. **Property Control Numbers: 28-43-41-28-00-000-7010 and 28-43-41-28-00-003-0020**

AND

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the South Half (S $\frac{1}{2}$) of the Southwest Quarter (SW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East lying within a strip of land 30 feet wide parallel with and adjacent to the West right of way line of State Road No. 5. LESS AND EXCEPTING THEREFROM those parcels described in Official Records Book 1935, page 1869 and Official Records Book 1883, page 593, public records of Palm Beach County, Florida. **Property Control Number: 28-43-41-28-00-000-7030**

Resolution Trust Tract:

That part of the North 300 feet of the South one-half (S $\frac{1}{2}$) of the Northwest one-quarter (NW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida; which is bounded on the East by the West right of way of State Road No. 5 (see road plat book 2, pages 43-56, inclusive), and bounded on the West by a line parallel with the 500 feet westerly of said West right of way of State Road No. 5.

Parker Tract:

That part of the South 295 feet of the North 595 feet of the South Half (S $\frac{1}{2}$) of the Northwest Quarter (NW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida, which is bounded on the East by the West right of way of State Road Number 5 (see Plat

Book 2, Pages 43 through 56) and bounded on the West by a line parallel with 500 foot westerly of said West right of way of State Road No. 5.

Juno Associates Tract:

Parcel 1, Sea Trace P.U.D., according to the Plat thereof recorded in Plat Book 57, Pages 128-129, public records of Palm Beach County, Florida.

Juno Associates Waterfront Tract:

Parcel 2, Sea Trace P.U.D., as recorded in Plat Book 57, Pages 128-129, public records of Palm Beach County, Florida.

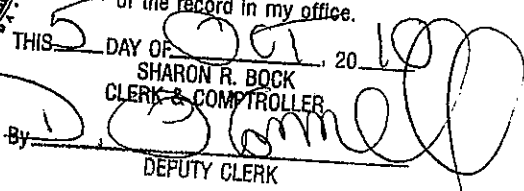


STATE OF FLORIDA • PALM BEACH COUNTY

I hereby certify that the foregoing is a true copy of the record in my office.

THIS 5 DAY OF OCT, 20 10

SHARON R. BOCK
CLERK & COMPTROLLER

By 
DEPUTY CLERK

Name:

Address:

CFN 20130325145
OR BK 26195 PG 1920
RECORDED 07/22/2013 11:27:45
Palm Beach County, Florida
Sharon R. Bock, CLERK & COMPTROLLER
Pgs 1920 - 1929; (10pgs)

DEED OF CONSERVATION EASEMENT

Return recorded document to:
South Florida Water Management District
3301 Gun Club Road, MSC 4210
West Palm Beach, FL 33406

THIS DEED OF CONSERVATION EASEMENT is given this _____ day of JUL 16 2013, 20____, by Palm Beach County, a political subdivision of the State of Florida, 301 N. Olive Avenue, West Palm Beach, Florida 33401 ("Grantor"), to the South Florida Water Management District ("Grantee"). As used herein, the term "Grantor" shall include any and all successors or assigns of Grantor, and all subsequent owners of the "Property" (as hereinafter defined) and the term "Grantee" shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, Grantor is the owner of certain lands situated in Palm Beach County, Florida, and more specifically described in Exhibit "A" attached hereto and incorporated herein ("Property"); and

WHEREAS, Grantor desires to construct the Juno Dunes Natural Area ("Project") at a site in Palm Beach County, which is subject to the regulatory jurisdiction of South Florida Water Management District ("District"); and

WHEREAS, District Permit No. 50-08244-P ("Permit") authorizes certain activities which affect surface waters in or of the State of Florida; and

WHEREAS, this Permit requires that Grantor preserve, enhance, restore and/or mitigate wetlands and/or uplands under the District's jurisdiction; and

WHEREAS, Grantor has developed and proposed as part of the Permit conditions a conservation tract involving preservation of certain wetland and/or upland systems on the Property; and

WHEREAS, Grantor, in consideration of the consent granted by the Permit, is agreeable to granting and securing to Grantee a perpetual Conservation Easement defined in Section 704.06, Florida Statutes, over the area described on Exhibit "A" ("Conservation Easement").

NOW, THEREFORE, in consideration of the issuance of the Permit to construct and operate the permitted activity, and as an inducement to Grantee in issuing the Permit, together with other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, Grantor hereby grants, creates, and establishes a

perpetual Conservation Easement for and in favor of Grantee upon the property described on Exhibit "A" which shall run with the land and be binding upon Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. Recitals. The recitals hereinabove set forth are true and correct and are hereby incorporated into and made a part of this Conservation Easement.

2. Purpose. It is the purpose of this Conservation Easement to retain land or water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland and/or upland areas included in the Conservation Easement which are to be preserved, enhanced or created pursuant to the Permit shall be retained and maintained in the enhanced or created conditions required by the Permit.

To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. To enter upon the Property at reasonable times with any necessary equipment or vehicles to enforce the rights herein granted in a manner that will not unreasonably interfere with the use and quiet enjoyment of the Property by Grantor at the time of such entry; and

b. To enjoin any activity on or use of the Property that is inconsistent with this Conservation Easement and to enforce the restoration of such areas or features of the Conservation Easement that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. Except for restoration, creation, enhancement, maintenance and monitoring activities, or surface water management improvements, or other activities described herein that are permitted or required by the Permit, the following activities are prohibited in or on the Conservation Easement:

a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;

b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs, or other vegetation, except for the removal of exotic or nuisance vegetation in accordance with a District approved management plan;

d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or

other material substance in such manner as to affect the surface;

e. Surface use except for purposes that permit the land or water area to remain in its natural or enhanced condition;

f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and interior fencing;

g. Acts or uses detrimental to such aforementioned retention of land or water areas;

h. Acts or uses which are detrimental to the preservation of the structural integrity or physical appearance of sites or properties having historical, archaeological, or cultural significance.

4. Passive Recreational Facilities. Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and that are not inconsistent with any District rule, the Permit and the intent and purposes of this Conservation Easement. Passive recreational uses that are not contrary to the purpose of this Conservation Easement may be permitted upon written approval by the District. Without limiting the generality of the foregoing, the following rights are expressly reserved:

a. Grantor may conduct limited land clearing for the purpose of constructing such pervious facilities as docks, boardwalks or mulched walking trails; and

b. Grantor may construct and maintain passive public use facilities for the purpose of educating the public or allowing public access and recreation which have minimal or no impact on natural resources; and

c. Grantor may place signs and markers as necessary to identify trails, restoration areas, or other site features related to public use and land management activities; and

d. Grantor may construct and maintain to the extent allowed by current and future permits, at-grade, management roads, firebreaks, trails, walkways, piers, observation platforms or boardwalks necessary to provide public access and management activities as provided for in the site's management plan; and

e. Grantor may remove or kill by any lawful means, exotic or nuisance vegetation or animal species, conduct prescribed burns and conduct other management activities necessary to carry out management for conservation purposes; and

f. Grantor may conduct restoration and enhancement projects which do not conflict with the purpose of this easement: and

g. The construction and use of the approved passive recreational facilities shall be subject to the following conditions:

i. Grantor shall minimize and avoid, to the fullest extent possible, impact to any wetland or upland areas within the Conservation Easement Area and shall avoid materially diverting the direction of the natural surface water flow in such area; and

ii. Such facilities and improvements shall be constructed and maintained utilizing Best Management Practices; and

iii. Adequate containers for litter disposal shall be situated adjacent to such facilities and improvements and periodic inspections shall be instituted by the maintenance entity, to clean any litter from the area surrounding the facilities and improvements; and

iv. This Conservation Easement shall not constitute permit authorization for the construction and operation of the passive recreational facilities. Any such work shall be subject to all applicable federal, state, District or local permitting requirements.

5. No Dedication. No right of access by the general public to any portion of the Property is conveyed by this Conservation Easement.

6. Grantee's Liability. Grantee shall not be responsible for any costs or liabilities related to the operation, upkeep or maintenance of the Property.

7. Property Assessments. Grantor shall keep the assessments on the Easement Parcel current.

8. Enforcement. Enforcement of the terms, provisions and restrictions of this Conservation Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights hereunder.

9. Assignment. Grantee will hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement except to another organization or entity qualified to hold such interests under the applicable state laws.

10. Severability. If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long

as the purpose of the Conservation Easement is preserved.

11. Terms, Conditions, Restrictions, Purpose. The terms, conditions, restrictions and purpose of this Conservation Easement shall be inserted by Grantor in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Conservation Easement. Any future holder of the Grantor's interest in the Property shall be notified in writing by Grantor of this Conservation Easement.

12. Written Notice. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

13. Modifications. This Conservation Easement may be amended, altered, released or revoked only by written agreement between the parties hereto or their assigns or successors-in-interest, which shall be filed in the public records in Palm Beach County.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

Grantor agrees to defend the title to the Conservation Easement property hereby conveyed against the lawful claims of all persons whomsoever, except those claims created or arising from any act or omission of Grantee.

(The remainder of this page intentionally left blank.)

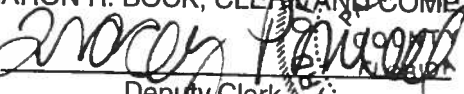
IN WITNESS WHEREOF, Palm Beach County (Grantor) has executed this Conservation Easement on the date set forth hereinabove.

PALM BEACH COUNTY, FLORIDA JUL 16 2013
BY ITS BOARD OF COUNTY COMMISSIONERS

By: 
Steven L. Abrams, Mayor

ATTEST:

SHARON R. BOCK, CLERK AND COMPTROLLER

By: 
Deputy Clerk



APPROVED AS TO FORM AND LEGAL
AND SUFFICIENCY

By: 
Assistant County Attorney

APPROVED AS TO TERMS
CONDITIONS

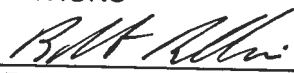
By: 
Robert G. Robbins, Director
Department of Environmental
Resources Management

EXHIBIT A
DESCRIPTION OF PROPERTY

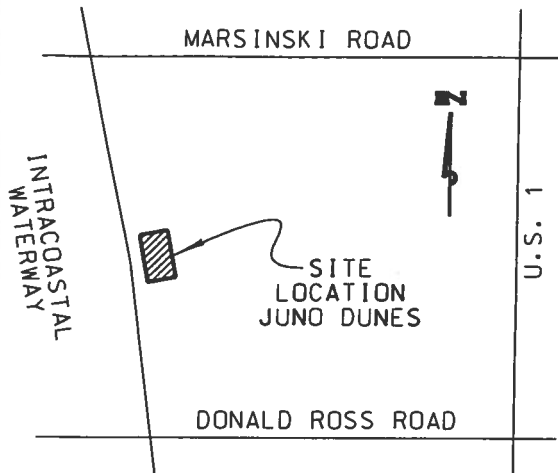
JUNO DUNES NATURAL AREA
CONSERVATION EASEMENT (PALM BEACH COUNTY)
PALM BEACH COUNTY PROJECT NO. 2008012-02

A PARCEL OF LAND FOR CONSERVATION EASEMENT PURPOSES LYING IN SECTION 20, TOWNSHIP 41 SOUTH, RANGE 43 EAST, PALM BEACH COUNTY, FLORIDA BEING A PORTION OF PALM BEACH COUNTY PROPERTY AS RECORDED IN OFFICAL RECORD BOOK 7485, PAGE 732 AND A PORTION OF PARCEL 1 OF THE PLAT OF SEA TRACE, RECORDED IN PLAT BOOK 57, PAGE 128 OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 20; THENCE SOUTH 88°13'44" EAST ALONG THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 20, A DISTANCE OF 365.87 FEET; THENCE SOUTH 01°46'16" WEST AT RIGHT ANGLES TO SAID NORTH LINE, A DISTANCE OF 2269.49 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 59°00'54" EAST, A DISTANCE OF 196.66 FEET; THENCE SOUTH 47°17'37" WEST, A DISTANCE OF 35.74 FEET; THENCE SOUTH 88°45'20" WEST, A DISTANCE OF 96.30 FEET; THENCE SOUTH 36°53'30" WEST, A DISTANCE OF 31.38 FEET; THENCE NORTH 85°14'24" WEST, A DISTANCE OF 25.20 FEET; THENCE SOUTH 23°58'45" WEST, A DISTANCE OF 20.60 FEET; THENCE SOUTH 05°42'54" EAST, A DISTANCE OF 105.09 FEET; THENCE SOUTH 21°49'01" WEST, A DISTANCE OF 22.53 FEET; THENCE SOUTH 00°00'00" EAST, A DISTANCE OF 29.28 FEET; THENCE SOUTH 28°19'11" EAST, A DISTANCE OF 30.89 FEET; THENCE SOUTH 06°29'25" EAST, A DISTANCE OF 51.77 FEET; TO THE NORTH LINE OF THE FLORIDA INLAND NAVIGATION DISTRICT PARCEL MSA 614B, AS RECORDED IN DEED BOOK 650, PAGE 430, DEED BOOK 711, PAGE 159 AND DEED BOOK 724, PAGE 151, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, SAID LINE ALSO BEING THE SOUTH LINE OF PALM BEACH COUNTY PROPERTY PER OFFICIAL RECORD BOOK 7485, PAGE 732 AND SAID PLAT OF SEA TRACE; THENCE NORTH 88°08'01" WEST ALONG SAID PROPERTY LINE, A DISTANCE OF 42.05 FEET; THENCE NORTH 02°51'53" WEST, A DISTANCE OF 23.67 FEET; THENCE NORTH 51°22'02" WEST, A DISTANCE OF 18.55 FEET; THENCE SOUTH 80°25'57" WEST, A DISTANCE OF 30.56 FEET; THENCE NORTH 32°50'01" WEST, A DISTANCE OF 36.37 FEET; THENCE SOUTH 88°09'18" WEST, A DISTANCE OF 17.98 FEET; THENCE SOUTH 47°00'13" WEST, A DISTANCE OF 23.78 FEET; THENCE SOUTH 90°00'00" WEST, A DISTANCE OF 64.50 FEET; THENCE NORTH 12°11'01" WEST, A DISTANCE OF 96.15 FEET; THENCE NORTH 42°04'41" WEST, A DISTANCE OF 112.26 FEET; THENCE NORTH 07°14'44" EAST, A DISTANCE OF 48.83 FEET; THENCE NORTH 58°41'29" EAST, A DISTANCE OF 56.35 FEET; THENCE NORTH 64°04'32" EAST, A DISTANCE OF 86.11 FEET; THENCE NORTH 85°14'24" EAST, A DISTANCE OF 25.20 FEET; THENCE NORTH 43°13'19" EAST, A DISTANCE OF 94.72 FEET; THENCE SOUTH 84°28'36" EAST, A DISTANCE OF 65.19 FEET TO THE POINT OF BEGINNING.

SAID EASEMENT CONTAINING 2.07 ACRES OR 90,154 SQUARE FEET MORE OR LESS.

PROJECT NO. 01 3	SHEET 1	PROJECT: JUNO DUNES NATURAL AREA CONSERVATION EASEMENT (COUNTY PARCEL)		NO. 1	REVISION	BY	DATE		PALM BEACH COUNTY ENGINEERING AND PUBLIC WORKS ENGINEERING SERVICES 2300 NORTH JOG ROAD WEST PALM BEACH, FL 33411
		DESIGN FILE NAME S-1-07-2775.DGN	DRAWING NO. S-1-07-2775						



LEGEND

FIND = FLORIDA INLAND NAVIGATION DISTRICT
MSA = MAINTENANCE SPOIL AREA
POC = POINT OF COMMENCEMENT
ORB = OFFICIAL RECORD BOOK
POB = POINT OF BEGINNING
DB = DEED BOOK
PG = PAGE

LOCATION SKETCH
(NOT TO SCALE)

SURVEYOR'S NOTES

BEARINGS ARE BASED ON A GRID (NAD 83, 1990 ADJUSTMENT) BEARING OF SOUTH 88°13'44" EAST ALONG NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 20, TOWNSHIP 41 SOUTH, RANGE 43 EAST AND ALL OTHER BEARINGS ARE RELATIVE THERETO.

NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THE SIGNING SURVEYOR.

THIS IS NOT A SURVEY.

IT IS POSSIBLE THAT THERE ARE DEEDS OF RECORD, UNRECORDED DEEDS, EASEMENTS, OR OTHER INSTRUMENTS WHICH COULD AFFECT THE SUBJECT PROPERTY, WHICH ARE UNKNOWN TO THE SIGNING SURVEYOR.

THIS INSTRUMENT PREPARED BY GLENN W. MARK, P.L.S. IN THE OFFICE OF THE COUNTY ENGINEER, VISTA CENTER 2300 NORTH JOG ROAD, WEST PALM BEACH, FLORIDA 33411-2745.

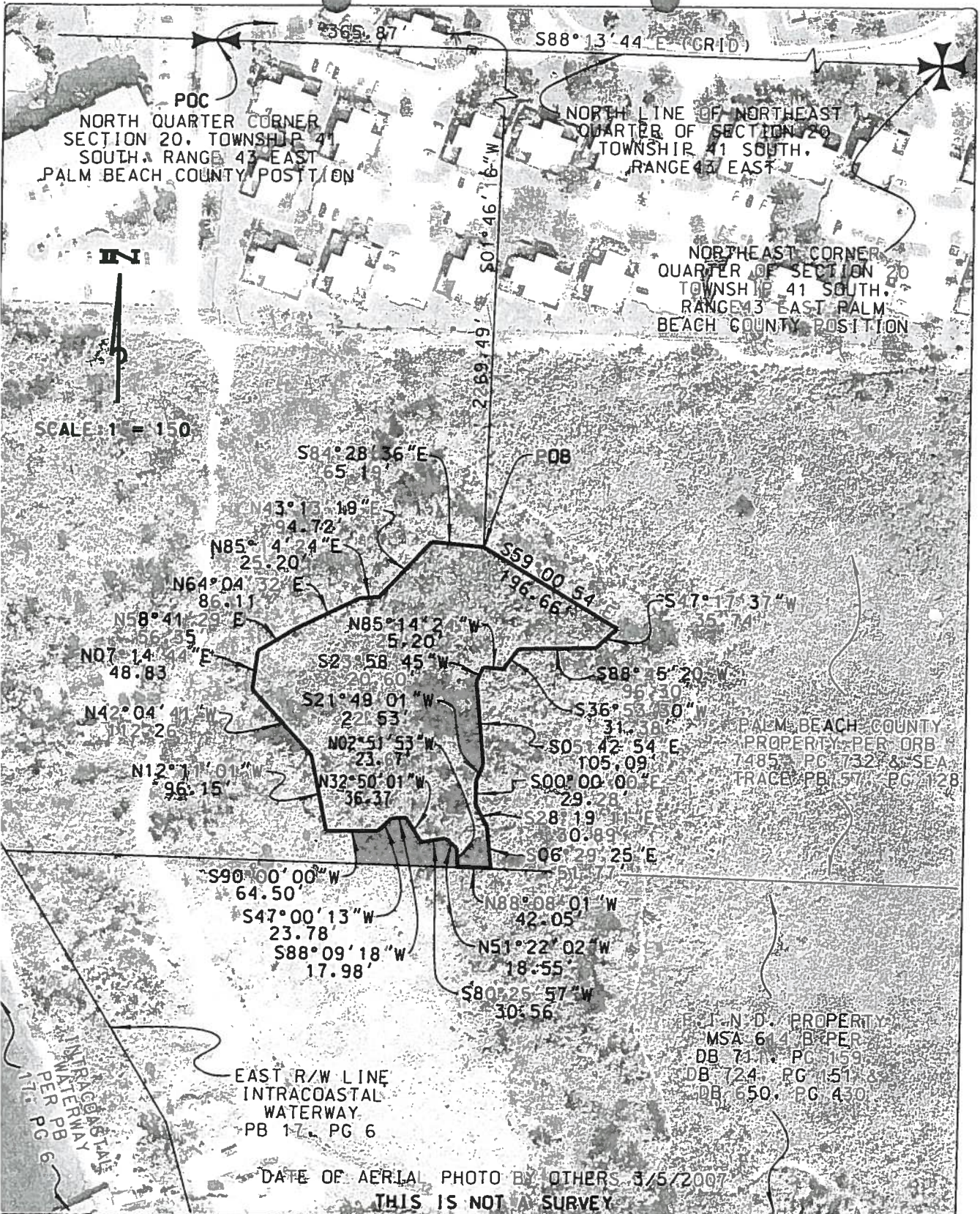
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

I HEREBY CERTIFY THAT THE LEGAL DESCRIPTION AND SKETCH SHOWN HEREON MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

Glenn W. Mark

GLENN W. MARK, P.L.S.
FLORIDA CERTIFICATE #5304

11/13/07
DATE



STATE OF FLORIDA - PALM BEACH COUNTY
I hereby certify that the foregoing is a true copy of the record in my office with redactions, if any as required by law.
THIS 22 DAY OF JULY 2013
SHARON R. BOCK
CLERK & COMPTROLLER
By [Signature] DEPUTY CLERK



CFN 20210472643

OR BK 32956 PG 0512
RECORDED 10/14/2021 11:03:27
Palm Beach County, Florida
Joseph Abruzzo, Clerk
Pgs 0512 - 519; (8pgs)

Return to:

Sandy Mann

Palm Beach County

Department of Environmental Resources Management

2300 North Jog Road, 4th Floor

West Palm Beach, FL 33411

DEED OF CONSERVATION EASEMENT

R2021 1093

AUG 17 2021

THIS DEED OF CONSERVATION EASEMENT is given this 28th day of April, 2021, by Palm Beach County, a political subdivision of the State of Florida ("Grantor"), by and through its Board of County Commissioners, whose legal mailing address is 2633 Vista Parkway, West Palm Beach, Florida 33411-5605 ("Grantor") to the Town of Juno Beach, a Florida municipal corporation, whose business mailing address is 340 Ocean Drive, Juno Beach, Florida 33408 ("Grantee"). As used herein, the term Grantor shall include any and all successors or assigns of the Grantor, and all subsequent owners of the "Property" (as hereinafter defined) and the term Grantee shall include any successor or assign of Grantee.

WITNESSETH

WHEREAS, Grantor is the owner of that certain real property situated in Palm Beach County, Florida, more specifically described in Exhibit "A" attached hereto and incorporated herein (the "Property"); and

WHEREAS, Grantor desires that the Property be preserved and maintained in perpetuity as part of the County's Natural Areas System; and

WHEREAS, the Grantor is agreeable to granting and securing to the Grantee a perpetual conservation easement as defined in Section 704.06, F.S., over the Property and Grantee is willing to accept such conservation easement; and

WHEREAS, the Florida Communities Trust has awarded the Grantor a grant partially reimbursing the Grantor's costs in acquiring all or a portion of the Property and restricted the use of that portion of the Property to purposes consistent with the Florida Forever grant program through a Grant Award Agreement (R97-2042D), recorded in Palm Beach County Official Records Book 10199, Pages 831-842 between the Florida Communities Trust and the Grantor, and the Grantee is in agreement that the restrictions thus placed on the Property are consistent with the intent to ensure the perpetual maintenance and protection of said Property; and

WHEREAS, the Grantee acknowledges that any change to this conservation easement that affects the Property shall be subject to review and approval by the Florida Communities Trust prior to implementation of that change, for so long as the terms and conditions of the Grant Award Agreement, as may be amended from time to time, are in effect for any portion of the Property.

