Atlantic Ridge Preserve State Park

Advisory Group Draft
Unit Management Plan

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Recreation and Parks
February 2021

ATLANTIC RIDGE PRESERVE STATE PARK
Draft Unit Management Plan
Executive Summary
Purpose and Significance of the Park
Park Interpretive Themes

Park History

Atlantic Ridge Preserve State Park was initially acquired on November 4,1998 with funds from the CARL/P2000 program and with assistance from South Florida Water Management District and Martin County. The park is currently 4,886.08 acres.

Park Significance

The interconnected wetland ecosystem found at the park, including nearly 1,000 acres of depression marsh, acts as a filtering system for stormwater before the water reaches the St. Lucie River and Indian River Lagoon. This system allows cleaner water to reach the estuarine ecosystem, which improves water quality and sustains high-quality habitat for imperiled species. The rare slough natural community found at the park contributes to these important ecosystem services as its serves key functions for water quality and habitat preservation. This park is an island of wilderness in the sea of surrounding urban areas.

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Purpose and Significance of the Park
Park Interpretive Themes

Central Park Theme

Bearing the scars of drainage ditches carved out decades ago, the gently sloping wetlands of Atlantic Ridge Preserve State Park now offers healing and peaceful seclusion from the modern world for the people and wildlife of the St. Lucie River.

Primary Interpretive Themes

Habitat Fragmentation — Atlantic Ridge Preserve is an example of how land management practices prevalent throughout Florida's history have disrupted the vital flow of water that connects all our communities and led to the fragmentation of natural systems.

Wetlands — The wetlands of Atlantic Ridge Preserve hold and filter water as it falls on the landscape making them an invaluable contributor to Florida's waterways and refuges for diverse wildlife.

Remoteness — Atlantic Ridge remains largely undeveloped in order to accommodate restoration initiatives. Those who utilize the park's extensive trail network are able to feel transplanted from a highly urbanized area to a serene wilderness area.

ATLANTIC RIDGE PRESERVE STATE PARK
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Executive Summary
Park Quick Facts
Natural Community Composition

- **Agency**: Department of Environmental Protection - Division of Recreation and Parks
- **Acreage :** 4,886.08
- **Location:** Martin County
- **Lease Management Agreement Number(s):** 4288
- **Use:** Single
- **Responsibility:** Public Outdoor Recreation and Conservation
- **Sublease:** None
- **Encumbrances:** See Appendix 1 for details
- **Public Involvement:** See Appendix 2 for details
- **Optimum Boundary:** Approximately 8.335 acres

Natural Communities	Acreage	Percentage
Mesic Flatwoods	2,845.48	58.24%
Depression Marsh	954.46	19.53%
Altered Landcovers	634.32	13%
Wet Flatwoods	185.49	3.80%
Hydric Hammock	98.54	2.02%
Basin Swamp	85.31	1.75%
Flatwood / Prairie Lake/Marsh Lake	44.62	<1%
Blackwater Stream	11.91	<1%
Mesic Hammock	7.62	<1%
Slough	5.95	<1%
Dome Swamp	2.39	<1%
Total Acreage	**4,886.08**	**100%**

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Park Accomplishments: 2005 — 2020
Ten-Year Planning Period Objectives

Previous Accomplishments

Since the 2005 Unit Management Plan for Atlantic Ridge Preserve the park as made significant accomplishments in terms of resource management and continued protection of the park. Over 2.5 miles of fire lines where created toward the southern portion of the park, the removal of an average of 108 feral hogs per year. Additionally, within the last 10 years the park burned an average of 881 acres within its fire program per year.

Future Objectives

Moving forward throughout the next 10 years of this Unit Management Plan, the park plans to continue resource management efforts by restoring the property back to its original hydrological state by backfilling most of all the ditches in the park and begin the process of reintroducing native vegetation to those areas, and the continued removal of feral hogs. To improve visitor use, the park will be will be making additions to 4 use area.

ATLANTIC RIDGE PRESERVE STATE PARK
Draft Unit Management Plan
Executive Summary
Management Goals & Objectives
Hydrological & Natural Communities

Background

Before Atlantic Ridge Preserve was a state park, it was used by farmers for cattle ranching. To maximize space for grazing, the area was crossed ditched to drain the wetlands during the wet season. This cross ditching, primarily at the northern end of the park drastically changed the overall hydrology, lowering the water table and allowing for non native vegetation to encroach on areas once dominated by upland flatwoods and depression marshes.

Objective: Restore natural hydrological conditions and functions to approximately 3,000 acre of 7 natural communities

To restore the natural hydrological conditions, steps include developing a restoration plan to backfill and plug over 20 miles of drainage ditches. Once this is accomplished, the overall hydrology will be monitored and evaluated to then restore natural vegetation with planting and prescribed fire if needed. Full restoration of the park to its natural landscape will require this extensive restoration project to be carefully implemented.

ATLANTIC RIDGE PRESERVE STATE PARK
Draft Unit Management Plan
Executive Summary
Management Goals & Objectives
Prescribed Fire & Exotic Species

Natural Community Restoration

Goal: Restore and maintain the natural communities / habitats of the park.

Objective: *Maintain 4,613 acres within optimum fire return interval.*

The park has 3 main natural communities that are fire dependent: wet flatwoods, mesic flatwoods and depression marsh. These natural communities should be burned on an interval basis depending on their natural community type. With a total annual target acreage of 1,067- 3,375 acres burned annually.

Exotic Species Management

Goal: Remove exotic and invasive species and conduct needed maintenance.

Objective: *Annually treat 16 acres of exotic plant species in the park.*

Various exotics including Old world climbing fern, earleaf acacia, Brazilian pepper and downy rouse myrtle are found within the park. Plans to remove these non natives include continuous treatment and survey. Removal will be done from park staff and contractors.

ATLANTIC RIDGE PRESERVE STATE PARK
Draft Unit Management Plan
Executive Summary
Management Goals & Objectives
Imperiled Species

Imperiled Species Management

Goal: Maintain, improve or restore imperiled species populations and habitat in the park.

Objective: *Monitor and document 2 selected imperiled plant species.*

Throughout this plan, there will be regional efforts to reintroduce the red cockade woodpecker, and continued efforts to monitor and document both the Florida scrub jay and gopher tortoise within the park.

The park also has several other imperiled plant and animal species including:

- Catesby's/ pine lily
- Rose pogonia
- American alligator
- Little blue heron
- Tricolored heron
- Woodstork
- Florida manatee

ATLANTIC RIDGE PRESERVE STATE PARK
Draft Unit Management Plan
Executive Summary
Management Goals & Objectives
Recreational Use & Infrastructure

Recreation and Facilities Management

Goal: Develop and maintain use areas and support infrastructure

Objective: Construct 5 new use areas

To improve and expand visitor use at the park, plans include to formalize a park entrance and a day use area that will serve as the main source of recreation for visitors. This area will also include interpretive panels, various picnicking spots, restrooms and will serve as a hike in site for the newly developed primitive camping sites. Another recreational opportunity that will be developed at Atlantic Ridge is a paddling launch that will allow for self guided tours down the St. Lucie River.

Park Entrance

- Develop formalized park entrance

Day Use Area

- Stabilize Parking
- Interpretive Panels
- Picnicking
- Trailhead

Primitive Camping Area

- Develop primitive camping area (s)

Support Area

- Paddling Launch

Trailhead

- Up to 6 parking spots
- Restroom

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MAPS

LIST OF ADDENDA

Introduction

Atlantic Ridge Preserve State Park protects over 4,800 acres of natural communities that include a mosaic of mesic flatwoods interspersed with depression marshes. The preserve designation prioritizes the maintenance and restoration of natural conditions and facilitates a wilderness-based visitor experience, which can be at a premium in the urban environment of southeast Florida. An extensive trail network allows visitors to immerse themselves in this pristine natural environment.

The interconnected wetland ecosystem found at the park, including 964 acres of depression marsh, acts as a filtering system for stormwater before the water reaches the St. Lucie River and Indian River Lagoon. This filtering system allows cleaner water to reach the estuarine ecosystem, which improves water quality and sustains habitat. The rare slough natural community found at the park contributes to these important ecosystem services as it serves key functions for water quality and habitat preservation.

Park Interpretation

Interpretation is a mission-based communication process that forges emotional and intellectual connections between the interests of the audience and meanings inherent in the resource. Interpretive themes are the key concepts for communicating the meanings inherent in a Florida State Park. A central park theme is a short, dynamic interpretive statement that reflects the significance of a park by highlighting distinctive features and essential visitor experiences. The central park theme answers the questions: “What is unique about this park?” and “Why should visitors care about its protection?” In addition to a central park theme, each park has primary interpretive themes. These themes serve as a starting point for park staff to plan interpretive and educational content by outlining the main stories of the park’s natural and cultural resources. Interpretive themes may change over time as a reflection of ongoing management needs or shifting historical context. Further interpretive planning can branch off from these themes but should ultimately help reinforce the main interpretive messages of the park.

Central Park Theme

Bearing the scars of drainage ditches carved out decades ago, the gently sloping wetlands of Atlantic Ridge Preserve State Park now offer healing and peaceful seclusion from the modern world for the people and wildlife of the St. Lucie River.

Primary Interpretive Themes

Habitat Fragmentation
Atlantic Ridge Preserve is an example of how land management practices prevalent throughout Florida’s history have disrupted the vital flow of water that connects all our communities and led to the fragmentation of natural systems.

Wetlands
The wetlands of Atlantic Ridge Preserve hold and filter water as it falls on the landscape, making them an invaluable contributor to Florida’s waterways and refuges for diverse wildlife.

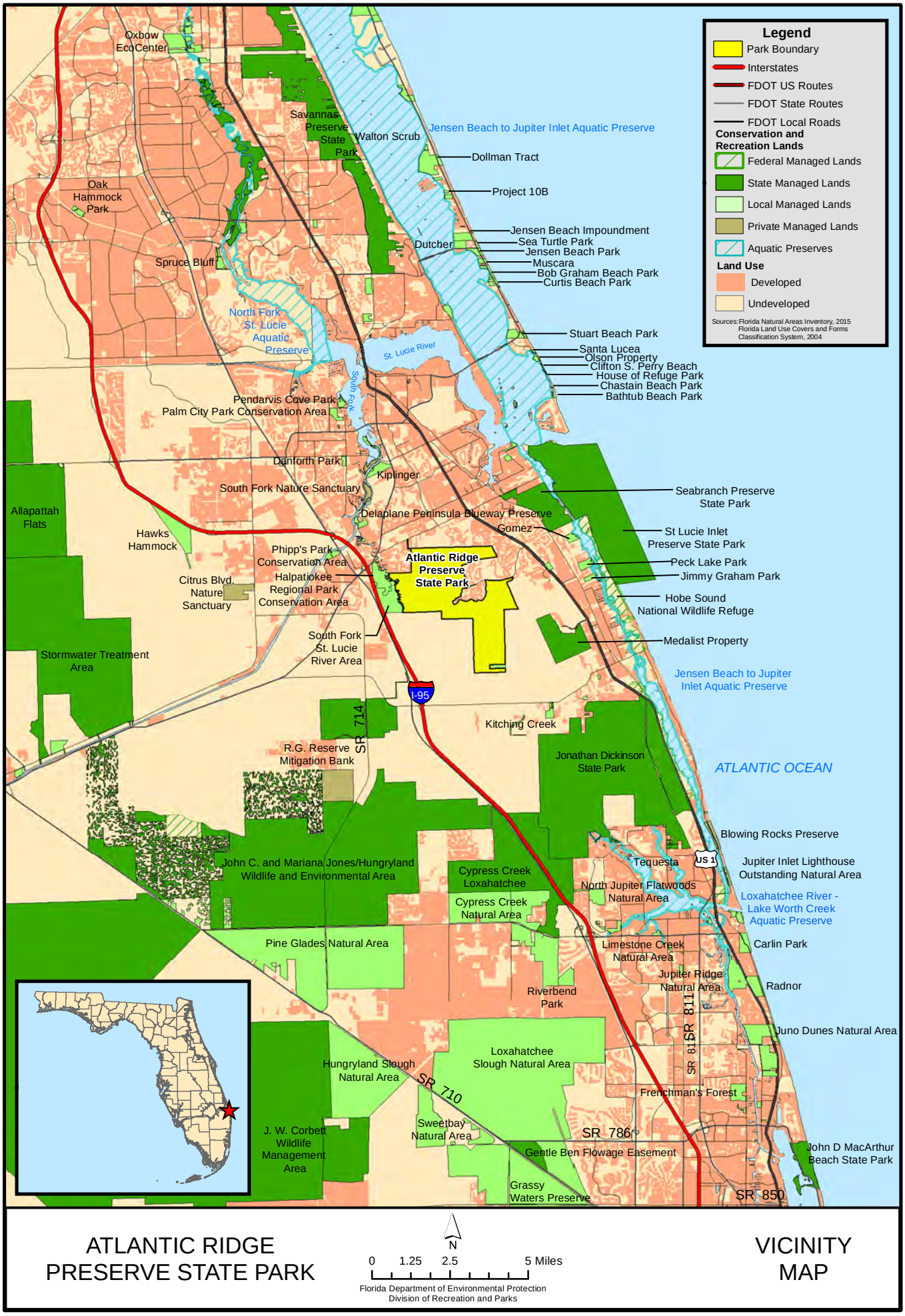
Remoteness
Atlantic Ridge remains largely undeveloped in order to accommodate restoration initiatives, and those who utilize the extensive trails have a role to play in its protection.

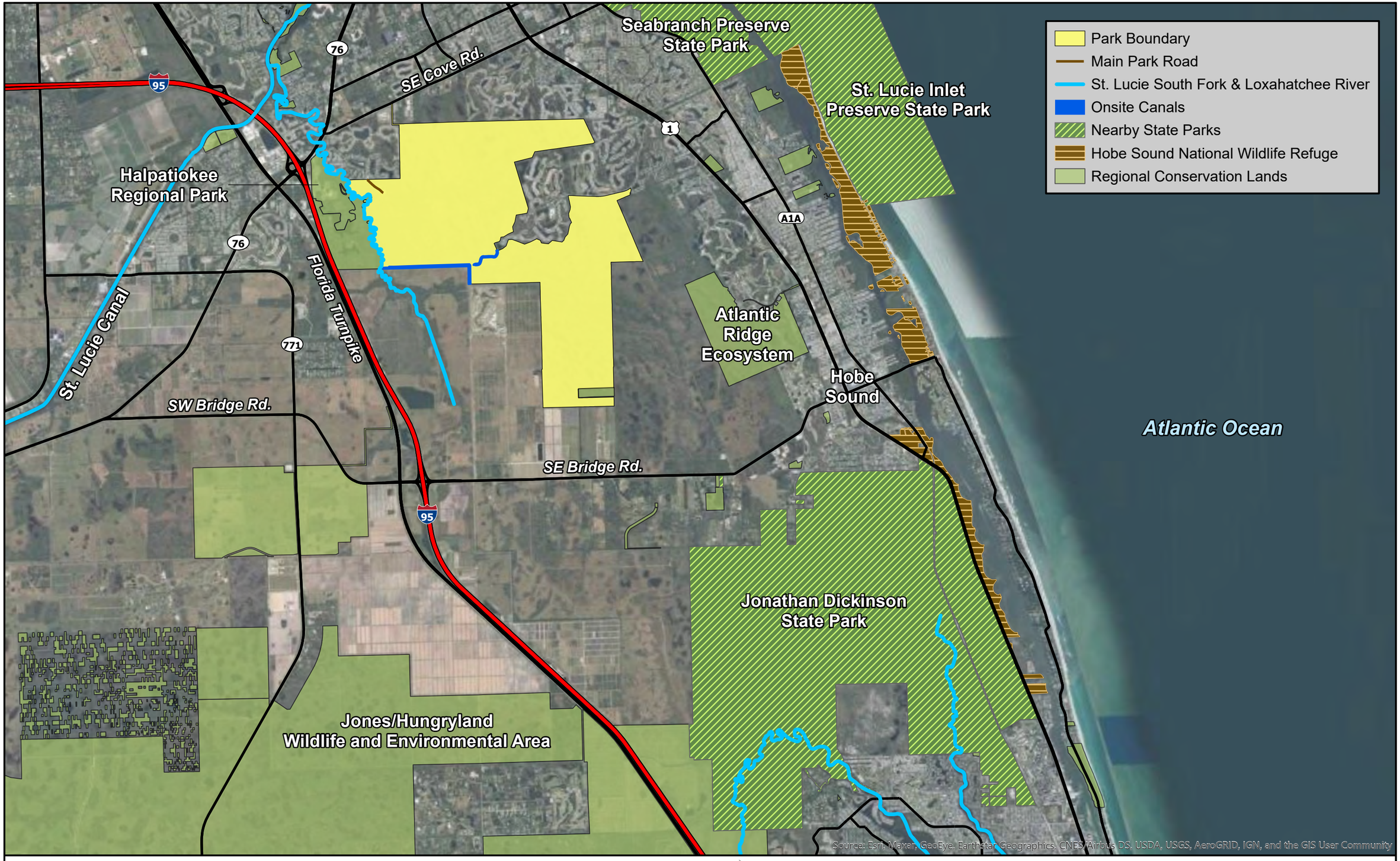
Interpretive Application

Interpretation is a DRP priority for the inherent value of visitor engagement and as a tool for promoting stewardship and conservation. Interpretation also plays an important role in achieving many other park management objectives.

Non-Personal Interpretation
Interpretive elements which do not require a person to deliver a message (signs, exhibits, brochures, kiosks, etc.).

Personal Interpretation
One person or persons providing interpretation to another person or persons. It can be planned or impromptu.


Legend
Park Boundary
Interstates
FDOT US Routes
FDOT State Routes
FDOT Local Roads
Conservation and Recreation Lands
Federal Managed Lands
State Managed Lands
Local Managed Lands
Private Managed Lands
Aquatic Preserves
Land Use
Developed
Undeveloped
Sources: Florida Natural Areas Inventory, 2015
Florida Land Use Covers and Forms Classification System, 2004
Oxbow Eco Center
Savannas Preserve State Park
Walton Scrub
Jensen Beach to Jupiter Inlet Aquatic Preserve
Dollman Tract
Project 10B
Oak Hammock Park
Jensen Beach Impoundment
Sea Turtle Park
Jensen Beach Park
Muscara
Bob Graham Beach Park
Curtis Beach Park
Dutcher
Spruce Bluff
North Fork St. Lucie Aquatic Preserve
St. Lucie River
South Fork
Stuart Beach Park
Santa Lucea
Olson Property
Clifton S. Perry Beach
House of Refuge Park
Chastain Beach Park
Bathtub Beach Park
Pendarvis Cove Park
Palm City Park Conservation Area
Danforth Park
Kiplinger
South Fork Nature Sanctuary
Seabranch Preserve State Park
Allapattah Flats
Delaplane Peninsula Blueway Preserve
Gomez
St Lucie Inlet Preserve State Park
Hawks Hammock
Phipp's Park Conservation Area
Atlantic Ridge Preserve State Park
Peck Lake Park
Jimmy Graham Park
Citrus Blvd. Nature Sanctuary
Halpatiokee Regional Park Conservation Area
Hobe Sound National Wildlife Refuge
South Fork St. Lucie River Area
Medalist Property
Stormwater Treatment Area
Jensen Beach to Jupiter Inlet Aquatic Preserve
I-95
SR 714
Kitching Creek
R.G. Reserve Mitigation Bank
Jonathan Dickinson State Park
ATLANTIC OCEAN
Blowing Rocks Preserve
John C. and Mariana Jones/Hungryland Wildlife and Environmental Area
Tequesta
US 1
Jupiter Inlet Lighthouse Outstanding Natural Area
Cypress Creek Loxahatchee
North Jupiter Flatwoods Natural Area
Loxahatchee River - Lake Worth Creek Aquatic Preserve
Cypress Creek Natural Area
Pine Glades Natural Area
Limestone Creek Natural Area
Carlin Park
Jupiter Ridge Natural Area
Radnor
Riverbend Park
SR 811
Juno Dunes Natural Area
Loxahatchee Slough Natural Area
Hungryland Slough Natural Area
SR 710
Frenchman's Forest
Sweetbay Natural Area
SR 786
J. W. Corbett Wildlife Management Area
Gentle Ben Flowage Easement
John D MacArthur Beach State Park
Grassy Waters Preserve
SR 850
ATLANTIC RIDGE PRESERVE STATE PARK
N
0 1.25 2.5 5 Miles
Florida Department of Environmental Protection
Division of Recreation and Parks
VICINITY MAP



Atlantic Ridge Preserve State Park

N

0 1 2 4 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial; 2017

Reference Map

Purpose and Scope of the Plan

This plan serves as the basic statement of direction for the management of Atlantic Ridge Preserve State Park as a unit of Florida's state park system. It identifies the goals, objectives, and actions that guide each aspect of park administration and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and is intended to be consistent with the State Lands Management Plan. The plan consists of three interrelated components: The Resource Management Component, the Land Use Component and the Implementation Component. Upon approval, this management plan will replace the 2005 approved plan.

The Resource Management Component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management needs and issues are identified, and measurable management objectives are established for each of the park's management goals and resource types.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as current public uses and existing development, measurable objectives are set to achieve the desired allocation of the physical space of the park. These objectives identify use areas and propose the types of facilities and programs recommended.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. The implementation schedule and cost estimates includes measures that will be used to evaluate the DRP's implementation progress, timeframes for completion, and estimated costs to complete each action and objective.

All development and resource alteration proposed in this plan is subject to the granting of appropriate permits, easements, licenses, and other required legal instruments. Approval of the management plan does not constitute an exemption from complying with the appropriate local, state or federal agencies.

Acquisition History

Atlantic Ridge Preserve State Park was initially acquired on November 4,1998 with funds from the CARL/P2000 program and with assistance from South Florida Water Management District (SFWMD) and Martin County. Currently, the park comprises 4,886.08 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on February 14, 2000, the Trustees leased (Lease Number 4288) the property to DRP under a 50-year lease. The current lease will expire on February 13, 2052.

On February 14, 2002, the Division leased an approximately 200-acre parcel from SFWMD to manage as part of Atlantic Ridge Preserve. The term of this lease is for a period of fifty years, and the lease will expire on February 13, 2052. Since the DRP released approximately 100 acres of this lease, it currently manages only about 100 acres of the original lease.

Atlantic Ridge Preserve State Park is designated single use to provide public outdoor recreation and conservation. There are no legislative or executive directives that constrain the use of this property (see Addendum 1). A legal description of the park property can be made available upon request to the Florida Department of Environmental Protection.

Unit Classification

Atlantic Ridge Preserve State Park is classified as a State Park in the DRP's unit classification system. In the management of a State Park, a balance is sought between the goals of maintaining and enhancing natural conditions and providing various recreational opportunities. Natural resource management activities are aimed at management of natural systems. Development in the park is directed toward providing public access to and within the park, and to providing recreational facilities, in a reasonable balance, that are both convenient and safe. Emphasis is on interpretation on the park's natural, aesthetic, and educational attributes.

General Park Management Goals

The following park goals express DRP's long-term intent in managing the state park:

- Provide administrative support for all park functions
- Protect water quality and quantity
- Restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats
- Maintain, improve, or restore imperiled species populations and habitats
- Remove exotic and invasive species and conduct needed maintenance-control
- Protect, preserve and maintain the cultural resources
- Provide public access and recreational opportunities
- Develop and maintain necessary capital facilities and infrastructure

Secondary and Incompatible Uses

In accordance with 253.034(5) F.S., the potential of the park to accommodate secondary management purposes was analyzed. These secondary purposes were considered within the context of DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park's natural and cultural resources, management needs, aesthetic values, visitation and visitor experiences. For this park, it was determined that no secondary purposes could be accommodated in a manner that would not interfere with the primary purpose of resource-based outdoor recreation and conservation.

DRP has determined that uses such as, water resource development projects, water supply projects, stormwater management projects, linear facilities and sustainable agriculture and forestry (other than those forest management activities specifically identified in this plan) would not be consistent with this plan or the management purposes of the park and should be discouraged.

In accordance with 253.034(5) F.S. The potential for generating revenue to enhance management was also analyzed. Visitor fees and charges are the principal source of revenue generated by the park. It was determined that multiple-use management activities would not be appropriate as a means of generating revenues for land management. Instead, techniques such as entrance fees, concessions and similar measures will be employed on a case-by-case basis as a means of supplementing park management funding.

Contract Services

The DRP may provide the services and facilities outlined in this plan either with its own funds and staff or through an outsourcing contract. Private contractors may provide assistance with natural resource management and restoration activities or a concessionaire may provide services to park visitors in order to enhance the visitor experience. A concessionaire may also be authorized to provide specialized services when the required capital investment exceeds that which DRP can elect to incur. Decisions regarding outsourcing, contracting with the private sector, the use of concessionaires, etc. are made on a case-by-case basis in accordance with the policies set forth in DRP's Operations Manual (OM).