NOW, THEREFORE, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of Florida and in particular Section 704.06, F.S., Grantor hereby voluntarily grants, creates, and establishes a conservation easement for and in favor of the Grantee upon the Property of the nature and character and to the extent hereinafter set forth, which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

1. **Purpose.** It is the purpose of this conservation easement (Easement) to assure that the Property will be retained forever predominantly in its natural condition and that the land and water areas will be retained and managed in a manner that will protect native plant and animal communities. Grantee will hold this Easement exclusively for conservation purposes.
2. **Rights of Grantee.** To accomplish the purpose of this Easement, the following rights are conveyed to Grantee by this Easement:
 - a. To enter upon the Property at reasonable times in order to enforce the rights herein, provided that such entry shall not unreasonably interfere with the use and quiet enjoyment of the Property by the Grantor; and
 - b. To enjoy any activity on or use of the Property that is inconsistent with this Easement and to enforce the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use.
3. **Reserved Rights.** Grantor reserves to itself and to its successors and assigns all rights accruing from ownership of the Property, including the right to engage in, or permit or invite others to engage in, all uses of the Property that are not expressly prohibited herein and that are not inconsistent with the purpose of this Easement. Without limiting the generality of the foregoing, the following rights are expressly reserved:
 - a. The Grantor may construct, maintain and operate public use facilities for the purpose of educating the public about the natural resources of the Property or for the purpose of providing opportunities for recreational activities which have minimal or no impact on natural resources or ecosystems; and
 - b. The Grantor may place signs or markers as necessary to identify property boundaries, trails, restoration areas or other site features or activities related to management and maintenance or the passive recreational use of the Property; and
 - c. The Grantor may construct and maintain management roads, firebreaks, trails, walkways, docks, and facilities necessary to support the public use and land management activities; and

- d. The Grantor may remove or kill, by any lawful means, exotic or nuisance vegetation and animal species, conduct prescribed burns, and conduct other management activities necessary to carry out conservation purposes; and
 - e. The Grantor may conduct site restoration or enhancement projects determined by the Grantor not to conflict with the purpose of this Easement.
4. **Prohibited uses and activities.** Subject to the reserved rights stated in Section 3, the following uses and activities are prohibited in or on the Property:
- a. Construction or placing of buildings, roads, signs, billboards, advertising, utilities, or other structures on or above the ground, other than those roads, structures or signs that may be authorized herein and are consistent with or necessary to accomplish the purpose of this Easement; and
 - b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste or unsightly or offensive materials; and
 - c. Removal or destruction of trees, shrubs, other vegetation, or wildlife; and
 - d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface; and
 - e. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and interior fencing (perimeter fencing shall not be considered a violation of this subparagraph); and
 - f. Acts or uses detrimental to such aforementioned retention of land or water areas; and
 - g. Acts or uses which are detrimental to the preservation of any features or aspects of the Property having historical or archaeological significance, except for those lawful acts necessary to achieve natural area restoration.
5. **Access.** No right of access by the general public is conveyed or restricted by this Easement.
6. **Operation and Upkeep.** Grantee shall not be responsible for any costs and liabilities related to the operation, upkeep and maintenance of the Property.
7. **Enforcement.** Enforcement of the terms, provisions and restrictions of this Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor shall not be deemed or construed to be a waiver of Grantee's rights hereunder.
8. **Assignment.** Upon prior written approval by Grantor, this Easement may be transferred or assigned by Grantee to another organization qualified to hold such interests under applicable State laws. Transfers or assignments shall be accomplished by written amendment of this Easement.
9. **Severability.** If any provision of this Easement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Easement shall not be affected thereby, as long as the purpose of the Easement is protected.

10. **Amendment.** This Easement may be amended, altered, released or revoked only by written agreement between the parties hereto and their assigns or successors, which shall be filed in the public records in Palm Beach County.

11. **Notices.** All notices, consents, approval or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor.

12. **Entire Agreement.** This Easement, (including the Exhibits hereto and any written amendments thereto, executed by all parties), constitutes the entire Easement, and supersedes all prior agreements and understandings, oral and written, between the parties with respect to the subject matter hereof.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purpose imposed with this Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

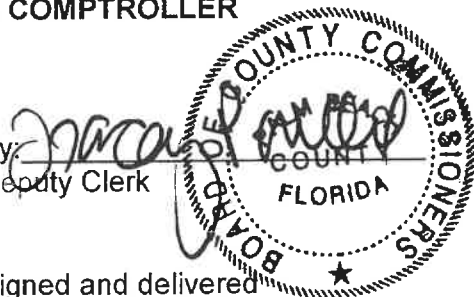
Grantor hereby covenants with said Grantee that Grantor has good right and lawful authority to convey this Easement.

(Remainder of this page intentionally left blank)

IN WITNESS WHEREOF, the Parties hereto have executed this Conservation Easement this
 ____ day of ~~AUG 17 2021~~, 20____.

ATTEST:

JOSEPH ABRUZZO,
 CLERK OF THE CIRCUIT COURT
 & COMPTROLLER

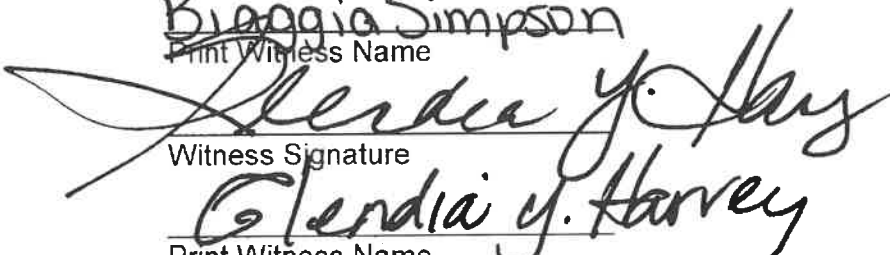
By: 
 Deputy Clerk

Signed and delivered
 in the presence of:



Witness Signature

Biaggia Simpson
 Print Witness Name


 Witness Signature

Glendia J. Harvey
 Print Witness Name

GRANTOR:

R2021 1093

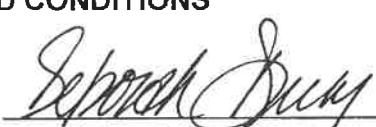
PALM BEACH COUNTY, a political
 subdivision of the State of Florida

By: 
 Dave Kerner, Mayor

APPROVED AS TO FORM AND
 LEGAL SUFFICIENCY

By:  For Scott H. Stone
 Assistant County Attorney

APPROVED AS TO TERMS
 AND CONDITIONS

By: 
 Deborah Drum, Director
 Department of Environmental
 Resources Management

ATTEST:

GRANTEE:

TOWN CLERK:

TOWN OF JUNO BEACH, FLORIDA:

By: 
Caitlin E. Copeland, Town Clerk

By: 
Jason Haselkorn, Mayor

Date: April 28, 2021

Date: April 28, 2021

EXHIBIT A
LEGAL DESCRIPTION OF THE PROPERTY

WCI Donation Tract:

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the Northeast Quarter (NE ¼) of the Southwest Quarter (SW ¼) of said Section 28, Township 41 South, Range 43 East, within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the South 170.92 feet of Government Lot 4, lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the North 572.20 feet of the South 743.12 feet of Government Lot 4, lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5. **Property Control Numbers: 28-43-41-28-00-000-7010 and 28-43-41-28-00-003-0020**

AND

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the South Half (S ½) of the Southwest Quarter (SW ¼) of Section 28, Township 41 South, Range 43 East lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5. LESS AND EXCEPTING THEREFROM those parcels described in Official Records Book 1935, page 1869 and Official Records Book 1883, page 593, public records of Palm Beach County, Florida. **Property Control Number: 28-43-41-28-00-000-7030**

Resolution Trust Tract:

That part of the North 300 feet of the South one-half (S ½) of the Northwest one-quarter (NW ¼) of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida; which is bounded on the East by the West right of way of State Road No. 5 (see road plat book 2, pages 43-56, inclusive), and bounded on the West by a line parallel with the 500 feet westerly of said West right of way of State Road No. 5.

Parker Tract:

That part of the South 295 feet of the North 595 feet of the South Half (S ½) of the Northwest Quarter (NW ¼) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida, which is bounded on the East by the West right of way of State Road Number 5 (see Plat Book 2, Pages 43 through 56) and bounded on the West by a line parallel with 500 foot westerly of said West right of way of State Road No. 5.

Juno Associates Tract:

Parcel 1, Sea Trace P.U.D., according to the Plat thereof recorded in Plat Book 57, Pages 128-129, public records of Palm Beach County, Florida.

Juno Associates Waterfront Tract:

Parcel 2, Sea Trace P.U.D., as recorded in Plat Book 57, Pages 128-129, public records of Palm Beach County, Florida.

Tax Deed Tract:

LOTS 10 AND 11, BLOCK 15, NEW PALM BEACH HEIGHTS, ACCORDING TO THE PLAT THEREOF ON FILE IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT IN AND FOR PALM BEACH COUNTY, FLORIDA, RECORDED IN PLAT BOOK 6, PAGE 73.

Alden Donation Tract:

LOT 12, BLOCK 15, NEW PALM BEACH HEIGHTS, ACCORDING TO THE PLAT THEREOF ON FILE IN THE OFFICE OF THE CLERK OF THE CIRCUIT COURT IN AND FOR PALM BEACH COUNTY, FLORIDA, RECORDED IN PLAT BOOK 6, PAGE 73.



I hereby certify the foregoing is a true copy of the record in my office with redactions, if any as required by law as of this day, Oct 29, 2021.
Joseph Abruzzo, Clerk, Palm Beach County, Florida.
BY V. Walsh Deputy Clerk

APPENDIX E

STATE MANAGEMENT LEASE

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

LEASE AGREEMENT

R97-10400

Lease No. 4161

THIS LEASE AGREEMENT, made and entered into this ____ day
of AUG 19 1997 19__, 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."

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
(50) years commencing on August 19, 1997 and ending on
August 18, 2047 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 activities and
education which are compatible with the conservation and
protection of these public lands, as set forth in subsection
259.032(11), Florida Statutes, along with other related uses
necessary for the accomplishment of this purpose as designated in
the Management Plan required by paragraph 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, which consent shall not be unreasonably withheld. 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 Chapter 18-2, Florida Administrative Code, within twelve months of the effective date of this lease. The Management Plan shall be submitted to LESSOR for approval through the Division of State Lands, Department of Environmental Protection. The leased premises shall not be developed or physically altered in any way other than what is necessary for security and maintenance of the leased premises without the prior written approval of LESSOR until the 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 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 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, which approval shall not be unreasonably withheld. 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 to reasonably 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 and improvements shall be constructed in accordance with plans that are in accordance with the approved Management Plan or shall require the prior written approval of LESSOR as to

purpose, location and design which approval shall not be unreasonably withheld. 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 before or 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 per occurrence and \$200,000 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, Division of State Lands, Department of Environmental Protection, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000. 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 taxes, assessments, liens or other similar liabilities that accrue to the leased premises or to the improvements thereon arising after this lease commences including any and all ad valorem taxes and drainage and special assessments or personal property taxes of every kind and all construction or materialman's liens which may be hereafter lawfully assessed and levied against the leased premises subsequent to the effective date of this lease. In no event shall the LESSEE be held liable for such liabilities which arose prior to the effective date of this lease.

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 Section 253.04, Florida Statutes, to the last address of the party to whom notice is to be given, as designated by such party in writing. LESSOR and LESSEE hereby designate their address as follows:

LESSOR: Department of Environmental Protection
Division of State Lands
Bureau of Land Management Services, M. S. 130
3900 Commonwealth Boulevard,
Tallahassee, Florida 32399-3000

LESSEE: Palm Beach County
Department of Environmental Resources Management
3323 Belevvedere Road, BLDG. 502
West Palm Beach, Florida 33406

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 days of such notice. In the event LESSEE fails to remedy the breach to the satisfaction of LESSOR within sixty days of receipt of written notice, LESSOR may either terminate this lease and recover from LESSEE all damages LESSOR may incur by reason of the breach including, but not limited to, the cost of recovering the leased premises 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 Chapters 376 and 403, Florida Statutes, and the rules promulgated thereunder, all as amended or updated from time to time. In the event of LESSEE's failure to comply with this paragraph, LESSEE shall, at its sole cost and expense, promptly commence and diligently pursue any legally required closure, investigation, assessment, cleanup, decontamination, remediation, restoration and monitoring of (1) the leased premises, and (2) all off-site ground and surface waters and lands affected by LESSEE's such failure to comply, as may be necessary to bring the leased premises and affected off-site waters and lands into full compliance with all applicable federal, state or local statutes, laws, ordinances, codes, rules,

regulations, orders and decrees, and to restore the damaged property to the condition existing immediately prior to the occurrence which caused the damage. LESSEE'S obligations set forth in this paragraph shall survive the termination or expiration of this lease. This paragraph shall not be construed as a limitation upon LESSEE'S obligations 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 periods of the applicable governmental agencies. This paragraph shall not be deemed to apply to any conditions existing prior to the effective date of this lease.

27. ENVIRONMENTAL AUDIT: At LESSOR'S discretion, LESSEE shall provide LESSOR with a current Phase I environmental site assessment conducted in accordance with the Department of Environmental Protection, Division of State Land's standards prior to termination of this lease, and if necessary a Phase II environmental site assessment.

28. 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, Mail Station 130, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, at least six 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 permanent/capital 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, Department of Environmental Protection, shall perform an on-site inspection and the keys to any building on the leased premises shall be turned over to the Division.

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

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

30. 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.

31. 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.

32. 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.

33. 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.

34. 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.

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 for 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, reasonable wear and tear excepted; 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, enhancement, or safety 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 facility in all signs, literature and advertising. 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.

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

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

Cheryl Granger
Witness

Cheryl Granger
Print/Type Witness Name

Elizabeth R. Whitman
Witness

Elizabeth R. Whitman
Print/Type Witness Name

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

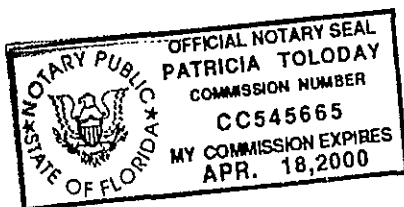
"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

The foregoing instrument was acknowledged before me this 15th day of September, 1997, 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.

Patricia Toloday
Notary Public, State of Florida

(SEAL)



Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: Samuel H. Huse
DEP Attorney

PALM BEACH COUNTY, FLORIDA
By its Board of County
Commissioners

Gloria Madison
Witness
Gloria Madison
Print/Type Witness Name

By: [Signature]
AUG 19 1997

Print/Type Name

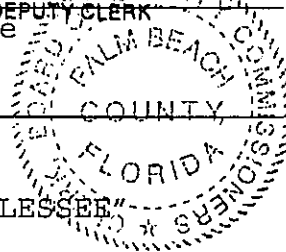
Title: Chairman Burt Aaronson

Barbara J. Volkmuth
Witness
BARBARA J. VOLK MUTH
Print/Type Witness Name

"OFFICIAL SEAL"

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY
BY [Signature]
County Attorney

ATTEST: DOROTHY H. WILKEN, CLERK
~~Board of County Commissioners~~
By [Signature]
DEPUTY CLERK
Print/Type Name
Title: _____



"SUBLESSEE"

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this
_____ day of AUG 19 1997 19____, by Chairman Burt Aaronson, as
_____, Board of County Commissioners of Palm
Beach County, Florida, who is/~~are~~ personally known to me, ~~or who~~
~~has produced~~ N/A as identification.

(SEAL)

[Signature]
Notary Public, State of Florida
Willa Oswalt
Deputy Clerk
Type Notary Name

Commission Number:

Commission Expires:



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

R97-1040D

THIS DOCUMENT WAS PREPARED BY
AND RETURN TO:

HEIDI JUHL
ASSISTANT COUNTY ATTORNEY
PALM BEACH COUNTY ATTORNEY'S OFFICE
301 N. OLIVE AVENUE
WEST PALM BEACH, FL 33401

COUNTY DEED

R96 1173

THIS DEED, made this 18 day of March, 1997, by PALM BEACH COUNTY, a political subdivision of the State of Florida, Grantor, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, located at c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Blvd., Mall Station 115, Tallahassee, FL 32399, Grantee.

WITNESSETH: That said party of the first part, for and in consideration of the sum of Ten Dollars (\$10.00) to it in hand paid by the party of the second part, receipt whereof is hereby acknowledged, has granted, bargained, and sold to the party of the second part, its legal representatives, 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.

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

(OFFICIAL SEAL)

ATTEST:

DOROTHY H. WILKEN, Clerk

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

By: [Signature]
Deputy Clerk

Chair

R96 1173

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

APPROVED BY BOARD OF COUNTY
COMMISSIONERS, PALM BEACH
COUNTY, ON AUGUST 20, 1996, BY
RESOLUTION NO. R-96-1173

By: [Signature]
Assistant County Attorney

By: [Signature]
Assistant County Attorney

G:\COMMON\DATA\KRM\HAYNES\DEEDS\DEED.FRM

Approved for Closing

By: [Signature]
DEP Attorney

Date: 3-12-97

Approved for Agenda
Purposes Only

By: _____
DEP Attorney

Date: _____

TOTAL P.10

Exhibit "A"
Page 16 of 18 Pages
Lease No. 4161

EXHIBIT "A"

A parcel of land lying in Sections 20, 28 and 29, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

All of the South Half (S 1/2) of the Southeast Quarter (SE 1/4) of said Section 20, East of the Easterly right of way line of the Intracoastal waterway, as said right of way is shown on plat recorded in Plat Book 17, page 6, of the public records of Palm Beach County, Florida, Less the South 50 feet thereof for a County Road;

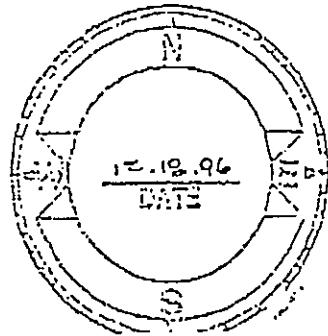
Together with the Northwest Quarter (NW 1/4) of the Southeast Quarter (SE 1/4) of said Section 20, East of the Easterly right of way line of the Intracoastal Waterway, as said right of way is shown on plat recorded in Plat Book 17, page 6 of the public records of Palm Beach County, Florida; LESS that part of the Northwest Quarter (NW 1/4) of the Southeast Quarter (SE 1/4) conveyed to the Florida Inland Navigation District, as described in Deed Book 658, page 430 of the public records of Palm Beach County, Florida;

Together with the Northeast Quarter (NE 1/4) of the Southwest Quarter (SW 1/4) of said Section 28, Township 41 South, Range 43 East, LESS the right of way of State Road No. 5; and LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the South Half (S 1/2) of the Southwest Quarter (SW 1/4) of Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM the right of way of State Road 5, ALSO LESS those parcels described in Official Records Book 1876, page 844, Official Records Book 1935, page 1869, and Official Records Book 1951, page 225 of the public records of Palm Beach County, Florida, ALSO LESS the right of way of Ellison Wilson Road, and ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road 5. ALSO LESS the right of way for Rolling Green Road as recorded in Official Records Book 1883, page 593 of said public records.

Together with Government Lot 2, Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida, LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 28;

Together with the North 595 feet of Government Lot 3 and all that part of the North 595 feet of Government Lot 4 lying West of a line 500 feet Westerly of and parallel to the West right of way line of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East;

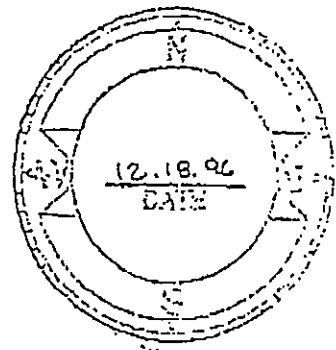


Together with the Northwest Quarter (NW 1/4) of the Southwest Quarter (SW 1/4) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida; Together with the South 170.92 feet of Government Lot 3 and the South 170.92 feet of Government Lot 4, lying West of State Road No. 5, Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida; LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the North 572.20 feet of the South 743.12 feet of Government Lot 3 and all of that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying West of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying North of the South line of the North 595.00 feet of Government Lot 4, East of a line 500.00 feet Westerly of and parallel to the West right-of-way line of State Road No. 5; ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with that part of the Northeast Quarter (NE 1/4) of Section 29, Township 41 South, Range 43 East lying Easterly of the East right of way line of Ellison Wilson Road; LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 29.

F:\USERS\BSM\CCSL\ST3\WWPJ\UNDHILL.LEG, December 18, 1996



ATL

12.0 A7

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

R 99 1564D

AUG 24 1999

AMENDMENT NUMBER 1 TO LEASE NUMBER 4161

THIS LEASE AMENDMENT is entered into this 15th day of June, 1999, 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 August 19, 1997, LESSOR and LESSEE entered into Lease Number 4161; and

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 Number 4161 is hereby amended to include the real property 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 4161 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.

R99 1564D

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

Rayagda D. Crabb
Witness

Rayagda D. Crabb
Print/Type Witness Name

Gregory L. Carpenter
Witness

Gregory L. Carpenter
Print/Type Witness Name

By: Daniel T. Crabb (SEAL)

DANIEL T. CRABB, CHIEF,
BUREAU OF PUBLIC
LAND ADMINISTRATION, 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, 1999, 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.



Sylvia S. Roberts
MY COMMISSION # 6654057 EXPIRES
JULY 25, 2001
DONOR THRU TROY FAIR INSURANCE, INC.

Sylvia S. Roberts
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:

Approved as to Form and Legality

By: Samuel H. Hoo
DEP Attorney

R99 1564D

PALM BEACH COUNTY, FLORIDA

By His Board of County

Commissioners

AUG 24 1999

R99 15640

By: Maude Ford Lee (REAL)

Maude Ford Lee

Print/Type Name

Title: Chair

BOARD OF COUNTY COMMISSIONERS

PALM BEACH COUNTY

FLORIDA

OFFICIAL SEAL

DOROTHY H. WILKEN, CLERK

Board of County Commissioners

DEPUTY CLERK

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

Maude Ford Lee
County Attorney

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this
7th day of June, 1999, by Maude Ford Lee and
James S. Fetterly, as Chair and
respectively, on behalf of the Board of County Commissioners of
Palm Beach County, Florida. They are personally known to me.

Tammi Underwood Wilkins
Notary Public, State of Florida

Tammi Underwood Wilkins
Print/Type Notary Name

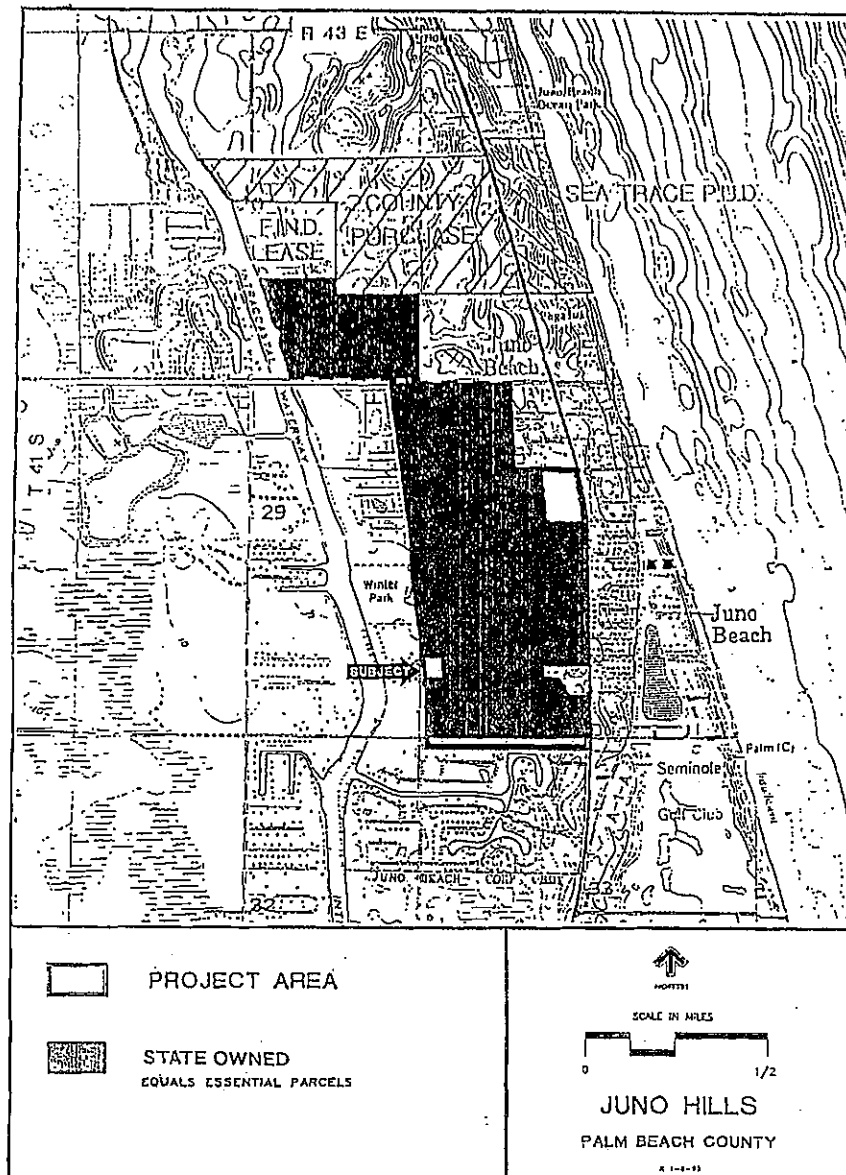
Commission Number:

Commission Expires:



Tammi Underwood Wilkins
MY COMMISSION # CC584301 EX
September 18, 1999
BONDED THRU TROY FARM INSURANCE, I

R99 15640



325

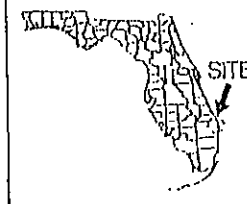
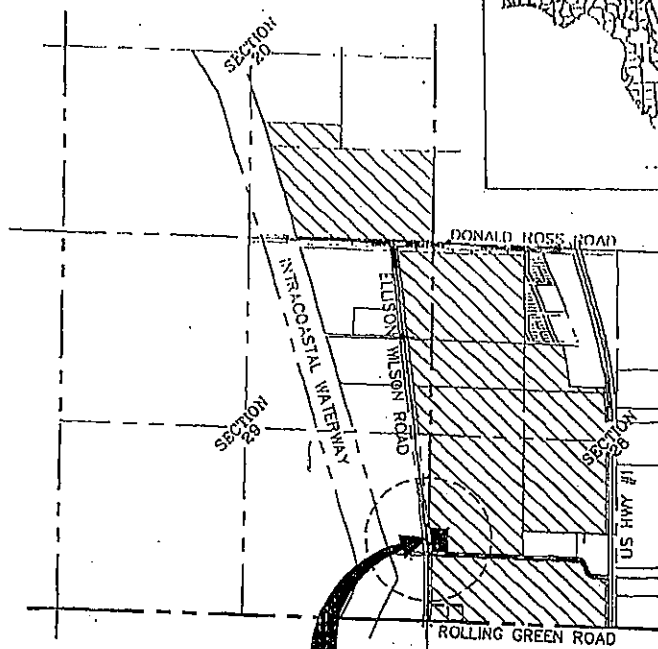
R99 1564D

Exhibit A
Page 4 of 7 pages
Amendment 1 to Lease No. 4161

207

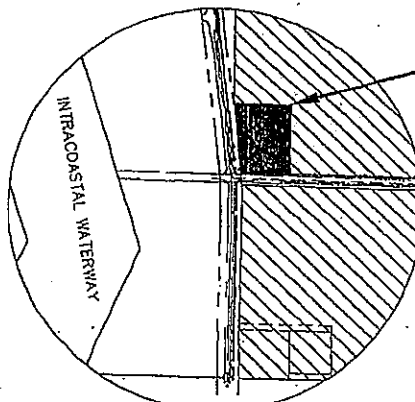


NTS



SITE

SUBJECT
SEE DETAIL BELOW



SUBJECT

DETAIL
NTS

LEGEND:
TITF - STATE OF FLORIDA

R99 15640

JUNO HILLS / FISHER
PALM BEACH COUNTY, FLORIDA
SECTION 28 - TOWNSHIP 41 SOUTH - RANGE 43 EAST

PRESTIGE TITLE
Please Return To:

TEL: 1-407-283-5599

Dec 15 '98 17:21 No. 005 1992

Prestige Title Agency, Inc.
716 Colorado Avenue
Shore, Florida 34994

COUNTY DEED

(STATUTORY FORM - SECTION 125.411, F.S.)

THIS INDENTURE, made this 11th day of December, A.D. 1998, between Palm Beach County, a political subdivision of the State of Florida, whose post office address is 301 North Olive, Suite 601 West Palm Beach, Florida 33401, party of the first part, and the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, whose post office address is c/o Florida Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 115, Tallahassee, FL 32399-3000, party of the second part,

(Wherever used herein the terms "party of the first part" and "party of the second part" include all the parties to this instrument and their heirs, legal representatives, successors and assigns. "Party of the first part" and "party of the second part" are used for singular and plural, as the context requires and the use of any gender shall include all genders.)

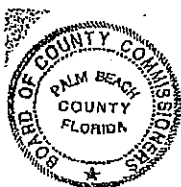
WITNESSETH: That the said party of the first part, for and in consideration of the sum of Ten Dollars, to it in hand paid by the party of the second part, receipt whereof is hereby acknowledged, has granted, bargained and sold to the said party of the second part, his or her heirs and assigns forever, the following described land situate, lying and being in Palm Beach County, Florida, to-wit:

See Exhibit "A" attached hereto and by reference made a part hereof, together with all riparian and littoral rights appertaining thereto.

Property Appraiser's Parcel Identification Number: 00-43-41-28-00-000-7070

IN WITNESS WHEREOF the said party of the first part has caused these presents to be executed in its name by its Board of County Commissioners acting by the Chair of said board, the day and year aforesaid.

BOARD OF COUNTY COMMISSIONERS,
PALM BEACH COUNTY, FLORIDA
a political subdivision of the State of Florida



By: Maude Ford Lee
Name: Maude Ford Lee
Chair

DOROTHY H. WILKEN, CLERK
Board of County Commissioners

Attest: Dorothy H. Wilken
Name: DEPUTY CLERK
Clerk

R98 290
(Official Seal)

Approved as to form and
Legal sufficiency

By: Maude Ford Lee
Assistant County Attorney

APPROVED
FOR CLOSING

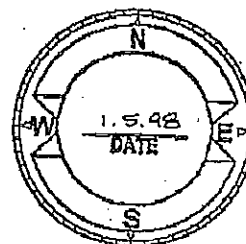
R99 15640 DEC 18 1998

Exhibit A
Page 6 of 7 pages
Amendment 1 to Lease No. 4161

By: Peter Fodor
(DEP Attorney)

Exhibit "A"

The West 275 feet of the North 370 feet of the Southwest Quarter of the Southwest Quarter of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida, less the right of way for Rolling Green Road as described in Official Record Book 1883, Page 595, and less the right of way for Ellison-Wilson Road as described in Deed Book 1054, Page 665, and Official Record Book 539, Page 488, of the Public Records of Palm Beach County, Florida.



FR33MILEGALSIPALM BEACHUNOFISR.DOC
Juno Hills, Fla., Palm Beach County

R99 1564D

Exhibit A
Page 7 of 7 pages
Amendment 1 to Lease No. 4161

ATL1
2.99

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

RECEIVED

2010 NOV -2 AM 9:14

R 2010

CHARLES E. BOCK, CLERK
BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY
FINANCE

AMENDMENT NUMBER 2 TO LEASE NUMBER 4161

SEP 14 2010

THIS LEASE AMENDMENT is entered into this _____ day of _____, 20____, 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, a political subdivision of the State of 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 August 19, 1997, LESSOR and LESSEE entered into Lease Number 4161; and

WHEREAS, LESSOR and LESSEE desire to amend the lease to add land to the leased premises.

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 4161 is hereby amended to include the real property 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 Lease Number 4161, 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 as of the date of this amendment.

3. It is understood and agreed by LESSOR and LESSEE that this Amendment Number Two to Lease Number 4161 is hereby binding upon the parties hereto and their successors and assigns.

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

Tracy Peters
Witness
TRACY PETERS
Print/Type Witness Name
Kathy C Griffin
Witness
Kathy C Griffin
Print/Type Witness Name

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

"LESSOR"

STATE OF FLORIDA
COUNTY OF LEON

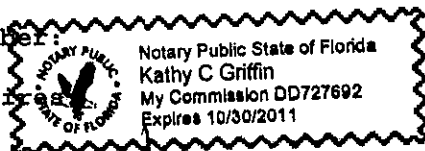
The foregoing instrument was acknowledged before me this 7th day of October, 2010, by Gloria C. Barber, Operations and Management Consultant Manager, Bureau of Public Land Administration, Division of State Lands, State of Florida Department of Environmental Protection, as agent for and on behalf of the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. She is personally known to me.

Kathy C Griffin
Notary Public, State of Florida

Print/Type Notary Name

Commission Number:

Commission Expires:



Approved as to Form and Legality

By: [Signature]
DEP Attorney

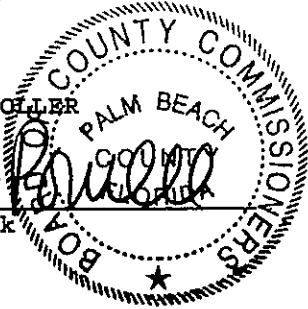
"LESSEE"

R2010 1433

ATTEST:

SHARON R. BOCK
CLERK & COMPTROLLER

By: *Sharon R. Bock*
Deputy Clerk



PALM BEACH COUNTY, a political
subdivision of the State of Florida

By: *Burt Aaronson*
Burt Aaronson, Chair

(OFFICIAL SEAL)

Date: SEP 14 2010

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY

By: *Michael J. [Signature]*
Assistant County Attorney

APPROVED AS TO TERMS
AND CONDITIONS

By: *Robert H. [Signature]*
Department Director

EXHIBIT "A"
LEGAL DESCRIPTION OF PROPERTY

A Parcel of land lying within Section 35, Township 41 South, Range 41 East, Palm Beach County, Florida, more particularly described as follows: COMMENCING at the Quarter Section Corner located in the South line of said Section 35, thence run along the South line of said Section 35, North 89°45'40" East, a distance of 259.40 feet to a point on the North Right of Way line of State Road No. 710 (Beeline Hwy) (Bearings are based on the South line of the Southeast quarter of said Section 35 being North 89°45'40" East as shown on the attached sketch by Battaglia Land Surveyors, Inc. titled "Florida Fish & Wildlife Conservation Commission Field Operations Center" dated 04/06/00.); thence North 53°39'49" West along said Right of Way, a distance of 1878.39 feet; thence North 31°55'04" East, a distance of 416.46 feet; thence North 46°09'26" East, a distance of 253.99 feet; thence North 56°20'11" East, a distance of 27.63 feet; thence North 33°39'49" West, a distance of 25.00 feet to a point, said point also being THE POINT OF BEGINNING. Thence run North 53°39'49" West along a line parallel to and 700 feet North of at right angles to the Right of Way line of said State Road No. 710 (Beeline Highway), a distance of 396.50 feet; thence North 56°20'11" East, a distance of 350.00 feet; thence South 53°39'49" East, a distance of 396.50 feet; thence South 56°20'11" West, a distance of 350.00 feet to the POINT OF BEGINNING of the herein described parcel.

BSM: Larry Lewis

DATE: 4/8/10

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 September 14, 2010
dated at West Palm Beach, FL on 11/3/10
By: Rhiane Brown
Deputy Clerk



APPENDIX F

FLORIDA INLAND NAVIGATION DISTRICT MANAGEMENT LEASE

R97-1047D

**REAL PROPERTY
LAND LEASE AGREEMENT
FOR**

AUG 19 1997

**FLORIDA INLAND NAVIGATION DISTRICT
PROPERTY KNOWN AS MSA 614B**

to be included as a portion of

**PALM BEACH COUNTY
PROPERTY KNOWN AS THE JUNO HILLS NATURAL AREA**

**THIS LAND LEASE AGREEMENT
is between the**

FLORIDA INLAND NAVIGATION DISTRICT

and

PALM BEACH COUNTY

LEASE AGREEMENT

R97-1047D

This LEASE AGREEMENT ("LEASE") is made and entered into this 19 day of AUG 19 1997, 1997, between the Florida Inland Navigation District, a special district existing under the laws of the State of Florida (the District), and Palm Beach County, a political subdivision of the State of Florida (the County).

RECITALS

WHEREAS, the District is the owner in fee of a parcel of land in Palm Beach County, Florida designated as MSA 614B, which is utilized by the District and the United States of America for the improvement and maintenance of the Intracoastal Waterway from Nassau County to Dade County, Florida, and the District holds title within this area subject to an easement heretofore granted by it to the United States of America for such use; and

WHEREAS, the District desires to continue in the assurance of the proper utilization and management of District's property for the benefit of the Intracoastal Waterway and the public; and

WHEREAS, the County desires to lease MSA 614B from the District to become an addition to the County's Juno Hills Natural Area and to be utilized for passive recreation and conservation purposes, subject to said prior right and easement of the United States of America and to the terms and conditions of this LEASE; and

WHEREAS, the District is of the opinion that such use by the County is in the public interest and will benefit the Intracoastal Waterway; and

WHEREAS, the District maintains that a lease should be executed for a limited term at a nominal rental, subject to the terms and conditions stated herein.

WITNESSETH

NOW THEREFORE, in consideration of the promises, mutual covenants and agreements herein contained, the receipt and sufficiency of which is hereby acknowledged, it is agreed by the parties hereto:

1. **RECITALS:** The recitals contained herein above are true and correct and incorporated herein by reference.

2. **LEASE:** The District hereby leases to the County Site MSA 614B, to be included as a portion of the County's Juno Hills Natural Area as described in Paragraph 3 below, subject to the terms and conditions set forth herein.

3. **DESCRIPTION OF PREMISES:** The properties which are the subject of this LEASE are situated in Palm Beach County, State of Florida. District property MSA 614B is described on Exhibit "A", which is attached hereto and made a part of this LEASE, and hereinafter will be referred to as the "Leased Premises". County property known as the Juno Hills Natural Area is described on Exhibit "B", which is attached hereto and made a part of

this LEASE, and hereinafter will be referred to as the "County Premises".

4. **PROJECT MANAGEMENT:** The Project Manager for the District is its Executive Director, and all correspondence and communications from the County shall be directed to him/her. The District's Project Manager shall be responsible for overall coordination and oversight related to the performance of this LEASE by the District. The Project Manager for the County is the Director of its Department of Environmental Resources Management, and all correspondence and communications from the District shall be directed to him/her. The County's Project Manager shall be responsible for overall coordination and oversight related to the performance of this LEASE by the County.

5. **EXISTING CONDITIONS:** The County agrees to accept the Leased Premises in as is condition.

6. **RENT AND TERM:** The term of this LEASE shall be for an initial twenty-five (25)-year period, with options to renew for additional ten (10)-year terms. Rent shall be one dollar (\$1.00) per year. Prepayment of rent shall not affect in any way the District's rights under paragraph 28 below. The initial period shall commence on the date of execution of this LEASE by both parties. Additional terms shall automatically commence, absent written notice of termination by the District to the County at least 90 days prior to the end of the initial term.

7. **PURPOSE:** The County shall include and manage the Leased Premises as a portion of the County Premises for the conservation and protection of its natural resources; for passive, resource-based public outdoor recreation which is compatible with the conservation and protection of these lands and the resources they contain; and for the restoration and enhancement of these resources.

8. **QUIET ENJOYMENT AND RIGHT OF USE:** The County shall have the right of ingress and egress to, from, and upon the Leased Premises for all purposes that are necessary for the full enjoyment by said County of the rights conveyed herein. Notwithstanding the foregoing, the County acknowledges that the District is statutorily mandated to assist the U.S. Army Corps of Engineers in the improvement and maintenance of the Intracoastal Waterway. In connection herewith, dredged material management activities on other District sites may result in the necessity that environmental mitigation be performed. Therefore, the District retains, for itself and the U.S. Army Corps of Engineers, the right to perform mitigation activities on the Leased Premises. The District shall notify the County in writing of its intent to perform such activities sixty (60) days prior to commencement of these activities.

9. **UNAUTHORIZED USE:** The County shall through its agents and employees use its best effort to prevent the unauthorized use of the Leased Premises or any use thereof not in conformance with this LEASE.

10. **ASSIGNMENT:** This LEASE shall not be assigned in whole or in part without the prior written consent of the District. Any assignment made either in whole or in part without the prior written consent of the District shall be void and without legal effect.

11. **INTERIM MANAGEMENT PLAN:** Upon execution of this LEASE, and prior

to the District's Board of Commissioners approval of the Management Plan ("MP") for the Leased Premises, the County shall assume management activities necessary to protect the Leased Premises, as described in the interim management plan ("IMP") included as Exhibit "C" to this lease. The IMP is established as the primary public purpose for which the Leased Premises is leased by the County. This IMP will be utilized by the County to manage the Leased Premises until the final management plan is developed, in accordance with the schedule and requirements of Paragraph 12 of this Lease.

12. MANAGEMENT PLAN:

A. The County shall develop at its sole cost, and implement in consultation with the District, a MP for the Juno Hills Natural Area, which shall include the Leased Premises. The MP shall be developed within eighteen (18) months of the effective date of this LEASE. The MP shall provide general background data on the property; contain information on the property's resources; set forth general and specific management goals, objectives, and guidelines; and outline the specific procedures for funding requirements, staffing levels, and management practices necessary for their accomplishment, and shall include the provisions and content of the IMP as approved by District at the time of this Lease. The MP will include a phased plan of development which will account for funding aesthetic, engineering, operational, management, cultural, and sociological considerations. The District will provide the County with any information that the District has on the Leased Premises, including surveys, engineering plans, and other data, to assist in the development of the MP.

B. The MP shall be submitted for approval to the District's Board of Commissioners. In the event the parties are not able to come to agreement on the MP within one hundred eighty (180) days of submittal, this shall be sufficient cause for either party to terminate the LEASE pursuant to Paragraph 27 below. The District shall approve the MP, as it relates to the Leased Premises, prior to its submission to the State for approval. Any changes made after District approval will be resubmitted to the District for approval prior to implementation. The Leased Premises shall not be developed or physically altered in any way, other than what is necessary for the security and maintenance of the Leased Premises, without the prior written approval of the District or until the MP is approved.

C. The County and the District will meet at least once annually to review and discuss the management activities authorized by this MP. The District acknowledges that regulations governing public use of the lands covered by the MP that may be deemed appropriate have been adopted (the County's Natural Areas Ordinance [No. 94-13]). The County shall prepare and submit for discussion at the annual meeting a yearly summary report, which will include:

1. The status of the County's management program and activities on the property.
2. The status of the development program and any information available on visitor use.
3. A review of special problems and concerns encountered over the previous year.

D. The annual report submitted by the County to the State may also serve as the County's annual report to the District.

13. MITIGATION PLAN: The County shall develop, in consultation with the District, a Mitigation Plan for the Leased Premises, to provide advanced mitigation for District projects. The mitigation plan shall be developed in accordance with the Conceptual Mitigation Plan ("CMP") included as Exhibit "D".

A. The County shall pay for and provide to this lease staffing for the design, permitting, contractor procurement, construction oversight, and monitoring for the advanced mitigation project. The County shall commence these services within 30 days of receipt of a notice to proceed from the District for any portion of the above. Such notice to proceed will include a commitment for non-staff costs. The County shall use its best efforts to obtain permits and provide the services in a timely manner.

B. The District, at its option, shall pay all of the non-staff costs for the mitigation project, which shall include surveys, permit fees, engineering costs, and construction. The District shall receive all mitigation credits provided by any and all regulatory agencies for the mitigation project, if paid for by the District. While this may be a phased effort, the District funding commitment for construction must occur within three years of execution of this agreement. After three years, the County shall be entitled to complete the mitigation plan at County cost and credit.

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

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

16. RIGHT OF INSPECTION: The District 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 the County in any manner pertaining to this LEASE.

17. PLACEMENT AND REMOVAL OF IMPROVEMENTS: All buildings, structures, improvements, and signs shall be constructed at the expense of the County, in accordance with the MP approved by the District. Removable equipment and removable improvements placed on the Leased Premises by the County which do not become a permanent part of the Leased Premises will remain the property of the County and may be removed by the County upon termination of this LEASE, pursuant to Paragraph 29 below.

18. INDEMNITY BY COUNTY: To the extent permitted by Florida law, the County hereby covenants and agrees to investigate all claims of every nature at its own expense and to indemnify, protect, defend, and hold and save harmless the District from any and all claims, bodily injury, personal injury, property injury, actions, lawsuits and demands of any kind or nature arising out of this lease. Nothing contained herein shall be construed

as a waiver of sovereign immunity enjoyed by the parties hereto, as provided in section 768.28, F.S., as amended or any other law providing limitations on claims. Further, nothing herein shall be construed as a waiver of the limitations on liability enjoyed by a landowner providing land to the public for outdoor recreational purposes, as provided in section 375.251, F.S.

19. **INDEMNITY BY DISTRICT:** To the extent permitted by Florida law, the District hereby covenants and agrees to investigate all claims of every nature at its own expense and to indemnify, protect, defend, and hold and save harmless the County from any and all claims, bodily injury, personal injury, property injury, actions, lawsuits and demands of any kind or nature arising out of the activities of the District with respect to the Leased Premises. Nothing contained herein shall be construed as a waiver of sovereign immunity enjoyed by the parties hereto, as provided in section 768.28, F.S., as amended or any other law providing limitations on claims. Further, nothing herein shall be construed as a waiver of the limitations on liability enjoyed by a landowner providing land to the public for outdoor recreational purposes, as provided in section 375.251, F.S.

20. **INSURANCE:**

A. The County shall procure and maintain through the term of this LEASE Workers' Compensation Insurance up to the limits specified by Florida Statute. The County shall provide an insurance certificate demonstrating such coverage prior to the commencement of performance. Notwithstanding the number of the employees or any other statutory provisions to the contrary, the Workers' Compensation insurance shall extend to all employees of the County. The Workers' Compensation insurance policy required by this LEASE shall also include Employer's Liability. Contractors and subcontractors shall be required to provide Workers' Compensation for their employees.

B. Without waiving the right to sovereignty immunity, the County acknowledges that it is self-insured under State Sovereign Immunity Statutes, with coverage limits of \$100,000.00 per person and \$200,000.00 per occurrence, or such monetary waiver limits as may from time to time during the term of the Lease Agreement be set forth in the State Sovereign Immunity Statutes, which the District recognizes as acceptable regarding General Liability. This policy shall provide coverage for death, personal injury or property damage that could arise directly or indirectly from the performance of this Lease. This shall include the following endorsements: I. premises and operations; ii. products and completed operations; and iii. contractual liability.

C. The County acknowledges and agrees that in the event the District is named in any legal action as a result of the acts and omissions of the County in the County's use and occupancy of the Leased Premises under the terms of this LEASE, the County shall respond with all necessary defense of the District and provide payment of all judgments and costs against the District in the same manner and to the same extent as if the District were identified as an Additional Insured with the County's Self-insured Program.

D. The District acknowledges and agrees that in the event the County is named in any legal action as a result of the acts and omissions of the District in the District's use of

and/or access over the Leased Premises, the District shall respond with all necessary defense of the County and provide payment of all judgments and costs against the County in the same manner and to the same extent as if the County were identified as an Additional Insured with the District's Self-insured Program.

E. All insurance by third party contractors shall specifically include the County and the District as "additional insured".

21. PAYMENT OF TAXES AND ASSESSMENTS: The County shall assume full responsibility for and shall pay taxes and assessments that accrue to the Leased Premises and/or to the improvements thereon including any and all ad-valorem taxes and drainage and special assessments or any other taxes or assessments of every kind which may be hereafter lawfully assessed and levied against the Leases Premises.

22. NO WAIVER OF BREACH: The failure of the District to insist in 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 or voidance of such covenants, terms or conditions, but the same shall continue in full force and effect. No waiver by the District of any of the provisions hereof shall in any event be deemed to have been made unless the waiver is set forth in writing and signed by the District.

23. NON-DISCRIMINATION: The County shall assure and certify that it will comply with Title IV of the Civil Rights Act of 1964 (PL 88-52), as amended, and in accordance with that Act shall not discriminate against any individual's race, color, creed, 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.

24. UTILITY FEES: The County shall be responsible for 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.

25. COMPLIANCE WITH LAWS: The County agrees that this LEASE is contingent upon and subject to the County 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.

26. NOTICE: All notices given under this LEASE shall be in writing and shall be served by certified mail, including, but not limited to, notice of any violation served pursuant to section 253.04, F.S., to the last address of the party to whom notice is to be given, as designated by such party in writing. The District and the County hereby designate their addresses as follows:

To District:

Florida Inland Navigation District
1314 Marcinski Road
Jupiter, Florida 33477
Attn.: Executive Director

To County:

Palm Beach County
Department of Environmental Resources Management
3323 Belvedere Road, Building 502
West Palm Beach, Florida 33406
Attn.: Director

A copy of each notice also shall be provided to:

Palm Beach County Attorney's Office
301 N. Olive Avenue, Suite 601
West Palm Beach, Florida 33401

27. BREACH OF COVENANTS, TERMS OR CONDITIONS: Should the County breach any of the covenants, terms, or conditions of this LEASE, the District shall give written notice to the County to remedy such breach within thirty (30) days of receipt of such notice. In the event the County fails to remedy the breach to the satisfaction of the District within thirty (30) days of receipt of the written notice, the District may either terminate this LEASE and recover from the County all damages the District may incur by reason of the breach, including, but not limited to, the cost of recovering the Leased Premises and attorney's fees, or maintain this LEASE in full force and effect and exercise all rights and remedies herein conferred upon the District.

28. DAMAGE TO THE PREMISES: The County agrees that it will not do, or cause to be done, in, on, or upon the Leased Premises or as affecting said Leased Premises, any act which may result in damage or depreciation of value to the Leased Premises, or any part thereof. The County shall not dispose of any contaminants, including, but not limited to, hazardous or toxic substances, chemicals, or other agents used or produced in County operations, on the Leased Premises or on any adjacent State land or in any manner not permitted by law. In the event of an accident or the discovery of such disposal, the County shall immediately report such occurrence to the District, indicating what is being disposed of and where and how disposal is to take place.