Public Participation

DRP provided an opportunity for public input by conducting a public workshop and an Advisory Group meeting to present the draft management plan to the public. These meetings were held on [INSERT Dates], respectively. Meeting notices were published in the Florida Administrative Register, [INSERT publication date, VOL/ISSUE], included on the Department Internet Calendar, posted in clear view at the park, and promoted locally. The purpose of the Advisory Group meeting is to provide the Advisory Group members an opportunity to discuss the draft management plan (see Addendum 2).

Management Authority and Responsibility

In accordance with Chapter 258, Florida Statutes and Chapter 62D-2, Florida Administrative Code, the Division of Recreation and Parks (DRP) is charged with the responsibility of developing and operating Florida's recreation and parks system. These are administered in accordance with the following policy:

> *It shall be the policy of the Division of Recreation and Parks to promote the state park system for the use, enjoyment, and benefit of the people of Florida and visitors; to acquire typical portions of the original domain of the state which will be accessible to all of the people, and of such character as to emblemize the state's natural values; conserve these natural values for all time; administer the development, use and maintenance of these lands and render such public service in so doing, in such a manner as to enable the people of Florida and visitors to enjoy these values without depleting them; to contribute materially to the development of a strong mental, moral, and physical fiber in the people; to provide for perpetual preservation of historic sites and memorials of statewide significance and interpretation of their history to the people; to contribute to the tourist appeal of Florida.*

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) has granted management authority of certain sovereign submerged lands to the DRP under Management Agreement MA 68-086 (as amended January 19, 1988). The management area includes a 400-foot zone from the edge of mean high water where a park boundary borders sovereign submerged lands fronting beaches, bays, estuarine areas, rivers or streams. Where emergent wetland vegetation exists, the zone extends waterward 400 feet beyond the vegetation. The agreement is intended to provide additional protection to resources of the park and nearshore areas and to provide authority to manage activities that could adversely affect public recreational uses.

Many operating procedures are standardized system-wide and are set by internal direction. These procedures are outlined in the OM that covers such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, public use regulations, resource management, law enforcement, protection, safety and maintenance.

Management Coordination

The park is managed in accordance with all applicable laws and administrative rules. Agencies having a major or direct role in the management of the park are discussed in this plan.

The Florida Department of Agriculture and Consumer Services (FDACS), Florida Forest Service (FFS), assists DRP staff in the development of wildfire emergency plans and provides the authorization required for prescribed burning. The Florida Fish and Wildlife Conservation Commission (FWC) assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within the park. In addition, the FWC aids DRP with wildlife management programs, including imperiled species management. The Florida Department of State (FDOS), Division of Historical Resources (DHR) assists staff to ensure protection of archaeological and historical sites.

Other Designations

Atlantic Ridge Preserve State Park is not within an Area of Critical State Concern as defined in Section 380.05, Florida Statutes, and it is not presently under study for such designation. The park is a component of the Florida Greenways and Trails System, administered by the Department's Office of Greenways and Trails.

All waters within the park have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302, Florida Administrative Code. Surface waters in this park are also classified as Class III waters by the Department. This park is not adjacent to an aquatic preserve as designated under the Florida Aquatic Preserve Act of 1975 (Section 258.35, Florida Statutes).

Resiliency Planning

Climate-related shocks and stressors present new challenges to the Florida Park Service mission of providing resource-based recreation while preserving, interpreting, and restoring natural and cultural resources.

Parks will adapt to climate threats with prescriptive strategies to minimize and manage the impacts of more severe storms and droughts, sea-level rise, invasive organisms, and other emerging environmental disturbances. Resilience strategies will be incorporated in all park plans and resource management decisions.

Resource Management Component

The DRP has implemented resource management programs for the perpetual preservation of representative examples of the state's significant natural and cultural resources. This component of the plan describes the natural and cultural resources of the park and identifies the methods that will be used to manage them. Management measures expressed in this plan are consistent with the DRP's overall mission in natural systems management.

The DRP's resource management philosophy is guided by the principles of natural systems management. Primary emphasis is placed on restoring and maintaining the natural processes that shaped the structure, function, and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management for imperiled species can be accommodated on a case-by-case basis and should be compatible with the maintenance and restoration of natural processes.

The DRP's management goal for cultural resources is to preserve sites and objects that represent Florida's cultural periods, significant historic events, or persons contributing to the history of Florida. This goal often entails active measures to stabilize, reconstruct, restore, or rehabilitate cultural resources. Appropriate public use of cultural resources will be considered according to the park's unit classification and the sensitivity of the resources.

Park units are often components of larger ecosystems, and their proper management can be affected by conditions that occur beyond park boundaries. Ecosystem management is implemented through an evaluation program that assesses resource conditions, refines management activities, and reviews development permit applications for park impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to coordinate management activities (see Management Zones Map). The shape and size of each zone may be based on natural community type, burn zone, and the location of existing roads and fire breaks.

Management Goals, Objectives, and Actions

Measurable objectives, and actions have been identified for each of the DRP's management goals for Atlantic Ridge Preserve State Park. The goals, objectives, and actions identified in this management plan will serve as the basis for developing annual work plans for the park. The ten-year management plan is based on conditions that exist at the time the plan is developed. The annual work plans provide the flexibility needed to adapt to future conditions as they change during the ten-year management planning cycle. As the park's annual work plans are implemented through the ten-year cycle, it may become necessary to adjust the management plan's priority schedules and cost estimates to reflect these changing conditions.

Topography

Atlantic Ridge is part of the Eastern Flatwoods physiographic landform. The property slopes gently downward from the east to the west into the South Fork of the St. Lucie River, in the north half of the property. The southern half of the property generally slopes downward from north to south. The preserve is characterized by low, flat topography, poorly drained acidic soils and numerous shallow depressions.

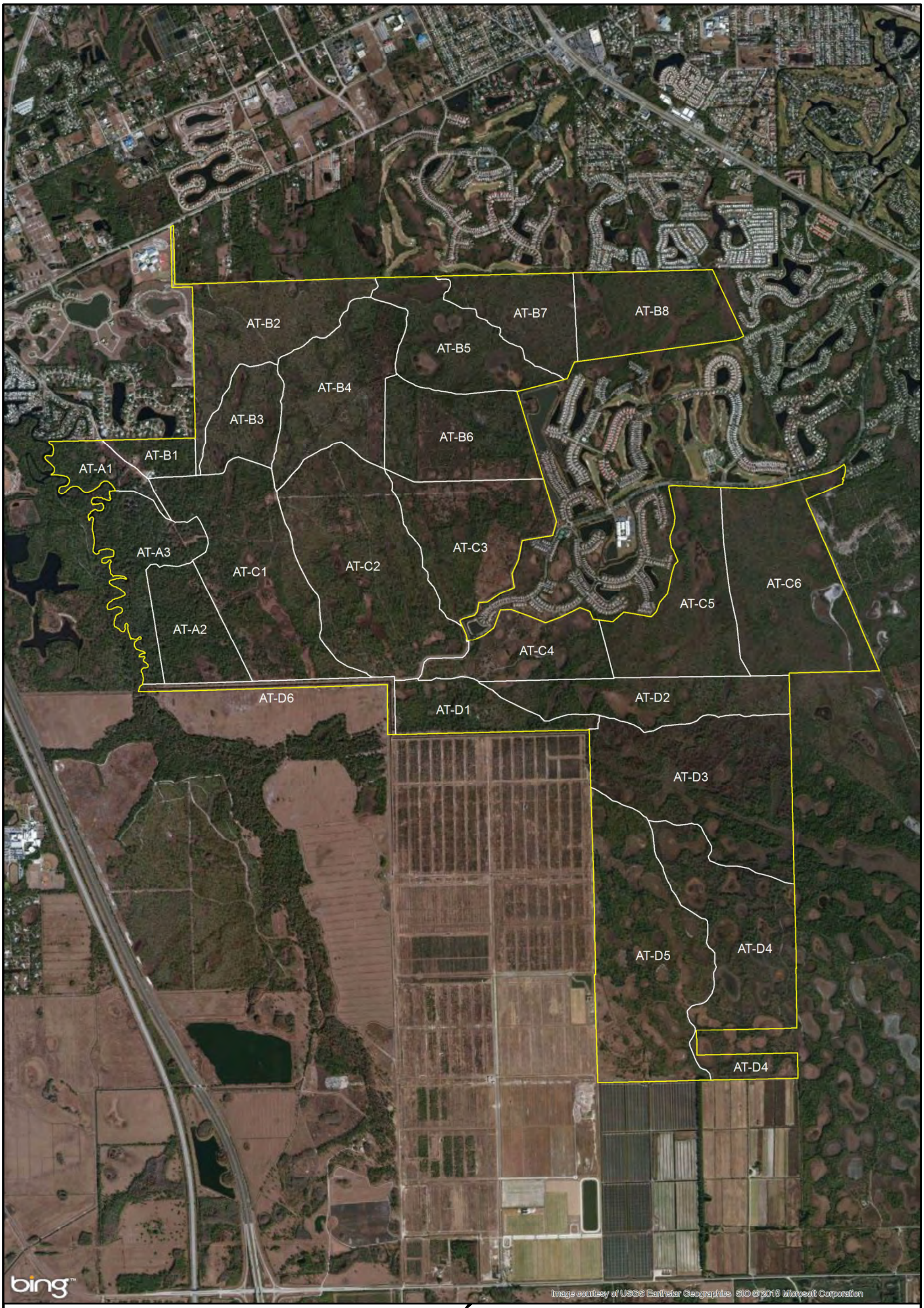
Table 1. Atlantic Ridge Preserve State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
AT-A1	61	Yes	No
AT-A2	130	Yes	No
AT-A3	156	Yes	No
AT-B1	44	Yes	No
AT-B2	225	Yes	No
AT-B3	103	Yes	No
AT-B4	246	Yes	No
AT-B5	186	Yes	No
AT-B6	211	Yes	No
AT-B7	110	Yes	No
AT-B8	224	Yes	No
AT-C1	344	Yes	No
AT-C2	415	Yes	No
AT-C3	238	Yes	No
AT-C4	150	Yes	No
AT-C5	246	Yes	No
AT-C6	342	Yes	No
AT-D1	116	Yes	No
AT-D2	185	Yes	No
AT-D3	379	Yes	No
AT-D4	327	Yes	No
AT-D5	410	Yes	No
AT-D6	37	No	No

The topography of the preserve ranges from sea level along the South Fork of the St. Lucie River, 10' above sea level in depression marshes, 15' above sea level in the mesic flatwoods, and a 20' human made high point in the north-east corner of the park. Slight changes in elevation are the result of deposition and sediment reworking the landscape when ancient seas occupied higher levels (see Topographic Map).

Geology

Landforms associated with the preserve are attributed to marine forces over millions of years. When the ocean covered the park, shallow marine currents and their associated erosion and deposition shaped the Eastern Flatwoods landform. All rocks and sediment underlying the preserve were deposited by eolian, fluvial or marine processes associated with near-shore marine environments and periods of high sea level.

According to Lichtler (1960), the igneous and metamorphic rocks that form the basement complex in peninsular Florida are covered in Martin County by approximately 13,000 feet of sedimentary rocks, most of which are of marine origin. In Martin County, the predominant rock types at depths below 700 feet are limestone and dolomite, but sediments above that depth are chiefly sand, silt and clay. The deepest water wells in the county penetrate about 1,500 feet of sediments, which include the Avon Park Limestone and limestones of the Ocala group, of Eocene age; the Suwannee limestone, of Oligocene age; the Hawthorn formation and possibly the Tampa and Tamiami formations, of Miocene age; the Caloosahatchee marl, of Pliocene age; and the Anastasia formation and the Pamlico sand of Pleistocene age.

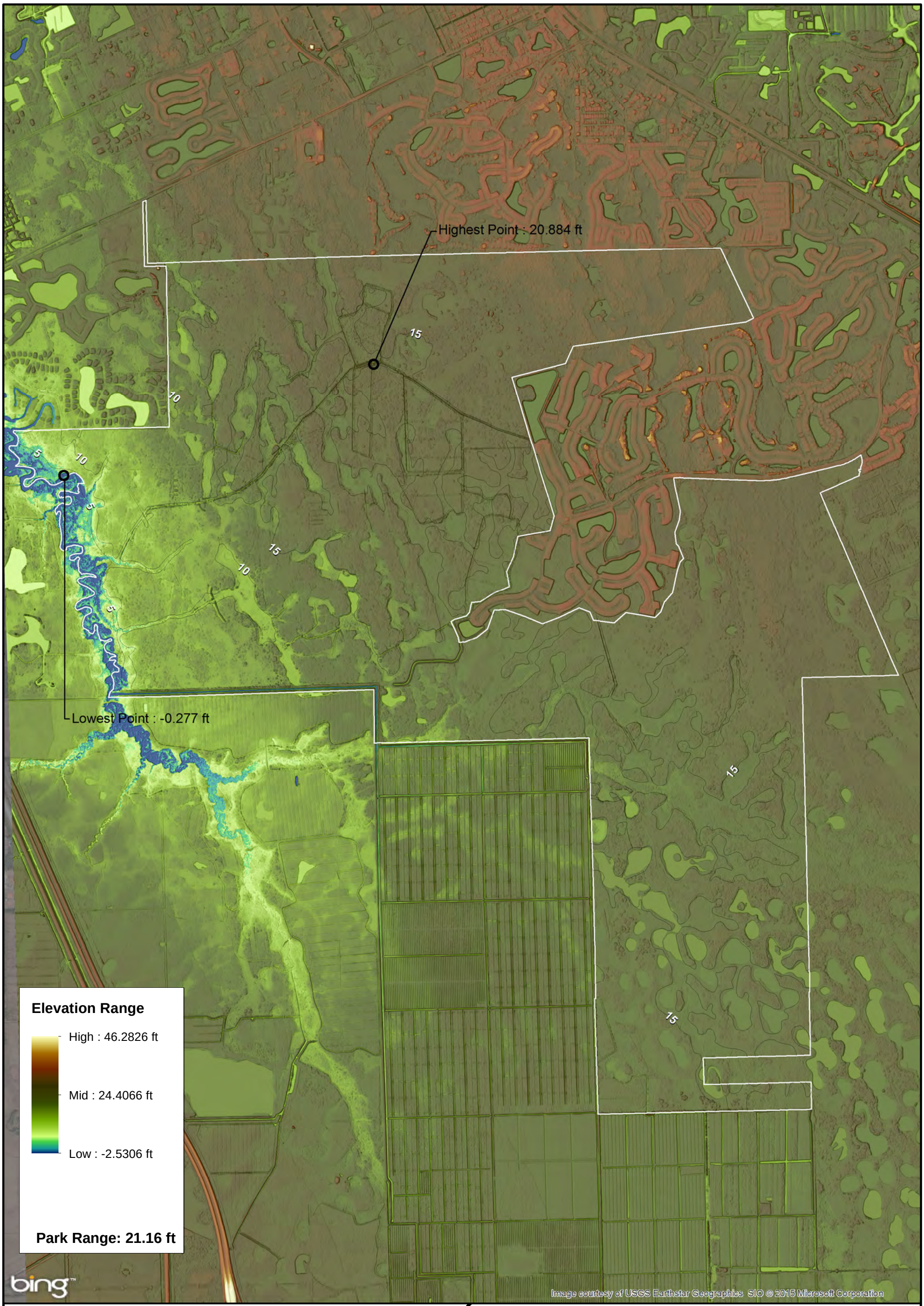


ATLANTIC RIDGE PRESERVE STATE PARK

0 1,000 2,000 4,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

MANAGEMENT ZONES MAP



ATLANTIC RIDGE PRESERVE STATE PARK

0 1,000 2,000 4,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

TOPOGRAPHIC MAP

An east-west geologic cross section of Martin County near the South Fork St. Lucie River (Lichtler 1960), indicates that the Atlantic Ridge area is underlain by approximately 20 to 25 feet of sand, followed by a shell layer of approximately 125 to 150 feet thick. Some limestone formations may be sporadically interspersed throughout this second layer. At approximately 175 to 200 feet deep, a layer of undetermined thickness exhibits inter-bedded sand, clay, shell and silt soil formations.

Martin County is underlain by two aquifer systems: the Surficial Aquifer System and the Floridan Aquifer System. In Martin County, the Surficial Aquifer System is unconfined to semi-confined and is comprised of three hydro-geologic zones: the surficial sands, the primary water-producing zone and a less permeable zone overlying the confining bed. The surficial sands are shallow and may not be completely saturated throughout the year. The primary water-producing zone consists of sand, shell, and relatively thin beds or lenses of sandstone/limestone. The less permeable zone is delineated as a sand, silt, shell and soft micritic limestone portion of the Tamiami Formation.

Soils

Twenty-seven different soils types (see Addendum 4) occur in Atlantic Ridge Preserve State Park (see Soil Map). Preserve soils are nearly level, with low relief and poor drainage. The flatwoods soils are sandy to a depth of 20 to 40 inches or are sandy throughout. Some areas within the Preserve have dark colored sandy subsoil that is weakly cemented and hold water during the rainy season. The general soil types found in the Preserve are classified as Waveland-Lawnwood-Basinger, Wabasso-Riviera-Oldsmar, Salerno-Jonathan-Hobe and Paola-St. Lucie map units (McCollum and Cruz, 1981).

Soil erosion is not a major problem within the park. The low relief of the landscape inhibits runoff, with the exception of mechanically altered areas. Excessive erosion occurs along the Seawind Canals' banks, which divides the park in half. Stabilization of the Seawind Canals' banks is difficult because of high volumes of runoff during intense rainfall destabilizing the vegetation on the bank. In addition, erosion and washouts occur along ditches and culverts within ditches.

Minerals

No known minerals of commercial value occur on the Preserve.

Hydrology

The park boundary is primarily contained within the historical watershed of the South Fork of the St. Lucie River but the southern end of the property drains into Kitching Creek, a tributary of the Northwest Fork of the Loxahatchee River. Much of the north end of the Park was channelized for agricultural and development purposes, significantly altering the timing and depth of water in wetlands, groundwater and uplands. The major drainage in the Park, the South Fork of the St. Lucie River, is also altered in various ways.

A headwater tributary of the South Fork of the St. Lucie River historically traversed, from east to west, the center portion of Atlantic Ridge (MZ D3). The development of agricultural lands along the southwest boundary of Atlantic Ridge encroached into the tributary's historical floodplain.

To the west and south of the park two ditches were dug to divert flow from MZ D3 into the channelized portion of the South Fork St. Lucie River. This headwater tributary, within the park, is also an altered system. The slough was channelized and there is a conveyance system within the slough that quickly sends water into off-site drainage ditches. In the south-west corner of MZ D1 there is an offsite operable gate on a culvert that controls upstream drainage. In and around MZ D3 there are varieties of smaller “feeder” ditches that drain into the slough.

Primarily on the north end of the park agricultural cross ditching was constructed to drain the wetlands during the wet season and maximize upland utilization for cattle grazing. The hydrologic impact from channelization is the reduction in wetland hydroperiod and the lowering of the groundwater table as ditches. During the dry season, ditches and canals unnaturally lower upland and wetland surface water and groundwater levels. During the wet season, ditches and canals also carry the excess surface water away from these wetland ecosystems. The net result of this process is a lowered water table resulting in altered vegetation. In hydrologically disturbed areas pine trees invade depression marshes margins and the footprint of the ditches are conduits for non-native vegetation such as: melaleuca, Brazilian pepper, and torpedo grass.

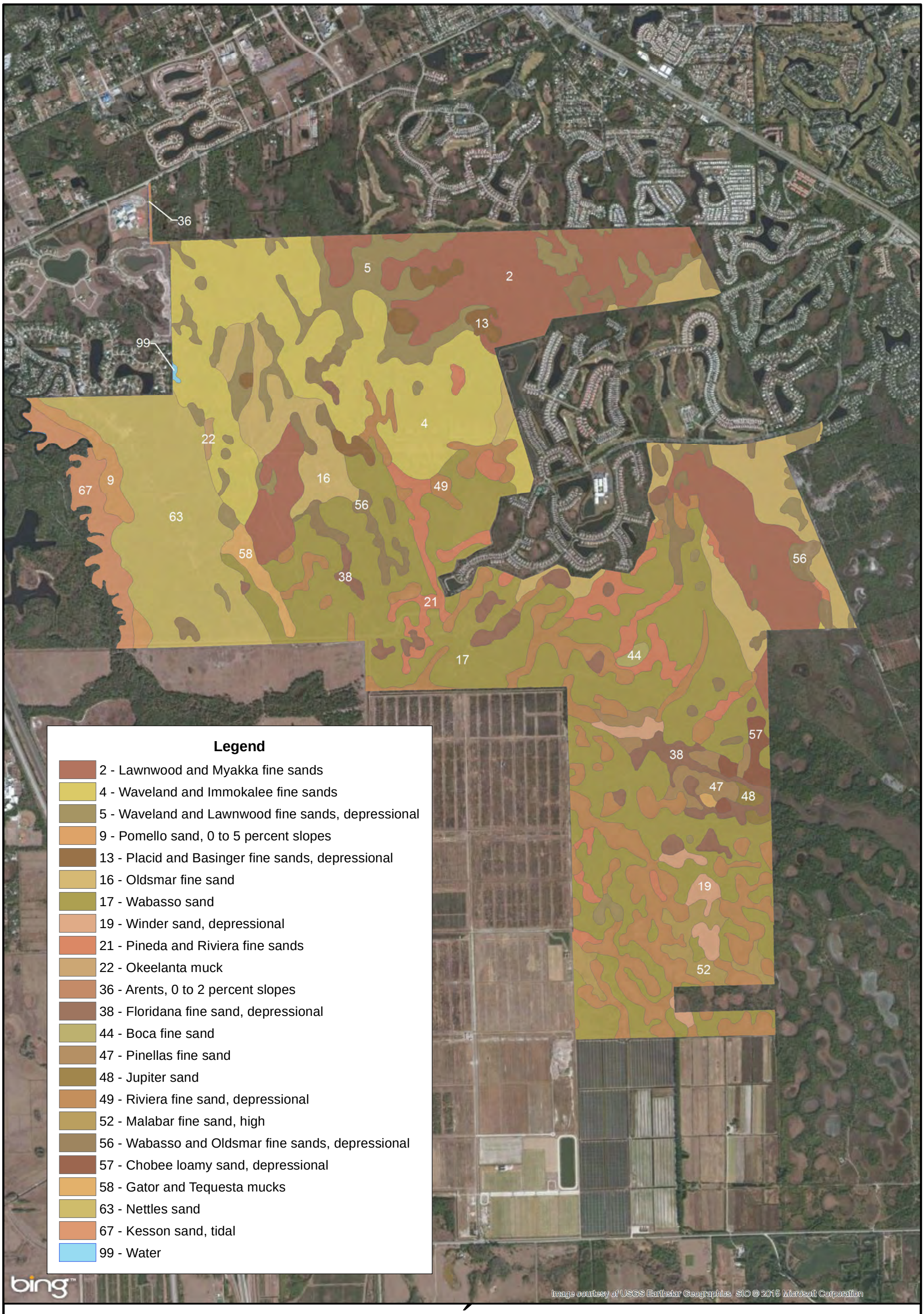
Analysis of the property reveals an existing legal drainage outfall for stormwater discharges from the residential developments along Seabranch Boulevard (MZ C5 and C6). The portion of the outfall along the proposed western boundary of the Retreat Development was created in the 1980s. Approximately 40 percent of the Lost Lakes and DoubleTree residential drainage areas discharge through this outfall.

The lower portion of the outfall (3,400 linear feet) was constructed in 1998 per the request of the Westerra Development Company, to provide additional outfall capacity for discharges from the proposed Seawind stormwater management system.

In September 1997, SFWMD negotiated with Westerra to purchase 2,500 acres along the South Fork St. Lucie River and the southern end of the Seawind project, through the CARL program. At the time, the Double Tree development owned a blanket drainage easement through the proposed purchase area. The easement provided an impediment to the parcel acquisition by the SFWMD. Westerra/Seawind indicated that the easement could be lifted and the parcel purchased if a comparable alternative drainage outfall became available to the Double Tree Country Club.

In 1998, Westerra proposed and the SFWMD accepted the construction of an alternative alignment or outfall for the existing Double Tree and proposed the construction of the Seawind Canal. In May 14, 1998, the SFWMD issued Surface Water Management permit Modification No. 43-00355-S for the construction of the alternative outfall. The permit modified the original SFWMD No. 43-00355-S permit (issued February 1991) for the construction of a storm water management system to support 173 acres of residential development and golf course (Double Tree Country Club).

The outfall of Seawind Canal (north-east corner of MZ D1) entailed the construction of 3,400 linear feet canal, an 8-foot wide weir with a crest elevation of 12 feet NGVD, and a 282 linear foot underground pipe that discharges into the South Fork Canal maintained by Hobe-St. Lucie Conservancy District. The dimensions of the Seawind Canal are: 20 feet wide, a bottom elevation of 6 feet NGVD and a top of bank of 19 feet NGVD.



ATLANTIC RIDGE PRESERVE STATE PARK

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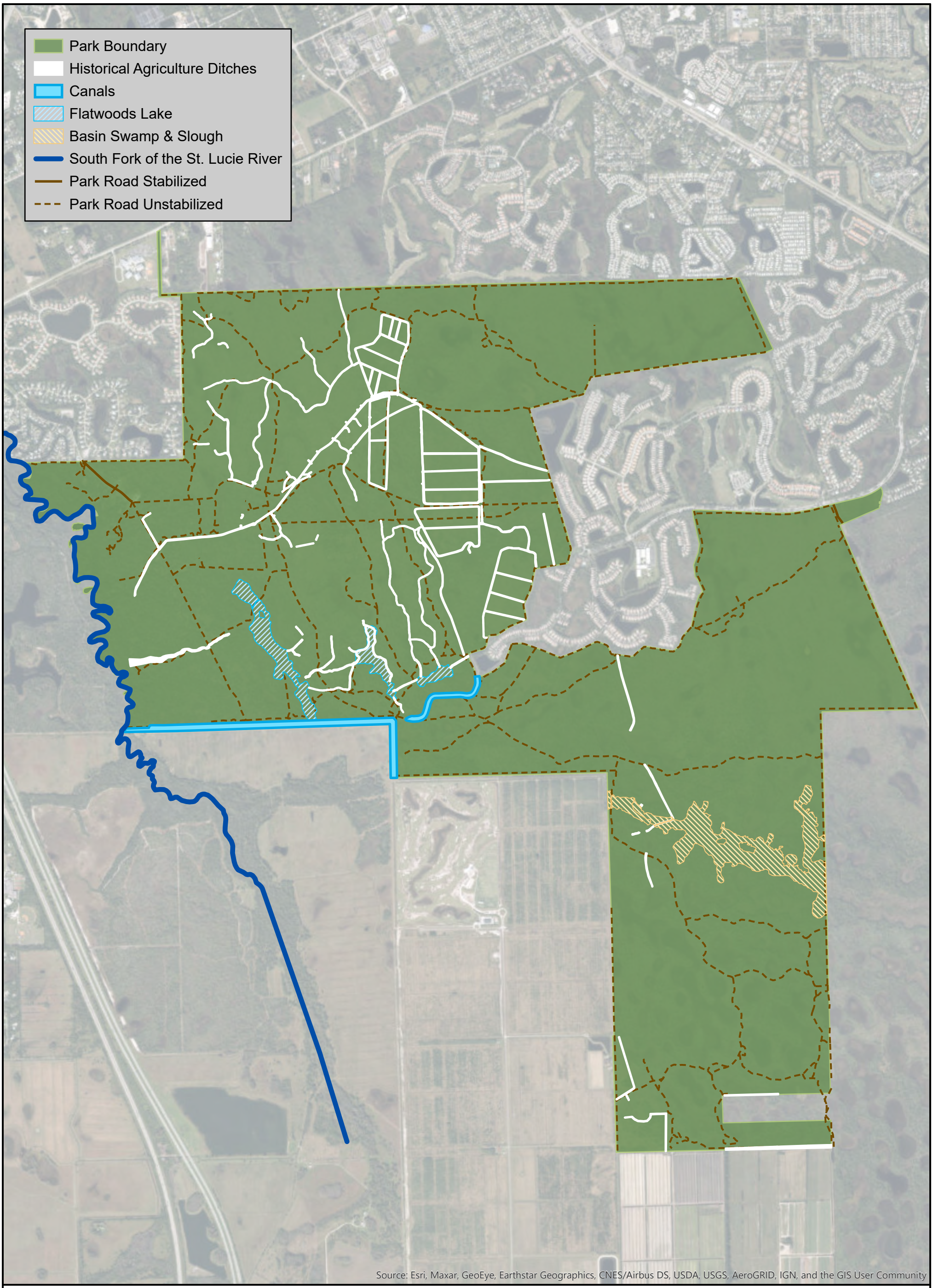
Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

SOILS MAP



Atlantic Ridge Preserve State Park

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial; 2017

Hydrological Alterations Map

The canal is isolated from existing wetlands using an impermeable barrier. The control structure was designed as a “Morning Glory” riser made from a 96-inch CMP, with 282 feet of 96-inch outfall pipe into the South Fork Canal which flows into the South Fork of the St. Lucie River. The outfall pipe has an invert elevation of 11 feet NGVD.

Seawind Canal drains 6,188 acres. This includes the 5,943 acres of Lost Lake and 246 acres of The Retreat property plus adjacent roadway right-of-way (Seabranch Boulevard).

The northern portion of Atlantic Ridge Preserve State Park has altered surface runoff due to internal and external ditching. Hydrological disturbance impacts the quantity and timing of freshwater discharges to the South Fork of the St. Lucie and surficial aquifer recharge. Before the channelization of the upper Atlantic Ridge area, surface runoff discharges were a function of wetland marsh and slough hydro-periods within the South Fork of the St. Lucie River watershed. As marsh water levels in the main Atlantic Ridge property rose during the wet season, wetland sloughs slowly flowed water to the South Fork of the St. Lucie River floodplain and in the southern end of the park and to Kitching Creek, a major tributary of the National Wild and Scenic Northwest Fork of the Loxahatchee River.

Channelization of the northern part of the park causes rapid discharges into the South Fork of the St. Lucie River in the wet season and lowers the groundwater table in the dry season. At times, the C-44 and the St. Lucie River have large discharges of water that lead to algal blooms. Ditch removal in Atlantic Ridge would attenuate that freshwater flow into the St. Lucie River, enhancing the park’s wetlands.

Hydrological Management

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

The natural hydrology of most state parks was impaired prior to acquisition to one degree or another. Florida’s native habitats are precisely adapted to natural drainage patterns and seasonal water level fluctuations and variations in these factors frequently determine the types of natural communities that occur on a particular site. Even minor changes to natural hydrology can result in the loss of plant and animal species from a landscape. Restoring state park lands to original natural conditions often depends on returning natural hydrological processes and conditions to the park. This is done primarily by filling or plugging ditches, removing obstructions to surface water “sheet flow,” installing culverts or low-water crossings on roads and installing water control structures to manage water levels.

Objective A: Restore natural hydrological conditions and functions to approximately 3,000 acres of 7 natural communities.

Action 1	Develop a restoration plan to backfill and plug 20+ miles of ditches within the park.
Action 2	Backfill and / or plug 20 plus miles of drainage ditches within the park.

A general assessment of the park’s ditching was conducted in the early 2000s. A detailed plan needs to be written to include all drainage ditches and options for retention of more natural flows

The assessment should include cross sections of ditches, maps of individual ditches, locations of proposed plug placements, estimated construction costs, environmental lift, inclusion of monitoring sites, and a detailed assessment of any past and current drainage easements within the park. The result of this planning process is permitting from designated permitting agencies such as DEP, SFWMD, and Army Corps of Engineers. Planning will be an iterative process. Each project will take out bites of the restoration apple. Generally, problems with simple solutions are tackled first followed by more complex programs such as the construction of structures. The planning and crafting phase of hydrological restoration is perhaps the most crucial element to maximize restoration efforts.

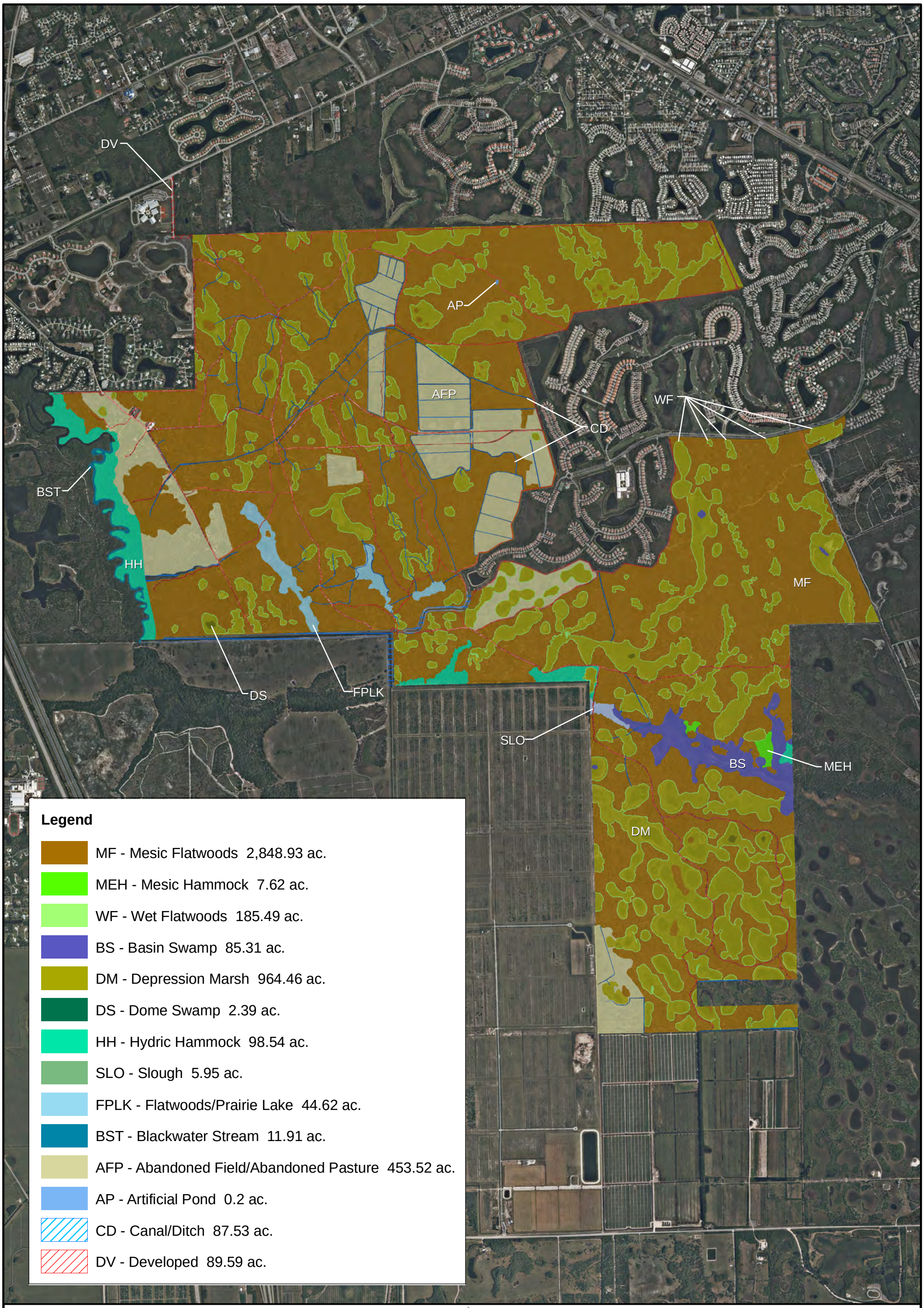
Once assessment is complete the implementation of the project can commence. Construction will take multiple years and like the planning process will be an iterative process. In some cases, construction of one project may not adequately solve a problem and a more complex or different solution will be necessary.

Natural Communities and Altered Landcovers

This section of the management plan describes and assesses each of the natural communities found at the park. It also describes of the desired future condition (DFC) of each natural community and identifies the actions that will be required to bring the community to its desired future condition. The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors such as climate, geology, soil, hydrology, and fire frequency generally determine the species composition of an area, and that areas that are similar with respect to those factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, however, despite similar physical conditions. In other instances, physical factors are substantially different, yet the species compositions are quite similar. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

Table 2. Natural Communities and Altered Landcover Types

Natural Communities	Acreage	Percentage
Mesic Flatwoods	2,845.48	58.24%
Depression Marsh	954.46	19.53%
Wet Flatwoods	185.49	3.80%
Hydric Hammock	98.54	2.02%
Basin Swamp	85.31	1.75%
Flatwood/Prairie Lake/Marsh Lake	44.62	0.91%
Blackwater Stream	11.91	0.24%
Mesic Hammock	7.62	0.16%
Slough	5.95	0.12%
Dome Swamp	2.39	0.05%
Altered Landcovers	**Acreage**	**Percentage**
Abandoned Field/ Abandoned Pasture	457	9.35%
Developed	89.59	1.83%
Canal/ Ditch	87.53	1.79%
Artificial Pond	0.2	0.00%
Total Acreage	**4,886.08**	



ATLANTIC RIDGE PRESERVE STATE PARK

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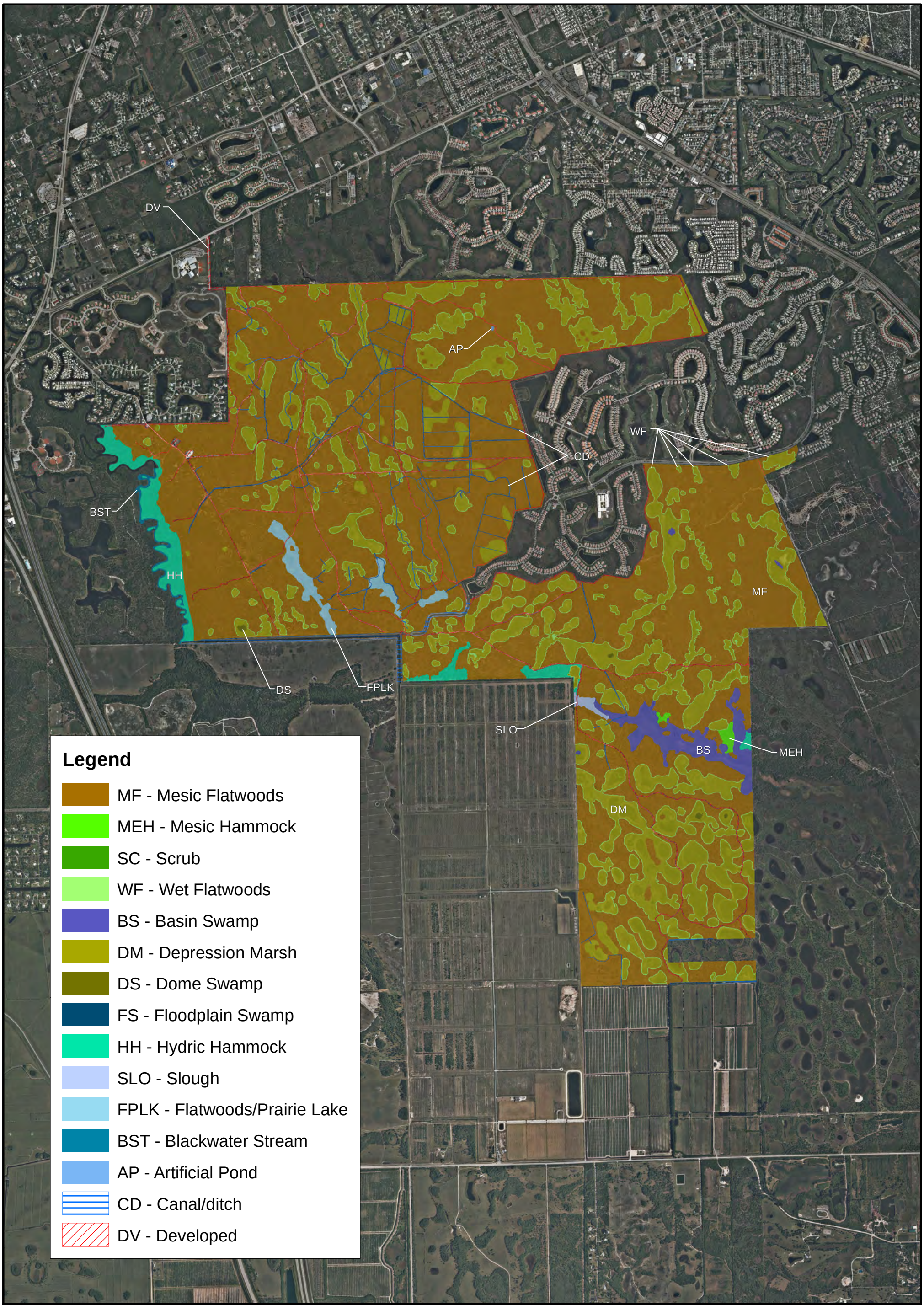
Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2012

NATURAL COMMUNITIES MAP



ATLANTIC RIDGE PRESERVE STATE PARK

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2012

NATURAL COMMUNITIES
DESIRED FUTURE CONDITIONS MAP

Mesic Hammock - 7.62 acres

Desired future condition: This community is dominated by live oak (*Quercus virgininiana*) in the understory and saw palmetto (*Serenoa repens*) in the understory. The live oaks are draped with a variety of epiphytes and vines.

Description and assessment: The small example of this community in the park (MZ D3) is in good to excellent condition. The biggest threat to this natural community is feral hog rooting in the understory and the proliferation of non-native plants.

General management measures: Periodic sweeps for invasives, particularly for Caesar's weed (*Urena lobata*) and shoebutton ardisia (*Ardisia elliptica*) are necessary. Very occasional, low intensity fires burn through the understory. Feral hogs are present in this natural community because it is shady and soils stay relatively moist. Continued removal of feral hogs in the area will help keep this community in good condition.

Wet Flatwoods -185.49 acres

Desired future condition: Slash pine (*Pinus elliottii*) is the dominant pine overstory species in this savanna-like ecosystem. The canopy is widely scattered with multi-aged age slash pines. Native herbaceous cover is dense and other plants such as terrestrial orchids are present and abundant in areas. Common shrubs include fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*) and wax myrtle (*Myrica cerifera*). The Optimal Fire Return Interval for this community is 2 to 6 years.

Description and assessment: Wet flatwoods range from poor to excellent condition depending on burn frequency and the presence of non-native plants. Areas south of the Seawind Canal (MZ D1 to D5 and C4 to C6) are in less frequent fire rotations than areas to the north of the canal, possibly due to historically poorer access south of Seawind Canal because of the extensive, intact depression marshes. Conversely, areas the north of the Seawind Canal (MZ all As, Bs, and C1 to C3) have more frequent fire return intervals and therefore in generally better condition. However, these units north of the Seawind Canal also sometimes are in or around abandoned, improved pastures or are severely impacted by ditching which results in poor condition and requires intensive restoration efforts. Invasive, exotic infestations that occur in wet flatwoods are dominated by Old World climbing fern (*Lygodium microphyllum*). Additionally, extensive infestations of downy rose myrtle (*Rhodomyrtus tomentosa*) are managed in MZ C6 because of its proximity to adjacent, privately-owned, undeveloped areas. Other invasive plants in the wet flatwoods include melaleuca (*Melaleuca quinquenervia*) and Brazilian pepper as individuals or in scattered patches.

General management measures: Short interval prescribed fire application (2 to 6 years) maintains and restores understory vegetation and exposes older slash pines to low intensity fires, essential to their survival. Non-native, invasive plants are another threat to maintaining wet flatwoods; Old world climbing fern and downy rose myrtle are the most disruptive invaders. Initial herbicide treatments for these plants were conducted through much of this community. Continued monitoring and re-treatments combined with prescribed fire application are essential for maintenance. Feral pigs also occur in flatwoods and can disturb the distribution of rare plants.

Mesic Flatwoods - 2,845.48 acres

Desired future condition: Mesic flatwoods are characterized by an open canopy of South Florida slash pine and a dense, low ground layer of low shrubs, grasses and forbes. Saw palmetto are present but not overly dominant. Other shrub species may include gallberry, fetterbush, runner oak (*Quercus elliottii*), dwarf live oak (*Quercus minima*), shiny blueberry (*Vaccinium myrsinites*), and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is primarily grasses, including wiregrass (*Aristida stricta* var. *beyrichiana*), dropseeds (*Sporobolus curtissii, S. floridanus*), panicgrasses (*Dicanthelium* spp.), and broomsedges (*Andropogon* spp.). This community has minimal topographic relief and the soils contain a hardpan layer within a few feet of the surface which impedes percolation. Water can saturate the sandy surface soils for extended periods during the wet season, but lengthy droughts also commonly occur during the dry season. The Optimal Fire Return Interval is 1 to 3 years.

Description and assessment: Mesic flatwoods are the largest natural community at the preserve and occur on slightly higher elevations than wet flatwoods. This community exists throughout the preserve and is interspersed with numerous depression marshes. Mesic flatwoods in the preserve range from poor to excellent condition depending on fire frequency. When fire is infrequent palmettos are dominant. Where fire is re-introduced tree mortality can be high. Generally speaking, the management zones north of the Seawind Canal are in better condition than the units in the southern part of the park.

Relatively few non-native, invasive plants occur in mesic flatwoods because of a lack of year-round moisture. Extensive infestations of downy rose myrtle, however, existed in MZ C6 (panhandle area in the NW corner) because of its proximity to adjacent, privately owned natural areas with catastrophic infestations. Scattered or individual invasive plants in the flatwoods include Old World climbing fern, melaleuca and Brazilian pepper.

Numerous canals and ditches were constructed throughout the preserve and altered the hydrology of this community. Normally, the water table is just below or at ground level during normal wet seasons and is 1 to 2 feet below the surface during drier periods.

Seasonal precipitation along with flat topography and sandy soils strongly influence the hydrologic process in mesic flatwoods. During the rainy season, water slowly percolates through the sandy soils and there is little or no runoff. Many areas in the flatwoods have a hardpan several feet below the surface that impedes water from moving further down the soil horizon. Once saturation occurs, water moves slowly horizontally through the soil profile and the soil becomes saturated. The numerous canals and ditches in the preserve channel much of the precipitation directly out of the preserve, soil saturation takes longer to achieve and hydroperiod is shortened. Hydrological restoration through filling in the canals and ditches would greatly improve the hydrologic regime of the mesic flatwoods.

General management measures: Short interval prescribed fire application (1 to 3 years) maintains and restores the understory of this community while exposing older slash pines to low intensity fires. Non-native, invasive plants are another threat to mesic flatwoods with downy rose myrtle being the most disruptive. Initial herbicide treatment for this plant is complete for much of this community, but continued re-treatments combined with prescribed fire application are essential for maintenance. In addition, Old World climbing fern invades mesic flatwoods. Monitoring and treatment are important to minimizing its impact. In addition, feral hogs invade this ecosystem and infestations are continually managed.

Depression Marsh - 964.46 acres

Desired future condition: Depression marshes are visually stunning, open vistas dominated by low emergent herbaceous vegetation and shrub species characterized by long hydroperiods, particularly in the deepest portions of the depression. Trees are few and if present, occur primarily in the deeper portions of the community. There is little accumulation of dead grassy fuels as a result of frequent burning; one can often see the soil surface through the vegetation when the community is not inundated with water. Dominant vegetation in depression marshes includes panic grasses (*Panicum* spp.), cutgrass (*Leersia* sp.), common reed (*Phragmites australis*), pickerelweed (*Pontederia cordata*), arrowheads (*Sagittaria* sp.), buttonbush (*Cephalanthus occidentalis*), St. John's wort (*Hypericum fasciculatum*), and coastalplain willow (*Salix caroliniana*). The Optimal Fire Return Interval for this community is 2 to 10 years depending on fire frequency of adjacent communities.

Description and assessment: This community is widely scattered throughout the Preserve but is especially prevalent south of Seawind Canal. Dominant vegetation in the middle of the wetland includes sawgrass, willows and maidencane. On the periphery of these marshes, St. John's wort is dominant along with a suite of diverse herbaceous vegetation. Depression marshes are home to wading birds, snakes, amphibians and a diverse invertebrate's community that results from a lack of fish. This community is in excellent to fair condition in the park. Areas impacted by ditching (particularly in the north end of the park) rank in the fair category (north of Seawind Canal; MZs A and B and C1 to C3). Good to excellent condition can be found south of the Seawind Canal, away from residential areas (particularly in MZs D3 to D5). In places, melaleuca had a strong foothold prior to herbicide treatment. In addition, a handful of these marshes on the south end of the park include some cattails which could end up encroaching larger portions of these marshes. At least one of the depression marshes, towards the south end of the park, includes a small rookery of Tri-colored Herons and Little Blue Herons (MZ D4) in the willows and buttonbush in the middle of the wetland.

General management measures: Management of this natural community focuses on non-native, invasive plant treatment especially melaleuca, Old World climbing fern, Brazilian pepper, Peruvian primrose willow and torpedo grass. Protection from the impacts of feral hogs in this community is a concern and efforts to control their population continues. In some areas, drainage ditches and canals impact this ecosystem. Where possible, backfilling of these ditches and canals will enhance the hydroperiod of this community.

Slough - 5.95 acres

Desired future condition: Characterized by broad shallow channels, inundated with slow moving water except during extreme droughts. With a hydroperiod of at least 250 days, sloughs are the deepest drainage-ways within marsh and swamp systems and can contain open water, herbaceous cover or be partially forested. Sloughs will occur in irregular linear arrangements within strand swamp, floodplain swamp, basin swamp, glades marsh, or slough marsh communities. The vegetation structure is quite variable. In south Florida, sloughs are often dominated by a pond apple (*Annona glabra*) canopy with a large diversity of epiphytes (including many rare species). Sloughs dominated by emergent herbs often contain alligatorflag (*Thalia geniculata*), arrowhead, pickerelweed, and lizard's tail (*Saururus cernuus*).