29. SURRENDER OF PREMISES: Upon termination or expiration of this LEASE, the County shall surrender the Leased Premises to the District. In the event no further use of the Leased Premises or any part thereof is needed, the County shall give written notification to the District at least six (6) months prior to the release of any or all of the Leased Premises. Notification shall include a legal description of the Leased Premises, the LEASE number, and an explanation of the release. The release shall only be valid if approved by the District through the execution of a release of lease instrument with the same formality of this LEASE. Upon termination or expiration of this LEASE, all structures permanently affixed to the land and all improvements made will become the property of the District, provided,

however, that if any structures are such in the District's determination that they can be moved without harm to the area where they are situated, then the County may within thirty (30) days following termination of the LEASE remove the same. Upon final termination, the Leased Premises must be left in essentially the same condition as when it was first leased to the County, save for ordinary wear and tear, unless otherwise approved in writing by the District.

30. PROHIBITIONS AGAINST LIENS OR OTHER ENCUMBRANCES: Fee title to the Leased Premises is held by the District. The County 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 the District 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 attested, impaired or invalidated.

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

33. ENTIRE UNDERSTANDING: This LEASE sets forth the entire understanding between the Parties and shall only be amended with the prior written approval of the Parties.

34. MAINTENANCE OF IMPROVEMENTS: The County 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, and maintaining the planned improvements as set forth in the MP.

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

36. SECTION CAPTIONS: Article, subsection 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 or extent of intent of this LEASE or any provisions thereof.

37. SPECIAL CONDITIONS: The following special conditions shall apply to this LEASE:

A. The County shall construct appropriate signage recognizing the contribution of the District to the Juno Hills Natural Area. The language of such signs shall have prior written approval of the District. The District's contribution will also be identified in all literature produced by the County about the Juno Hills Natural Area.

38. BUDGETARY FUNDING/TERMINATION: The parties hereto acknowledge that the performance of the County's obligations under the terms of this Lease is contingent on annual budgetary funding by the Board of County Commissioners. In the event the County is unable to satisfy a time for performance specified herein solely because of insufficient funding, the County shall be granted a six (6)-month opportunity to cure such default. If the County fails to complete performance within the time to cure, the District, in its sole and exclusive discretion, may elect to terminate this LEASE by written notification

to the County. Notwithstanding the foregoing failure by the County to fulfill the obligation of maintenance (as outlined in Paragraph 34 above) as a result of insufficient funding, this lease shall be enforceable in accordance with Paragraph 27 above. In the event that FIND, in its sole discretion, determines that the Leased Premises are needed for use by FIND or by the U.S. Army Corps of Engineers, then FIND may, upon sixty (60) days written notice to the County, terminate this LEASE without penalty.

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

ATTEST:

COUNTY:

Dorothy H. Wilken, Clerk

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

BY: April C. Smith
Deputy Clerk

BY: [Signature]
Chair

DATE: AUG 19 1997

DATE: AUG 19 1997

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY

BY: [Signature]
Assistant County Attorney

DATE: 8/27/97

LEGAL FORM APPROVED
BY DISTRICT COUNSEL

DISTRICT:

BOARD OF COMMISSIONERS OF THE
FLORIDA INLAND NAVIGATION DISTRICT

BY: Thomas A. Shuchman

BY: [Signature] (SEAL)
Chair

DATE: 8/2/97

ATTEST:

[Signature]
Secretary

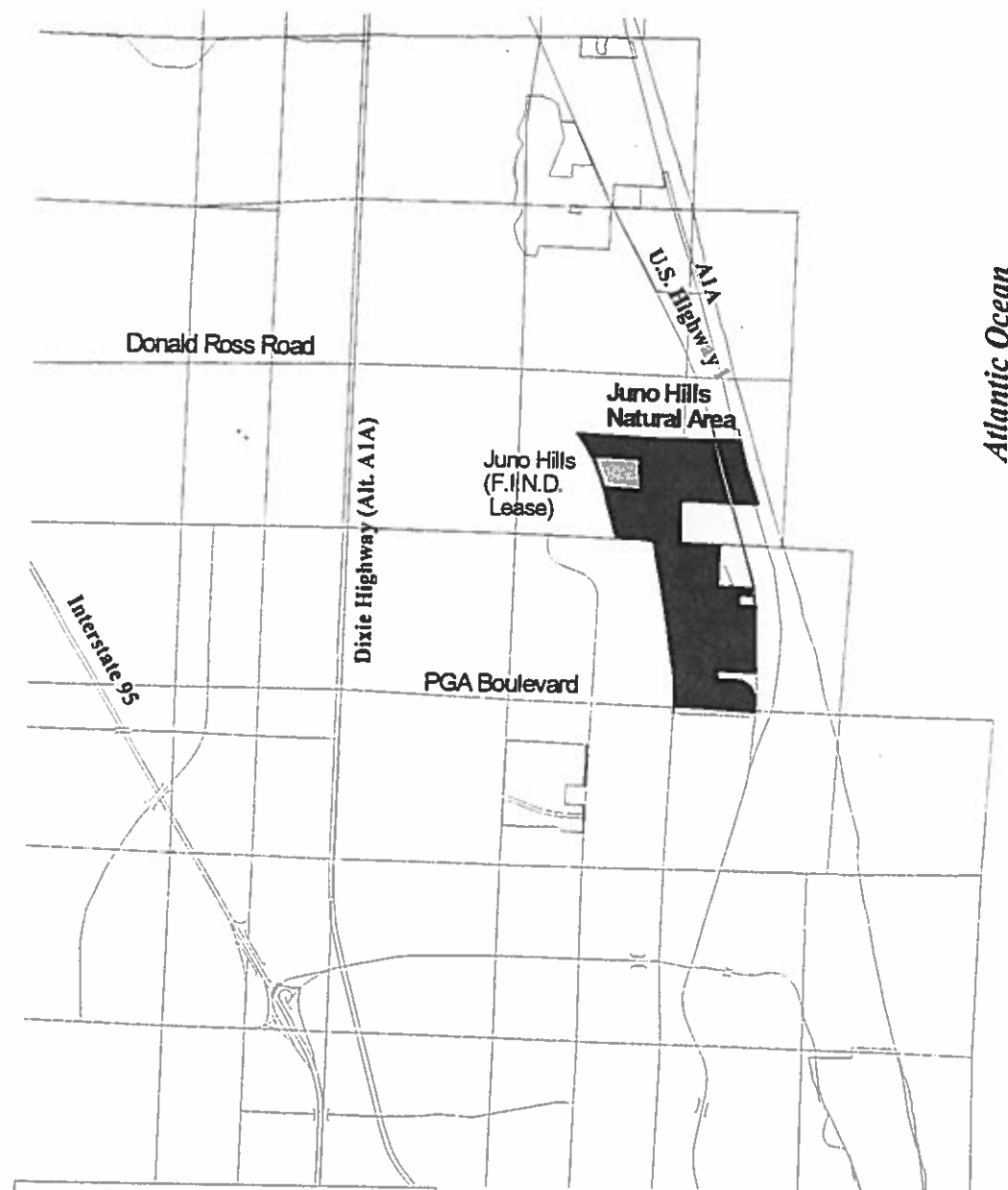
R97-1047D

EXHIBIT A

DESCRIPTION OF MSA 614B

That part of the NE 1/4 of the SW 1/4, Section 20, Township 41 South, Range 43 East, Palm Beach County, Florida, lying East of the East right of way line of the Intracoastal Waterway, said right of way line being shown on Plat recorded in Plat Book 17, Page 6, of the Public Records of said County; also that part of the North 1000 feet of the NW 1/4 of the SE 1/4 of said Section 20, lying East of the said East right of way line; said tract containing 30.15 acres, more or less, being the same tract described in a Deed from Palmwood Investment Company to the Commissioners of the Florida Inland Navigation District dated January 5, 1944, and recorded in Deed Book 658, Page 430, of the said public records.

EXHIBIT B JUNO HILLS NATURAL AREA



LEGEND

-  Juno Hills Natural Area
-  F.I.N.D Lease
-  Major Roads



1 0 1 Miles



EXHIBIT C

INTERIM MANAGEMENT PLAN

MSA 614B (the Leased Premises) will be managed as part of the Juno Hills Natural Area (the County Premises) by the County's Department of Environmental Resources Management (ERM), in consultation and cooperation with the District. The primary public purpose of the lease is to preserve the unique biological and environmental values of the Leased Premises. The secondary purposes are to provide passive, resource-based public outdoor recreation which is compatible with the protection of these resources and to restore and enhance the resources. Resource enhancement will focus on eradicating non-native vegetation, removing deposited dredge spoil materials, removing trash, and securing the site from unauthorized uses. Public use activities may include environmental education, scientific research, nature appreciation and study, hiking, photography, and canoeing. Motorized vehicles will be prohibited, except as necessary for approved management activities.

No physical structures or improvements are proposed for the Leased Premises, except for site security measures and an unpaved access trail. A parking area will be constructed in a disturbed area on the adjacent County Premises, which will provide access to trails that will lead to the Leased Premises. Initial management activities will consist of the County Premises being fenced for security and to prohibit unauthorized use. Leased Premises will not require fencing. Public use and management facilities (a nature trail, a kiosk, and firebreaks) will be sited on the County Premises. No other alterations of land use or character shall be permitted, except with the approval of both parties. Access from the Leased Premises to the Intracoastal Waterway will be maintained, but no docking facilities will be provided at this time.

A management plan will be developed for the entire Juno Hills Natural Area, including the Leased Premises. This plan will be provided to the District for its approval prior to approval by the Board of County Commissioners and the State. The natural area will be managed by the County, with assistance from the Town of Juno Beach (Town) and volunteers from the local community.

The management plan will contain a description of how the natural resources of the site will be protected, how degraded resources will be enhanced, and how public use will be accommodated. It will include a survey of listed plant and animal species and vegetative communities, provisions for the reintroduction and protection of listed species and imperiled vegetative communities on the site, and a prescribed burn plan. Because the site is in a residential area, a public education program on the benefits of prescribed burning will be conducted prior to the first burn. The management plan also will include a description of the monitoring program through which the results of management and restoration activities will be evaluated and management practices adjusted, if necessary.

EXHIBIT D

CONCEPTUAL MITIGATION PLAN

As a result of the construction of the Intracoastal Waterway and the permanent opening of the Jupiter and Lake Worth inlets, a portion of the Leased Premises (MSA 614B) changed from a freshwater to a brackish water system. During channel construction, dredged material was placed onto wetlands within the site. Subsequent construction of mosquito ditches further impacted those wetlands. Exotic vegetation, chiefly Australian pine (*Casuarina equisetifolius*) and Brazilian pepper (*Schinus terebinthifolius*), presently covers the spoil site and mosquito ditch banks. Although several areas of mangroves still exist on the site, they have been impacted by dredged material and exotic vegetation, and lack sufficient tidal flushing to be considered biologically productive. These areas are shown on the attached map (Attachment D-1).

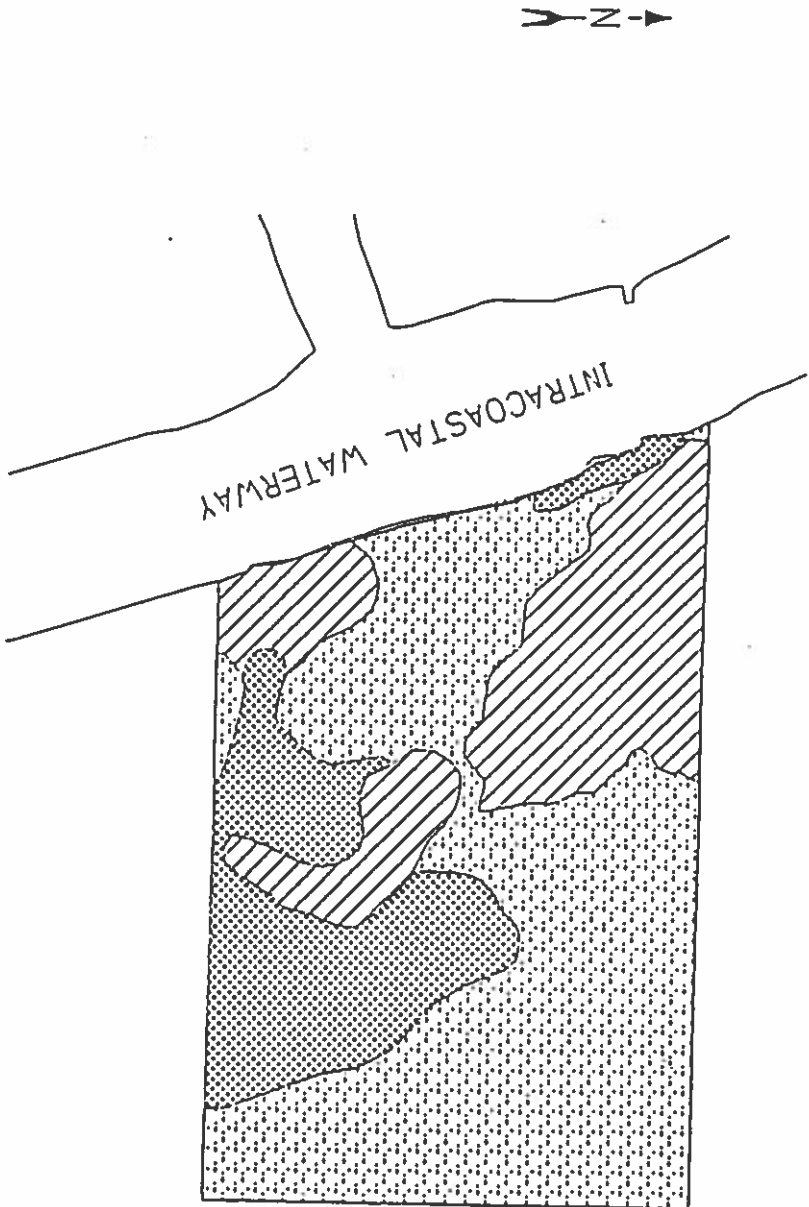
The Mitigation Plan will include the removal of exotic vegetation and the implementation of measures to increase flushing within the site. The scope of work includes the creation of approximately 8.1 acres of mangrove/spartina wetlands and the improvement of flushing in, and environmental enhancement of, an additional 5.2 acres of impacted exotics within existing mangroves.

Upon approval of the Mitigation Plan, the County will have the site topographically, and vegetatively surveyed to determine: 1) the number of acres to be restored to wetlands; 2) the number of acres to be improved through increased flushing and selective exotic removal; and 3) the amount of cubic yards of dredged material to be removed. Based on these surveys, the County will begin the design work and apply for any environmental permits related to the establishment of a mitigation area.

Construction work will begin after securing all permits. The County will provide oversight of all activities for the protection of surrounding environmentally sensitive areas and ensure quality control of the project. The County will provide long-term management of the site, which will include removal of exotic vegetation, replacement of any plants that die within the restoration area, and the submittal of monitoring reports to the District.

Mitigation construction activities on the Leased Premises may be funded by the District at its option; and if so funded, all mitigation credits will then be held by the District.

CONCEPTUAL MITIGATION PLAN FIND SITE (MSA 614B)



DEPARTMENT OF ENVIRONMENTAL
RESOURCES MANAGEMENT

- UPLAND NATIVE VEGETATION (16.9 ACRES)
- MIXED MANGROVES AND EXOTICS (5.2 ACRES)
- EXOTICS (8.1 ACRES)

Sandy Mann

From: Michael Stahl R.
Sent: Thursday, August 12, 2021 9:37 AM
To: Sandy Mann
Cc: Deborah Drum
Subject: FW: Request confirmation of FIND's willingness to allow the Juno Dunes lease to extend for an additional 10 years
Attachments: Juno Dunes FIND Lease 08-19-97.PDF

FYI, FIND confirmation of automatic renewal. ☺

From: Janet Zimmerman <jzimmerman@aicw.org>
Sent: Wednesday, August 11, 2021 4:38 PM
To: Michael Stahl R. <MStahl@pbcgov.org>
Cc: Mark Crosley <mcrosley@aicw.org>; Glenn Scambler <gscambler@aicw.org>
Subject: RE: Request confirmation of FIND's willingness to allow the Juno Dunes lease to extend for an additional 10 years

***** Note: This email was sent from a source external to Palm Beach County. Links or attachments should not be accessed unless expected from a trusted source. *****

Mike,

Per my conversation with Mark today, FIND has no problem continuing to lease MSA-614B Juno Dunes to Palm Beach County and is agreeable with allowing the automatic renewal in paragraph 6 of the lease to extend the lease another 10 years until August 18, 2032 with all terms and conditions of the lease remaining in effect.

If you have any additional questions or concerns, please give Mark or call me at 561-627-3386.
Thanks.

Sincerely,

Janet Zimmerman, Assistant Executive Director
Florida Inland Navigation District (FIND)
1314 Marcinski Rd
Jupiter, FL 33477
561.627.3386
www.AICW.org [aicw.org]

From: Michael Stahl R. <MStahl@pbcgov.org>
Sent: Wednesday, August 11, 2021 4:14 PM
To: Mark Crosley <mcrosley@aicw.org>
Cc: Janet Zimmerman <jzimmerman@aicw.org>
Subject: Request confirmation of FIND's willingness to allow the Juno Dunes lease to extend for an additional 10 years

Good Afternoon Mark,

As mentioned during our coordination meeting on July 22nd, the initial 25-year term for the MSA 614B/Juno Dunes lease expires on August 18, 2022. Palm Beach County's Department of Environmental Resources Management (ERM) respectfully requests confirmation that Florida Inland Navigation District (FIND) will allow the lease to automatically renew as provided for in Paragraph 6 of the lease (attached), extending the terms of the lease for an additional ten (10)-year period. The initial 10-year renewal term would begin on August 19, 2022 and end on August 18, 2032. All of the terms and conditions included in the attached lease would remain in effect.

The requested 10-year lease renewal would allow ERM to continue to manage and maintain the boating and other outdoor recreational facilities constructed within the FIND-owned portion of Juno Dunes Natural Area (please see the attached Public Use map). Extension of the existing lease also would allow ERM to continue to manage and maintain existing mitigation/environmental restoration areas within the FIND Tract (please see the attached Seagrass and Mangrove Restoration map).

Should you have any questions, please feel free to contact me, or Sandy Mann at smann@pbcgov.org or 561-233-2489.

Thanks,
Mike

Michael Stahl, Deputy Director
Environmental Resources Management
Palm Beach County
(561) 233-2433



PALM BEACH COUNTY
Discover the Palm Beaches...
the Best of Everything

Under Florida law, e-mail addresses are public records. If you do not want your e-mail address released in response to a public records request, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

APPENDIX G

FLORIDA COMMUNITIES TRUST GRANT AWARD AGREEMENT

WHEREAS, Rule 9K-4.010(2)(e), F.A.C., authorizes FCT to impose conditions for funding on those FCT applicants whose projects have been selected for funding in accordance with Rule Chapter 9K-4, F.A.C.;

WHEREAS, the FCT has approved the terms under which the Project Site was acquired and the FCT Recipient has acquired title to the Project Site and the Project Site shall be subject to such covenants and restrictions as are sufficient to ensure that the use of the Project Site at all times complies with Section 375.051, Florida Statutes and Section 9, Article XII of the State Constitution and such covenants and restrictions shall contain clauses providing for the conveyance of title to the Project Site to the Board Of Trustees of the Internal Improvement Trust Fund upon the failure of the FCT Recipient to use the Project Site acquired thereby for such purposes; and

WHEREAS, such covenants and restrictions shall be imposed by an agreement which shall describe with particularity the real property which is subject to the agreement and shall be recorded in the county in which the real property is located; and

WHEREAS, the purpose of this Agreement is to set forth the covenants and restrictions that are imposed on the Project Site subsequent to its acquisition with FCT Preservation 2000 Bond Proceeds.

NOW THEREFORE, in consideration of the mutual covenants and undertakings set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, FCT and FCT Recipient do hereby contract and agree as follows:

I. GENERAL CONDITIONS.

1. Upon execution and delivery by the parties hereto, the FCT Recipient shall cause this Agreement to be recorded and filed in the official public records of Palm Beach County, Florida, and in such manner and in such other places as FCT may reasonably request, and shall pay all fees and charges incurred in connection therewith.

2. The FCT Recipient and FCT agree that the State of Florida Department of Environmental Protection will forward this Agreement to Department of Environmental Protection Bond Counsel for review. In the event Bond Counsel opines that an amendment is required to this Agreement so that the tax exempt status of the Preservation 2000 Revenue Bonds is not jeopardized, FCT and FCT Recipient shall amend the Agreement accordingly.

3. This Agreement may be amended at any time. Any amendment must be set forth in a written instrument and agreed to by both the FCT Recipient and FCT.

4. This Agreement and the covenants and restrictions contained herein shall run with the Property herein described and shall bind, and the benefits shall inure to, respectively, the FCT and the FCT Recipient and their respective successors and assigns.

5. This Agreement shall be governed by and construed in accordance with the laws of the State of Florida, with respect to both substantive rights and with respect to procedures and remedies.

6. Any notice required to be given hereunder shall be given by personal delivery, by registered mail or by registered expedited service at the addresses specified below or at such other addresses as may be specified in writing by the parties hereto, and any such notice shall be deemed received on the date of delivery if by personal delivery or expedited delivery service, or upon actual receipt if sent by registered mail.

FCT: Florida Communities Trust
Department of Community Affairs
2555 Shumard Oak Blvd.
Tallahassee, Florida 32399-2100
ATTN: Executive Director

FCT Recipients: Palm Beach County Dept. of Envl.
Resources Management
3323 Belvedere Road Building 502
West Palm Beach, FL 33406
ATTN: Richard E. Walesky, Director

Town of Juno Beach
340 Ocean Drive
Juno Beach, FL 33408
ATTN: Gail F. Nelson, Town Manager

7. If any provision of the Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

II. PROJECT SITE REQUIREMENTS IMPOSED BY CHAPTER 259, CHAPTER 375, AND CHAPTER 380, PART III, FLORIDA STATUTES.

1. If any essential term or condition of this grant agreement is violated by the FCT Recipient or by some third party with the knowledge of the FCT Recipient and the FCT Recipient does not correct the violation within 30 days of notice of the violation, fee simple title to all interest in the Project Site shall be conveyed to the Board of Trustees of the Internal Improvement Trust Fund. The FCT shall treat such property in accordance with Section 380.508(4)(e), Florida Statutes.

2. Any transfer of the Project Site shall be subject to the approval of FCT and FCT shall enter into a new agreement with the transferee, containing such covenants, clauses, or other restrictions as are sufficient to protect the interest of the people of Florida.

3. The interest, if any, acquired by the FCT Recipient in the Project Site will not serve as security for any debt of the FCT Recipient unless FCT approves the transaction.

4. If the existence of the FCT Recipient terminates for any reason, title to all interest in the Project Site it has acquired with the FCT award shall be conveyed to the Board of Trustees of the Internal Improvement Trust Fund, unless FCT negotiates an agreement with another local government or nonprofit organization which agrees to accept title to all interest in and to manage the Project Site.

5. In the event that the Project Site is damaged or destroyed or title to the Project Site, or any part thereof, is taken by any governmental body through the exercise or the threat of the exercise of the power of eminent domain, the FCT Recipient shall deposit with the FCT any insurance proceeds or any condemnation award, and shall promptly commence to rebuild, replace, repair or restore the Project Site in such manner as is consistent with the Agreement. The FCT shall make any such insurance proceeds or condemnation award moneys available to provide funds for such restoration work. In the event that the FCT Recipient fails to commence or to complete the rebuilding, repair, replacement or restoration of the Project Site after notice from the FCT, the FCT shall have the right, in addition to any other remedies at law or in equity, to repair, restore, rebuild or replace the Project Site so as to prevent the occurrence of a default hereunder.

6. Notwithstanding any of the foregoing, FCT will have the right to seek specific performance of any of the covenants and restrictions of this Agreement concerning the construction and operation of the Project Site.

III. PROJECT SITE OBLIGATIONS IMPOSED BY FCT ON THE FCT RECIPIENT

1. The Project Site shall be managed only for the conservation, protection and enhancement of natural and historical resources and for resource-based public outdoor recreation which is compatible with the conservation, protection and enhancement of the Project Site, along with other related uses necessary for the accomplishment of this purpose. The proposed uses for the Project Site are specifically designated in the Project Plan as approved by FCT.

2. The FCT Recipient shall prepare and submit to FCT an annual report as required by Rule 9K-4.013, F.A.C.

3. The FCT Recipient shall ensure that the future land use designation assigned to the Project Site is for a category dedicated to open space, conservation, or outdoor recreation uses as appropriate. If an amendment to the FCT Recipient's comprehensive plan is required to comply with this paragraph, the amendment shall be proposed at the next comprehensive plan amendment cycle available to the FCT Recipient.