Description and assessment: The pond apple slough is present in the south-central section of the preserve (MZ D3) and is in fair condition, due to the lack of natural hydrology. This community is rare in Florida. Based on old photographs, this section of the preserve was historically a branch of the South Fork of the St. Lucie River until the stream west of the preserve was channelized by a ditch and then eliminated by the construction of a citrus grove. Brazilian pepper and Old-World climbing fern invaded portions of this community and are now on a regular maintenance schedule. A greater concern than non-native plants is over-drainage into the South Fork of the St. Lucie River via an operable structure that is offsite (south-west corner MZ D1). Potentially, a simple medium-term fix could be the construction of an operable culvert in the western portion of MZ D3.

General management measures: Management of this natural community focuses on non-native, invasive plant treatment especially melaleuca, Old World climbing fern, Brazilian pepper and Peruvian primrose willow. Feral hog impacts to this community are a concern. Efforts to control the feral hog population in the park continues. Drainage ditches and canals that adversely impact this slough ecosystem need to be cataloged, evaluated for permitting and where possible over drainage needs to be fixed with construction projects to restore hydrology. In this case, further acquisition of property and subsequent restoration could benefit this ecosystem. As few as 75 to 100 acres could make a significant difference.

Dome Swamp -2.39 acres

Desired future condition: The dome swamp ecosystem in the park is an isolated, forested, depression wetland occurring within a fire-maintained matrix such as mesic flatwoods (MZ A2). The characteristic dome appearance is created by smaller trees growing on the outer edge (shallower water and less peat) and larger trees growing in the middle of the swamp. Pond cypress (*Taxodium ascendens*) dominate the canopy at Atlantic Ridge. Subcanopy species may include red maple (*Acer rubrum*), dahoon holly (*Ilex cassine*), swamp bay (*Persea palustris*), sweetbay (*Magnolia virginiana*), and loblolly bay (*Gordonia lasianthus*). Shrubs may be absent to moderate (a function of fire frequency) and can include Virginia willow (*Itea virginica*), fetterbush, buttonbush, and wax myrtle. An herbaceous component may range from absent to dense and include ferns, maidencane, sawgrass (*Cladium jamaicense*), sedges (*Carex* spp.), lizards' tail, and sphagnum moss (*Sphagnum* spp.). Vines and epiphytes are commonly found. Maintaining the appropriate hydrology and fire frequency is critical for preserving the structure and species composition of the community. Dome swamps burn on the same frequency as the adjacent fire type community, allowing fires to naturally burn across ecotones. Fires are planned to avoid high severity fuel consumption within the interior of the dome swamp.

Description and assessment: This community is represented by several cypress domes that are presently in good condition. The non-native Old-World climbing fern has invaded portions of the swamp and the diversion of water through canals and ditches has degraded the natural hydrology.

General management measures: A major focus of management in this ecosystem is the removal of non-native, invasive species such as Old-World climbing fern, Brazilian pepper, downy rose myrtle, strawberry guava (*Psidium cattleianum*) and melaleuca. Periodic fires generally are also good for this ecosystem, especially on its periphery. Cypress is highly resilient to fire. Lastly, if these cypress areas exist near ditching it would be important to restore the natural hydrology.

Basin Swamp - 85.31 acres

Desired future condition: Sawgrass marsh with slow moving water.

Description and assessment: Currently, this ecosystem has altered hydrology and topography. Hydrology was altered by a ditch that extends through the middle this ecosystem in the middle and eastern portion of MZ D3. Further downstream (and outside the park) is a ditch with a riser that is at a lower elevation than the lowest elevation of the swamp. Along the ditch, the vegetation is altered (mainly cabbage palms and other understory plants that are less water tolerant than sawgrass) and the vegetation in the swamp is being encroached with more wax myrtle and red maples in the wet areas. The condition of this ecosystem is somewhere between fair and poor. Fire helps reduce the coverage of shrubs and trees. Fire is applied to this ecosystem, particularly on the ecotones.

General management measures: Prescribed fire, hydrological restoration, non-native plant removal and hog control are required. Non-native plants are present but do not have a strong foothold in this ecosystem.

Hydric Hammock - 98.54 acres

Desired future condition: Hydric hammock is characterized by a closed canopy, evergreen hardwood and a palm forest with a variable understory with sparse to moderate ground cover of grasses and ferns. Typical canopy species include laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), live oak, sweetbay, red maple and other hydrophytic tree species. Soils are poorly drained but only occasionally flood. Hydric hammocks occasionally burn from fires originating in adjacent upland natural communities.

Description and assessment: The best example of this community is along the western section of the Preserve, adjacent to the South Fork of the St. Lucie River (all A MZs). This community is in fair condition. Exotics such as Brazilian pepper, Old-World climbing fern, Caesar's weed (*Urena lobate*) and strawberry guava are present. Dominant overstory plants are temperate species such as sabal palm, live oak and swamp bay. The understory is a mixture of temperate (saw palmetto, wax myrtle, etc.) and tropical vegetation (myrsine, wild coffee, etc.).

General management measures: Non-native plant invasions pose the biggest threat to this community. Continued treatment and re-treatment is necessary to maintain this community free of invaders. Minor to moderate plant invasions are typical of this plant community. Feral hog damage to the groundcover vegetation is periodic and ranges from minor to major.

Flatwoods/Prairie Lake and Marsh Lake - 44.62 acres

Desired future condition: This community is often associated with depression marshes and are characterized as shallow, generally round or elliptical depressions, vegetated with concentric bands of aquatic vegetation. Depending upon the depth and slope of the depression, an open water zone, with or without floating plants, may occur at the center. The open water zone is considered a marsh lake if it is small in comparison to the surrounding marsh. Otherwise, the system is considered a flatwoods lake or a prairie lake, based on the surrounding community. The hydro soil is typically acidic sand with some peat and occasionally a clay lens. Water levels fluctuate significantly, water is typically present year-round.

Description and assessment: Generally, this system is in fair condition largely due to human-made drainage and non-native vegetation. These lakes are inter-connected by a series of mostly free flowing ditches that ultimately drain into the South Fork of the St. Lucie River. Hydro-period could be optimized for water retention with the construction of one or more weirs that would stop over-drainage of this ecosystem. The eastern most lake abuts the Seawind Canal but does not flow into it. Only during very high flows will this system take water from the Seawind Canal into the park via a one-way flap on a culvert.

General management measures: The human made canal that is the outfall of these lakes moves a significant amount of water, especially in the wet season. If possible, this outfall needs to be managed by some sort of structure to allow the lake to mimic the natural hydroperiod as closely as possible. Non-native plants are present in this ecosystem, with Peruvian primrose willow being the worst. Cattails are also present at higher than desirable levels. Re-treatment for non-natives needs to continue.

Blackwater Stream - 11.91 acres

Desired future condition: Blackwater stream are characterized as perennial or intermittent watercourses originating in lowlands where extensive wetlands with organic soils collect rainfall and runoff, discharging it slowly to the stream. The stained waters are laden with tannins, particulates, and dissolved organic matter derived from drainage through adjacent swamps resulting in sandy bottoms overlain by organic matter. Emergent and floating vegetation (including golden club, *Orontium aquaticum*, smartweeds, *Polygonum* spp., grasses and sedges) is often limited by steep banks and dramatic seasonal fluctuations in water levels. Desired conditions include minimizing disturbance and alterations and preserving adjacent natural communities.

Description and assessment: This community occurs along the western boundary of the Preserve and is part of the St. Lucie River system, eventually draining into the Atlantic Ocean 18 miles away. The water in this stream contains an abundance of tannin particulate derived from drainage through swamps, wet prairies, depression marshes and the Seawind Canal. The stream is bordered by hydric hammock for most of its course along the preserve boundary. Little water quality monitoring is done in these upper reaches of this system, but it is likely excellent due to the presence of surrounding natural areas. The biggest management concern in this ecosystem is the significantly altered hydroperiod. The major problems in this system includes too much runoff in the wet season, too little release of flows during the dry season are a problem and significantly altered headwaters outside of the park. Overall, the condition of this ecosystem is good.

General management measures: All work to restore or enhance the hydroperiod would benefit water quantity in the dry season and reduce saltwater intrusion during the dry season.

Developed - 89.59 acres

Desired future condition: The developed areas within the park are managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive plant species (FLEPPC Category I and II species) are removed from developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with prescribed fire management in adjacent natural areas.

Description and assessment: Much of the developed landcover class in the park is access roads and these will be maintained to facilitate the management and recreational uses of the park.

General management measures: The biggest natural resource management concern in developed landcover is the spread of non-native plants. Developed areas in the park are in good condition. In addition, it is important to keep any developments well maintained for prescribed fire protection.

Abandoned Field / Abandoned Pasture - 457 acres

Desired future condition: The desired future condition of these areas is either pine flatwoods or depression marshes.

Description and assessment: Former pasture areas are rated as poor because of their over drainage. In addition, a large percentage of these pastures have altered vegetation.

General management measures: The areas of the park that are abandoned pastures require hydrologic restoration and may need to be replanted once their hydrology is restored. Where appropriate, periodic fires will be set in these abandoned pastures to promote native vegetation.

Artificial Pond - 0.2 acres

Desired future condition: It is likely that this pond was a small depression marsh, which would be the desired ecosystem to restore it to.

Description and assessment: This pond is small and altered from a previous wet natural community type.

General management measures: There is one known artificial pond on the property, perhaps dug for cattle watering during the dry season. Nearby fill exists. The site needs to be assessed to see if the natural topography can be restored and a management decision needs to be made to determine if it is desirable to do so.

Canal / Ditch - 87.53 acres

Desired future condition: The goal is to backfill or plug as many of these ditches as possible to the surrounding grade.

Description and assessment: The 20 plus miles of ditches in the park lowers the water tables across the 5,000 acres of the park. In some cases, the water table in adjacent wetlands is drastically lower and in other places hydroperiod alteration is more subtle. Almost all the ditches are conduits for non-native plants such as melaleuca and feral hogs.

General management measures: A compressive plan needs to be created to systematically backfill the ditches at the park and restore the natural hydrology of the surrounding uplands and wetlands, while assuring minimal or no impacts to the surrounding neighborhoods.

Natural Communities Management

Goal: Restore and maintain the natural communities / habitats of the park.

The DRP practices natural systems management. In most cases, this entails returning fire to its natural role in fire-dependent natural communities. Other methods to implement this goal include large-scale restoration projects as well as smaller scale natural communities' improvements. Following are the natural community management objectives and actions recommended for the state park.

Prescribed Fire Management: Prescribed fires mimic natural lightning-set fires, a primary natural force that shape Florida's ecosystems. Prescribed burning increases the abundance and health of many wildlife species. Many of Florida's common and imperiled plant and animal species require and thrive with periodic fires. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wildland fuels.

All prescribed burns in the Florida state park system are authorized by the Florida Forest Service, a part of FDACS. Wildfire suppression activities in the park fall under the legal jurisdiction of the FFS. Park staff assist with suppression efforts.

Objective A: Within 10 years, have 4,613 acres of the park maintained within the optimum fire return interval.

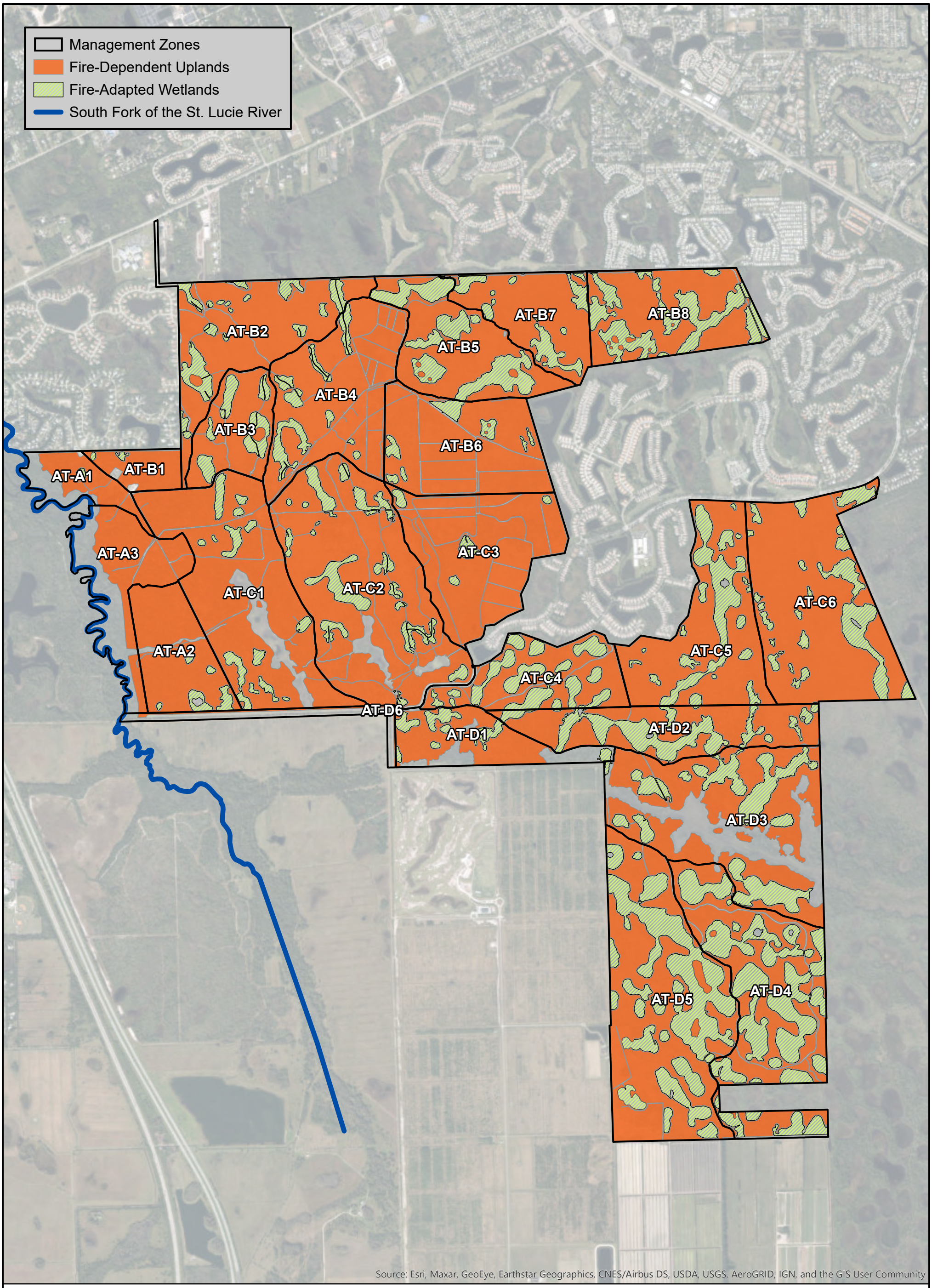
Action 1 Develop/update annual burn plan.
Action 2 Manage fire dependent communities by burning between 1,067 - 3,375 acres annually.

Table 3 contains a list of all fire-dependent natural communities found within the park, their associated acreage and optimal fire return interval, and the annual average burn target.

Table 3. Prescribed Fire Management

Natural Community	Acres	Optimal Fire Return Interval (Years)
Wet Flatwoods	185	2 – 6
Mesic Flatwoods	2,850	1 – 3
Depression Marsh	865	2 -10
Annual Target Acreage	**1,067 - 3,375**	

Prescribed burns are planned for each management zone based on the natural community with lowest optimal fire return interval. The park's burn plan is updated annually because fire management is a dynamic process. To provide adaptive responses to changing conditions, fire management requires careful planning based on annual and specific burn objectives. Each annual burn plan is developed to support and implement the broader objectives and actions outlined in this ten-year management plan.



Atlantic Ridge Preserve State Park

N

0 0.25 0.5 1 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial; 2017

Fire-Dependent
Natural Communities Map

Atlantic Ridge Preserve State Park is a challenging place to burn in terms of smoke management, especially on the north end of the park. The park has two schools adjacent to it (Dr. David Anderson Middle School; one on the north end; Seawind Elementary School near MZ AT-C5). In addition, the north end of the park is surrounded by residential developments. To the west is Halpatiokee Regional Park and just west of that is I-95 and the Florida Turnpike, which run adjacent to each other. Along the north end of the park, on the east side there are various residential areas. On the south end of the park, there are larger areas of undeveloped property used primarily for agricultural purposes. Prescribed burning, particularly on the north end of the park is challenging but is doable if well thought out. On the south end of the park the bigger challenge to prescribed burning is water and access during the wet parts of the year; however, implementing the prescribed fire program is much easier because of a lack of homes, schools and major highways are further away. The fire map below shows some of the factors considered when implementing prescribed fire at the park.

Annual burn objectives range from 1,067 to 3,375 acres. Prescribed burns are applied at intervals suiting the most frequently burnable ecosystem (mesic flatwoods) and the other ecosystems burn when conditions allow. Ideally, conditions under which prescribed burns are done are varied seasonally to vary its effects. However, prescribed burns during the natural spring and summer wildfire season provide maximum benefits to native plants and animals. In addition, the resident population in the winter months is higher than in the summer months and therefore there are fewer impacts to people when burning in the warmer months. Some areas (A zones; B1 to B3, B8, C5, C6) are very challenging to burn in the growing season because the lack of varied wind directions in the growing season.

In order to track fire management activities, the DRP maintains a statewide burn database called the Natural Resource Management Tracking System. The database allows staff to track various aspects of each park's fire management program including individual burn zone histories, fire return intervals, staff training and experience, backlog, etc. The database is also used for annual burn planning which allows the DRP to document fire management goals and objectives on an annual basis. Each quarter the database is updated, and reports are produced that track progress towards meeting annual burn objectives.

Natural Community Restoration: In some cases, the reintroduction and maintenance of natural processes is not enough to reach the desired future conditions for natural communities in the park and active restoration programs are required. Restoration of altered natural communities to healthy, fully functioning natural landscapes often requires substantial efforts including mechanical treatment of vegetation or soils and reintroduction or augmentation of native plants and animals. For the purposes of this management plan, restoration is defined as the process of assisting the recovery and natural functioning of degraded natural communities to desired future condition, including the re-establishment of biodiversity, ecological processes, vegetation structure and physical characters.

Examples that would qualify as natural community restoration, requiring annual restoration plans, include large mitigation projects, large-scale hardwood removal and timbering activities, roller-chopping and other large-scale vegetative modifications. The key concept is that restoration projects will go beyond management activities routinely done as standard operating procedures such as routine mowing, the reintroduction of fire as a natural process, spot treatments of exotic plants and small-scale vegetation management.

Objective B: Conduct habitat/natural community restoration activities on 464 acres of abandoned pasture.

Action 1	Backfill ditches in abandoned pastures.
Action 2	Monitor hydrology in abandoned pasture areas and assess the need for restoration (such as planting of pines or ground cover).
Action 3	Maintain restored vegetation with restored hydrology, prescribed fire, and periodic non-native plant removal.

Restoration of the abandoned pastures is a multi-phased project that starts with backfilling of ditches and the restoration of the hydrology. Once this is completed, vegetation restoration and planting can be assessed (if it is needed and what is needed). An example of a pasture that will require more work than simply backfilling of ditches if the eastern part of C3 (especially the south-eastern portion), which includes dozens of acres of torpedo grass. A plan for the removal of torpedo grass will be needed and then planting may needed to happen or re-vegetation of native may occur naturally. This process may start with a pilot area before tackling the entire area at once. More generally speaking, restored areas will require periodic fire and non-native plant removal.

Imperiled Species

Imperiled species are those that are (1) tracked by FNAI as critically imperiled (G1, S1) or imperiled (G2, S2); or (2) listed by the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened or of special concern.

Table 4 contains a list of all known imperiled species within the park and identifies their status as defined by various entities. It also identifies the types of management actions that are currently being taken by DRP staff or others and identifies the current level of monitoring effort. The codes used under the column headings for management actions and monitoring level are defined following the table. Explanations for federal and state status as well as FNAI global and state rank are provided in Addendum 6.

Management efforts for imperiled species on this property are limited and more work needs to be done to document imperiled plants and animals. For plants, the South Fork of the St. Lucie likely harbors a more extensive list of imperiled, epiphytic plants than listed below. In addition, there are a suite of rare plants in the matrix of mesic and wet flatwoods and depression marshes that are only partially represented in the list below. However, the plants in the uplands are very well adapted to prescribed fire. As far as animals are concerned the same general principles apply from the plants. More work needs to be done to inventory animals in the park, but prescribed fire aids the proliferation of gopher tortoises. Restoring wetlands will help the population of breeding and foraging birds, such as the wood stork, sandhill cranes and the birds in the rookery in MZ D3. The 2.5 miles of the South Fork of the St. Lucie River provides a respite for the West Indian manatee from the busy waterways downstream of the park. No management actions are taken for manatees, the river is likely important to manatees to get away from human impacts and as a source of freshwater during the dry season.

Table 4. Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Catesby's/pine lily *Lilium catesbaei*			T		1,2	
Rose pogonia *Pogonia ophioglossoides*			T		1,2,4	1
Banded wild pine *Tillandsia flexuosa*			T	G5/S3	4	1
REPTILES						
American alligator *Alligator mississippiensis*		SAT		G5/S4	4	1
Gopher tortoise *Gopherus polyphemus*	T			G3/S3	1,2	1
BIRDS						
Florida scrub-jay *Aphelocoma coerulescens*	T	T		G2/S2	1,2	1
Little blue heron *Egretta caerulea*	T			G5/S4	2,4	1
Tricolored heron *Egretta tricolor*	T			G5/S4	2,4	1
Florida sandhill crane *Grus canadensis*	T			G5T2/S2S3	1,2,4	1
Wood stork *Mycteria americana*	T	T		G4/S2	2,4	1
MAMMALS						
Florida manatee *Trichechus manatus latirostris*	T	T		G2/S2	1, 4	1

Management Actions:

1. Prescribed Fire
2. Exotic Plant Removal
3. Population Translocation/Augmentation/Restocking
4. Hydrological Maintenance/Restoration
5. Nest Boxes/Artificial Cavities
6. Hardwood Removal
7. Mechanical Treatment
8. Predator Control
9. Erosion Control
10. Protection from Visitor Impacts (establish buffers)/Law Enforcement
11. Decoys (shorebirds)
12. Vegetation Planting
13. Outreach and Education
14. Other

Monitoring Level:

Tier 1. Non-Targeted Observation/Documentation: includes documentation of species presence through casual/passive observation during routine park activities (i.e. not conducting species-specific searches). Documentation may be in the form of Wildlife Observation Forms, or other district specific methods used to communicate observations.

Imperiled Species Management

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

The DRP strives to maintain and restore viable populations of imperiled plant and animal species primarily by implementing effective management of natural systems. Single species management is appropriate in state parks when the maintenance, recovery or restoration of a species or population is complicated due to constraints associated with long-term restoration efforts, unnaturally high mortality or insufficient habitat. Single species management should be compatible with the maintenance and restoration of natural processes and should not imperil other native species or seriously compromise park values.

In the preparation of this management plan, DRP staff consulted with staff of the FWC's Imperiled Species Management or that agency's Regional Biologist and other appropriate federal, state and local agencies for assistance in developing imperiled animal species management objectives and actions. Likewise, for imperiled plant species, DRP staff consulted with FDACS. Data collected by the USFWS, FWC, FDACS and FNAI as part of their ongoing research and monitoring programs will be reviewed by park staff periodically to inform management of decisions that may have an impact on imperiled species at the park.

Ongoing inventory and monitoring of imperiled species in the state park system is necessary to meet the DRP's mission. Long-term monitoring is also essential to ensure the effectiveness of resource management programs. Monitoring efforts must be prioritized so that the data collected provides information that can be used to improve or confirm the effectiveness of management actions on conservation priorities. Monitoring intensity must at least be at a level that provides the minimum data needed to make informed decisions to meet conservation goals. Not all imperiled species require intensive monitoring efforts on a regular interval. Priority must be given to those species that can provide valuable data to guide adaptive management practices. Those species selected for specific management action and those that will provide management guidance through regular monitoring are addressed in the objectives below.

Objective A: Develop/Update baseline imperiled species occurrence inventory lists for plants and animals.

Action 1 Update the species list for the park.

DRP staff will continue to develop partnerships with other agencies and academic institutions to assist with the updates of inventory lists for additional imperiled species. Numerous agencies currently conduct research projects in the park that sometimes leads to the discovery of additional imperiled species. An inventory of terrestrial amphibians and reptiles was done in the early 2000s (Geneva and Roberts, 2009).

Objective B: Monitor and document 2 selected imperiled animal species in the park.

Action 1 Implement monitoring protocols for 2 imperiled animal species.
Action 2 Include Atlantic Ridge Preserve State Park in any regional efforts to re-introduce red-cockaded woodpeckers including any baseline vegetation monitoring.

Monitoring and documentation for both Florida scrub-jays and gopher tortoises are to be done at the park. Although no suitable habitat exists for the Florida scrub-jay in the park once a year monitoring should be done in the picnic area, where they have been found in the past. In addition, gopher tortoises need to be monitored in areas where construction will occur. Lastly, any vegetation survey done for the re-introduction of red-cockaded woodpeckers in other surrounding parks should also be done in this park.

Exotic and Nuisance Species

Exotic species are plants or animals not native to Florida. Invasive exotic species are able to out-compete, displace or destroy native species and their habitats, often because they have been released from the natural controls of their native range, such as diseases, predatory insects, etc. If left unchecked, invasive exotic plants and animals alter the character, productivity and conservation values of the natural areas they invade.

Exotic animal species include non-native wildlife species, free ranging domesticated pets or livestock and feral animals. Because of the negative impacts to natural systems attributed to exotic animals, the DRP actively removes exotic animals from state parks, with priority being given to those species causing the greatest ecological damage.

In some cases, native wildlife may also pose management problems or nuisances within state parks. A nuisance animal is an individual native animal whose presence or activities create special management problems. Examples of animal species from which nuisance cases may arise include venomous snakes or raccoons and alligators that are in public areas. Nuisance animals are dealt with on a case-by-case basis in accordance with the DRP's Nuisance and Exotic Animal Removal Standard.

The park contains a variety of exotic, invasive plants and animals. The most common exotic plants, in order of importance, are: Old world climbing fern, earleaf acacia, Brazilian pepper, melaleuca, downy rose myrtle, rosary pea, shoebutton ardisia, strawberry guava, Caesar's weed, Peruvian primrose willow, torpedo grass, Guinea grass, rosary pea, smooth rattlebox, cogon grass, air potato, Java plum and Australian pine. The worst exotic infestations are in areas with disturbed soils such as the entire park boundary, ditches, water control structures, and the abandoned pastures. The pasture areas harbored large Brazilian pepper infestation, and now currently is in maintenance condition but are particularly susceptible to re-infestation. The park boundaries that are not adjacent to the natural areas such as residences, agricultural areas, drainages and golf courses typically have the worst non-native plant infestations.

In addition to disturbed areas other, more remote areas have non-natives. First, the area adjacent to the park on the east of Seabranch Boulevard is an unmanaged area with many small private holdings and harbors a prodigious infestation of downy rose myrtle. Seeds routinely infiltrate the park from these areas. Second, when the property was obtained many of the pristine wetlands had at least a small amount of melaleuca in them and in some cases several acres of this plant. Much of the melaleuca is now in maintenance condition but requires periodic maintenance. Thirdly, the hydric hammock along the river remains the most diverse in terms of types of exotics and amount of non-native plants because it is a hospitable environment for a wide variety of non-native plants.

Although much of the park is impacted by non-natives, recent control efforts have made a huge difference in the abundance of these non-native plants. Much of the park is in now in maintenance.

As far as non-native animals are concerned, the most management intensive is the feral hog. Damage from rooting is common across a variety of ecosystems in the park and hogs occasionally spill over into adjacent properties causing damage to private property including residential lawns and golf courses. A not-insignificant amount of staff time goes into placing, setting, baiting, and checking traps; all done according the Division of Recreation and Parks Nuisance and Exotic Animal Removal Standard. Atlantic Ridge has some very trap smart and shy hogs in places, which makes trapping that much more difficult at times. In the past, an adjacent property in the area east of MZ D4 had a large pen for corporate hunts, which would be a source of hogs coming into the park from the outside.

Table 5 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC 2019). The table also identifies relative distribution for each species and the management zones in which they are known to occur. An explanation of the codes is provided following the table. For an inventory of all exotic species found within the park, see Addendum 5.

Table 5. Inventory of FLEPPC Category I and II Exotic Plant Species

Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
Rosary Pea *Abrus precatorius*	I	6	All
Earleaf Acacia *Acacia auriculiformis*	I	2	A zone
Woman's Tongue Albizia lebbeck	I	2	A, B, and C zones
Shoebutton Ardisia *Ardisia elliptica*	I	3	A zones and AT-D3
Bishopwood *Bischofia javanica*	I	2	A zones
Australian pine *Casuarina* sp.	I	2	A and D zones
Carrotwood *Cupaniopsis ancardioides*	I	2	A zones
Air-potato *Dioscorea bulbifera*	I	3	All
Water-hyacinth *Eichhornia uniflora*	I	2	C zones; primarily the Seawind Canal
Cogon Grass *Imperata cylindrical*	I	3	All
Lantana *Lantana camara*	I	1	B zones
Peruvian primrosewillow *Ludwigia peruviana*	I	3	All
Old World climbing fern *Lygodium microphyllum*	I	3	All
Melaleuca / Paper Bark *Melaleuca quinquenervia*	I	3	All

Table 5. Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and *Scientific Name*	**FLEPPC Category**	**Distribution**	**Management Zone(s)**
Natal grass *Melins repens*	I	6	All
Torpedo grass *Panicum repens*	I	3	All
Napier grass *Pennisetum purpureum*	I	2	AT-A2, AT-C1, AT-D1, AT-D5
Water-lettuce Pistia stratiotes	I	3	AT-C4
Strawberry guava *Psidium cattleianum*	I	2	A and D zones
Downy-rose myrtle *Rhodomyrtus tomentosa*	I	1	All
		3	AT-C6
Popcorn tree / Chinese tallow *Sapium sebiferum*	I	1	AT-D5
Queensland Umbrella Tree *Scheffelera actinophylla*	I	1	A zones
Brazilian pepper *Schinus terebinthifolia*	I	2	All
		4	AT-B6 / AT-D5
Climbing cassia Senna pendula	I	2	All
Java plum *Syzygium cumini*	I	2	All
Caesar's weed *Urena lobata*	I	3	All
Para grass *Urochloa mutica*	I	4	All
Durban crowfootgrass *Dactyloctenium aegyptium*	II	2	All
Guinea grass *Panicum maximum*	II	6	All
Wedelia *Sphagneticola trilobata*	II	6	All
Queen palm Syagrus romanzoffiana	II	2	AT-A1

Distribution Categories:

0 No current infestation: All known sites have been treated and no plants are currently evident.
1 Single plant or clump: One individual plant or one small clump of a single species.
2 Scattered plants or clumps: Multiple individual plants or small clumps of a single species scattered within the gross area infested.
3 Scattered dense patches: Dense patches of a single species scattered within the gross area infested.
4 Dominant cover: Multiple plants or clumps of a single species that occupy a majority of the gross area infested.
5 Dense monoculture: Generally, a dense stand of a single dominant species that not only occupies more than a majority of the gross area infested, but also covers/excludes other plants.
6 Linearly scattered: Plants or clumps of a single species generally scattered along a linear feature, such as a road, trail, property line, ditch, ridge, slough, etc. within the gross area infested.

Exotic Species Management

Goal: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control.

The DRP actively removes invasive exotic species from state parks, with priority being given to those causing the ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective A: Annually treat 977 to 1,628 gross acres of exotic plant species in the park (36 to 59 infested acres).

Action 1 Annually develop/update exotic plant management work plan.
Action 2 Implement annual work plan by treating 16 acres in park, annually and continuing maintenance and follow-up treatments, as needed.

Table 6. Exotic Species Treatment

Natural Communities	Primary Target	Target Treatment Return
Mesic Flatwoods	Downy rose myrtle	4-8 years
Depression Marsh	Lygodium / melaleuca	3-5 years
Altered Landcovers	Torpedo grass, Lygodium / melaleuca	3-5 years
Wet Flatwood	Shoebutton/ Lygodium/BP/CW	3-5 years
Hydric Hammock	Shoebutton/ Lygodium	3-5 years
Basin Swamp	Shoebutton/ Lygodium/BP/CW	3-5 years
Flatwood / Prairie Lake/ Marsh Lake	Primrose willow / melaleuca	3-5 years
Blackwater Stream	N/A	3-5 years
Mesic Hammock	Shoebutton/ Lygodium/BP/CW	3-5 years
Slough	Lygodium / melaleuca	3-5 years
Dome Swamp	Lygodium / melaleuca	3-5 years
Total Gross Acreage Target / Year	**977 - 1,628**	
Total Infested Acreage Target / Year	**36 - 59**	

Continuous treatment and surveying of non-native plants needs to occur on this site via staff and contractors. Typically, woody plants are the highest priority plants because they have the ability to most dramatically alter an ecosystem. In particular, melaleuca, earleaf acacia, and Brazilian pepper can rapidly grow and spread. The other two commonly treated plants are Old World climbing fern and cogon grass because they have a high potential to spread and proliferate. In addition, edges where large infestations of a particular plant are targeted so as to keep that plant out of the rest of the plant – such as downy rose myrtle in C6 or Brazilian pepper in D1, shoebutton ardisia in D3, or earleaf acacia in B5.

Objective B: Implement control measures on 1 exotic animal species in the park.

Action 1	Continually scout the park for feral hog damage.
Action 2	Every even year staff re-qualify with firearms to meet the Divisions' Firearm Use Standard.
Action 3	Implement control measures on feral hogs in the park.

Feral hog removal is done throughout the year in the park. Typically, sign is detected along management roads and then areas are pre-baited to see if there is activity, then a trap is moved to a site, and then the trap(s) is set. Feral hog activity varies throughout the year along with access to certain areas in the wet and dry season. Park staff are trained off-site per the Division's Firearm Use Standard. Occasionally areas of high activity are identified by park visitors or neighbors.

Cultural Resources

This section addresses the cultural resources present in the park that may include archaeological sites, historic buildings and structures, cultural landscapes and collections. The Florida Department of State (FDOS) maintains the master inventory of such resources through the Florida Master Site File (FMSF). State law requires that all state agencies locate, inventory and evaluate cultural resources that appear to be eligible for listing in the National Register of Historic Places. Addendum 7 contains the FDOS, Division of Historical Resources (DHR) management procedures for archaeological and historical sites and properties on state-owned or controlled properties; the criteria used for evaluating eligibility for listing in the National Register of Historic Places, and the Secretary of Interior's definitions for the various preservation treatments (restoration, rehabilitation, stabilization and preservation). For the purposes of this plan, significant archaeological site, significant structure and significant landscape means those cultural resources listed or eligible for listing in the National Register of Historic Places. The terms archaeological site, historic structure or historic landscape refer to all resources that will become 50 years old during the term of this plan.

Condition Assessment

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

Level of Significance

Applying the criteria for listing in the National Register of Historic Places involves the use of contexts as well as an evaluation of integrity of the site. A cultural resource's significance derives from its historical, architectural, ethnographic or archaeological context. Evaluation of

cultural resources will result in a designation of NRL (National Register or National Landmark Listed or located in an NR district), NR (National Register eligible), NE (not evaluated) or NS (not significant) as indicated in the table at the end of this section.

There are no criteria for determining the significance of collections or archival material. Usually, significance of a collection is based on what or whom it may represent. For instance, a collection of furniture from a single family and a particular era in connection with a significant historic site would be considered highly significant. In the same way, a high quality collection of artifacts from a significant archaeological site would be of important significance. A large herbarium collected from a specific park over many decades could be valuable to resource management efforts. Archival records are most significant as a research source. Any records depicting critical events in the park's history, including construction and resource management efforts, would all be significant.

Cultural Resource Sites

Desired future condition: All significant archaeological sites within the park that represent Florida's cultural periods or significant historic events or persons are preserved in good condition in perpetuity, protected from physical threats and interpreted to the public.

Description: To date, cultural resource sites are known within Atlantic Ridge Preserve State Park. Atlantic Ridge Preserve State Park was included in the Archaeological Resources Sensitivity Modeling in Florida State Parks Districts 4 and 5 conducted by the Alliance for Integrated Spatial Technologies (Collins et al. 2014). Based on the preliminary results, 1.73% of the park (83.87 acres) is located within high sensitivity areas and 32.23% of the park (1,562.88 acres) is located within medium sensitivity areas.

Cultural Resource Management

Cultural resources are individually unique, and collectively, very challenging for the public land manager whose goal is to preserve and protect them in perpetuity. The DRP will implement the following goals, objectives and actions, as funding becomes available, to preserve the cultural resources found in Atlantic Ridge Preserve State Park.

Goal: Protect, preserve, and maintain the cultural resources of the park.

The management of cultural resources is often complicated because these resources are irreplaceable and extremely vulnerable to disturbances. The advice of historical and archaeological experts is required in this effort. All activities related to land clearing, ground disturbing activities, major repairs or additions to historic structures listed or eligible for listing in the National Register of Historic Places must be submitted to the FDOS, Division of Historical Resources (DHR) for review and comment prior to undertaking the proposed project. Recommendations may include but are not limited to concurrence with the project as submitted, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigate potential adverse effect. In addition, any demolition or substantial alteration to any historic structure or resource must be submitted to the DHR for consultation and the DRP must demonstrate that there is no feasible alternative to removal and must provide a strategy for documentation or salvage of the resource. Florida law further requires that DRP consider the reuse of historic buildings in the park in lieu of new construction and must undertake a cost comparison of new development

versus rehabilitation of a building before electing to construct a new or replacement building. This comparison must be accomplished with the assistance of the DHR.

Objective A: Compile reliable documentation for all recorded historic and archaeological resources.

Action 1 Conduct a level 1 archaeological survey for priority zones identified by the predictive model.

A level 1 archaeological survey is recommended for priority zones identified by the predictive model in areas planned for restoration or development.

Timber Management Analysis

Atlantic Ridge Preserve State Park is designated as a single-use park. As such, timber management is only permitted as a method of natural community restoration and maintenance rather than as an ongoing extractive activity. The feasibility of managing/harvesting timber at Atlantic Ridge during the period covered by the UMP was considered pursuant to the DRP statutory responsibilities to analyze the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish natural characteristics to the degree practicable, except in those natural communities specifically managed for a structure that differs from that described in the timber assessment found at reference sites for those communities established by the Florida Natural Areas Inventory (FNAI). In the case of imperiled species, the management of certain natural communities may differ from standard treatments to provide optimum habitat conditions within the park.

Natural communities evaluated at Atlantic Ridge had overstory pine stocking levels within the range identified for corresponding FNAI Reference Sites. Conversely, hardwood overstory stocking levels evaluated at the park were generally above the upper limits identified for corresponding FNAI Reference Sites. The Timber Management Analysis found in Addendum 8 provides additional details. Overstory thinning is a management tool that may be utilized in areas which have overstocked conditions. However, the specific management goals and objectives for each natural community are detailed in the Resource Management Component. Activities related to stand improvement, including palmetto and midstory reduction, are ongoing in many areas, as well

Arthropod Control Plan

All DRP lands are designated as "environmentally sensitive and biologically highly productive" in accordance with Ch. 388 and Ch. 388.4111 Florida Statutes. If a local mosquito control district proposes a treatment plan, the DRP works with the local mosquito control district to achieve consensus. By policy of DEP since 1987, aerial adulticiding is not allowed, but larviciding and ground adulticiding (truck spraying in public use areas) is typically allowed. The DRP does not authorize new physical alterations of marshes through ditching or water control structures. Mosquito control plans temporarily may be set aside under declared threats to public or animal health, or during a Governor's Emergency Proclamation.

Sea Level Rise

Potential sea level rise is now under study and will be addressed by Florida's residents and governments in the future. The DRP will stay current on existing research and predictive models, in coordination with other DEP programs and federal, state, and local agencies. The DRP will continue to observe and document the changes that occur to the park's shorelines, natural features, imperiled species populations, and cultural resources. This ongoing data collection and analysis will inform the Division's adaptive management response to future conditions, including the effects of sea level rise, as they develop.

Land Management Review

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. The DRP considered recommendations of the land management review team and updated this plan accordingly.

Atlantic Ridge Preserve State Park was subject to a land management review on March 21st, 2016. The review team made the following determinations:

1) The land is being managed for the purpose for which it was acquired.
2) The actual management practices, including public access, complied with the management plan for this site.

Land Use Component

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the DRP. These responsibilities are to preserve representative examples of original natural Florida and its cultural resources, and to provide outdoor recreation opportunities for Florida's citizens and visitors. These dual responsibilities inform all recreational and infrastructure development considerations. Balancing equitable access to recreational opportunities and preservation of Florida's resources is the main priority when developing recreation and land use proposals.

The general recreation and land use planning process begins with an analysis of the natural and cultural resources of the unit, proceeds through the creation of a conceptual land use plan, and culminates in the actual design and construction of park facilities. Input on the plan is provided by experts in environmental sciences, cultural resources, park operation, and management. Additional input is received through public meetings and advisory groups with key stakeholders. With this approach, the DRP's objective is to provide high-quality facilities for resource-based recreation throughout the state with a high level of sensitivity to the natural and cultural resources at each park.

This section of the management plan includes an inventory and brief description of the existing recreational uses, facilities, and special conditions on use. Specific areas within the park that will be given special protection are also identified. The Conceptual Land Use Plan is described and identifies large-scale repair/renovation projects, new infrastructure projects, and/or new recreational amenities that are recommended to be implemented over the next ten-year planning period. Any adjacent lands that should be acquired to improve management of the park are also identified as a part of the park's Optimum Boundary.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities roads and trails existing in the unit management plan are delineated on the base map. Specific uses made of the units are briefly described in the following sections.

Past Uses

Past uses of the property include agriculture and hunting. Previous owners constructed agricultural cross ditches upon much of the property to drain the wetland ecosystem and maximize upland utilization for cattle grazing and other related agricultural practices. In addition, some areas of the preserve were managed for quail hunting.

Future Land Use and Zoning

The DRP works with local governments to establish designations that provide both consistency between comprehensive plans and zoning codes and permit typical state park uses and facilities necessary for the provision of resource-based recreation.

The Future Land Use designation for the park property is Recreational (Martin County 2016). The zoning designation is Public Recreation. No residential development is allowed except for the use of on-site residents. Existing land use and zoning designations are consistent with current and projected future uses of the park (Martin County 2016).

Current Recreational Use and Visitor Programs

The preserve has not yet opened to the public due to the lack of a formal entrance and public access road. Current access to the park is on a limited basis and upon request. Once the proposed entrance road is constructed, the preserve will be available for passive recreation such as hiking, horseback riding, picnicking, wildlife observation and birding.

Atlantic Ridge Preserve State Park recorded 6,039 visitors in FY 2019/2020 By DRP estimates, the FY 2019/2020 visitors contributed $647,099 in direct economic impact, the equivalent of adding 10 jobs to the local economy (FDEP 2020).

Other Uses

There are no other uses at the park.

Protected Zones

A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis.

At Atlantic Ridge Preserve State Park all wetlands and floodplain as well as known imperiled species habitat have been designated as protected zones. The park's current protected zone is delineated on the Conceptual Land Use Plan.

Existing Facilities

Due to the park having limited public access, there are a few recreation and support facilities at the Atlantic Ridge Preserve State Park. (see Base Map)

Recreational Facilities

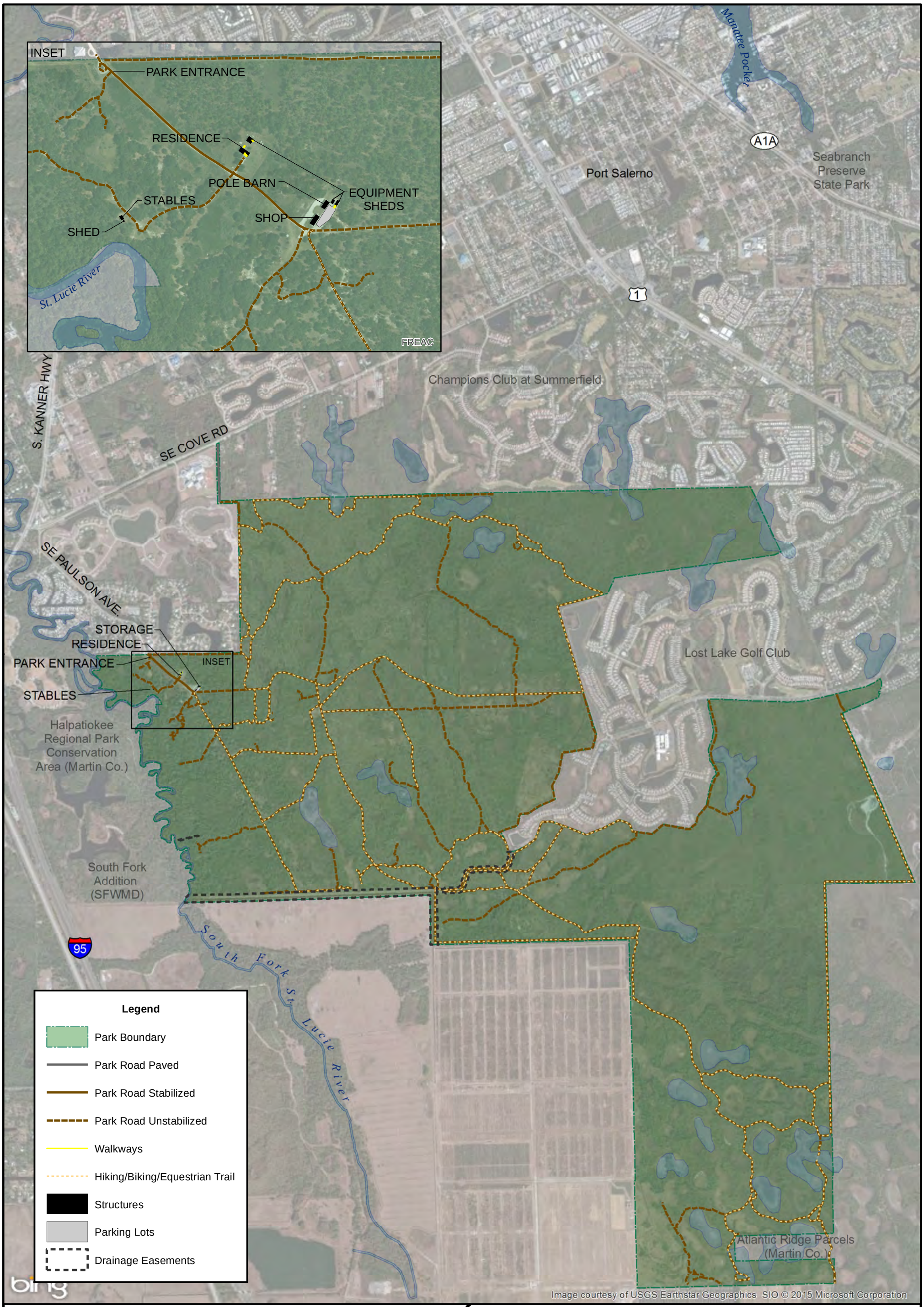
- Hiking Trails (~ 30 miles)

Park Entrance

- Honor Box

Support Facilities

- Ranger Residence (1)
- Equipment Shed (2)
- Shop Building
- Pole Barn
- Stables
- Shed



ATLANTIC RIDGE PRESERVE STATE PARK

0 1,000 2,000 4,000 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2011

BASE MAP

Conceptual Land Use Plan

The Conceptual Land Use Plan (CLUP) is the long-term, optimal development plan for Atlantic Ridge Preserve State Park based on current conditions and knowledge of the park's resources, landscape, and social setting. If a conceptual land use proposal from previous updates to a park's management plan has not been completed over the specified planning period, it can be carried over into subsequent updates if it continues to conform with the overall vision for the park. The Conceptual Land Use Plan and proposals can be modified or revised as new information becomes available regarding the park's natural and cultural resources or as trends in recreational use change over time.

In addition, the acquisition of new parkland can present new recreational opportunities or support facility needs. These modifications routinely take place during the management plan update process but can also be accomplished through a management plan amendment process. The planning period for this management plan is ten years, and conceptual land use proposals can be implemented at any time during this ten-year period, as funding becomes available.

During the development of the Conceptual Land Use Plan, the DRP assessed the potential resource impact of development proposals on the park resources and applied this generalized assessment to the overall vision for future infrastructure and recreational amenities. Once a conceptual land use proposal receives funding to be implemented, resource impacts are assessed at the site-specific level and are evaluated by the DRP. At that stage, design elements and design constraints are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment, or best available technology systems are applied for on-site sewage disposal.

Development of impervious surfaces is minimized to the greatest extent feasible in order to limit the need for stormwater management systems, and all facilities are designed and constructed using best management practices to limit and/or avoid resource impacts. Federal, state, and local permitting and regulatory requirements are addressed during the design and construction phase of implementation. This includes the design of all new park facilities to be consistent with the universal access requirements of the Americans with Disabilities Act (ADA).

Public Access and Recreational Opportunities

Goal: Provide public access and recreational opportunities in the park.

The existing recreational activities and programs of this state park are appropriate to the natural and cultural resources contained in the park and should be continued. New and/or improved activities and programs are also recommended and discussed below.

Objective: Maintain the park's current public access and recreational uses.

Currently the park has limited public access but has an extensive trail network that utilizes the park's existing management roads. This provides visitors with miles of trails for hikers, bikers, and equestrians.

Objective: Develop 2 new interpretive, educational and recreational programs.

The park currently has no interpretive programs. Interpretive programs that should be considered would include discussions and hikes with a resource management emphasis such as hydrology, prescribed fire, or exotic species management. Also, programs along the river front should be considered.

Capital Facilities and Infrastructure

Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

The existing facilities of this state park are appropriate to the natural and cultural resources contained in the park and should be maintained. New construction, as discussed further below, is recommended to improve the quality and safety of the recreational opportunities, to improve the protection of park resources, and to streamline the efficiency of park operations.