4. FCT Recipient shall ensure, and provide evidence thereof to FCT, that all activities under this Agreement comply with all applicable local, state, regional and federal laws and regulations, including zoning ordinances and the adopted and approved comprehensive plan for the jurisdiction as applicable. Evidence shall be provided to FCT that all required licenses and permits have been obtained prior to the commencement of any construction.

5. The FCT Recipient shall, through its agents and employees, prevent the unauthorized use of the Project Site or any use thereof not in conformity with the FCT approved project plan.

6. FCT staff or its duly authorized representatives shall have the right at any time to inspect the Project Site and the operations of the FCT Recipient at the Project Site.

7. All buildings, structures, improvements, and signs shall require the prior written approval of FCT as to purpose. Further, tree removal, other than non-native species, and/or major land alterations shall require the written approval of FCT. The approvals required from FCT shall not be unreasonably withheld by FCT upon sufficient demonstration that the proposed structures, buildings, improvements, signs, vegetation removal or land alterations will not adversely impact the natural resources of the Project Site. The approval by FCT of the FCT Recipient's management plan addressing the items mentioned herein shall be considered written approval from FCT.

8. If archaeological and historic sites are located on the Project Site, the FCT Recipient shall comply with Chapter 267, Florida Statutes. The collection of artifacts from the Project Site or the disturbance of archaeological and historic sites on the Project Site will be prohibited unless prior written authorization has been obtained from the Department of State, Division of Historical Resources.

9. The FCT Recipient shall ensure that the Project Site is identified as being publicly owned and operated as a passive, natural resource-based public outdoor recreational site in all signs, literature and advertising regarding the Project Site. The FCT Recipient shall erect a sign(s) identifying the Project Site as being open to the public and as having been purchased with funds from FCT and FCT Recipient.

IV. OBLIGATIONS INCURRED BY FCT RECIPIENT AS A RESULT OF BOND PROCEEDS BEING UTILIZED TO PURCHASE THE PROJECT SITE.

1. If the Project Site is to remain subject, after its acquisition by the State and the FCT Recipient, to any of the below listed activities or interests, the FCT Recipient shall provide at least 60 days written notice of any such activity or interest to FCT prior to the activity taking place, and shall provide to FCT such information with respect thereto as FCT reasonably requests in order to evaluate the legal and tax consequences of such activity or interest:

- a. any lease of any interest in the Project Site to a non-governmental person or organization;
- b. the operation of any concession on the Project Site to a non-governmental person or organization;
- c. any sales contract or option to buy things attached to the Project Site to be severed from the Project Site, with a non-governmental person or organization;
- d. any use of the Project Site by non-governmental persons other than in such person's capacity as a member of the general public;
- e. a management contract of the Project Site with a non-governmental person or organization; and
- f. such other activity or interest as may be specified from time to time in writing by FCT to the FCT Recipient.

2. FCT Recipient agrees and acknowledges that the following transaction, events, and circumstances may not be permitted on the Project Site as they may have negative legal and tax consequences under Florida law and federal income tax law:

- a. a sale of the Project Site or a lease of the Project Site to a non-governmental person or organization;
- b. the operation of a concession on the Project Site by a non-governmental person or organization;
- c. a sale of things attached to the Project Site to be severed from the Project Site to a non-governmental person or organization;
- d. any change in the character or use of the Project Site from that use expected at the date of the issuance of any series of bonds from which the disbursement is to be made;
- e. any use of the Project Site by non-governmental persons other than in such person's capacity as a member of the general public;
- f. a management contract of the Project Site with a non-governmental person or organization; and
- g. such other activity or interest as may be specified from time to time in writing by FCT to the FCT Recipient.

DELEGATIONS AND CONTRACTUAL ARRANGEMENTS BETWEEN THE FCT RECIPIENT AND OTHER GOVERNMENTAL BODIES, NOT FOR PROFIT ENTITIES, OR NON GOVERNMENTAL PERSONS FOR USE OR MANAGEMENT OF THE PROJECT SITE WILL IN NO WAY RELIEVE THE FCT RECIPIENT OF THE RESPONSIBILITY TO ENSURE THAT THE CONDITIONS IMPOSED HEREIN ON THE PROJECT SITE AS A RESULT OF UTILIZING BOND PROCEEDS TO ACQUIRE THE PROJECT SITE ARE FULLY COMPLIED WITH BY THE CONTRACTING PARTY.

V. CONDITIONS PARTICULAR TO THE PROJECT SITE THAT MUST BE ADDRESSED IN THE MANAGEMENT PLAN.

1. The FCT Recipients shall provide outdoor recreational facilities including a nature trail, dune crossover, interpretive kiosk and limited parking on the Project Site. The facilities shall be developed in a manner that allows the general public reasonable access for observation and appreciation of the significant natural resources on the Project Site without causing harm to those resources.

2. The timing and extent of a vegetative communities and plant species survey of the Project Site shall be specified in the management plan. The FCT Recipients shall detail how the survey shall be used during development of the site to insure the protection, restoration, and preservation of the natural resources on the Project Site.

3. The oak scrub, beach dune, coastal strand and maritime hammock communities that exist on the Project Site shall be preserved and appropriately managed to ensure the long-term viability of these vegetative communities.

4. The Project Site shall be managed in a manner that optimizes habitat for listed wildlife species that utilize or could potentially utilize the Project Site, including the gopher tortoise, scrub jays and marine sea turtles. The FCT Recipients shall coordinate with the Game and Fresh Water Fish Commission and the Department of Environmental Protection's Office of Protected Species Management on the management of the Project Site for the protection of listed species and listed species habitat. The FCT Recipients shall also conduct periodic surveys of listed species using the Project Site and develop informational signs relating to the protection of listed animal species and their habitat.

5. The FCT Recipients shall ensure that the Project Site and listed animal species and their habitat are sufficiently buffered from the adverse impacts of adjacent land uses.

6. The FCT Recipients shall restore 10 acres of the Project Site by removing exotic vegetation and replanting with native vegetative species.

7. Prior to the commencement of any proposed development activities, measures will be taken to determine the presence of any archaeological sites. All planned activities involving known archaeological sites or potential site areas shall be closely coordinated with the Department of State, Division of Historic Resources, in order to prevent the disturbance of significant sites.

8. The FCT Recipients shall include the Project Site in the regional greenway network that extends from North Palm Beach to the Town of Jupiter and develop a greenway management strategy for the site.

9. Access to the Project Site by pedestrians, bicyclists and persons on non-motorized vehicles shall be promoted except in those areas where resource protection considerations warrant limiting access.

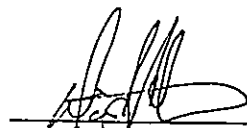
10. The FCT Recipients shall provide educational programs at the Project Site. The programs shall include guided tours and special programs for school groups and the general public.

11. The requirements imposed by other grant program funds that may be sought by the FCT Recipients for activities associated with the Project Site shall not conflict with the terms and conditions of the FCT award.

THIS GRANT AWARD AGREEMENT embodies the entire Agreement between the parties.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement.

Witness:


 Witness Name: Daniel Kelsch
 Witness Name: _____



DAMIAN PEDUTO
 Notary Public, State of Florida
 My Comm. Exp. Aug. 15, 1999
 Comm. No. CC 488693

TOWN OF JUNO BEACH, a
 municipality within the State of Florida

By: Frank W. Harris
 Its: MAYOR

Date: NOVEMBER 13, 1997

Attest: _____
 By: Damian Peduto
 Title: Town Planner
 Date: 11-13-97

Accepted as to Legal Form and Sufficiency:

By: [Signature]
 Town Attorney
 Date: Nov. 13, 1997

STATE OF FLORIDA
 COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 13th day of November, 1997,
 by Frank W. Harris, as Mayor. He is personally known
 to me, or has produced _____ as identification.

Notary Public
 Print Name: Damian Peduto
 Commission No. _____
 My Commission Expires: _____

Witness:

April C. Smith

Witness Name:

Phyllis M. Casselari

Witness Name:

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

By: [Signature]

Its: Chairman

Date: NOV 18 1997

R97 20420

Attest:

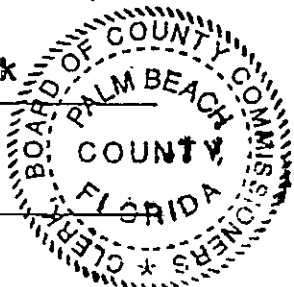
Dorothy H. Wilken, Clerk

By: Karen Cleveland

Title: Deputy Clerk

Date: NOV 18 1997

(SEAL)



Accepted as to Legal Form and Sufficiency:

By: [Signature]
County Attorney

Date: 11/14/97

STATE OF FLORIDA
COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 18th day of November, 1997, by: Burt Aronson, as Chair. He is personally known to me, or has produced N/A as identification.



[Signature]

Notary Public
Print Name: _____
Commission No. _____
My Commission Expires: _____

Janice D. Dughi
 Witness Name: JANICE D. DUGHI
Patricia J. Kugler
 Witness Name: PATRICIA J. KUGLER

FLORIDA COMMUNITIES TRUST

James F. Murley
 James F. Murley, Chair
 Date: 12-9-97

Accepted as to Legal Form and Sufficiency:

Ann J. Wild
 Ann J. Wild, Trust Counsel
 Date: 12/8/97

STATE OF FLORIDA
 COUNTY OF LEON

The foregoing instrument was acknowledged before me this 9th day of December, 1997, by JAMES F. MURLEY, as Chair of the Florida Communities Trust. He is personally known to me.



Janice D. Dughi
 MY COMMISSION / COMMISSION EXPIRES
 AUGUST 10, 2000
 BONDED TO THE STATE OF FLORIDA, INC.

Janice D. Dughi
 Notary Public
 Print Name: _____
 Commission No. _____
 My Commission Expires: _____

EXHIBIT "A"

ORB 10199 Pg 842

DOROTHY H. WILKEN, CLERK PB COUNTY, FL
PARCEL 2, SEA TRACE P.U.D., AS RECORDED IN PLAT BOOK 57,
PAGES 128-129, PUBLIC RECORDS OF PALM BEACH COUNTY,
FLORIDA.

APPENDIX H

EASEMENTS AND OTHER ENCUMBRANCES FOR JUNO DUNES NATURAL AREA

Documents available electronically at:

<https://pbccloudrive.pbcgov.org/invitations?share=442bf9b71d27037d1928>

APPENDIX I

LAND MANAGEMENT REVIEW TEAM REPORT



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

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

ENV. RES. MGMT.
Env. Gth. & Preservation ☒
Natural Areas Stewardship ☒
Heritage Protection ☐
Mgmt. & Control ☐
Administration ☐
Director ☐
Deputy Director ☐
Other ☐

FOR YOUR
FILES
R

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 Clark, Environmental Administrator
Division of State Lands

RC/ak

Enclosure

**Land Management Review of Juno Hills Natural Area,
Palm Beach County (Lease No. 4161): 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 Juno Hills Natural Area considered approximately 333 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. The property was acquired in August 1997 and the management plan is due in August 1998.

Review Team Analysis

The management review checklist was analyzed as follows: The checklist consisted of a field review section that scored to what extent sufficient management actions were being taken for a series of items. For each item the scores for all team were averaged. Some items received high scores (≥ 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 (≤ 0.5 for plan review; ≤ 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

III.F.2	Vandalism	The managing agency is doing an excellent job of controlling vandalism on the property.
III.F.4	Unauthorized off-road vehicle use	The managing agency is doing an excellent job of controlling unauthorized off-road vehicle use on the property.
III.G	Boundary delineation	Property boundaries are very well delineated.

Inadequate items

I.A.2	Listed animals: inventory	A systematic inventory of listed animals is needed.
III.D.2.a	Ground water quality	Monitoring of ground water quality should be conducted and addressed in the plan.
III.D.2.b	Ground water quantity	Monitoring of ground water quantity should be conducted and addressed in the plan.
III.D.3.a	Surface water quality	Monitoring of surface water quality should be conducted and addressed in the plan.
III.D.3.b	Surface water quantity	Monitoring of surface water quantity should be conducted and addressed in the plan.
III.I.5	Funding	Additional funding should be provided, and funding needs should be addressed in the plan.
V.1	Bicycling	The team found bicycling to be incompatible with the purpose for acquisition.

The management plan must include responses to the checklist items that are identified above.

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 Juno Hills 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
Juno Hills Natural Area Lease No. 4161

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.

		<u>Field Review</u>			
		To what extent are sufficient management actions being taken?			score
I. Natural Resources					
A. Natural Communities					
1. Scrub	1	2	3	2.2	
2. Scrubby flatwoods	1	2	3	2.2	
3. Estuarine tidal swamp	1	2	3	2.0	
4. Flatwoods	1	2	3	2.0	
5. Depression marsh	1	2	3	2.2	
B. Animals					
1. Listed species management					
a. Indigo snake; FL scrub lizard	1	2	3	2.0	
b. Gopher tortoise	1	2	3	2.0	
c. FL scrub jay	1	2	3	2.0	
d. Wading birds	1	2	3	2.0	
- 2. Inventory					
3. Monitoring	1	2	3	1.7	
C. Plants					
1. Listed species management					
a. Four petal pawpaw, etc.	1	2	3	2.3	
2. Inventory	1	2	3	2.0	
3. Monitoring	1	2	3	2.0	
II. Cultural Resources					
A. Survey	1	2	3	2.2	
B. Protection	1	2	3	2.0	

Attachment 1

				<u>Field Review</u>	
				To what extent are sufficient management actions being taken?	score
III. Resource Management					
A. Prescribed Fire (Nat. comm. maintenance)					
1. Area Being Burned (no. acres)	1	2	3		1.7
2. Frequency	1	2	3		1.7
3. Quality N/A	1	2	3		
B. Restoration of Disturbed Natural Communities					
1. Mosquito ditches	1	2	3		2.0
2. Filled wetland enhancement	1	2	3		2.0
C. Wildlife Management N/A					
1. Wildlife Habitat	1	2	3		
2. Hunt Quality	1	2	3		
D. Non-native Invasive Species					
1. Animals					
a. Control	1	2	3		2.0
b. Monitoring	1	2	3		2.0
2. Plants					
a. Control	1	2	3		2.2
b. Monitoring	1	2	3		2.2
E. Hydrologic/Geologic Function					
1. Hydro-Alteration					
a. Canals/ditches	1	2	3		2.0
b. Soil erosion/disturbances	1	2	3		2.2
c. Roads/culverts	1	2	3		2.2
2. Ground Water Monitoring					
a. Quality	1	2	3		1.5
b. Quantity	1	2	3		1.5
3. Surface Water Monitoring					
a. Quality	1	2	3		1.5
b. Quantity	1	2	3		1.5

Attachment 1

		<u>Field Review</u>			score
		To what extent are sufficient management actions being taken?			
	F. Unauthorized Uses				
	1. Poaching				
	a. Animals	1	2	3	2.3
	b. Plants	1	2	3	2.3
+	2. Vandalism	1	2	3	2.5
	3. Dumping	1	2	3	2.3
+	4. Off-road vehicle use	1	2	3	2.5
+	G. Boundary Delineation	1	2	3	2.5
	H. Incompatible Adjacent Property Uses				
	1. Land use	1	2	3	2.2
	2. Storm water/effluent	1	2	3	2.3
	3. Inholdings/additions	1	2	3	2.2
	I. Adequate Resources				
	1. Maintenance				
	a. Waste removal	1	2	3	2.2
	b. Sanitary facilities	1	2	3	2.2
	2. Public Access				
	a. Roads	1	2	3	2.2
	b. Trails	1	2	3	2.2
	c. Parking	1	2	3	2.2
	3. Infrastructure				
	a. Buildings	1	2	3	2.2
	b. Equipment	1	2	3	2.2
	4. Staff	1	2	3	2.3
-	5. Funding	1	2	3	1.0
	IV. Education/Public Outreach	1	2	3	2.0

Attachment 1

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. Nature appreciation	Yes No	1.0
	3. Research	Yes No	1.0
	B. Additional Proposed Uses		
	1. Bicycling	Yes No	0.0

Attachment 1

Management Review Determination

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 _____

Attachment 2

The following are compilations of comments from individual review team members and are given here for information purposes only.

Review Team Comments

"Support state funding for land management."

"Need to prescribe burn more and more often. Scrubby flatwoods should be burned on a 3 to 4 year rotation. Scrub should be burned on a 7 to 30 year rotation. More emphasis should be placed on control and elimination of exotic plants. Should contract with qualified professionals to complete plant and wildlife surveys. Need to develop an interpretive nature trail to explain habitat type/plant communities which are crossed. Need to complete and submit for approval a comprehensive conceptual management plan for the area."

"Great work being conducted ; management completed is exceptional."

APPENDIX J

NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE MEMBERS, PUBLIC HEARING INFO, AND PUBLIC COMMENT SUMMARY

NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE MEMBERS

Seat ID	Current Member	Contact Info	Seat Requirement
Seat 1	Steve Coughlin	South Florida Water Management District 3301 Gun Club Road West Palm Beach, FL 33406 scoughli@sfwmd.gov 561-682-2603(O); 561-568-8862(C); 561-333-9993 (H)	Management of Natural Areas
Seat 2	Richard Moyroud	Mesozoic Landscapes, Inc 7667 Park Lane Road Lake Worth, FL 33449 moyroud@prodigy.net 561-967-2630(C)	Biological Scientist
Seat 3	Jessica Miles	Palm Beach State College 3160 PGA Blvd, MS #45 Palm Beach Gardens, FL 33410 milesj@palmbeachstate.edu 561-207-5220(O)	Professional Educator
Seat 4	Michelle Thompson	City of Greenacres 501 Swain Blvd Greenacres, FL 33463 MThompson@greenacresfl.gov 561-236-5988(C)	Local Municipal Government Parks and Recreation Program
Seat 5	Jennifer Cirillo	Palm Beach County Parks and Recreation Department 27090 6 th Ave South Lake Worth, FL 33461 JCirillo@pbcgov.org 561-963-6732(O); 561-906-9687(C)	Palm Beach County Parks and Recreation Department Staff
Seat 6	Don Marchetto	7929 159 th Court North Palm Beach Gardens, FL 33418 dmarchetto@bellsouth.net 561-379-6637	Citizen having an interest in preservation and conservation of natural areas
Seat 7	Andrea McMillan	4251 Tazewell Court West Palm Beach, FL 33409 adm@amcmillanlaw.com 561-612-5700(O)	Citizen having an interest in preservation and conservation of natural areas

The Palm Beach Post

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matter considered at these meetings, such person will need a record of the proceedings and such person shall be responsible for obtaining a record of the proceedings is made at his or her own expense and which record includes the testimony and evidence on which the appeal is based.

In accordance with the provisions of the Americans with Disabilities Act, any person requiring special accommodations or an interpreter to participate at these meetings should contact the District Manager at 561-830-4922 on or prior to the date of the meeting. Meetings may be cancelled from time to time without advertised notice.

HIGH RIDGE QUANTUM COMMUNITY DEVELOPMENT DISTRICT

10/17/22, 10/24/22

NOTICE OF PUBLIC HEARING
The Palm Beach County Natural Areas Management Advisory Committee will hold an open house/public hearing on the 10-year renewal of the Natural Areas Management (draft plan) for the Juno Dunes Natural Area on November 1, 2022 at the Vista Center Hearing Room Chamber, located at 2200 North Jog Road, West Palm Beach, FL. The open house will be from 5:30 pm to 7:00 pm. Public hearing will start at 6:30 pm. This purpose is to allow public comment on the draft plan. The draft plan is available upon request. For more information, please contact Jennifer Chastant at 561-233-2553 or jchastant@palmbeach.gov.

PALM BEACH COUNTY NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE
By: Environmental Resources Management
10-24-2022

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West Palm Beach FL 33411-2750

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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 Juno Dunes Natural Area on November 1, 2022 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 Jennifer Chastant at 561-233-2563 or jchastant@pbcgov.org.

**PALM BEACH COUNTY
NATURAL AREAS MANAGEMENT
ADVISORY COMMITTEE**

**By: Environmental Resources
Management**

10-24-2022

MARIAH VERHAGEN
Notary Public
State of Wisconsin

**PALM BEACH COUNTY DEPARTMENT OF
ENVIRONMENTAL RESOURCES MANAGEMENT
NATURAL RESOURCES STEWARDSHIP DIVISION**

**SUMMARY OF THE NOVEMBER 1, 2022
NATURAL AREAS MANAGEMENT ADVISORY COMMITTEE PUBLIC HEARING
ON THE DRAFT JUNO DUNES 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 October 24, 2022, announced at the Palm Beach County (PBC) Board of County Commissioners' (BCC) meeting on October 18, 2022, advertised on the County's webpage and posted on the property in the kiosk, in compliance with Chapter 259.032 (10), Florida Statutes.

Three Natural Areas Management Advisory Committee (NAMAC) members, eight Department of Environmental Resources Management (ERM) staff members, two PBSO Wildlands Task Force deputies and twelve members of the public attended the public hearing. **Richard Moyroud**, vice chair of NAMAC, opened the public hearing at 6:35 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 Juno Dunes Natural Area Management Plan. The initial management plan was approved by the BCC in December 1999. The first update was approved by the BCC in December 2011 and by the State Land Acquisition and Management Advisory Council in April 2012.

Mr. Moyroud said that he received five speaker cards.

Jennifer Chastant, Environmental Analyst, Natural Areas Stewardship Division, ERM, stated that she was the staff person responsible for preparing the ten-year update to the Juno Dunes Management Plan. Dr. Chastant gave a short PowerPoint presentation discussing the changes made since the last plan and an overview of the site.

One comment thanked ERM staff for their excellent work. One comment asked about a recovery plan for the Scrub jay. **Melissa Tolbert**, Environmental Program Supervisor, Natural Areas Stewardship Division, ERM, responded that it is under US Fish and Wildlife jurisdiction to decide about a species re-introduction, but that Juno Dunes is quite small and fragmented. One comment asked about love vine removal. Ms. Tolbert responded that while love vine is parasitic, it does not kill the host plant. She stated that ERM would be open to hosting volunteer removal events if the opportunity should arise. Mr. Moyroud added that love vine has a purpose, suggesting we adjust our perspective and focus our efforts on invasive species instead. One comment asked about light pollution and its effects on wildlife. Mr. Moyroud responded that blue spectrum lights do cause disorientation in birds and insects and that red spectrum lights should be used instead. **Deborah Drum**, Department Director, ERM, added the example of Palm

Beach County's sea turtle lighting ordinance as an instance of ERM's efforts to curb light pollution. Lastly, comments came from **DD Halpern**, Mayor, Town of Juno Beach, suggesting we add a sentence in the management plan that highlights the extra layer of protection provided by the Town's Charter, requiring a unanimous vote of all five councilmembers to change the future land use of environmentally sensitive lands. Ms. Halpern also suggested we add lease term agreement information to the ownership map. The committee thanked her for her comments and told her they would be taken into consideration.

This plan will be presented to NAMAC for review and comment. The plan will then be sent to ARC for their 90 day review. There were no further verbal comments from the public.

Mr. Moyroud closed the public hearing at 7:03 p.m.

Juno Dunes Natural Area Management Plan Public Hearing



This meeting is for the public review of the Juno Dunes Management Plan. There is nothing in or outside the plan proposing this natural area for development.

Juno Dunes Natural Area Updated Management Plan



**Public Hearing
November 1, 2022**

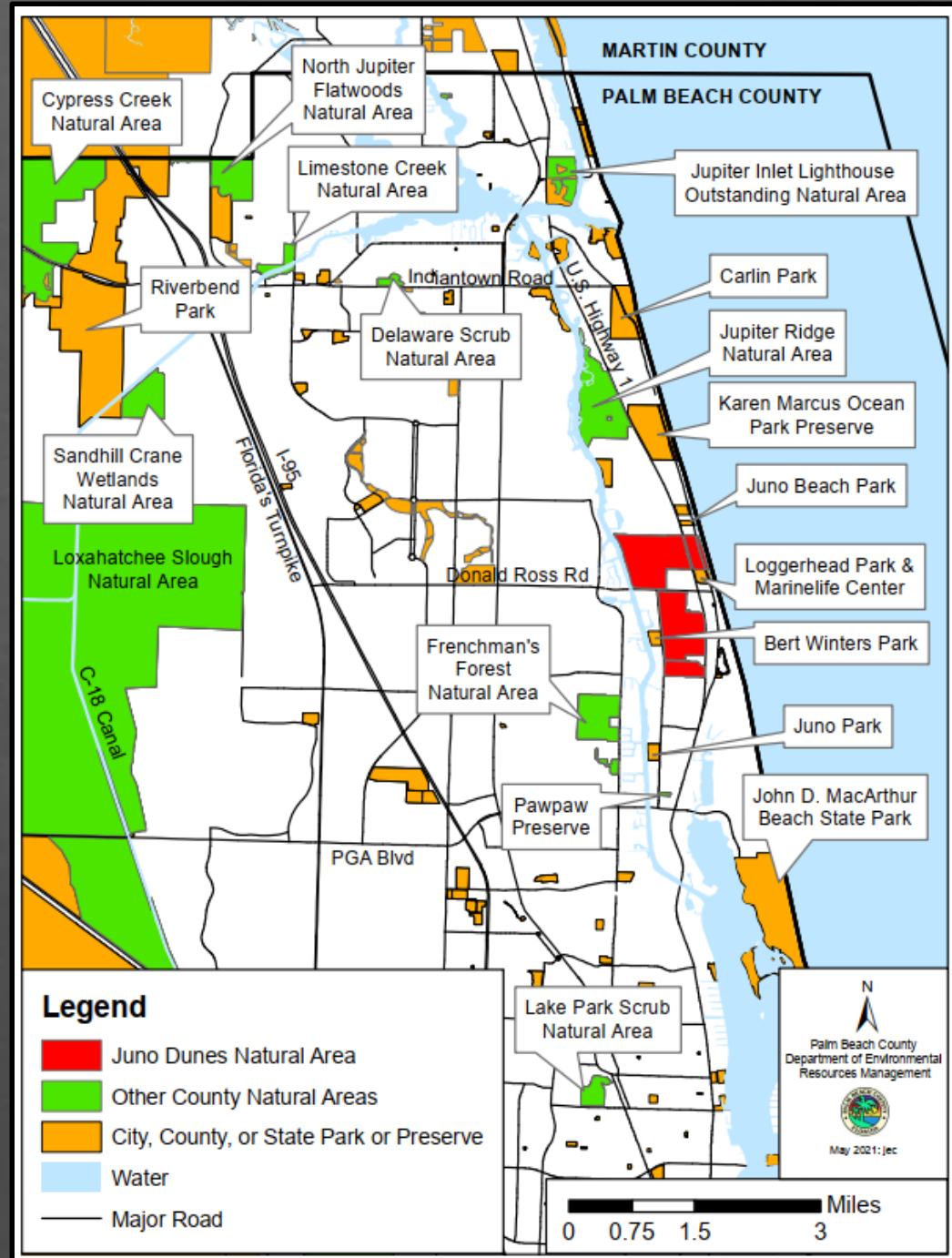
Summary of Changes Since Last Plan

- It's been 11 years since the last plan update (2011)
- All disturbed vegetation communities (originally 121 acres) have been restored - The site is considered under maintenance condition
- Three restoration projects completed:
 - Atlantic Intercostal Waterway shoreline stabilization/enhancement completed in 2015
 - Mesic flatwoods restoration project (north of Donald Ross Rd) mechanically reduced in 2015
 - Third beach renourishment project completed in 2020-2021



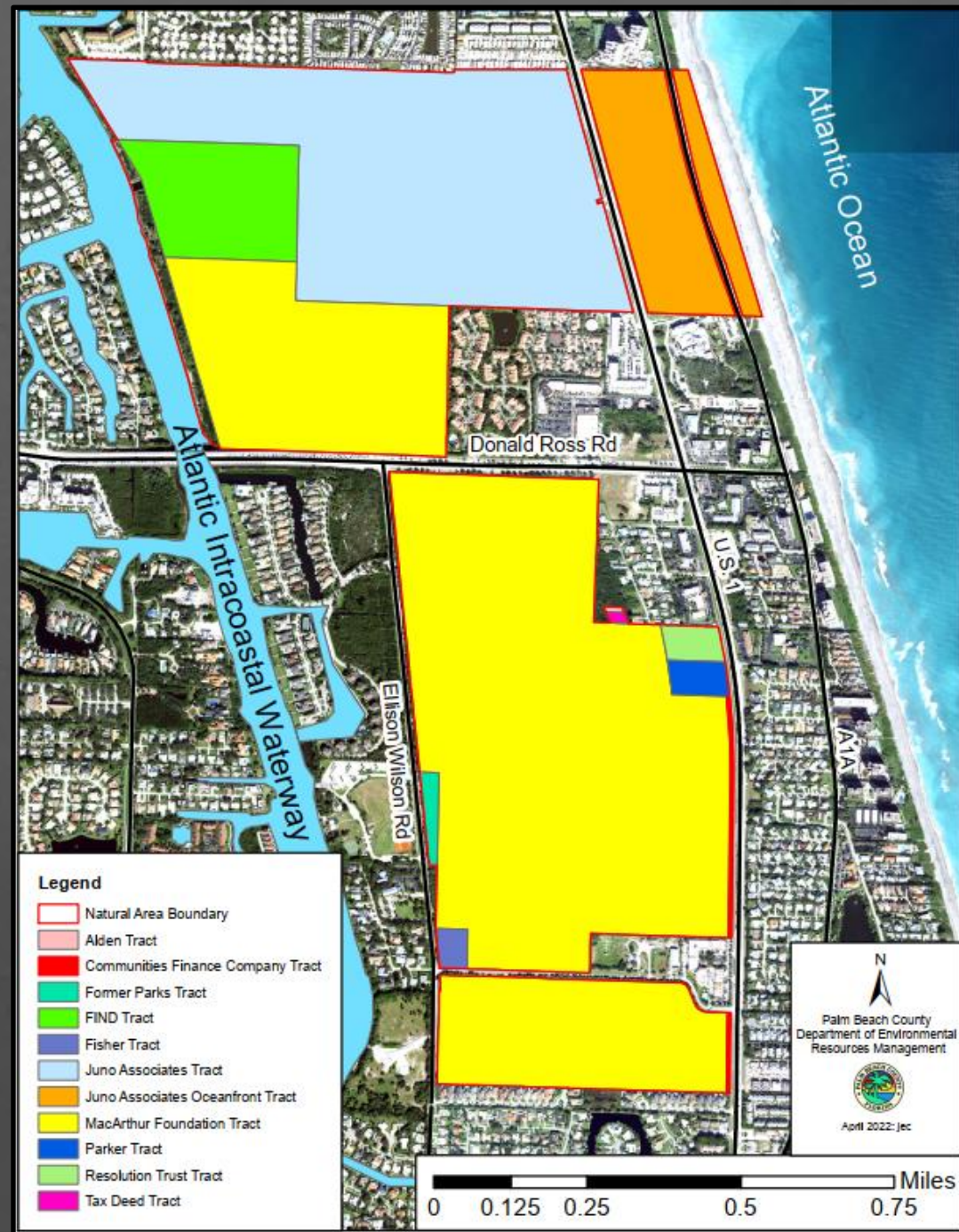
Site Location

- The 569-acre Natural Area is located in the northeastern portion of Palm Beach County, in the Town of Juno Beach.



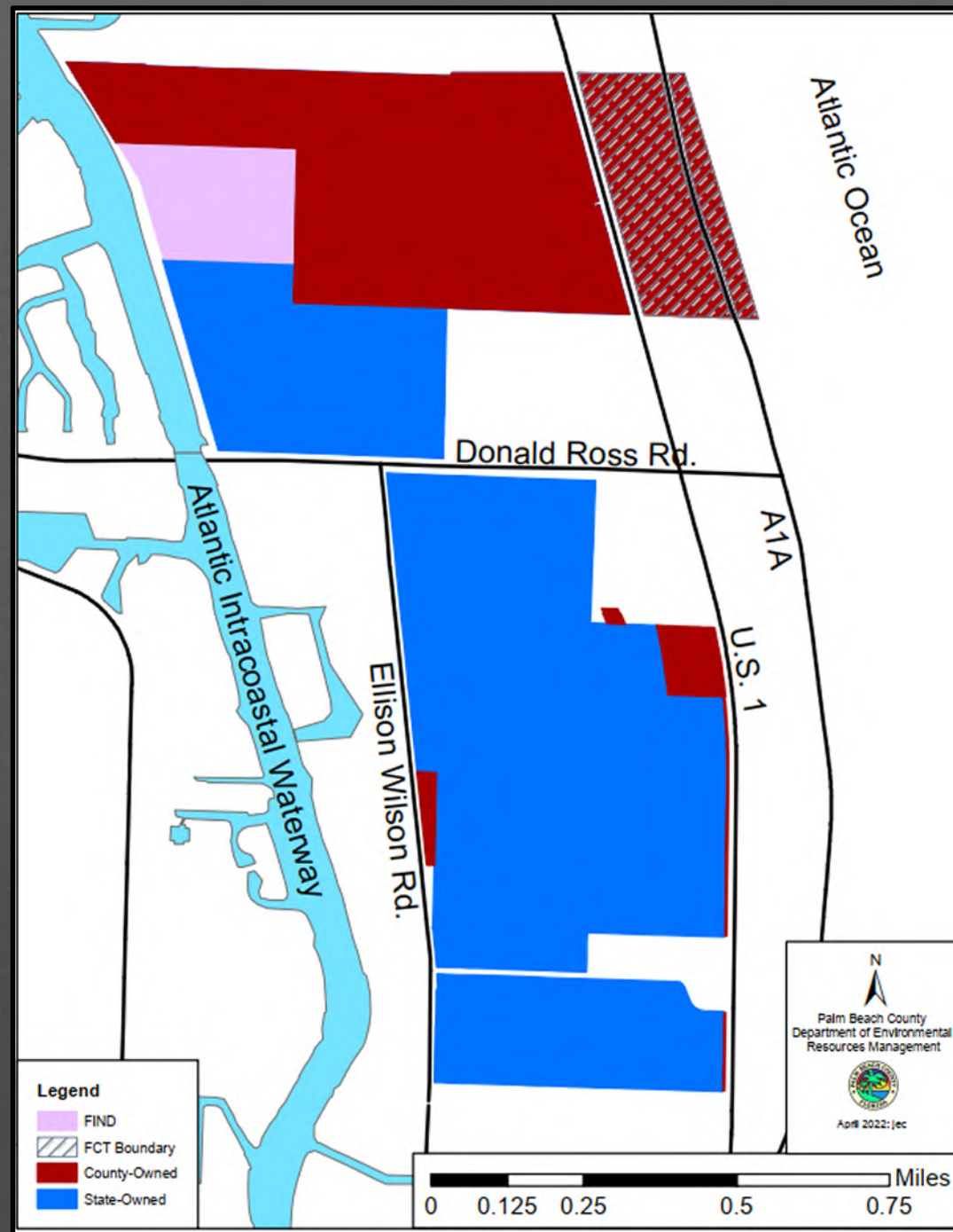
Tracts / Ownership

- The County acquired most of the natural area in six purchases from 1992 through 1999.



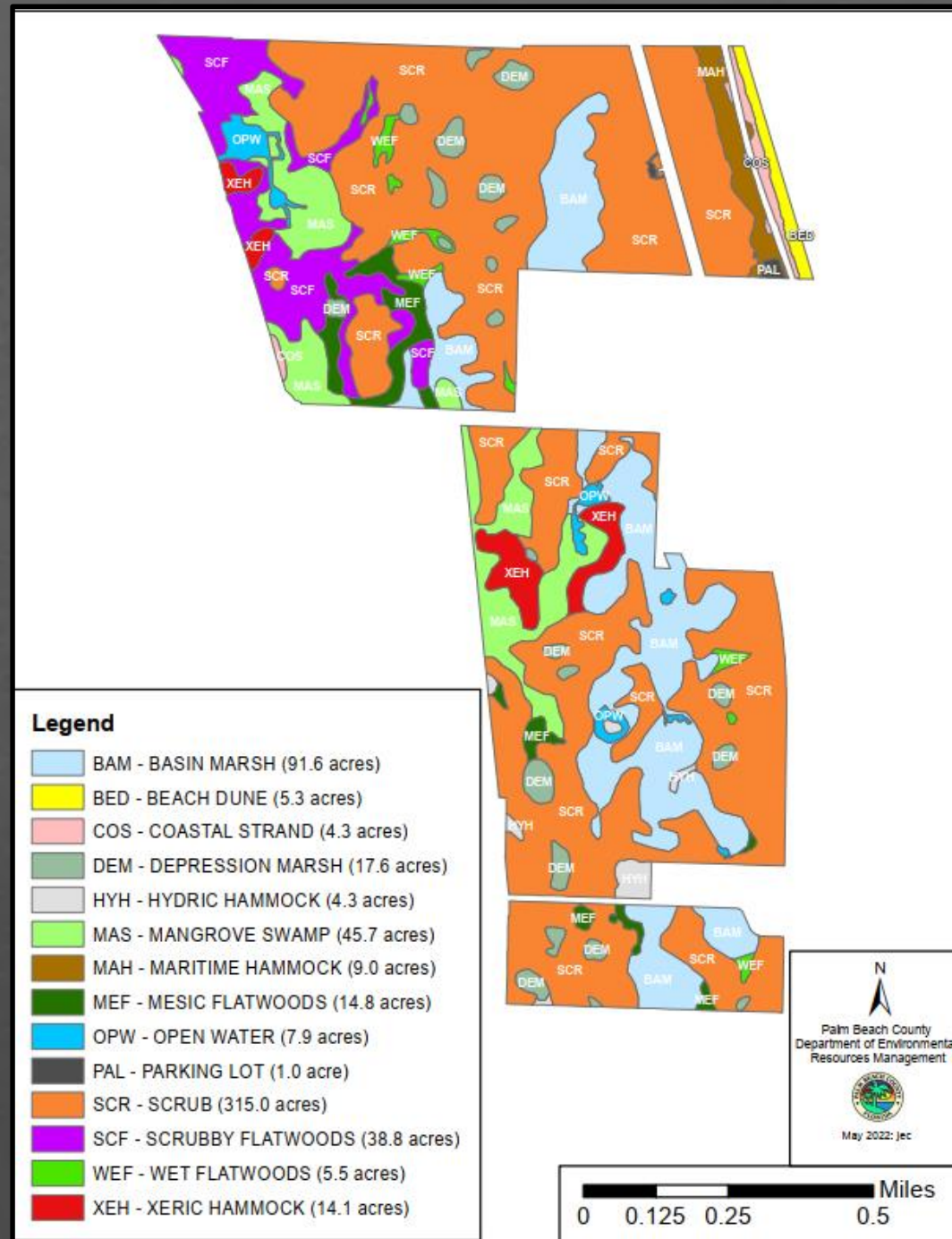
Tracts / Ownership

- The County owns ~203 acres of land, leases ~336 acres from the state and leases ~30 acres from the Florida Inland Navigation District (FIND).
- Florida Communities Trust (FCT) contributed \$7,453,341 in matching funds towards the acquisition of the oceanfront tract.



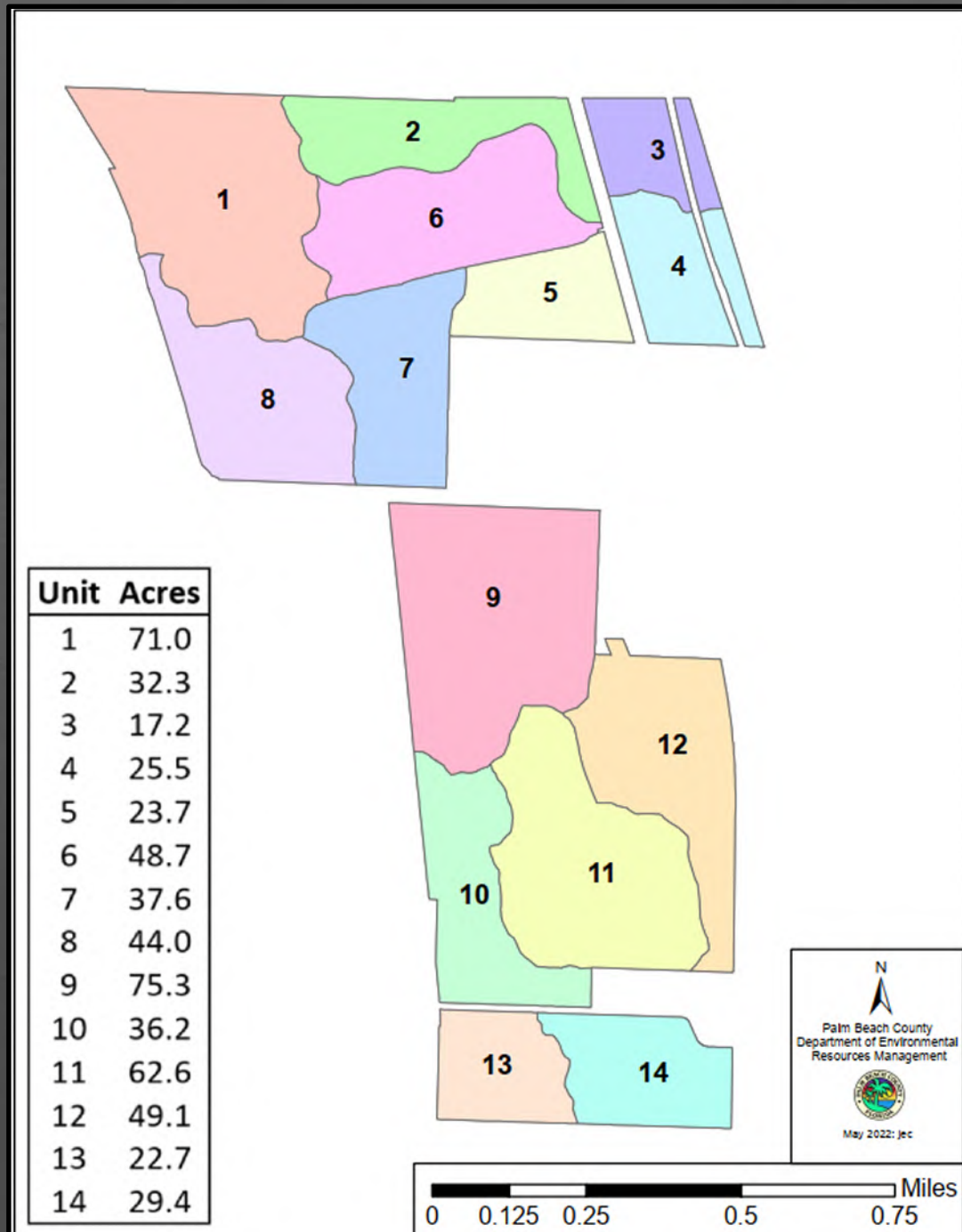
Vegetation Communities

- Dominant vegetation communities include Basin marsh, mangrove swamp, scrub, and scrubby flatwoods.
- Between 1999 and 2022, due to the removal of invasive non-native vegetation, the amount of disturbed habitat present on the site went from 116.9 acres down to zero acres.



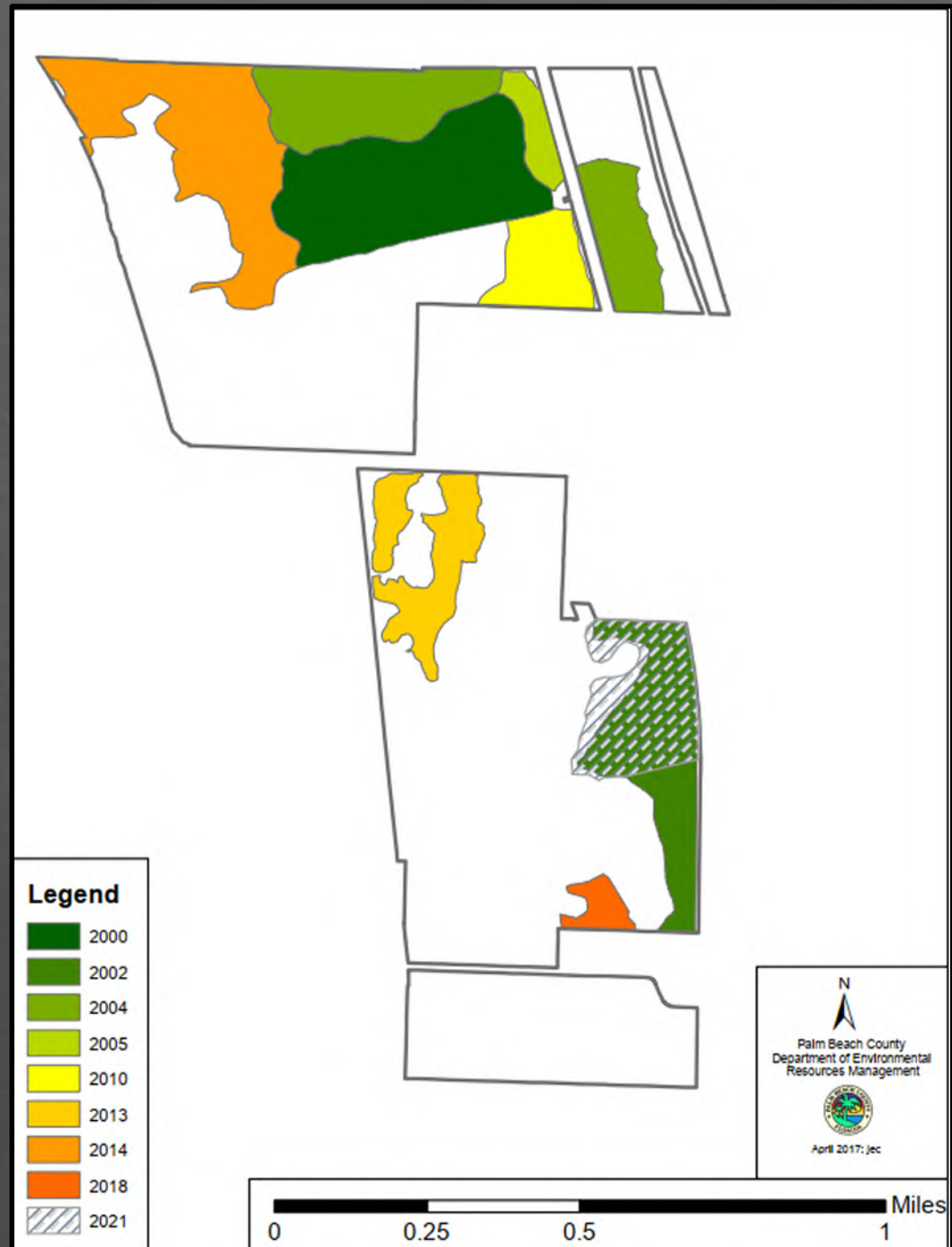
Management Units

- There are 14 management units within the natural area; they are also considered “burn units”



Prescribed Fire

- Ten prescribed burns to date between 2000 & 2022
- 234.25 total acres



Wildfires

- Four wildfires have occurred on the site. The largest being 8.6 acres in March 2022



Mechanical Vegetation Reduction

- Between 2010 & 2022: mechanical reduction methods were used for vegetation thinning for prescribed fire preparation