The following is a summary of improved or renovated and new facilities needed to implement the conceptual land use plan for Atlantic Ridge Preserve State Park.

Objective: Maintain all public and support facilities in the park.

All capital facilities, trails and roads within the park will be kept in proper condition through the daily or regular work of park staff and/or contracted help.

Objective: Improve/repair 1 existing facilities.

Major repair projects for park facilities may be accomplished within the ten-year term of this management plan, if funding is made available. These include the modification of existing park facilities to bring them into compliance with the Americans with Disabilities Act (a top priority for all facilities maintained by DRP).

The following discussion of other recommended improvements and repairs are organized by use area within the park. Minor repairs and renovations to existing structures will be implemented on a case-by-case basis.

Support Area

Currently there is one residence on the property and a need for another building at the park. To create a co-residence area, it should be placed near the current residence.

Objective: Construct 5 new use areas

Park Entrance

The current entrance for staff is located off SW Paulson Avenue. This location accesses the park from a separate unpaved county road, which leads past an adjacent residential community and an open-air boat storage area. Once in the park, visitors are taken past the park's residence and shop area. Across from the shop area is an open clearing that is currently used for parking, including horse trailers.

a. Benefits of this Location
   - Proximity to other management areas on the property for easier monitoring.
   - Existing use area entrance for the current limited user groups
   - Shorter distance to main trailhead, approximately 1.1 miles
   - Utilization of existing management roads to trailhead
   - Less environmental mitigation

b. Barriers to Implementation
   - Continually maintain all management areas near the entrance
   - Stabilization of county road leading to park entrance would need to done in agreement with Martin County
   - Location is not directly off the main road (SE Cove Road), and presence of the park would have less visibility to the traffic from the main road
   - SE Paulson Avenue, the road leading to the park passes by the adjacent residential community, with sights of its open boat storage
   - Possible congestion via SE Paulson Ave, as this is the main road to access the park and neighboring houses.

c. Specifications
   - Securing shop and open-air boat storage
   - Stabilize the current dirt/sand park road from the entrance to the main tailhead approximately 1.1 miles
   - Addition of up to 2 small covered pavilions for picnicking in the clearing across the shop

Day Use Area

- Stabilized Parking
- Trailhead
- Picnicking
- Interpretive Panels

Located east of the residence and shop area, a cleared area approximately 2.2 acres in size is used by equestrians and for limited special events. This area would serve well as the main trailhead for the park. This trailhead would be the park's central recreational use area.

At the main day use area there will be two separate stabilized parking areas one for vehicles and the other for horse trailers. Both should have small footprints and accommodate between 10 to 15 parking spots each. The main purpose of this area is to serve as a trailhead for the parks vast and extensive 30-mile trail network that provides recreational opportunities for wildlife viewing, hiking, biking and horseback riding. To maintain uniformity, the entire trailhead should be stabilized.

Appropriate signage will be installed directing visitors to the trailhead from the entrance, with a formal sign indicating arrival. Fencing around the clearing would be developed to delineate the area and to create the traditional Florida Park Service look and feel of a trailhead.

The addition of various interpretive panels or kiosks would benefit this area to educate visitors about various topics relevant to the park, such as its history and natural communities. This will add to the overall visitor experience and opportunity. To serve the equestrian group, features such as water spigots and a corral area for the horses should be added.

Further additions that would serve the area well include up to four medium sized covered pavilions for group picnicking around the parking area, and a medium sized restroom. The restrooms would be placed adjacent to the parking area connected with a meandering stabilized pathway.

Primitive Camping Area

- Develop Primitive Camping Area(s)

With nearby Jonathan Dickinson State Park having RV sites and cabins for recreational camping, there has been interest in primitive camping in the surrounding Martin County/Hobe Sound area. Within Atlantic Ridge Preserve State Park there are two proposed locations for primitive camping sites. The first location is in the northern portion of the park and approximately half a mile from the main day use area and can support up to four primitive sites. Also, with this location's proximity to the St. Lucie River, a path from the camping area to the river would be created for viewing opportunities.

The other proposed primitive campsites area is located also to the northern portion to the park, and a two mile like hike from the main day use area. This site will also be able to support up to four primitive sites.

With both proposed locations, campers will be able to park at the main day use area and then hike to the primitive campsites. Additionally, to further develop these sites, picnic tables and campfire rings may be added.

Support Area

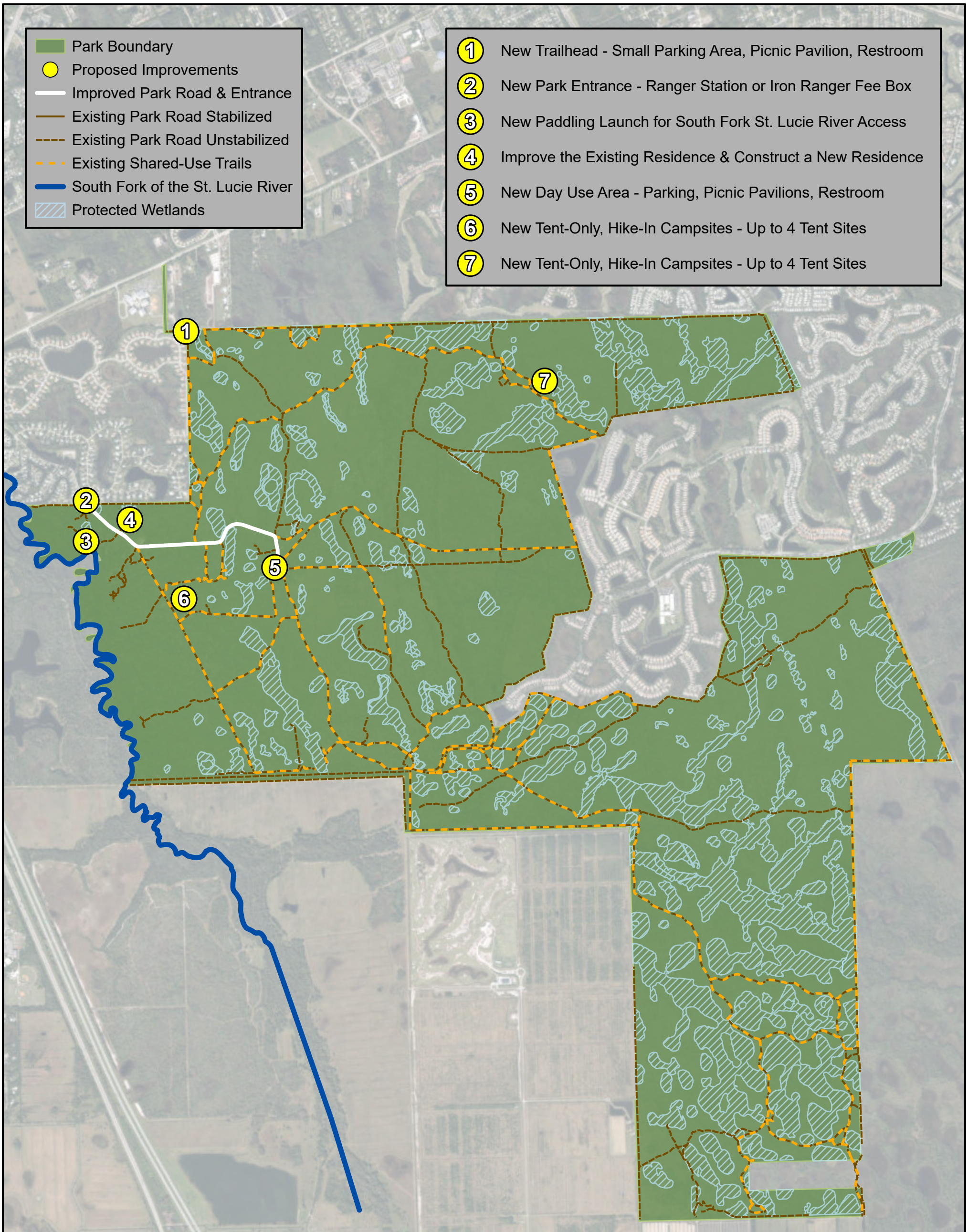
- Paddling Launch
-

Additions to the support area of the park include a paddling launch that will allow for self – guided trips along the South Fork of the St. Lucie River. The paddling launch will be placed at an existing clearing between trees and stabilized to prevent any further erosion. Paddling is a popular activity in the Martin County area and would add to the recreational opportunities for the park.

To further develop the parking and paddling launch area, a direct path should be created from the parking area to the launch. Additions to the paddling launch area include installing a paddling rack and benches. As well, incorporating an interpretive panel at the river bend explaining the hydrology of the area would add to the overall experience for the visitor. Visitors utilizing the paddling launch area would be able to park at the clearing across from the shop area. If needed, this clearing would become later stabilized as a formal parking area with appropriate signage indicating the area.

Trailhead

At the northwest corner of the park, just off SE Cove Road and Atlantic Ridge Drive a small trailhead will be created. The trailhead will have up to six parking sports, a small or medium sized picnic pavilion and a restroom. Additionally, it will also have an iron ranger to collect entrance fees. The trailhead will allow for visitors to park and hike into the park's various areas such as the main day use area.



Atlantic Ridge Preserve State Park

N

0 0.25 0.5 1 Miles

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial; 2017

Conceptual Land Use Plan Map

Visitor Use Management

The DRP manages visitor use to sustain the quality of park resources and the visitor experience, consistent with the purposes of the park. The dynamic nature of visitor use requires a deliberate and adaptive approach to managing resource impacts from recreational activity.

To manage visitor use, the DRP will rely on a variety of management tools and strategies, potentially including modes of access and limits on the number of people within certain areas of the park. Achieving balance between resource protection and public access is fundamental to the provision of resource-based recreation and interpretation. The premise of a visitor use management strategy is to protect the park's significant natural and cultural resources. A strategy may include site-specific indicators and thresholds selected to monitor resource conditions and visitor experience. By monitoring conditions over time and clearly documenting when conditions become problematic, the DRP can implement actions to prevent unacceptable resource conditions.

Levels of visitation, patterns of recreational use, and varieties of available recreational activities are routinely monitored parkwide. Indicators have shown that this park is operating sustainably for its resources and offers high quality experiences for its visitors.

Resource indicators to be considered during the ten-year planning period include:

- Erosion along trails in the mesic flatwoods and depression marshes

Quality of visitor experience indicators to be considered include:

- Congestion of day use areas by visitors at one time
- Insufficient visitor amenities to support the intended activities of a use area
- Obstruction of viewsheds through scenic areas of the park
- Interruption of serenity in areas intended for passive interpretive experience

Thresholds are defined as the minimally acceptable conditions for each indicator and represent the point at which resource impacts will require a change in management strategy. Thresholds are assigned based on the desired resource conditions, the data on existing conditions, relevant research studies, management experience, and current visitor use patterns. It is important to note that identified thresholds still represent acceptable resource conditions and not degraded or impaired conditions. Management actions may also be taken prior to reaching the thresholds.

Specific thresholds for resource conditions and experiential quality have not yet been established for the park. As monitoring continues, collected data may be used to determine baseline and desired conditions, thereby establishing thresholds.

Optimum Boundary

The optimum boundary map reflects lands considered desirable for direct management by the DRP as part of the state park. These parcels may include public or privately-owned land that would improve the continuity of existing parklands, provide the most efficient boundary configuration, improve access to the park, provide additional natural and cultural resource protection or allow for future expansion of recreational activities. Parklands that are potentially surplus to the management needs of DRP are also identified. As additional needs are identified, modification of the park's optimum boundary may be necessary.

Identification of parcels on the optimum boundary map is intended solely for planning purposes. It is not to be used in connection with any regulatory purposes. Any party or governmental entity should not use a property's identification on the optimum boundary map to reduce or restrict the lawful rights of private landowners. Identification on the map does not empower or suggest that any government entity should impose additional or more restrictive environmental land use or zoning regulations. Identification should not be used as the basis for permit denial or the imposition of permit conditions.

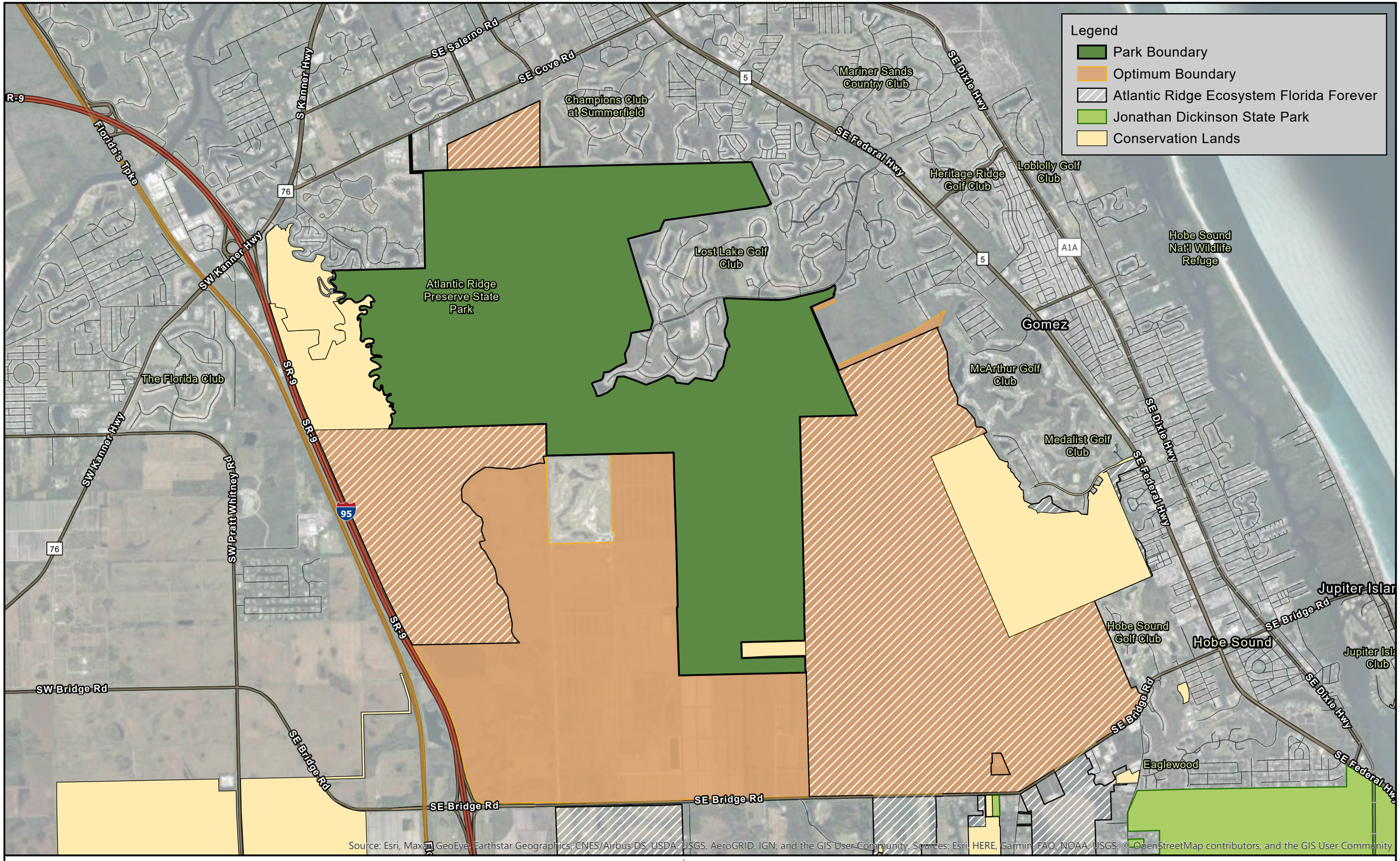
Atlantic Ridge Ecosystem Florida Forever Project

Within the Optimum Boundary, some of the parcels are currently apart of the Atlantic Ridge Ecosystem Florida Forever Boundary. Acquisition of the land within the Atlantic Ridge Ecosystem boundary will continue to protect the last stretch of Atlantic Costal Ridge Scrub that currently serves as habitat to the extremely rare reindeer lichen and the Florida Scrub Jay. Acquisition of the land within the Florida Forever boundary to the southeast of the park would create a greenway connection to Jonathan Dickinson State Park and other conservation lands in the region.

Three areas within the Atlantic Ridge Ecosystem Florida Forever boundary are included in the park's optimum boundary. The area to the southeast of the park is approximately 3,690 acres, the area to the southwest is approximately 1,230 acres, and the area to the north of the park is approximately 185 acres.

Additional Optimum Boundary Lands

The stretch of land to the south of the park contains a significant amount of pine flatwood uplands, wetland sloughs, and undeveloped farmland. Acquisition of these parcels of land will allow for continued land conservation in a highly developed area of Florida. Additionally, these lands will provide flood control for the park and future opportunities for hydrological restoration. This area is between two sections of the Atlantic Ridge Ecosystem Florida Forever project and is not within that project boundary. The acreage of this area is approximately 3,230 acres. Including the parcels within the Florida Forever boundary, the total acreage of the park's optimum boundary is approximately 8,335 acres. There are no lands considered surplus to the management needs of the park.



Atlantic Ridge Preserve State Park

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Florida Department of Environmental Protection
Division of Recreation and Parks
Date of Aerial: 2017

Optimum Boundary Map

Implementation Component

The resource management and land use components of this management plan provide a thorough inventory of the park's natural, cultural and recreational resources. They outline the park's management needs and problems and recommend both short and long-term objectives and actions to meet those needs. The implementation component addresses the administrative goal for the park and reports on the Division of Recreation and Parks (DRP) progress toward achieving resource management, operational and capital improvement goals and objectives since approval of the previous management plan for this park. This component also compiles the management goals, objectives and actions expressed in the separate parts of this management plan for easy review. Estimated costs for the ten-year period of this plan are provided for each action and objective, and the costs are summarized under standard categories of land management activities.

Resource Management

- In 2009, 2011, and 2016 a contractor implemented improvements on over 2.5 miles + of fire lines to access the south end of the park.
- In 2011 49% of Atlantic Ridge Preserve State Park's acreage was out of fire backlog. As of December 1st, 2016, 100% of the park's acreage is out of backlog and as of Fiscal Year 19/20 the park is currently 100% out of backlog.
- The 12-year average of prescribed fire acres is 881 acres of 4,190 fire type acres (21.0%) and the 5-year average is 1,409 acres (or 33.6% of fire type acres).
- 5-year average of non-native plant removal is 2,574 gross acres (734 infested acres).
- In 2011 the park was in ~0% maintenance condition, in terms of non-native plants. By 2016 100% of the park was moved to maintenance condition.
- The feral hog removal program has a 10-year average of 108 hogs removed per year.
- Cataloging of ditches for the purposes of obtaining permits from the South Florida Water Management District (SFWMD) and the Army Corp of Engineers began in in 2020 using staff from the District 5 offices. With initial focus areas on Management Zones C2, C3, and B6. These areas are old pasture areas on the north end of the park.
- In 2016, a new John Deere 5115M tractor was obtained to maintain fire lines.
- In 2016, a swamp buggy was procured to help facilitate resource management, especially in the wet season.

Cultural Resources

- A predictive model was completed for the park by the University of South Florida's Alliance for Integrated Spatial Technologies (*Archaeological Resource Sensitivity Modeling in Florida State Parks Districts 4 and 5*; Collins et al. 2014).
- Park staff continue to work the Division of Historical Resources when ground disturbance activities are planned.

Park Facilities

- 4-bay shop (including office space) and a pole barn was constructed in 2011 to facilitate the maintenance of equipment and housing of tools, vehicles, and safety equipment.

Park Administration and Operations

- An Iron Ranger (passive fee station) was put in at the temporary entrance of the park at the end of SE Paulson Road at the end of the Fiscal Year 2007/2008 for fees to be collected onsite.

Recreation and Visitor Service

- Average yearly attendance of 6,358 visitors per year.
- Interpretive talks are given on an as requested basis, including outreach to homeowner's associations.

Management Plan Implementation

This management plan is written for a timeframe of ten years, as required by Section 253.034 Florida Statutes. The Ten-Year Implementation Schedule and Cost Estimates (Table 8) summarizes the management goals, objectives and actions that are recommended for implementation over this period, and beyond. Measures are identified for assessing progress toward completing each objective and action. A time frame for completing each objective and action is provided. Preliminary cost estimates for each action are provided and the estimated total costs to complete each objective are computed. Finally, all costs are consolidated under the following five standard land management categories: Resource Management, Administration and Support, Capital Improvements, Recreation Visitor Services and Law Enforcement.

Many of the actions identified in the plan can be implemented using existing staff and funding. However, a number of continuing activities and new activities with measurable quantity targets and projected completion dates are identified that cannot be completed during the life of this plan unless additional resources for these purposes are provided. The plan's recommended actions, time frames and cost estimates will guide the DRP's planning and budgeting activities over the period of this plan. It must be noted that these recommendations are based on the information that exists at the time the plan was prepared. A high degree of adaptability and flexibility must be built into this process to ensure that the DRP can adjust to changes in the availability of funds, improved understanding of the park's natural and cultural resources, and changes in statewide land management issues, priorities and policies.

Statewide priorities for all aspects of land management are evaluated each year as part of the process for developing the DRP's annual legislative budget requests. When preparing these annual requests, the DRP considers the needs and priorities of the entire state park system and the projected availability of funding from all sources during the upcoming fiscal year. In addition to annual legislative appropriations, the DRP pursues supplemental sources of funds and staff resources wherever possible, including grants, volunteers and partnerships with other entities. The DRP's ability to accomplish the specific actions identified in the plan will be determined largely by the availability of funds and staff for these purposes, which may vary from year to year. Consequently, the target schedules and estimated costs identified in Table 8 may need to be adjusted during the ten-year management planning cycle

Table 7. Ten-Year Implementation Schedule and Cost Estimates				
Goal I: Provide administrative support		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Continue administrative support	Administrative support ongoing	C	$56,000
Goal II: Protect water quality and quantity in the park, restore hydrology, and maintain		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Restore hydrological functions to approximately 3,000 acres	# acres restored or within restoration underway	UNF	$1,550,000
Action 1	Develop a restoration plan to backfill and plug 20 miles of ditches	Plan Developed	UNF	$50,000
Action 2	Backfill and plug 20 miles of ditches	# miles of ditches filled	UNF	$1,500,000
Goal III: Restore and maintain natural communities		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain 4,613 acres of within the optimal fire return interval	# Acres within fire return interval target	LT	$152,000
Action 1	Develop/update annual burn plan	Plan update	C	$2,000
Action 2	Annually burn between 745 – 3,375 acres	Average # acres burned annually	C	$150,000
Objective B	Conduct natural community restoration activities on 434 acres of abandoned pasture	# acres restored or with restoration underway	LT	$101,000
Action 1	Backfill drainage ditches	Plan developed/updated	ST	$50,000
Action 2	Monitor hydrology in abandoned pastures areas and assess need for restoration	#Acres with restoration underway	LT	$1,000
Action 3	Maintain restored vegetation with restored hydrology, prescribed fire, and periodic non-native plant removal	# acres with restoration underway	LT	$50,000
Goal IV: Maintain, improve, or restore imperiled species populations and habitats		**Measure**	**Planning Period**	**Estimated Cost**
Objective A	Update baseline imperiled species occurrences inventory lists for plants & animals, as needed	List (developed) updated	C	$10,000
Objective B	Monitor & document 2 selected imperiled animal species	# species for which control measures implemented	C	$31,000
Action 1	Implement monitoring protocols for 2 imperiled animal species	# Protocols Developed	ST	$1,000
Action 2	Reintroduce red-cockaded woodpeckers including any baseline vegetation monitoring	# species monitored	C	$30,000

Goal V: Remove exotic and invasive plants and animals from the park and conduct needed maintenance control		Measure	Planning Period	Estimated Costs
Objective A	Annually treat 16 acres of exotic plants species in the park	# Acres treated	C	$42,000
Action 1	Annually Develop/update exotic plant management work plan	Assessment conducted	LT	$2,000
Action 2	Implement annual work plan by treating 16 acres in park	Plan implemented	LT	$40,000
Objective B	Implement control measures on 1 exotic and nuisance animal species	# species for which control measures implemented	C	$100,000
Action 1	Implement control measure on feral hogs in the park	# hogs removed	C	$100,000
Goal VI: Protect, preserve and maintain the cultural resources		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Compile reliable documentation for all recorded historical and archaeological sites	Documentation complete	LT	$0
Action 1	Conduct Level 1 archaeological survey	Assessment conducted	LT	$0
Goal VII: Provide public access and recreational opportunities		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain the park's current public access points and recreational uses	#Recreation/visitor	C	$111,200
Objective B	Develop two new interpretive, educational and recreational programs	#Interpretive/education programs	ST	$10,000
Goal VIII: Develop and maintain the capital facilities and infrastructure		**Measure**	**Planning Period**	**Estimated Costs**
Objective A	Maintain all public and support facilities	Facilities maintained	C	$223,000
Objective B	Construct 5 new use areas	#Facilities/ Miles of Trails/Miles of Roads	LT	$619,000

Total Ten-Year Estimated Costs	
Administrative and Support	$56,000
Resource Management	$2,000,000
Recreational Visitor Services	$121,000
Infrastructure Improvements	$842,000
Total	**$3,019,000**

Addendum 1—Acquisition History

Atlantic Ridge Preserve State Park Acquisition History

LAND ACQUISITION HISTORY REPORT

Park Name	Atlantic Ridge Preserve State Park
Date Updated	7/28/2020
County	Martin Couty, Florida
Trustees Lease Number	Lease No. 4288
Current Park Size	4886.08 acres
Purpose of Acquisition	The Board of Trustees of the Internal Improvement Trust Fund of the State Florida and the South Florida water Management District have acquired Atlantic Ridge Preserve State Park to protect one of the last patches of natural land left on the southeast Florida coast. This helps conserving an important scrub, pine, flatwood, marshes and flood plain of the South Fork of the St. Lucie and protecting the quality of water in the St. Luce and Loxahatchee River basin, which would allow the public to enjoy the original landscape of this fast-growing area, and restore the natural and cultural values of the property.