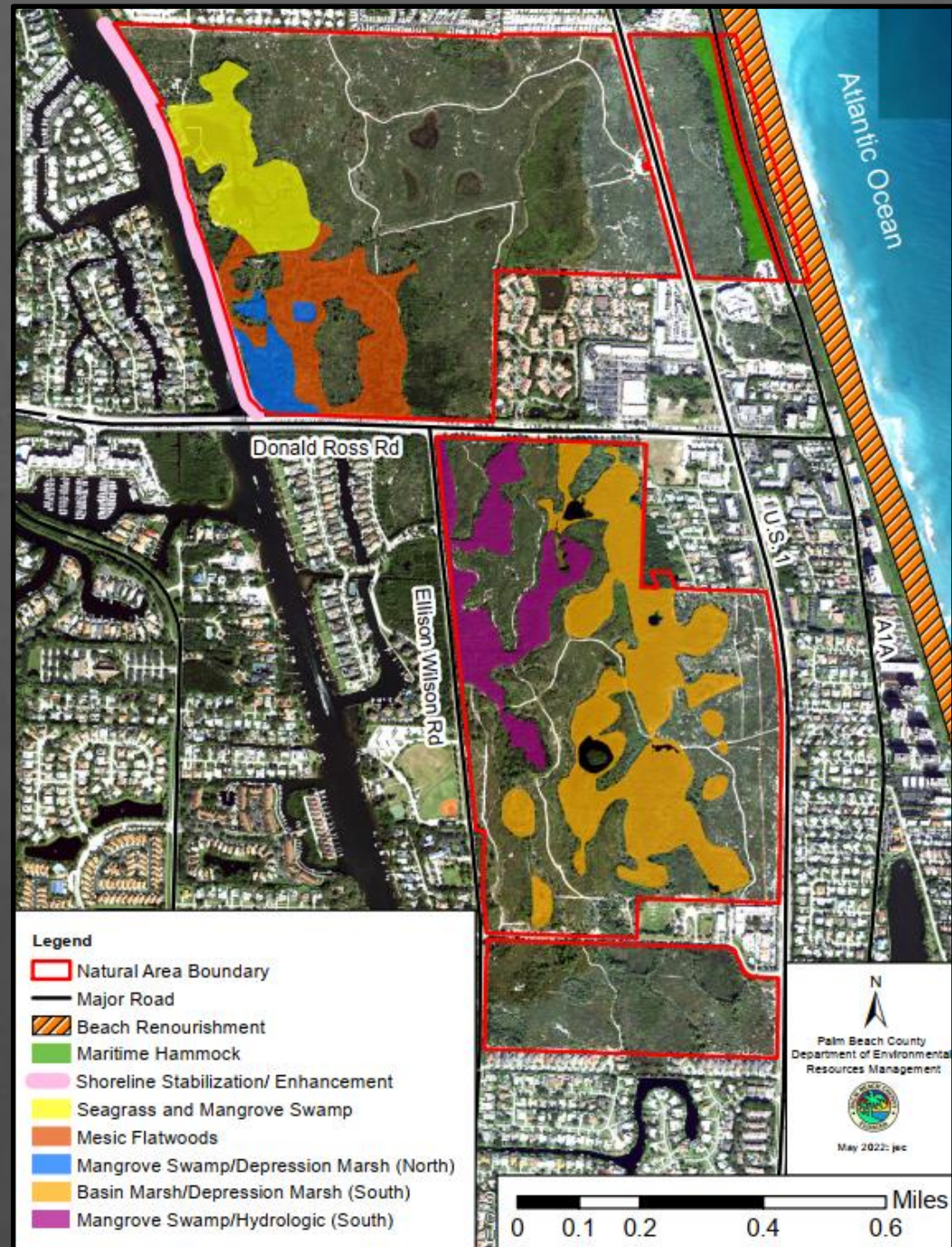


Year	Reduction Type	Management Units
2010	Mechanical Vegetation Reduction	Unit 9
2011	Mechanical Vegetation Reduction	Units 9 & 10
2013	Mechanical Vegetation Reduction	Units 1 & 12
2014	Mechanical Vegetation Reduction	Units 13 & 14
2015	Mechanical Vegetation Reduction	Unit 8
2016	Mechanical Vegetation Reduction	Units 7 & 11
2020	Mechanical Vegetation Reduction	Units 1, 2, 5, 6, 9, 10, & 12
2022	Mechanical Vegetation Reduction	Units 10, 13, & 14

Restoration/ Enhancement

Between 2011 & 2022:

- Atlantic Intercostal Waterway shoreline stabilization/enhancement completed in 2015
- Mesic flatwoods restoration project (north of Donald Ross Rd) mechanically reduced in 2015
- Third beach renourishment project completed in 2020-2021



Restoration/Enhancement



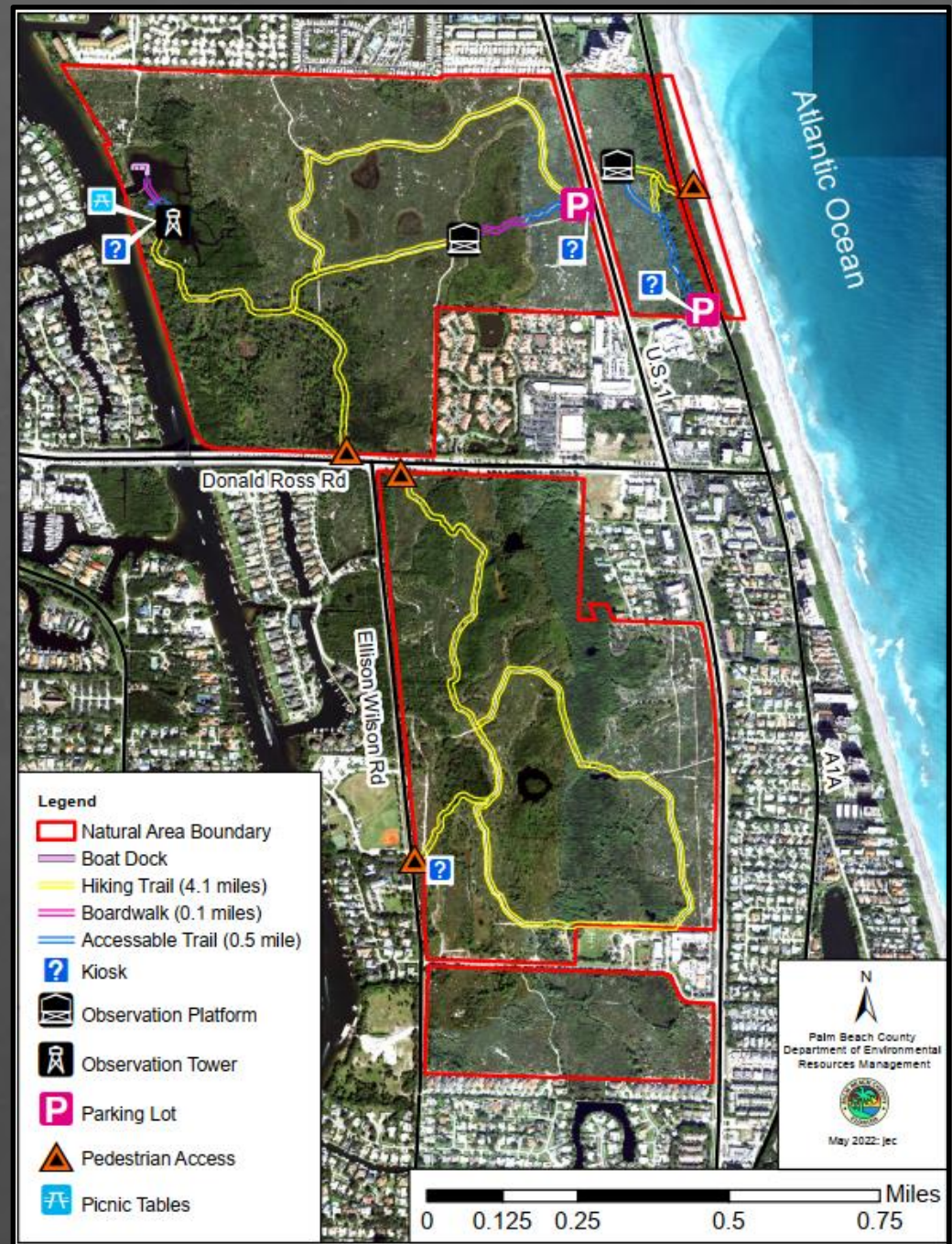
Invasive/Nonnative Vegetation Removal

- A multi-phase, initial invasive/nonnative plant removal program began in 1997 and was completed in 2002
- Site is now in maintenance condition (coverage of invasive plant species does not exceed 1 percent of canopy or understory layer)
- Annual sweeps have been conducted since 2002



Existing Public Use Facilities

- East side of the site (east of US-1) opened to the public in August 2001 and the west side opened in April 2004
- 4.1-miles of natural-surfaced hiking trails
- 0.6-miles of accessible paved nature trails
- JUD receives between 1,000 – 2,000 visitors a month – this year we are on target to have >18,000 visitors



Oceanfront Public Use Facilities

Bike Rack



Nature Trail



Hiking Trail



Dune Overwalk



Observation Platform



Large Kiosk

Juno West Public Use Facilities

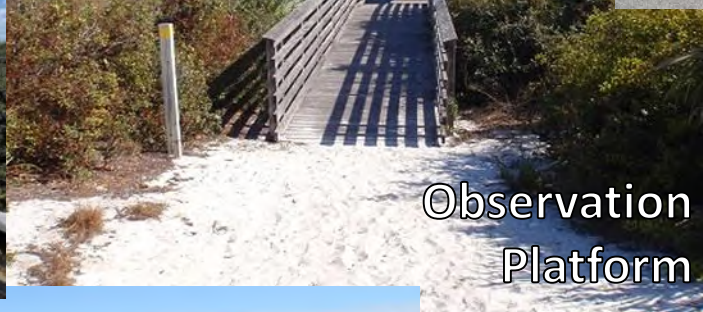
Kiosk &
Trail Head



Parking Lot



Observation
Platform



Bike Rack



Boardwalk



Nature Trail



Hiking Trail



FIND Public Use Facilities



Boat Dock



Observation Tower



Picnic
Tables

Large Kiosk

Greenway Connections

- Adjacent to the East Coast Greenway corridor (Maine to Key West)
- Runs along A1A



Security Efforts & Issues

- Security Efforts:

Management access gates, fencing, and signage have been installed. Wildlands Task Force regularly patrols the site

- Security Issues:

Palmetto berry poaching and graffiti. Ongoing Wildland Task Force patrols and neighborhood education needed to reduce/control number of incidents



Going Forward

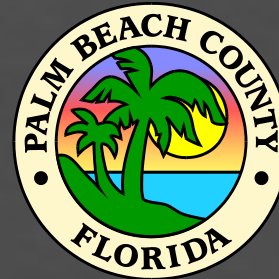
- No additional public uses or public use facilities are proposed
- No additional restoration projects are proposed
- Invasive/nonnative plant and nonnative/nuisance animal control programs will be continued
- Outreach programs will continue indefinitely



Questions?



PALM BEACH COUNTY
**NATURAL
AREAS**



APPENDIX K
LEGAL DESCRIPTION

APPENDIX K

LEGAL DESCRIPTION

PROPERTIES LEASED FROM THE STATE OF FLORIDA

333.65-Acre MacArthur Foundation Tract

A parcel of land lying in Sections 20, 28, and 29, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

All of the South Half (S $\frac{1}{2}$) of the Southeast Quarter (SE $\frac{1}{4}$) of said Section 20, East of the Easterly right of way line of the Intracoastal Waterway, as said right of way is shown on plat recorded in Plat Book 17, page 6, of the public records of Palm Beach County, Florida, Less the South 50 feet thereof for a County Road;

Together with the Northwest Quarter (NW $\frac{1}{4}$) of the Southeast Quarter (SE $\frac{1}{4}$) of said Section 20, East of the Easterly right of way line of the Intracoastal Waterway, as said right of way is shown on plat recorded in Plat Book 17, page 6 of the public records of Palm Beach County, Florida; LESS that part of the Northwest Quarter (NW $\frac{1}{4}$) of the Southeast Quarter (SE $\frac{1}{4}$) conveyed to the Florida Inland Navigation District, as described in Deed Book 658, page 430 of the public records of Palm Beach County, Florida;

Together with the Northeast Quarter (NE $\frac{1}{4}$) of the Southwest Quarter (SW $\frac{1}{4}$) of said Section 28, Township 41 South, Range 43 East, LESS the right of way of State Road No. 5; and LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the South Half (S $\frac{1}{2}$) of the Southwest (SW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM the right of way of State Road 5, ALSO LESS those parcels described in Official Records Book 1876, page 844, Official Records Book 1935, page 1869, and Official Records Book 1951, page 225 of the public records of Palm Beach County Florida, ALSO LESS the right of way of Ellison Wilson Road, and ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road 5. ALSO LESS the right of way for Rolling Green Road as recorded in Official Records Book 1883, page 593 of said public records.

Together with Government Lot 2, Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida, LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 28;

Together with the North 595 feet of Government Lot 3 and all that part of the North 595 feet of Government Lot 4 lying West of a line 500 feet Westerly of and parallel to the West right of way line of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East;

Together with the Northwest Quarter (NW ¼) of the Southwest Quarter (SW ¼) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida;

Together with the South 170.92 feet of Government Lot 3 and the South 170.92 feet of Government Lot 4, lying West of State Road No. 5, Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida; LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the North 572.20 feet of the South 743.12 feet of Government Lot 3 and all of that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying West of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying North of the South line of the North 595.00 feet of Government Lot 4, East of a line 500.00 feet Westerly of and parallel to the West right-of-way line of State Road No. 5; ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right-of-way line of State Road No. 5;

Together with that part of the Northeast Quarter (NE ¼) of Section 29, Township 41 South, Range 43 East lying Easterly of the East right of way line of Ellison Wilson Road; LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 29.

2.00-Acre Fisher Tract

The West 275 feet of the North 370 feet of the Southwest Quarter of the Southwest Quarter of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida, less the right of way for Rolling Green Road as described in Official Record Book 1883, Page 595, and less the right of way for Ellison-Wilson Road as described in Deed Book 1054, page 665, and Official Record Book 539, page 483, of the Public Records of Palm Beach County, Florida. **Property Appraiser's Parcel Identification Number: 00-43-41-28-00-000-7070**

30.15-ACRE PROPERTY LEASED FROM THE FLORIDA INLAND NAVIGATION DISTRICT

That part of the NE ¼ of the SW ¼, Section 20, Township 41 South, Range 43 East, Palm Beach County, Florida, lying East of the East right of way line of the Intracoastal Waterway, said right of way line being shown on Plat recorded in Plat Book 17, Page 6 of the Public Records of said County; also that part of the North 1000 feet of the NW ¼ of the SE ¼ of said Section 20, lying East of the said East right of way line; said tract containing 30.15 acres, more or less, being the same tract described in a Deed from Palmwood Investment Company to the Commissioners of the Florida Inland Navigation District dated January 5, 1944, and recorded in Deed Book 658, Page 430, of the said public records.

PROPERTIES NOT SUBJECT TO LEASE

148.44-Acre Juno Associates, Ltd. Tract

PARCEL 1, SEA TRACE P.U.D., according to the Plat thereof recorded in Plat Book 57, Pages 128-129, Public Records of Palm Beach County, Florida.

42.92-Acre Juno Associates, Ltd. Tract

PARCEL 2, SEA TRACE P.U.D., AS RECORDED IN PLAT BOOK 57, PAGES 128-129, PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA.

3.54-Acre Resolution Trust Corporation Tract

THAT PART OF THE NORTH 300 FEET OF THE SOUTH ONE-HALF (S $\frac{1}{2}$) OF THE NORTHWEST ONE-QUARTER (NW $\frac{1}{4}$) OF SECTION 28, TOWNSHIP 41 SOUTH, RANGE 42 EAST, PALM BEACH COUNTY, FLORIDA; WHICH IS BOUNDED ON THE EAST BY THE WEST RIGHT-OF-WAY OF STATE ROAD NO. 5 (SEE ROAD PLAT BOOK 2, PAGES 43 THROUGH 56, INCLUSIVE), AND BOUNDED ON THE WEST BY A LINE PARALLEL WITH AND 500 FEET WESTERLY OF SAID WEST RIGHT-OF-WAY OF STATE ROAD NO. 5. **Property Appraiser's Parcel I.D. No. 43-41-28-00-004-001**

3.44-Acre Parker Tract

A parcel of land with 295 foot frontage on the West side of the State Road Number 5, with approximately 500 foot depth, more particularly described as follows:

That part of the South 295 feet of the North 595 feet of the South Half (S $\frac{1}{2}$) of the Northwest Quarter (NW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida which is bounded on the East by the West right-of-way of State Road Number 5 (see Plat Book 2, Pages 43 through 56) and bounded on the West by a line parallel with [and] 500.00 feet Westerly of said West right-of-way of State Road Number 5.

1.86-Acre WCI Tract

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the Northeast Quarter (NE $\frac{1}{4}$) of the Southwest Quarter (SW $\frac{1}{4}$) of said Section 28, Township 41 South, Range 43 East, within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the South 170.92 feet of Government Lot 4, lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5.

Together with that portion of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5. **Property Control Numbers: 28-43-41-28-00-000-7010 and 28-43-41-28-00-003-0020**

AND

A parcel of land lying in Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

That portion of the South half (S $\frac{1}{2}$) of the Southwest Quarter (SW $\frac{1}{4}$) of Section 28, Township 41 South, Range 43 East lying within a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road 5. LESS AND EXCEPTING THEREFROM those parcels described in Official Records Book 1935, page 1869 and Official Records Book 1883, page 593, public records of Palm Beach County, Florida. **Property Control Number: 28-43-41-28-00-000-7030**

0.34-Acre Schwimer Tract

NEW PALM BEACH HEIGHTS LTS 10 & 11 BLK 15

Property ID Number 28-43-41-28-10-015-0100

2.18-Acre Bert Winters Park Tract

All that portion of the E $\frac{1}{2}$ of the SE $\frac{1}{4}$ of Section 29, Township 41 South, Range 43 East, Palm Beach County, Florida, lying North of a line parallel to and 800 feet distant South from, when measured at right angles to the North line of said E $\frac{1}{2}$ of the SE $\frac{1}{4}$ of Section 29, Township 41 South, Range 43 East, and lying East of the Easterly boundary of the 500 foot right-of-way of the Intracoastal Waterway from Jacksonville to Miami, Florida, as that right-of-way is shown on a map recorded in the Public Records of said Palm Beach County, in Plat Book 17, at Page 7; less that portion lying west of the east right-of-way line of Ellison Wilson Road.

APPENDIX L

FLORIDA NATURAL AREAS INVENTORY LETTER



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

FLORIDA
Natural Areas
INVENTORY

Florida Natural Areas Inventory

Managed Area Element Summary Juno Dunes Natural Area



SCIENTIFIC NAME	COMMON NAME	Global rank	State rank	Federal status	State status
PLANTS					
<i>Asimina tetramera</i>	four-petal pawpaw	G1?	S1?	E	E
<i>Conradina grandiflora</i>	large-flowered rosemary	G3	S3	N	T
<i>Jacquemontia reclinata</i>	beach jacquemontia	G1	S1	E	E
<i>Lechea cernua</i>	nodding pinweed	G3	S3	N	T
<i>Lechea divaricata</i>	pine pinweed	G2	S2	N	E
<i>Linum carteri</i> var. <i>smallii</i>	Small's flax	G2T2	S2	N	E
<i>Okenia hypogaea</i>	burrowing four-o'clock	G3?	S2	N	E
<i>Ophioglossum palmatum</i>	hand fern	G4	S2	N	E
<i>Tillandsia flexuosa</i>	banded wild-pine	G5	S3	N	T
AMPHIBIANS					
<i>Lithobates capito</i>	Gopher Frog	G2G3	S3	N	N
REPTILES					
<i>Gopherus polyphemus</i>	Gopher Tortoise	G3	S3	C	ST
INVERTEBRATES					
<i>Latrodectus bishopi</i>	Red Widow Spider	G2G3	S2S3	N	N

Note: Summary includes all documented and likely species occurrence records currently in the FNAI database.

SCIENTIFIC NAME	COMMON NAME	Global rank	State rank	Federal status	State status
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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

Note: Summary includes all documented and likely species occurrence records currently in the FNAI database.

Florida Natural Areas Inventory

Managed Area Element Summary

Juno Dunes Natural Area



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



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Florida Natural Areas Inventory

Managed Area Element Summary Juno Dunes Natural Area



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 M

FLORIDA DIVISION OF HISTORICAL RESOURCES MANAGEMENT PROCEDURES FOR ARCHAEOLOGICAL AND HISTORIC SITES ON STATE- OWNED OR CONTROLLED LANDS

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised February 2007)

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

Statutory Authority and more in depth information can be found in the following:

Chapter 253, F.S. – State Lands

Chapter 267, F.S. – Historical Resources

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised February 2007)

Chapter 872, F.S. – Offenses Concerning Dead Bodies and Graves

Other helpful citations and references:

Chapter 1A-32, F.A.C. – Archaeological Research

Other helpful citations and references:

Chapter 1A-44, F.A.C. – Procedures for Reporting and Determining Jurisdiction Over Unmarked Human Burials

Chapter 1A-46, F.A.C. – Archaeological and Historical Report Standards and Guidelines

The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

D. Management Implementation

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

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

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

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

Management Procedures for Archaeological and Historical Sites and Properties on State-Owned or Controlled Properties (revised February 2007)

E. Minimum Review Documentation Requirements

In order to have a proposed project reviewed by the Division, the following information, at a minimum, must be submitted for comments and recommendations.

Project Description – A detailed description of the proposed project including all related activities. For land clearing or ground disturbing activities, the depth and extent of the disturbance, use of heavy equipment, location of lay down yard, etc. For historic structures, specific details regarding rehabilitation, demolition, etc.

Project Location – The exact location of the project indicated on a USGS Quadrangle map, is preferable. A management base map may be acceptable. Aerial photos indicating the exact project area as supplemental information are helpful.

Photographs – Photographs of the project area are always useful. Photographs of structures are required.

Description of Project Area – Note the acreage of the project; describe the present condition of project area, and any past land uses or disturbances.

Description of Structures – Describe the condition and setting of each building within project area if approximately fifty years of age or older.

Recorded Archaeological Sites or Historic Structures – Provide Florida Master Site File numbers for all recorded historic resources within or adjacent to the project area. This information should be in the current management plan; however, it can be obtained by contacting the Florida Master Site File at (850) 245-6440 or Suncom 205-6440.

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

Susan M. Harp
Historic Preservation Planner
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6333
Fax: (850) 245-6438

Eligibility Criteria for National Register of Historic Places

The criteria to be used for evaluating eligibility for listing in the National Register of Historic Places are as follows:

- 1) Districts, sites, buildings, structures, and objects may be considered to have significance in American history, architecture, archaeology, engineering, and/or culture if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
 - a) are associated with events that have made a significant contribution to the broad patterns of our history; and/or
 - b) are associated with the lives of persons significant in our past; and/or
 - c) embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and/or
 - d) have yielded, or may be likely to yield, information important in prehistory or history.
- 2) Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years shall not be considered eligible for the *National Register*. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:
 - a) a religious property deriving its primary significance from architectural or artistic distinction or historical importance; or
 - b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
 - c) a birthplace or grave of an historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or
 - d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, distinctive design features, or association with historic events; or

Eligibility Criteria for National Register of Historic Places

- e) a reconstructed building, when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and no other building or structure with the same association has survived; or a property primarily commemorative in intent, if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
- f) a property achieving significance within the past 50 years, if it is of exceptional importance.

Preservation Treatments as Defined by Secretary of Interior's Standards and Guidelines

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.

Stabilization is defined as the act or process of applying measures designed to reestablish a weather resistant enclosure and the structural stability of an unsafe or deteriorated property while maintaining the essential form as it exists at present.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

APPENDIX N
INTERLOCAL AGREEMENT

**INTERLOCAL AGREEMENT BETWEEN THE TOWN OF JUNO BEACH, FLORIDA AND
PALM BEACH COUNTY FOR THE ACQUISITION OF THE JUNO HILLS SITE AND ITS
MANAGEMENT AS A NATURAL AREA**

THIS AGREEMENT made and entered into on this OCT 7 1997 day of _____, 1997, by and between the Town of Juno Beach, hereinafter referred to as the "Town", and Palm Beach County, Florida, hereinafter referred to as the "County", a political subdivision of the State of Florida.

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 the Juno Hills site (Ecosite 53) in Juno Beach was designated as one of the high-priority sites to be acquired with funds from this bond referendum; and

WHEREAS, both the Town and the County have deemed that it is in the best interest of the residents and citizens of Palm Beach County and the Town of Juno Beach to acquire the Juno Hills site in order to preserve the site in its natural state for future generations as an intact native Florida ecosystem; and

WHEREAS, the County has purchased several tracts of land in the Juno Hills site that are now collectively known as the Juno Hill Natural Area; and

WHEREAS, the County has sold several of these tracts to the Board of Trustees of the Internal Improvement Trust Fund (BTITF) to receive state matching funds from the Conservation and Recreation Lands Program (CARL) for the acquisition of the tracts, which are adjacent to the tracts retained in County ownership; and

WHEREAS, the County will enter into a 50-year lease agreement with BTITF to manage these lands on behalf of the State, which holds the title to these properties; and

WHEREAS, the County has entered into a 25-year lease agreement with the Florida Inland Navigation District (FIND), with options for additional 10-year terms, to manage a parcel owned by FIND that is adjacent to the State's property; and

WHEREAS, the Board of County Commissioners and the Town of Juno Beach have submitted a partnership grant application to the Florida Communities Trust (FCT) for state matching funds to acquire the Juno Hills Oceanfront tract; and

WHEREAS, the County and the Town, as the FCT Recipients, have signed a Conceptual Approval Agreement with FCT for the receipt of these funds; and

WHEREAS, the County has purchased the Juno Hills Oceanfront tract as an addition to the Juno Hills Natural Area, and wishes to be reimbursed by FCT for the County's portion of the acquisition costs; and

WHEREAS, the Conceptual Approval Agreement requires that the parties of the partnership application enter into an Interlocal Agreement which sets forth the relationship among the partners and the fiscal and management responsibilities and obligations incurred by each partner for the acquisition and management of the site and that the Interlocal Agreement be made a part of the project plan; and

WHEREAS, the execution of this agreement is in the best interest of both governmental units and the residents and citizens of same; and

WHEREAS, 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 the basis of mutual advantage.