Acquisition History (includes only acquisition of parcels with 10 acres or more)

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller	Initial Purchaser	Size in acres	Instrument Type
DMID 16084	11/4/1998	Westerra Seawind, L. P.	South Florida Water Management District and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	2,515.15	Warranty Deed
DMID337291	12/29/1999	Westerra Seawind, L. P.	South Florida Water Management District and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	1,979.27	Special Warranty Deed
DMID342970	4/17/2000	South Florida Water Management District	The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	308.737	Qiutclaim Deed

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No. 4288	12/6/2000	South Florida Water Management District and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida	The State of Florida Department of Environmental Protection for the use and benefit of the Division of Recreation and Parks	Fifty (50)years	12/5/2050
Lease No. C-12565-A01	2/14/2000	South Florida Water Management District	Florida Department of Environmental Protection, Division of Recreation and Parks	Fifty (50) years	2/13/2052

Outstanding Issue	Type of Instrument	Brief Description of the Outstanding Issue	Term of the Outstanding Issue
There is no known deed-related outstanding issue such as restriction and/or reverter on use of Atlantic Ridge Preserve State Park.			

Addendum 2—Advisory Group Members and Report

Atlantic Ridge Preserve State Park
Advisory Group Members and Report

Local Government

The Honorable Harold Jenkins
Martin County Commission, District 3

The Honorable Sarah Heard
Martin County Commission, District 4

Mark Lynch, Deputy Director
Martin County Parks & Recreation

John Mahel, Ecosystems Divisions Manager
Martin County Ecosystems Restoration & Management

Jay Mann, Ecosystems Management Technician
Martin County Ecosystems Restoration & Management

Nerissa Okiye, Tourism & Marketing Manager
Martin County Tourist Development Council

Partnering State Agencies

Jason O'Donoughue, Ph.D
Division of Historical Resources

Jason Love, State Lands Management Coordinator
Florida Forest Service

Michael Lisiecki, Forest Area Supervisor
Florida Forest Service

Calin Lonita, Forester
Florida Forest Service

Thomas Reinert, Regional Director
Florida Wildlife Commission, South Region
Represented By: Matthew Stana

Micheal Anderson, Regional Wildlife Administrator
Florida Wildlife Commission, South Region

Environmental Organizations

Drew Bartlett, Executive Director
South Florida Water Management District
Represented By: Gene Colwell

John Nelson, President
Audubon Martin County

Audrey Kuipers, Programs Manager
Okeechobee Soil and Water

Linda Eastman, Chapter President
Martin County- Florida Native Plant Society
Represented By: Greg Braun

Linda Smithe, Group Chair
Sierra Club, Loxahatchee Group

Park Management

John Lakich, Park Manager
Florida Park Service

Adjacent Landowners

Nancy Odroadi
Liz Diaz

Citizen Support Organization

Ivy Almada, President
Friend of Jonathan Dickinson State Park

Local Stakeholder Groups

Adam Brown
Palm Beach Hounds, Inc

Jim Couillard, Chapter Chair
Florida Trail Association- Tropical Trekkers

Atlantic Ridge Preserve State Park
Advisory Group Members and Report

The Advisory Group meeting to review the proposed unit management plan (UMP) for Atlantic Ridge Preserve State Park State Park was held in virtually on March 17th, 2021.

Appointed members unable to attend include:

Attending Division of Recreation and Parks (DRP) staff members from the park, district office and the Office of Park Planning

Ms. Armaghani began the meeting by explaining the purpose of the advisory group and thanking the advisory group members for their time and participation in the meeting. Ms. Armaghani then asked each member of the advisory group to express their comments on the draft management plan. After all the comments were shared, Ms. Armaghani described the next steps for drafting the plan and then the meeting was adjourned.

Summary of Advisory Group Comments

Summary of Written Comments from Advisory Group Members

Staff Recommendations

Notes on Composition of the Advisory Group

Florida Statutes Chapter 259.032 Paragraph 10(b) establishes a requirement that all state land management plans for properties greater than 160 acres will be reviewed by an advisory group:

> "*Individual management plans required by s. 253.034(5), for parcels over 160 acres, shall be developed with input from an advisory group. Members of this advisory group shall include, at a minimum, representatives of the lead land managing agency, co-managing entities, local private property owners, the appropriate soil and water conservation district, a local conservation organization, and a local elected official.*"

Advisory groups that are composed in compliance with these requirements complete the review of State park management plans. Additional members may be appointed to the groups, such as a representative of the park's Citizen Support Organization (if one exists), representatives of the recreational activities that exist in or are planned for the park, or representatives of any agency with an ownership interest in the property. Special issues or conditions that require a broader representation for adequate review of the management plan may require the appointment of additional members. The DRP's intent in making these appointments is to create a group that represents a balanced cross-section of the park's stakeholders. Decisions on appointments are made on a case-by-case basis by Division of Recreation and Parks staff.

Addendum 3—References Cited

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Florida Exotic Pest Plant Council (FLEPPC). 2015. List of Invasive Plant Species. Florida Exotic Pest Plant Council. http://www.fleppc.org/list/list.htm.

Florida Natural Areas Inventory (FNAI). 2010. Guide to the Natural Communities of Florida. 2010 edition. Florida Natural Areas Inventory, Tallahassee, FL.

Geneva, A.J. and R.E. Roberts. 2009. The terrestrial herpetofauna of the Atlantic Ridge Preserve State Park. Florida Scientist 72(2):121-133.

Lichtler, W.F. 1960. Geology and Ground-Water Resources of Martin County, Florida. United States Geological Survey and Florida Geological Survey. Report of Investigations No. 23. 149 pp.

McCollum, S.H. and O.E. Cruz, Sr. 1981. Soil survey of Martin County Area, Florida. U.S. Dept. of Agric., Soil Cons. Serv. i-viii+204 pp.

Addendum 4—Soils Descriptions

(2) Lawnwood and Myakka Fine Sand - This nearly level soil is poorly drained. It is in broad areas of flatwoods. Slopes are dominantly smooth and range from 0 to 2%.

Typically, the surface layer is black and dark grayish brown fine sand. The subsurface layer is light brownish gray fine sand to a depth of 28 inches. The subsoil is a fine sand to a depth of 80 inches or more. The upper part of the subsoil is black and weakly cemented, the middle part is dark reddish brown and weakly cemented, and the lower part is brown and has darker colored, weakly cemented fragments.

Water table depth is less than 10 inches for 2 to 4 months and at a depth of 10 to 40 inches for 6 months or more per year. Permeability is rapid in the surface and subsurface layers and slow to very slow in the subsoil.

(4) Waveland and Immokalee Fine Sand - This nearly level soil is poorly drained. It is in broad areas of flatwoods. Slopes are dominantly smooth and range from 0 to 2 percent.

Typically, the surface layer is dark gray sand. The subsurface layer is light gray and grayish brown. The subsoil begins at a depth of 43 inches. The upper 4 inches of the subsoil is black sand and is not cemented. The next 30 inches is weakly cemented, black and dark reddish brown loamy sand. The next 14 inches is loose black sand, and below that is dark brown sand.

Water table depth is less than 10 inches for 2 to 4 months and within a depth at a depth 40 inches for 6 months or more per year. Permeability is rapid in the surface and subsurface layers and very slow in the subsoil.

(5) Waveland and Lawnwood Fine Sands, Depressional - This poorly drained soil is in depressions in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is very dray gray sand. The subsurface layer is gray, light gray, and light brownish gray sand to a depth of 48 inches. The subsoil is black, weakly cemented sand and noncemented, dark reddish brown sand. Below this is brown sand to a depth of 80 inches or more.

This soil is inundated for 6 to 9 months or more during most years. Permeability is rapid in the surface and subsurface layers and very slow to moderately slow in the subsoil.

(9) Pomeloo Sand – The Pomello series consists of very deep, moderately well to somewhat poorly drained, moderately permeable soils. They formed in sandy marine sediments. Slopes range from 0 to 5 percent. Moderately well and somewhat poorly drained. Very rapid permeability in the surface and subsurface horizons, moderate to moderately rapid in the subsoil, and rapid in the substratum to a of 80 inches or more. The seasonally high water table is at depths of about 24 to 42 inches for 1 to 4 months. Native vegetation is

dominated by scrub oak, dwarf live oak, saw palmetto, slash pine, and pine land threeawn.

(13) Placid and Bassinger Fine Sands, depressional - This nearly level soil is very poorly drained. It is in wet depressions and drainageways in the flatwoods. Areas range from a few acres to about 30 acres. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black sand. The subsurface layer is sand to a depth of more than 80 inches. It is dark grayish brown, gray and light brownish gray.

Most areas of this soil are ponded or inundated for 6 months or more each year. Water table depth is less than 10 inches for most of the year, except for extended dry periods. Permeability is rapid throughout the profile.

(15) Electra Fine Sand – This nearly level to gently sloping soil is poorly drained and is associated with low ridges within the flatwoods. The slopes are smooth to convex and range from 0 to 5%.

(16) Oldsmar Fine Sand - This is a poorly drained, nearly level soil in flatwoods. The water table is within a depth of 10 inches for 1 to 3 months and within a depth of 10 to 40 inches for 6 months or more in most years. Available water capacity is very low in the surface and subsurface, and medium in the subsoil. Permeability is rapid in the surface and subsurface layers, moderate to moderately rapid in the sandy part of the subsoil, in the subsoil, and slow to very slow in the loamy part of the subsoil. Natural fertility and organic matter content are low.

(17) Wabasso Sand - This nearly level soil is poorly drained. It is in broad, open areas in the flatwoods. Areas generally range up to about 1,000 acres. Slopes are smooth and range from 0 to 2 percent.

Typically, the surface layer is black and very dark gray sand about 7 inches thick. The subsurface layer is gray and light brownish gray sand. The upper part of the subsoil is black sand, and the lower part is very dark grayish brown, dark grayish brown, and olive gray sandy clay loam. The substratum is olive gray and greenish gray sandy clay loam.

The water table is at a depth of 10 to 40 inches for more than 6 months in most years and at a depth of less than 10 inches for 1 to 2 months. Permeability is rapid in the surface and subsurface layers, moderate in the sandy part of the subsoil, and slow to very slow in the loamy part.

(19) Winder Sand, Depressional - This nearly level soil is poorly drained. It occurs in long, low depressions in the flatwoods. Slopes are smooth to concave and are less than 2 percent.

Typically, the surface layer is dark gray sand about 7 inches thick. The subsurface layer is gray sand about 8 inches thick. The subsoil is light brownish gray sandy clay loam and has sandy streaks in the upper 11 inches and light gray sandy clay loam in the lower 16 inches. The substratum is below a depth of 42 inches. It is greenish gray loamy sand and has white shell fragments in the lower part.
The soil is ponded for 6 to 9 months in most years, and the water table is at a depth of less than 40 inches the rest of the time. Permeability is rapid in the surface and subsurface layers, moderately slow in the upper part of the subsoil, and slow to very slow in the lower part of the subsoil.

(21) Pineda and Riviera Sand - This nearly level soil is poorly drained. It is on low grassy flats in most parts of the area. Slopes are smooth and dominantly less than 1 percent but range from 0 to 2 percent.

Typically, the surface layer is dark gray and dark grayish brown sand. The subsurface layer is brown fine sand and has yellow and brownish yellow mottles. The upper part of the subsoil is brownish yellow and very pale brown fine sand that is coated with iron oxides. The lower part of the subsoil is mottled, gray fine sandy loam. Below this is grayish fine sandy loam. The substratum is a mixture of gray sand and white shell fragments to a depth of 72 inches or more.

The water table is within a depth of 10 inches for 2 to 6 months during wet seasons in most years, and at a depth of 10 to 40 inches for most of the remaining time. Some areas are covered with shallow water for 1 to 2 months. Permeability is rapid, except it is slow to very slow in the lower part of the subsoil.

(22) Okeelanta Muck - This nearly level soil is very poorly drained. It is found in depressions, and freshwater swamps and marshes. Slopes are smooth to concave and 0 to 1 percent.

The surface layer is typically black muck about 4 inches thick. Next is a reddish brown muck about 22 inches thick over a 4 inch layer of black muck mixed with sand. Below this to a depth of 80 inches or more is sand that is very dark gray in the upper 18 inches and dark grayish brown below.

This soil is ponded about 6 to 9 months in most years. The water table is within a depth of 10 inches the remainder of the year. Internal drainage is slow because it is inhibited by the high-water table. Permeability is rapid in all layers.

(38) Floridana Fine Sand, Depressional – This nearly level soil is very poorly drained. It is in wet sloughs and depressions. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black fine sand about 15 inches thick. The subsurface layer is light brownish gray fine sand to a depth of 27 inches. The

subsoil is grayish brown sandy clay loam. Next is grayish brown fine sandy loam, and below this light gray fine sand to a depth of 62 inches or more. The soil is ponded for more than 6 months during most years.

Water table depth is less than 10 inches for much of the remainder of the year. Permeability is rapid in the surface and subsurface layers and slow to very slow in the subsoil.

(44) Boca Fine Sand - This nearly level soil is poorly drained. It is in areas of flatwoods. Slopes are less than 2 percent.

Typically, the surface layer is fine sand to a depth of 8 inches. The upper 4 inches of the surface layer is very dark gray, and the lower 4 inches is dark gray, and the lower 4 inches is dark gray. The subsurface layer is fine sand about 17 inches thick. The upper 8 inches of the subsurface layer is light gray, and the lower 9 inches is pale brown. The subsoil is light gray fine sandy loam about 7 inches thick. Below this is hard limestone about 8 inches thick. Underlying the limestone are layers of light gray fine sand, greenish gray loamy fine sand, and light gray fine sand mixed with shell fragments to a depth of 60 inches or more.

The water table is at a depth of less than 10 inches for 2 to 4 months in most years. During drier periods, the depth of the water table coincides with the depth of the limestone layer. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.

(47) Pinellas Fine Sand - This nearly level soil is poorly drained. It is in the flatwoods and hammock areas bordering sloughs and depressions. Areas are typically small (5 to 50 acres) in size. Slopes are smooth and range from 0 to 2 percent.

The surface layer is typically fine black sand about 5 inches thick. The subsurface layer is a fine sand to a depth of about 26 inches. The upper 6 inches of the subsurface layer is grayish brown. The lower part of the subsurface layer has carbonate accumulations and is calcareous. It is dark grayish brown in the upper 2 inches, light gray in the next 3 inches, and white in the lower 10 inches. The subsoil is light olive gray fine sandy loam about 12 inches thick. Below this is about 14 inches of light olive gray fine sand over light gray fine sand and shell fragments to a depth of 60 inches or more.

The water table is within a depth of 10 inches for less than 3 months and at a depth of 10 to 40 inches for 4 to 6 months during most years. The water table can recede to a depth of more than 40 inches during extended dry periods. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.

(48) Jupiter Sand - This nearly level, shallow soil is poorly drained. It is in low flats and hammocks along the fringes of broad, marshy drainageways. Slopes are smooth to convex and are dominantly 1 percent or less.

Typically, the surface layer is sand about 10 inches thick. The upper 4 inches of the surface layer is black, and the lower 6 inches is very dark grayish brown. Below this is hard, fractured limestone about 12 inches thick. The substratum is calcareous loamy sand. The upper 10 inches of the substratum is light brownish gray, the next 16 inches is light gray, the next 24 inches is olive gray, and the lower part is greenish gray and is mixed with white shell fragments to a depth of 84 inches or more.

Some areas are covered with water for short periods during the rainy season. The water table is at a depth of less than 10 inches for 2 to 4 months in the wet season during most years. It is at a depth of 10 to 40 inches in drier seasons. Permeability is rapid in the sandy surface layer above the rock. The hard limestone rock is impermeable but has sufficient fractures and solution holes to permit water movement. Permeability is rapid in the substratum.

(49) Riviera Fine Sand, Depressional - This nearly level soil is poorly drained. It is in depressions. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is gray fine sand about 2 inches thick. The subsurface layer is gray fine sand to a depth of 28 inches is light brownish gray. The upper 10 inches of the subsoil is gray fine sandy loam that has pocket and tongues of material from the subsurface layer, and the lower 11 inches is grayish brown sandy clay loam. Below this is grayish brown loamy fine sand to a depth of 50 inches or more.

This soil is ponded for 6 to 9 months in most years. During the dry season, the water table recedes to a depth of 10 to 40 inches. Permeability is rapid in the sandy surface and subsurface layers, slow or very slow in the upper part of the subsoil, and rapid below this.

(51) Pompano Fine Sand, occasionally flooded – This nearly level soil is poorly drained. It is in narrow drainage ways. Areas are long, narrow, and highly dissected by stream action. Slopes are dominantly 0 to 2%, but stream dissection has created numerous short steep side slopes.

Typically, the surface layer is dark gray fine sand. Below this is fine sand to a depth of 80 inches or more. The upper part is light gray and has white pockets. Next is mottled light burnish gray with dark grayish brown and very dark grayish brown pockets. The lower part is light gray fine sand with a few grayish brown pockets.

(52) Malabar Fine Sand, High - This soil is nearly level and poorly drained. It occurs in broad, low areas of flatwoods and sloughs. Areas range in size from about 10 to 100 acres. Slopes are smooth and range from 0 to 2 percent.

Typically, the surface layer is very dark gray sand about 5 inches thick. The subsurface layer is light gray sand about 10 inches thick. The upper 14 inches of the subsoil is brownish yellow sand, and the next 13 inches is very pale brown sand. Below this is a gray sandy loam to a depth of 80 inches or more.

The water table is within a depth of 10 inches for 2 to 6 months during most years. It is at a depth of 10 to 40 inches most of the remainder of the year. Permeability is rapid in all layers above the subsoil and slow to very slow in the subsoil.

(56) Wabasso and Oldsmar Fine Sands, Depressional – This nearly level soil is poorly drained. It is in wet depressions in the flatwoods. Slopes are smooth to concave and range frim 0 to 2 percent.

Typically, the surface layer is very dark gray fine sand about 5 inches thick. The subsurface layer is white and light gray fine sand about 26 inches thick. The upper part of the subsoil is black fine sand about 4 inches thick, and the lower part is grayish brown sandy clay loam about 8 inches thick. The substratum is light brownish gray loamy fine sand.

This soil is ponded for 6 to 9 months or more in most years. Permeability is rapid in the surface and subsurface layers. It is moderate in the upper, sand part of the subsoil and slow or very slow in the lower part.

(57) Chobee Loamy Sand - This nearly level soil is very poorly drained. It is in small to large depressions and poorly defined drainageways and on broad, low flats. Areas of this soil type within the park are small (< 10 acres). Slopes are smooth to concave and range from 0 to 2 percent.

The soil typically has a 3-inch layer of black muck on the surface. The surface mineral layer is black loamy sand about 6 inches thick. Subsoil is a sandy loam and sandy clay loam about 36 inches thick. The upper part of the subsoil is black, and the lower part is gray. Below this is the calcareous substratum to a depth of 80 inches or more. The upper 7 inches of the substratum is grayish brown sandy loam, the next 9 inches is light olive sandy clay loam, and the lower 22 inches is greenish gray sandy clay loam that has pockets of loamy sand.

The water table is above the surface or within a depth of 10 inches for 6 to 9 months or more in most years. It is at a depth of 10 to 30 inches for short periods during dry seasons. Permeability is moderately rapid in the surface layer, and slow or very slow in the subsoil and substratum.

(58) Gator and Tequesta Mucks – This nearly level soil is very poorly drained. This soil is in wet depressions and broad marsh areas. Slopes are less than 1 percent.

Typically, the surface layer is muck about 24 inches thick. The upper 11 inches of the muck is black, and the lower 13 inches is dark reddish brown.

Next is very dark gray fine sand sandy loam about 24 inches thick. Below this is gray and brownish gray sand and common shell fragments to a depth of 56 inches or more.

This soil is typically covered with water, or the water table is within a depth of 10 inches except during extended dry seasons. Permeability is rapid in the organic layer and moderate in the loamy layer.

(63) Nettles Sand - This nearly level soil is poorly drained. It is in broad areas of
flatwoods. Areas are generally quite large, ranging up to 2,000 acres. Slopes are smooth and range from 0 to 2 percent.

Typically, the surface layer is about 12 inches thick. The upper 5 inches of the surface layer is very dark gray sand, and the lower 7 inches is dark gray fine sand. The subsurface layer is gray fine sand about 20 inches thick. The upper part of the subsoil is fine sand weakly cemented with organic mater. It is black in the upper 11 inches and dark reddish brown in the lower 8 inches. The lower part of the subsoil is grayish brown fine sandy loam about 11 inches thick. Below this is about 9 inches of dark grayish brown loamy fine sand over grayish brown loamy fine sand to a depth of 80 inches.

The water table is at a depth of 10 to 40 inches for 4 to 6 months or more during most years. It is at a depth of less than 10 inches for 2 to 4 months during wet seasons. Permeability is rapid in the surface and subsurface layers and very slow to moderately slow in the subsoil.

(67) Kesson Sand - The Kesson series consists of deep, very poorly drained, rapid to moderately rapid permeable soils that formed in thick marine deposits of sand and shell fragments in tidal swamps and marshes. Slopes range from 0 to 1 percent.