NOW, THEREFORE, in consideration of the mutual covenants, agreements, and restrictions set forth herein, the parties to this agreement agree as follows:

ARTICLE I - IN GENERAL

1. The County and Town agree that the County has acquired and will manage certain real property located within the corporate limits of the Town of Juno Beach, Florida, known as the "Juno Hills Natural Area", which real property is more particularly described in Exhibit A attached hereto and made a part hereof, (the "Natural Area").

2. The management of the Natural Area of the County, with assistance from the Town, shall serve to preserve the biological community on the property in its natural state as an example of a high quality native Florida scrub, tidal swamp, pine flatwoods, depression marsh, wet prairie coastal stand, beach dune, and remnant maritime tropical hammock ecosystems in Palm Beach County. It is the intent of the parties to comply with subsection 253.023 (11) Florida Statutes, which requires that the site be managed for conservation and protection of natural and historic resources. Both parties intend to manage the Natural Area solely as a nature preserve, to provide certain scientific and educational benefits and to provide passive recreational opportunities for residents and citizens of the Town and the County. The Natural Area shall be kept in its natural state, such that present and future generations will be able to experience the natural values currently exhibited on the property, acts of God or other events beyond the control of the Town and the County notwithstanding.

3. The parties hereto agree to review their respective zoning ordinances and comprehensive plans and to take steps to designate the Natural Area appropriately in the future under their comprehensive land use plans and zoning ordinances, given its intended use as a natural area. The future land use designation assigned to the Natural Area shall be for conservation. If an amendment

to the Town's and/or County's comprehensive land use plan is required, the amendment shall be proposed at the next comprehensive plan amendment cycle available.

4. The Natural Area shall be managed only for the conservation, protection and enhancement of natural and historical resources and for passive, natural resource-based public outdoor recreation that is compatible with the conservation, protection and enhancement of the Natural Area. The parties may make and maintain physical improvements to the Natural Area only for the conservation, protection and enhancement of natural resources and for public outdoor recreation that is compatible with the conservation, protection and enhancement of the Natural Area along with other related uses necessary for the accomplishment of this purpose. The County shall provide outdoor recreational facilities, including but not limited to a nature trail, dune crossover, interpretive kiosk and limited parking, on the Natural Area. The facilities shall be on the Natural Area. The facilities shall be developed in a manner that allows the general public reasonable access for observation and appreciation of the significant natural resources on the Natural Area without causing harm to those resources. The County shall include the Natural Area in the regional greenway network that extends from North Palm Beach to the Town of Jupiter and develop a greenway management strategy for the Natural Area.

5. The Natural Area shall be open to the public. The locations of public access points and any restrictions on access will be described in the management plan. Access to the Natural Area by pedestrians, bicyclists and persons on non-motorized vehicles shall be promoted except in those areas where resource protection considerations warrant limiting access.

6. The parties shall use their best efforts, through their agents and employees, to prevent the unauthorized use of the Natural Area of any use not compatible with the management of the site as a natural area or nature preserve.

7. In the acquisition, management, and maintenance of the Natural Area, each party shall be liable for its own actions and negligence.

8. The title to the Natural Area shall be held by the County, except for the portion containing the Juno Hills CARL project, which will be held by the State of Florida, and the portion owned by FIND.

9. This Interlocal Agreement shall be recorded in the Public Records of Palm Beach County, Florida, in accordance with applicable law.

10. This Agreement shall be deemed to be the sole agreement between the parties, and no prior agreements or other writings shall supersede that which is contained in this Interlocal Agreement.

11. For the purposes of this Interlocal Agreement, notices to the other party shall be deemed sufficient when addressed to the following address and deposited in the United States Mail:

- a. Town of Juno Beach
Office of the Town Manager
340 Ocean Drive
Juno Beach, FL 33408
- b. Palm Beach County
Department of Environmental Resources Management
3323 Belvedere Road, Bldg. 502
West Palm Beach, FL 33406

12. This Agreement shall be rendered null and void if not executed by all parties hereto on or before October 31, 1997.

ARTICLE II - JOINT RESPONSIBILITIES

13. The County, in cooperation with the Town and pursuant to a management plan, shall manage the Natural Area for habitat preservation and passive recreation, keeping the property in its natural state except for the maintenance of fences, firebreaks and physical improvements set forth in Article I, Paragraph 4 and other management activities appropriate for a nature preserve. Management activities will initially consist of removal of trash and invasive vegetation from the Natural Area. Long-term management of the the Natural Area will require controlling invasive vegetation, monitoring listed plant and animal species, and prescribed burning. Subject to annual appropriations by the County's Board of County Commissioners and the Town of Juno Beach, personnel time and expertise for on-going, site-specific management of the Natural Area will be provided by both parties. A detailed division of responsibilities for the management of the Natural Area will be provided in the management plan. The County with the cooperation of the Town shall apply for any funds available from the state for management purposes, and will minimize management costs through the involvement of volunteers.

14. The parties shall prepare, separately or jointly, brochures, and other educational material describing the natural resources, uses, and joint management of the Natural Area. Any material prepared by one party shall be submitted to the other party for its prior review and approval. Approval shall not be unreasonably withheld. The cost of any jointly-prepared materials shall be shared equally by the parties, and the costs of any material prepared individually shall be solely that party's responsibility. Both parties shall encourage students, residents and visitors to use the Natural Area for educational and passive recreational purposes.

15. The Natural Area will be identified as being publicly owned and operated as a passive natural resource-based public outdoor recreational site in all signs, literature and advertising.

16. The parties agree that the County will erect signs 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.

ARTICLE III - RESPONSIBILITIES OF THE COUNTY

17. The County agrees to comply with all requirements of FCT for provision to the County of the State's share of forty-five percent (45%) of the acquisition costs for the 42.43-acre Juno Hills Oceanfront parcel that will become a part of the larger Juno Hills Natural Area. The Natural Area may total up to 575 acres when all land acquisitions and leases for the site are complete.

18. The County agrees to plan and, subject to FCT and Land Acquisition and Management Advisory Council (LAMAC) approval and a budget approved by the Board of County Commissioners, to pay for physical improvements to the Natural Area that would encourage public use of the Natural Area as a nature preserve. These facilities may include, but not be limited to, walking and interpretative trails, a dune crossover, an educational display (kiosk), and parking facilities. The Town and County shall use their best efforts to plan and construct these facilities, taking into consideration primarily the sensitivity and needs of the biological and secondarily the intended research, educational and recreational uses of the Natural Area.

19. The County agrees to secure the Natural Area with fencing, gates and signage to discourage unauthorized activities such as dumping of trash and off-road vehicle usage, while permitting public access to the Natural Area for scientific research, environmental education, and passive recreational activities. The County will be responsible for upkeep of the fences, gates, kiosk, parking area, and signs.

20. The County will develop a management plan and a controlled burn plan for the Natural Area in consultation with the Town. The management plan will be subject to the approval of FCT and the state Land Acquisition Management Advisory Council (LAMAC).

21. The management plan will contain a mechanism for the Town and the County to determine jointly the future of the Natural Area, should any unforeseen events or activities, either natural or man-made severely limit or eliminate the natural values presently on the property.

22. The County, in coordination with the Town, will prepare and submit an annual report to FCT as required in the Conceptual Approval Agreement, and a report every five years to LAMAC, as required in the management lease. The annual report to FCT shall serve as the County's annual report to FIND.

23. Management of all natural areas acquired by the County will be coordinated on a county-wide basis to protect ecosystems and populations of listed species throughout the County.

24. The County agrees to identify a County employee as the public contact person to coordinate group usage and research on the Natural Area and to answer public inquiries about the site.

25. The County agrees to support the Town in applying to the Department of Environmental Protection and any other appropriate state agency for receipt of payment in lieu of taxes pursuant to Florida Statutes Section 259.032 (12) (a) and (c).

26. The County acknowledges that as the Town has an integral role in the acquisition and the future management of the Natural Area, the Natural Area should be within the municipal limits of the Town. To further that end and subject to approval by all applicable County agencies and service providers, and subject to the annexation meeting all statutory requirements of Florida Statutes Chapter 171, the County agrees to support the Town's efforts to annex those properties within the Natural Area that are not currently within the municipal limits of the Town.

ARTICLE IV - RESPONSIBILITIES OF THE TOWN

27. The Town agrees to assume primary responsibility for public safety and law enforcement at the Natural Area for those parcels within the municipal boundaries of the Town. This includes routine patrols of the boundaries and the prevention of vandalism, vehicular trespass, dumping, and damage to property and natural resources.

28. The Town agrees to provide assistance to the County in the long term maintenance of the site, including weekly garbage pick-up from parking lots and police services to those portions of the Natural Area within the municipal boundaries of the Town. The Town will assume responsibility for the daily opening and closing of any gates providing public access to the Natural Area. This responsibility may be delegated to a local resident or stewardship group if approved by both the County and the Town.

29. The Town agrees to assist the County in the long-term management of the site including removal of exotic vegetation, removal of trash and debris collected during volunteer activities, periodic prescribed burns and other activities.

30. The Town agrees that in reviewing any proposed changes and uses of, or activities on, real property immediately adjacent to the Natural Area it shall consider the protection of the biological community and any impact on the species present.

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

32. The Town will encourage students, residents and visitors to use the site for educational and recreational purposes.

33. The Town agrees to review the proposed management plan and to provide comments to the County on that document. For those engineering design plans covering properties within Town limits and which require Town Council approval, the Town agrees to review them in an expedient manner. The Town further agrees to waive any municipal fees, assessments, or permits applicable to the Natural Area due to the construction, use or maintenance of public facilities, such as those applied to storm water drainage, utilities, or buildings.

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

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

ATTEST:

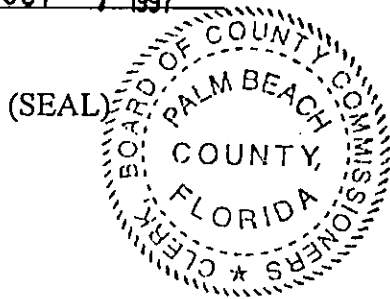
Dorothy H. Wilken, Clerk

BY: Karon Claiborn
Deputy Clerk

BY: Maude Ford Lee
Chairman Vice - Chair Maude Ford Lee

DATE: OCT 7 1997

DATE: OCT 7 1997



R97 1486D

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

Heidi Juhl
By: Assistant County Attorney

DATE: 10/1/97

ATTEST:

TOWN OF JUNO BEACH, FLORIDA
BY ITS COUNCIL

BY: *Debra D. Mang*
Clerk

DATE: 9/24/97

BY: *Frank W. Harris*
Mayor

DATE: 9/26/97

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

BY: *Gregory L. King*
Town Attorney

DATE: 9/24/97

EXHIBIT A
LEGAL DESCRIPTIONS OF TRACTS PURCHASED OR LEASED BY PALM BEACH
COUNTY

148-ACRE JUNO ASSOCIATES, LTD. TRACT

Parcel 1, Sea Trace P.U.D., Plat Book 57, Pages 128-129, Public Records of Palm Beach County, Florida.

42-ACRE JUNO ASSOCIATES, LTD. OCEANFRONT TRACT

Parcel 2, Sea Trace, according to the Plat thereof as recorded in Plat Book 57, page 128, among the Public Records of Palm Beach County, Florida and being more particularly described as follows:

Commencing at said Point 'A'; thence South 87 degrees, 33 minutes, 53 seconds East, along the southerly line of said Government Lot 4, a distance of 125.70 feet to a point of intersection with the Easterly Right-of-Way line of said State Road Number 5, said point being the POINT OF BEGINNING of Parcel 2; thence North 14 degrees, 53 minutes 05 seconds West along the said Easterly Right-of-Way Line, a distance of 2167.91 feet; thence South 89 degrees, 24 minutes, 39 seconds East along the Southerly Line of Seascape-in-the-Park as recorded in Plat Book 43, Pages 90 and 91 of the said Public Records, a distance of 920 feet, more or less, to the approximate mean high water line of the Atlantic Ocean; thence Southeasterly along the said approximate mean high water line, a distance of 2215 feet, more or less, to a point of intersection with the Southerly line of said Government Lot 4; thence North 87 degrees, 33 minutes 53 seconds West along the said Southerly line of Government Lot 4, a distance of 985 feet, more or less to the POINT OF BEGINNING of Parcel 2. Parcel 2 42.43 Acres, more or less together with the riparian and littoral rights appertaining to the land herein platted.

Parcel 2 subject to Coastal Construction Control Line as recorded in Plat Book 36, Page 91 of the said Public Records.

Excepted from Parcel 2, State Road A-1-A (formerly State Road Number 5) Right-of-Way, being 66 feet in width as shown on Palm Beach County Engineering Department Right-of-Way Map, drawing Number 3-74-270 R/W, Sheets 2 and 3, dated 2-10-75.

3.5-ACRE RESOLUTION TRUST CORPORATION TRACT

Legal Description as per Exhibit "A", as found in Official Record Book 6841, Page 1296, in and for the Public Records of Palm Beach County, Florida.

A parcel of land with 300 foot frontage on the west side of State Road No. 5, with approximately 500 feet depth, more particularly described as follows:

That part of the north 300 feet of the south one-half (S ½) of the northwest one-quarter (NW¼) of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida, which is bounded on the east by the west right of way of State Road No. 5 (see Road Plat Book 2, Pages 43 through 56, inclusive), and bounded on the west by a line parallel with and 500 feet westerly of said west right of way of State Road No. 5. 3.44 acres (as surveyed, parcel contains 3.5398 acres or 154,194.55 square feet more or less).

334-ACRE JOHN D. AND CATHERINE T. MACARTHUR FOUNDATION TRACT

A parcel of land lying in Sections 20, 28 and 29, Township 41 South, Range 43 East, Palm Beach County, Florida and being more particularly described as follows:

All of the South Half (S ½) of the Southeast Quarter (SE ¼) of said Section 20, East of the Easterly right of way line of the Intracoastal Waterway, as said right of way is shown on plat recorded in Plat Book 17, Page 6 of the public records of Palm Beach County, Florida, Less the South 50 feet thereof for a County Road;

Together with the Northwest Quarter (NW ¼) of the Southeast Quarter (SE ¼) of said Section 20, East of the Easterly right of way line of the Intracoastal Waterway, as said right of way is shown on plat recorded in Plat Book 17, page 6 of the public records of Palm Beach County, Florida; LESS that part of the Northwest Quarter (NW ¼) of the Southeast Quarter (SE ¼) conveyed to the Florida Inland Navigation District, as described in Deed Book 658, page 430 of the public records of Palm Beach County, Florida;

Together with the Northeast Quarter (NE ¼) of the Southwest Quarter (SW ¼) of said Section 28, Township 41 South, Range 43 East, LESS the right of way of State Road No. 5; and LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the South Half (S ½) of the Southwest (SW ¼) of Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM the right of way of State Road 5, ALSO LESS those parcels described in Official Records Book 1876, page 844, Official Records Book 1935, page 1869, and Official Records Book 1951, page 225 of the public records of Palm Beach County, Florida, ALSO LESS the right of way of Ellison Wilson Road, and ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road 5. ALSO LESS the right of way for Rolling Green Road as recorded in Official Records Book 1883, page 593 of said public records.

Together with Government Lot 2, Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida, LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 28;

Together with the North 595 feet of Government Lot 3 and all that part of the North 595 feet of Government Lot 4 lying West of a line 500 feet Westerly of and parallel to the West right of way line of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East;

Together with the Northwest Quarter (NW ¼) of the Southwest Quarter (SW ¼) of Section 28, Township 41 South, Range 43 East, in Palm Beach County, Florida; Together with the South 170.92 feet of Government Lot 3 and the South 170.92 feet of Government Lot 4, lying West of State Road No. 5, Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida; LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right of way line of State Road No. 5;

Together with the North 572.20 feet of the South 743.12 feet of Government Lot 3 and all of that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying West of U.S. Highway No. 1 in Section 28, Township 41 South, Range 43 East; LESS AND EXCEPTING THEREFROM that part of the North 572.20 feet of the South 743.12 feet of Government Lot 4 lying

North of the South line of the North 595.00 feet of Government Lot 4, East of a line 500.00 feet Westerly of and parallel to the West right-of-way line of State Road No. 5; ALSO LESS a strip of land 30 feet wide lying parallel with and adjacent to the West right-of-way line of State Road No. 5;

Together with that part of the Northeast Quarter (NE 1/4) of Section 29, Township 41 South, Range 43 East lying Easterly of the East right-of-way line of Ellison Wilson Road; LESS AND EXCEPTING THEREFROM the North 106 feet of said Section 29.

2-ACRE FISHER TRACT

The West 275 feet of the North 370 feet of the Southwest Quarter of the Southwest Quarter of Section 28, Township 41 South, Range 43 East, Palm Beach County, Florida, Less the rights of way for Rolling Green Road as described in instrument recorded in Official Record Book 1883, page 595, and Less the rights of way for Ellison-Wilson Road as described in instrument recorded in Official Record Book 1054, page 665 and Official Record Book 539, page 483 of the Public Records of Palm Beach County, Fla.

FLORIDA INLAND NAVIGATION DISTRICT MSA 614B TRACT (LEASE)

That part of the NE ¼ of the SW ¼, Section 20, Township 41 South, Range 43 East, Palm Beach County, Florida, lying East of the East right of way line of the Intracoastal Waterway, said right of way line being shown on Plat recorded in Plat Book 17, Page 6 of the Public Records of said County; also that part of the North 1000 feet of the NW ¼ of the SE ¼ of said Section 20, lying East of the said East right of way line; said tract containing 30.15 acres, more or less, being the same tract described in a Deed from Palmwood Investment Company to the Commissioners of the Florida Inland Navigation District dated January 5, 1944, and recorded in Deed Book 658, Page 430, of the said public records.

FEB 06 2007

**FIRST AMENDMENT TO INTERLOCAL AGREEMENT
BETWEEN
THE TOWN OF JUNO BEACH, FLORIDA
AND
PALM BEACH COUNTY**

THIS FIRST AMENDMENT TO THE INTERLOCAL AGREEMENT is made and entered on this _____ day of _____, 2007 by and between the Town of Juno Beach, a Florida municipal corporation (the "Town"), and Palm Beach County, Florida, a political subdivision of the State of Florida (the "County"), together hereinafter referred to collectively as the "parties".

WHEREAS, on October 7, 1997, the County and the Town entered into an Interlocal Agreement (R97-1486D) for the management of the Juno Hills Natural Area; and

WHEREAS, in December of 1999, the Juno Hills Natural Area was renamed the Juno Dunes Natural Area; and

WHEREAS, the Juno Dunes Natural Area is a part of the Northeast Everglades Natural Area (NENA) project; and

WHEREAS, the NENA project is a cooperative effort to provide connectivity to various natural areas and trail systems for user groups in northern Palm Beach and southern Martin counties; and

WHEREAS, by forming partnerships with various management groups and governmental agencies, NENA can be promoted as a destination with a collection of natural areas, educational facilities, greenways and blueways to satisfy most user groups; and

WHEREAS, the parties wish to promote NENA within the Juno Dunes Natural Area and the Town of Juno Beach; and

WHEREAS, the Town wishes to change street lighting within the Juno Dunes Natural Area along SR A1A; and

WHEREAS, the parties wish to amend the Interlocal Agreement ("Agreement") to reflect their continued cooperation in management of the Juno Dunes Natural Area and commitment to promoting NENA.

NOW, THEREFORE, in consideration of the mutual covenants, agreements and restrictions set forth herein, the parties agree to amend the Agreement as follows:

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

2. **NATURAL AREA RENAMED.** Any references in the Agreement to the Juno Hills site or Juno Hills Natural Area are hereby revised to read the Juno Dunes site or Juno Dunes Natural Area, as appropriate.

3. **NOTICE.** Paragraph 11 of the Agreement is hereby deleted in its entirety and replaced with the following: All formal notices between the parties shall be deemed received if hand delivered or sent by certified mail, return receipt requested, to the parties' designated contact person. Notice shall be deemed sufficient when addressed to the other party's contact person at the following addresses, with a copy to the below cited counsel:

- a. Town of Juno Beach
Office of Town Manager
340 Ocean Drive
Juno 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, 6th Floor
Palm Beach County
301 N. Olive Avenue
West Palm Beach, Florida 33401

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

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

5. **RESPONSIBILITIES OF THE TOWN.**

- a. As a NENA partner, the Town shall display the NENA logo on mutually agreed upon signage and will provide at a minimum, a location within the Town Hall for the distribution of NENA literature.
- b. The Town shall construct and maintain bollard style lights that meet the requirements of the Florida Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commission along the east side, and within two feet of the eastern edge of pavement of the pathway as it currently exists, that runs along the east side of SR A1A. The Town will remove the existing street lights that serve that area of the Natural Area. The Town will be

solely responsible for the cost of removing existing lighting and providing bollard style lights.

6. **ARC.** All reference in the Agreement to the Land Acquisition and Management Advisory Council ("LAMAC") are hereby revised to read the Acquisition and Restoration Council ("ARC").

7. **INDEMNIFICATION.** Paragraph 7 of the Agreement is hereby deleted in its entirety and replaced with the following: Each party shall be liable 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 thereto, 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 thereto. 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.

8. **INSURANCE.** 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.

9. **TERMINATION.** If a party fails to fulfill its obligations under the Agreement or any amendment thereto in a timely and proper manner, the party not in default shall have the right to terminate the Agreement and any amendment thereto 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 and any amendments thereto.

10. **NON-APPROPRIATIONS.** The County's performance and obligations under the Agreement and any amendments thereto are contingent upon an annual appropriation by the Board of County Commissioners. The Town's performance and obligations under the

Agreement and any amendments thereto are contingent upon an annual appropriation by the Town Council

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

12. **GOVERNING LAW AND VENUE.** Any action to enforce the Agreement and any amendment thereto shall be brought in Palm Beach County, Florida. The Agreement and any amendment thereto shall be governed by the laws of the State of Florida.

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

14. **EFFECT OF FIRST AMENDMENT.** Except as expressly amended herein, all terms and conditions of the Agreement shall remain in full force and effect.

15. **RECORDING.** This First Amendment to the Agreement shall be recorded in the Public Records of Palm Beach County, Florida, in accordance with applicable law.

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

ATTEST:

Sharon R. Bock, Clerk & Comptroller

BY: Tracy Ponce

Deputy Clerk

DATE: FEB 06 2007

(SEAL)

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

BY: Monica Fry
Assistant County Attorney

DATE: 1/30/07

R2007 0172

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

BY: Addie L. Greene

Addie L. Greene, Chairman

DATE: FEB 06 2007

APPROVED AS TO TERMS AND
CONDITIONS:

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

ATTEST:

TOWN OF JUNO BEACH, FLORIDA
BY ITS COUNCIL

By: *Allison J. Fug*
Town Clerk

By: *[Signature]*
Mayor

(SEAL)

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

By: *[Signature]*
Town Attorney

STATE OF FLORIDA, COUNTY OF PALM BEACH
I, SHARON R. BOCK, Clerk & Comptroller, certify
this to be a true and correct copy of the original
filed in my office on FEB 06 2007

dated at West Palm Beach, FL on 2-12-2007
By: *Nancy Powell*
Deputy Clerk



APPENDIX O

FIRE MANAGEMENT PLAN FOR JUNO DUNES NATURAL AREA

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This plan contains generalized procedures that apply to all burns conducted on Juno Dunes 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 6 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 basin marsh, depression marsh, mesic flatwoods, scrub, scrubby flatwoods, and wet 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 P

**LETTER OF COMPLIANCE WITH LOCAL GOVERNMENT COMPREHENSIVE
PLAN**



TOWN OF JUNO BEACH
PLANNING AND ZONING DEPARTMENT

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September 29, 2022

Ms. Jennifer Chastant, PhD.
Environmental Analyst
Department of Environmental Resources Management (PBC)
2300 North Jog Road, 4th floor
West Palm Beach, Florida 33411

RE: Juno Beach Comments on the 10-year Juno Dunes Natural Area Management Plan

Dear Ms. Chastant:

Thank you for the opportunity to thoroughly review the recently completed Juno Dunes Natural Area Management Plan, 10-Year update. After our conversations with you and your staff and having the Town's initial comments addressed, the Town does not have any additional comments. In addition, staff has reviewed the management plan against the Goals, Objectives and Policies of the Town's Comprehensive Development Plan, I have found the documents consistent.

Should you have any questions regarding this letter, please do not hesitate to contact me directly at 561-656-0306.

Sincerely,

Frank Davila
Director of Planning and Zoning
Town of Juno Beach

- c. Joseph Lo Bello, Town Manager
Curt Thompson, Principal Planner
Caitlin Copeland-Rodriguez, Town Clerk