Addendum 5—Plant and Animal List

Atlantic Ridge Preserve State Park Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
	FERNS	
Giant leather fern	*Acrostichum danaeifolium*	BST
Swamp fern	*Blechnum serrulatum*	WF,HH
Old world climbing fern*	*Lygodium microphyllum*	MTC
Club moss	*Lycopodiella* spp	
Boston fern	*Nephrolepis biserrata*	
Tuberous sword fern*	*Nephrolepis cordifolia*	
Boston fern	*Nephrolepis exaltata*	
Cinnamon fern	*Osmunda cinnamomea*	HH,STS,MF,WF
Royal fern	*Osmunda regalis*	HH,MF,WF
Golden polypody	*Phlebodium aureum*	
Resurrection fern	*Pleopeltis polypodioides*	HH
Bracken fern	*Pteridium aquilinum*	
Shoestring fern	*Vittaria lineata*	
Chain fern	*Woodwardia virginica*	
	GYMNOSPREMS AND CYCADS	
Slash pine	*Pinus elliottii*	MF,WF,DM,HH
Pond cypress	*Taxodium ascendens*	DS
Bald cypress	*Taxodium distichum*	HH
	MONOCOTS	
Florida bluestem	*Andropogon floridanus*	
Bluestem grass	*Andropogon virginicus*	
Wire grass	*Aristida beyrichiana*	
Wire grass	*Aristida stricta*	
Southern sandspur	*Cenchrus echinatus*	
Sandbur sandspur	*Cenchrus gracillimus*	
Saw grass	*Cladium jamaicense*	
Day flower	*Commelina diffusa var.diffusa*	
Bermuda grass*	*Cynodon dactylon*	
Crowfoot grass*	*Dactyloctenium aegyptium*	
Club rush	*Eleocharis cellulosa*	
Golden pothos*	*Epipremnum pinnatum*	
Cogon grass*	*Impereta cylindrica*	
Red root	*Lachnanthes caroliana*	
Maidencane	*Panicum hemitomon*	
Bahia grass	*Paspalum notatum var. saurae*	
Snowy orchid	*Plantanthera nivea*	HH
Pickerel weed	*Pontederia cordata*	
White-top sedge	*Rhynchospora colorata*	
Beak sedge	*Rhynchospora megalocarpa*	
Cabbage palm	*Sabal palmetto*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Saw palmetto	*Serenoa repens*	
Earleaf greenbrier	*Smilax auriculata*	
Common wildpine	*Tillandsia fasciculata*	DS,HH,STS
Ball moss	*Tillandsia recurvata*	
Needle-leaved airplant	*Tillandsia setacea*	
Spanish moss	*Tillandsia usneoides*	
Giant airplant	*Tillandsia utriculata*	DS,HH,STS
Purplequeen*	*Tradescantia zebrina*	
Southern cattail	*Typha domingensis*	
Broadleaf cattail	*Typha latifolia*	
Blue-eyed grass	*Sisyrinchium solstitiale*	
Ladies tresses	*Spiranthes spp.*	
	DICOTS	
Rosary pea*	*Abrus precatorius*	
Earleaf acacia*	*Acacia auriculiformis*	
Red maple	*Acer rubrum*	
Colic root	*Aletris lutea*	
Common ragweed	*Ambrosia artemisiifolia*	
Pepper vine	*Ampelopsis arborea*	
Pond apple	*Annona glabra*	
Groundnut	*Apios americana*	
Marlberry	*Ardisia escallonioides*	
Shoebutton ardisia	*Ardisia elliptica*	
Lanceleaf milkweed	*Asclepias lanceolata*	
Dwarf pawpaw	*Asimina reticulata*	
Saltbush	*Baccharis halimifolia*	
Tarflower	*Befaria racemosa*	
Spanish needles	*Bidens bipinnata*	
Bishopwood*	*Bischofia javanica*	
Bluehearts	*Buchnera americana*	
Beauty berry	*Callicarpa americana*	
Water hickory	*Carya aquatica*	
Australian pine*	*Casuarina glauca*	
Partridge pea	*Cassia chamaecrista*	
Love vine	*Cassytha filiformis*	
Madagascar periwinkle*	*Catharanthus roseus*	
Coinwort	*Centella asiatica*	
Butterfly pea	*Centrosema virginianum*	
Buttonbush	*Cephalanthus occidentalis*	
Mexican tea*	*Chenopodium ambrosioides*	
Snowberry	*Chiococca alba*	
Cocoplum	*Chrysobalanus icaco*	
Florida golden aster	*Chrysopsis floridana*	
Yellow thistle	*Cirsium horridulum*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Thistle	*Cirsium nuttallii*	
Sour orange*	*Citrus aurantium*	
Tread softly	*Cnidoscolus stimulosus*	
Smooth rattlebox*	*Crotalaria pallida*	
Carrotwood*	*Cupaniopsis anacardioides*	
Scrub clover	*Dalea feayi*	
Beggar ticks	*Desmodium incanum*	
Persimmon	*Diospyros virginiana*	
Pink sundew	*Drosera capillaaaris*	
Fragrant eryngium	*Eryngium aromaticum*	
Button snakeroot	*Eryngium yuccifolium*	
Surinam cherry	*Eugenia uniflora*	
Dog fennel	*Eupatorium capillifolium*	
Erect scrub spurge	*Euphorbia polyphylla*	
Semaphore Eupatorium	*Eupatorium mikanioides*	
Pop ash	*Fraxinus caroliniana*	
White milk pea	*Galactia elliottii*	
Milk pea	*Galactia volubilis*	
Dwarf huckleberry	*Gaylussacia dumosa*	
Rabbit tobacco	*Gnaphalium obtusifolium*	
Loblolly bay	*Gordonia lasianthus*	
Innocence	*Hedyotis procumbens*	
Pineland heliotrope	*Heliotropium polyphyllum*	
Camphorweed	*Heterotheca subaxillaris*	
Sandweed	*Hypericum fasciculatum*	
St. Andrew's cross	*Hypericum hypericoides*	
Four petal St. John's-wort	*Hypericum tetrapetalum*	
Dahoon holly	*Ilex cassine var. cassine*	
Gallberry	*Ilex glabra*	
Yaupon holly	*Ilex vomitoria*	
Virginia willow	*Itea virginica*	
Duck weed	*Lemna aequinoctialis*	
Duckweed	*Lemna obscura*	
Pepper weed	*Lepidium virginicum*	
Gopher apple	*Licania michauxii*	
Blazing star	*Liatris tenuifolia*	
Primrose willow*	*Ludwigia peruviana*	
Primrose	*Ludwigia* spp	
Sky-blue lupine	*Lupinus diffusus*	
Rose rush	*Lygodesmia aphylla*	
Staggerbush	*Lyonia fruticosa*	
Fetterbush	*Lyonia lucida*	
Sweetbay	*Magnolia virginiana*	
Paperbark tree*	*Melaleuca quinquenervia*	
Climbing hemp vine	*Mikania scandens*	
Sensitive brier	*Mimosa quadrivalus var.floridan*a	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Twinberry	*Mitchella repens*	
Mulberry	*Morus rubra*	
Wax myrtle	*Myrica cerifera*	
Feay's palafox	*Palafoxia feayi*	
Virginia creeper	*Parthenocissus quinquefolia*	
Red bay	*Persea borbonia var. borbonia*	
Swamp bay	*Persea palustris*	
Match head	*Phyla nodiflora*	
Pokeweed	*Phytolacca americana*	
Leaf flower	*Phyllanthus abnormis*	
Pennyroyal	*Piloblephis rigida*	
Yellow butterwort	*Pingucula lutea*	
Small butterwort	*Pingucula pumila*	
Narrowleaf silkgrass	*Pityopsis graminifolia*	
Rose pogonia	*Pogonia ophioglossoides*	
Southern plantian	*Plantago virginica*	
Marsh fleabane	*Pluchea odorata*	
White fleabane	*Pluchea foetida*	
Leadwort*	*Plumbago auriculata*	
Printed leaf	*Poinsettia cyathophora*	
Drumheads	*Polygala cruciata*	
Tall milkwort	*Polygala cymosa*	
Orange milkwort	*Polygala lutea*	
Yellow bachelor's button	*Polygala rugelii*	
Wireweed	*Polygonella gracilis*	
Jointweed	*Polygonella polygama*	
Strawberry guava*	*Psidium cattleianum*	
Guava*	*Psidium guajava*	
Wild coffee	*Psychotria nervosa*	
Wild coffee	*Psychotria sulzneri*	
Black root	*Pterocaulon pycnostachyum*	
Mock bishop's weed	*Ptilimnium capillaceum*	
Laurel oak	*Quercus laurifolia*	
Running oak	*Quercus pumila*	
Live oak	*Quercus virginiana*	
White indigo berry	*Randia aculeata*	
Myrsine	*Rapanea punctata*	
Downy rose myrtle*	*Rhodomyrtus tomentosa*	
Winged sumac	*Rhus copallinum*	
Tropical Mexcican clover	*Richardia brasiliensis*	
Dewberry	*Rubus trivialis*	
Rouge plant	*Rivina humilis*	
Coastal plain sabatia	*Sabatia calycina*	
Large flowered sabatia	*Sabatia grandiflora*	
Carolina willow	*Salix caroliniana*	
Elderberry	*Sambucus canadensis*	

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Pineland pimpernel	*Samolus valerandi* subsp.*parviflorus*	
White vine	*Sarcostemma clausum*	
Lizard's tail	*Saururus cernuus*	
Brazilian pepper*	*Schinus terebinthifolius*	
Gulf greytwig	*Schoepfia chrysophlloides*	
Heartleaf sida*	*Sida cordifolia*	
Common nightshade	*Solanum americanum*	
Tropical soda apple*	*Solanum viarum*	
Queen's delight	*Stillingia sylvatica*	MF,WF
Wire plant	*Stipulicida setacea var. lacerata*	
Poison ivy	*Toxicodendron radicans*	
Puncture vine*	*Tribulus cistoides*	
Caesar's weed*	*Urena lobata*	
Bladderwort	*Utricularia* spp.	
Shiny blueberry	*Vaccinium myrsinites*	
Muscadine grape	*Vitis rotundifolia*	
Creeping oxeye*	*Wedelia trilobata*	
Asiatic hawk's beard*	*Youngia japonica*	

* Non-native Species

Atlantic Ridge Preserve State Park Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
	FISH	
Mosquitofish	*Gambusia holbrooki*	BST
Yellow bullhead	*Ictalurus natalis*	BST
Florida gar	*Lepisosteus platyrhincus*	BST
Redbreast sunfish	*Lepomis auritus*	BST
Warmouth	*Lepomis gulosus*	BST
Bluegill	*Lepomis macrochirus*	FPLK
Redear sunfish	*Lepomis microlophus*	BST
Largemouth bass	*Micropterus salmoides*	BST
Striped mullet	*Mugil cephalus*	BST
Sailfin molly	*Poecilia latipinna*	BST
Black crappie	*Pomoxis nigromaculatus*	BST
Grass carp*	Ctenopharyngodon idella	BST
	AMPHIBIANS	
Eastern narrowmouth toad	*Gastrophryne carolinensis*	DM,HH
Florida cricket frog	*Acris gyrllus dorsalis*	MF,WF,DM
Green treefrog	*Hyla cinerea*	DS,HH
Pine woods treefrog	*Hyla femoralis*	MF,WF,DM
Squirrel treefrog	*Hyla squirella*	HH
Florida chorus frog	*Pseudacris nigrita verrucosa*	MF,WF,DM
Greenhouse frog*	*Eleutherodactylus planirostris planirostris*	MF,WF
Pig frog	*Lithobates grylio*	DS,BST
Southern leopard frog	*Lithobates utricularia*	DS
Oak toad	*Bufo quericus*	MF,WF,DM
Southern toad	*Bufo terrestris*	HH,MF,WF
	REPTILES	
American Alligator	*Alligator mississippiensis*	BST
Gopher Tortoise	*Gopherus polyphemus*	MF
Eastern Mud Turtle	*Kinosternon subrubrum*	BST
River Cooter	*Pseudemys concinna*	BST
Florida Cooter	*Pseudemys floridana*	BST
Stinkpot	*Sternotherus odoratus*	BST
Box Turtle	*Terrapene carolina*	HH,MF
Florida Softshell Turtle	*Trionyx ferox*	BST
Island Glass Lizard	*Ophisarus compressus*	FPLK,BST
Green Anole	*Anolis carolinensis*	MTC
Southeastern Five-lined Skink	*Eumeces inexpectatus*	HH
Ground Skink	*Scincella laterale*	MTC
Corn Snake	*Elaphe guttata guttata*	MTC
Black Racer	*Coluber constrictor*	MTC

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Ring-necked Snake	*Diadophis punctatus*	MTC
Red Rat Snake	*Elaphe guttata*	*MTC*
Black Swamp Snake	*Seminatrix pygaea*	DS,BST
Peninsula Ribbon Snake	*Thamnophis sauritus sackeni*	MF,WF
Eastern Garter Snake	*Thamnophis sirtalis*	MTC
Eastern Diamondback Rattlesnake	*Crotalus adamanteus*	MF,WF
	BIRDS	
Great Blue Heron	*Ardea herodias*	DM,BST
Great Egret	*Ardea alba*	DM,BST
Snowy Egret	*Egretta thula*	DM,BST
Little Blue Heron	*Egretta caerulea*	DM,BST
Tricolored Heron	*Egretta tricolor*	BST
Green Heron	*Butorides virescens*	DM,BST
White Ibis	*Eudocimus albus*	DM,BST
Wood Stork	*Mycteria americana*	DM
Black Vulture	*Coragyps atratus*	OF
Turkey Vulture	*Cathartes aura*	OF
Wood Duck	*Aix sponsa*	BST
Mottled duck	*Anas fulvigula*	BST
Osprey	*Pandion haliaetus*	BST
Swallow-tailed Kite	*Elanoides forficatus*	BST
Northern Harrier	*Circus cyaneus*	MF,WF,DM
Red-shouldered Hawk	*Buteo lineatus*	MTC
Red-tailed Hawk	*Buteo jamaicensis*	MTC
Wild Turkey	*Meleagris gallopavo*	DS,HH,MF,WF
Northern Bobwhite	*Colinus virginianus*	MF,WF
Common Moorhen	*Gallinula chloropus*	BST
Sandhill Crane	*Grus canadensis*	DM
Killdeer	*Charadrius vociferus*	DV
Common Snipe	*Gallinago gallinago*	DM
Mourning Dove	*Zenaida macroura*	MTC
Eastern Screech Owl	*Otus asio*	MTC
Great Horned Owl	*Bubo virginianus*	MTC
Barred Owl	*Strix varia*	HH,MF,WF
Common Nighthawk	*Chordeiles minor*	MF,WF
Chuck-will's-widow	*Caprimulgus carolinensis*	MF,WF
Chimney Swift	*Chaetura pelagica*	MTC
Belted Kingfisher	*Ceryle alcyon*	BST
Red-bellied Woodpecker	*Melanerpes carolinus*	HH,MF,WF
Yellow-bellied Sapsucker	*Sphyrapicus varius*	HH,MF,WF
Downy Woodpecker	*Picoides pubescens*	MF,WF
Northern Flicker	*Colaptes auratus*	MF,WF
Pileated Woodpecker	*Dryocopus pileatus*	HH,MF,WF

* Non-native Species

Common Name	*Scientific Name*	Primary Habitat Codes (for imperiled species)
Eastern Phoebe	*Sayornis phoebe*	STS,BST
Great Crested Flycatcher	*Myiarchus crinitus*	MTC
Purple Martin	*Progne subis*	MTC
Tree Swallow	*Tachycineta bicolor*	MTC
Blue Jay	*Cyanocitta cristata*	MTC
Fish Crow	*Corvus ossifragus*	MTC
Tufted Titmouse	*Parus bicolor*	MF,WF
Carolina Wren	*Thryothorus ludovicianus*	HH,MF,WF
Blue-gray Gnatcatcher	*Polioptila caerulea*	MTC
American Robin	*Turdus migratorius*	MTC
Gray Catbird	*Dumetella carolinensis*	MTC
Northern Mockingbird	*Mimus polyglottos*	MTC
Brown Thrasher	*Toxostoma rufum*	MF,HH
Loggerhead Shrike	*Lanius ludovicianus*	MF
Yellow-throated Vireo	*Vireo flavifrons*	HH
Northern Parula	*Parula americana*	HH
Yellow-rumped Warbler	*Dendroica coronata*	HH,MF,WF
Pine Warbler	*Dendroica pinus*	MF,WF
Palm Warbler	*Dendroica palmarum*	MTC
Common Yellowthroat	*Geothlypis trichas*	HH,MF,WF
Northern Cardinal	*Cardinalis cardinalis*	MTC
Rufous-sided Towhee	*Pipilo erythrophthalmus*	MF,WF
Red-winged Blackbird	*Agelaius phoeniceus*	BS,DS,DM
Boat-tailed Grackle	*Quiscalus major*	BS,DS,DM
Common Grackle	*Quiscalus quiscula*	MTC
	MAMMALS	
Coyote*	*Canis latrans*	MTC
Nine-banded armadillo*	*Dasypus novemcinctus*	MTC
Opossum	*Didelphis marsupialis*	MTC
Bobcat	*Felis rufus*	MTC
River otter	*Lutra canadensis*	BST
Evening bat	*Nyteceius humeralis*	MTC
White-tailed deer	*Odocoileus virginianus*	MTC
Cotton mouse	*Peromyscus gossypinus*	MTC
Raccoon	*Procyon lotor*	MTC
Eastern mole	*Scalopus aquaticus*	MTC
Gray squirrel	*Sciurus carolinensis*	MTC
Eastern cottontail	*Sylvilagus floridanus*	MTC
Wild hog*	*Sus scrofa*	MTC
Brazilian free-tailed bat	*Tadarida brasiliensis*	MTC
West Indian manatee	*Trichechus manatus*	BST
Gray fox	*Urocyon cinereoargenteus*	HH,MF,WF

* Non-native Species

TERRESTRIAL

Beach Dune	BD
Coastal Berm	CB
Coastal Grassland	CG
Coastal Strand	CS
Dry Prairie	DP
Keys Cactus Barren	KCB
Limestone Outcrop	LO
Maritime Hammock	MAH
Mesic Flatwoods	MF
Mesic Hammock	MEH
Pine Rockland	PR
Rockland Hammock	RH
Sandhill	SH
Scrub	SC
Scrubby Flatwoods	SCF
Shell Mound	SHM
Sinkhole	SK
Slope Forest	SPF
Upland Glade	UG
Upland Hardwood Forest	UHF
Upland Mixed Woodland	UMW
Upland Pine	UP
Wet Flatwoods	WF
Xeric Hammock	XH

PALUSTRINE

Alluvial Forest	AF
Basin Marsh	BM
Basin Swamp	BS
Baygall	BG
Bottomland Forest	BF
Coastal Interdunal Swale	CIS
Depression Marsh	DM
Dome Swamp	DS
Floodplain Marsh	FM
Floodplain Swamp	FS
Glades Marsh	GM
Hydric Hammock	HH
Keys Tidal Rock Barren	KTRB
Mangrove Swamp	MS
Marl Prairie	MP
Salt Marsh	SAM
Seepage Slope	SSL
Shrub Bog	SHB
Slough	SLO
Slough Marsh	SLM
Strand Swamp	STS

Wet Prairie ..... WP

LACUSTRINE

Clastic Upland Lake ..... CULK
Coastal Dune Lake ..... CDLK
Coastal Rockland Lake ..... CRLK
Flatwoods/Prairie ..... FPLK
Marsh Lake ..... MLK
River Floodplain Lake ..... RFLK
Sandhill Upland Lake ..... SULK
Sinkhole Lake ..... SKLK
Swamp Lake ..... SWLK

RIVERINE

Alluvial Stream ..... AST
Blackwater Stream ..... BST
Seepage Stream ..... SST
Spring-run Stream ..... SRST

SUBTERRANEAN

Aquatic Cave ..... ACV
Terrestrial Cave ..... TCV

ESTUARINE

Algal Bed ..... EAB
Composite Substrate ..... ECPS
Consolidated Substrate ..... ECNS
Coral Reef ..... ECR
Mollusk Reef ..... EMR
Octocoral Bed ..... EOB
Seagrass Bed ..... ESGB
Sponge Bed ..... ESPB
Unconsolidated Substrate ..... EUS
Worm Reef ..... EWR

MARINE

Algal Bed ..... MAB
Composite Substrate..... MCPS
Consolidated Substrate ..... MCNS
Coral Reef..... MCR
Mollusk Reef..... MMR
Octocoral Bed ..... MOB
Seagrass Bed ..... MSGB
Sponge Bed..... MSPB
Unconsolidated Substrate ..... MUS
Worm Reef..... MWR

ALTERED LANDCOVER TYPES

Abandoned field ..... ABF
Abandoned pasture..... ABP
Agriculture ..... AG
Canal/ditch ..... CD
Clearcut pine plantation ..... CPP
Clearing..... CL
Developed..... DV
Impoundment/artificial pond ..... IAP
Invasive exotic monoculture..... IEM
Pasture - improved..... PI
Pasture - semi-improved ..... PSI
Pine plantation..... PP
Road ..... RD
Spoil area ..... SA
Successional hardwood forest..... SHF
Utility corridor ..... UC

MISCELLANEOUS

Many Types of Communities..... MTC
Overflying ..... OF

Addendum 6—Imperiled Species Ranking Definitions

The Nature Conservancy and the Natural Heritage Program Network (of which FNAI is a part) define an element as any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave or other ecological feature. An element occurrence (EO) is a single extant habitat that sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular element.

Using a ranking system developed by The Nature Conservancy and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks to 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, estimated abundance (number of individuals for species; area for natural communities), range, estimated adequately protected EOs, relative threat of destruction, and ecological fragility.

Federal and State status information is from the U.S. Fish and Wildlife Service; and the Florida Fish and Wildlife Conservation Commission (animals), and the Florida Department of Agriculture and Consumer Services (plants), respectively.

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 fabricated 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 or local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction of 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.....due to lack of information, no rank or range can be assigned (e.g., GUT2).

G? .....Not yet ranked (temporary)

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

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

S5 .....demonstrably secure in Florida

SH.....of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)

SX .....believed to be extinct throughout range

SA .....accidental in Florida, i.e., not part of the established biota

SE .....an exotic species established in Florida may be native elsewhere in North America

SN.....regularly occurring but widely and unreliably distributed; sites for conservation hard to determine

SU .....due to lack of information, no rank or range can be assigned (e.g., SUT2).

S?.....Not yet ranked (temporary)

N .....Not currently listed, nor currently being considered for listing, by state or federal agencies.

LEGAL STATUS

FEDERAL

(Listed by the U. S. Fish and Wildlife Service - USFWS)

LE.....Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

PE.....Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.

LT.....Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the near future throughout all or a significant portion of its range.

PT.....Proposed for listing as Threatened Species.

C .....Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants. Defined as those species for which the USFWS currently has on file sufficient information on biological vulnerability and threats to support proposing to list the species as endangered or threatened.

E(S/A).....Endangered due to similarity of appearance.

T(S/A).....Threatened due to similarity of appearance.

EXPE, XE.....Experimental essential population. A species listed as experimental and essential.

EXPN, XN....Experimental non-essential population. A species listed as experimental and non-essential. Experimental, nonessential populations of endangered species are treated as threatened species on public land, for consultation purposes.

STATE

ANIMALS ..(Listed by the Florida Fish and Wildlife Conservation Commission - FWC)

FE.....Federally-designated Endangered

FT.....Federally-designated Threatened

FXN .....Federally-designated Threatened Nonessential Experimental Population

FT(S/A) .....Federally-designated Threatened species due to similarity of appearance

ST ..... Listed as Threatened Species by the FWC. 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 therefore is destined or very likely to become an endangered species within the near future.

SSC ..... Listed as Species of Special Concern by the FWC. 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 that, in the near future, may result in its becoming a threatened species.

PLANTS .... (Listed by the Florida Department of Agriculture and Consumer Services - FDACS)

LE..... Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as 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 or threatened pursuant to the Federal Endangered Species Act of 1973,as amended.

LT..... Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as 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.

Addendum 7—Cultural Information

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

A. General Discussion

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

B. Agency Responsibilities

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

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

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

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

C. Statutory Authority

Statutory Authority and more in depth information can be found at:
http://www.flheritage.com/preservation/compliance/guidelines.cfm

D. Management Implementation

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

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

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

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

E. Minimum Review Documentation Requirements

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

* * *

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

Robin Jackson
Division of Historical Resources
Bureau of Historic Preservation
Compliance and Review Section
R. A. Gray Building
500 South Bronough Street
Tallahassee, FL 32399-0250

Phone: (850) 245-6425

Toll Free: (800) 847-7278
Fax: (850) 245-6435

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

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.

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.

Addendum 8—Timber Management Analysis

Timber Management Analysis

Chapters 253 and 259, Florida Statutes, require an assessment of the feasibility of managing timber in land management plans for parcels greater than 1,000 acres if the lead agency determines that timber management is not in conflict with the primary management objectives of the land. The feasibility of harvesting timber at this park during the period covered by this plan was considered in context of the DRP's statutory responsibilities and an analysis of the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish old-growth characteristics to the degree practicable, with the exception of those communities specifically managed as early successional.

Atlantic Ridge Preserve State Park (Atlantic Ridge) is designated as a single-use park. As such, timber management is only permitted as a method of natural community restoration and maintenance rather than as an ongoing extractive activity. The feasibility of managing/harvesting timber at Atlantic Ridge during the period covered by the UMP was considered pursuant to the DRP statutory responsibilities to analyze the park's resource needs and values. The long-term management goal for forest communities in the state park system is to maintain or re-establish natural characteristics to the degree practicable, except in those natural communities specifically managed for a structure that differs from that described in the timber assessment found at reference sites for those communities established by the Florida Natural Areas Inventory (FNAI). In the case of imperiled species, the management of certain natural communities may differ from standard treatments to provide optimum habitat conditions within the park.

Natural communities evaluated at Atlantic Ridge had overstory pine stocking levels within the range identified for corresponding FNAI Reference Sites. Conversely, hardwood overstory stocking levels evaluated at the park were generally above the upper limits identified for corresponding FNAI Reference Sites. The Timber Management Analysis found in Addendum 8 provides additional details. Overstory thinning is a management tool that may be utilized in areas which have overstocked conditions. However, the specific management goals and objectives for each natural community are detailed in the Resource Management Component. Activities related to stand improvement, including palmetto and midstory reduction, are on going in many areas, as well.

1. *Management Context and Best Management Practices*

Timber management at Atlantic Ridge Preserve State Park (Atlantic Ridge) is based on the desired future condition (DFC) of a management zone or natural community (NatCom) as determined by the DRP Unit Management Plans, along with guidelines developed by the FNAI. In most cases, the DFC will be closely related to the historic NatCom. However, it is important to note, that in areas where the historic community has been severely altered by past land use practices, the DFC may not always be the same as the historic NatCom. All timber management activities undertaken will adhere to or exceed the current Florida Silvicultural Best Management Practices (BMPs) and Florida Forestry Wildlife BMPs for State Imperiled Species. DRP shall take all measures necessary to protect water quality and wildlife species of concern while conducting timber management activities. DRP has contracted with a private sector, professional forest management firm to complete this timber assessment: F4 Tech.

2. *Purpose of Timber Management Activities*

Timber management activities may be conducted to help improve or maintain current conditions to achieve the associated DFC. Timber management will primarily be conducted in upland NatComs. Candidate upland NatCom types may include mesic flatwoods, wet flatwoods, sandhill, upland pine, and upland mixed woodland along with scrubby flatwoods, scrub, and altered landcover types such as successional hardwood forest and pine plantations. There will likely be no scheduled timber management activities in historically hardwood-dominated or wetland NatCom types, e.g., upland hardwood forest, hydric hammock, and slope forest. In some circumstances, timber management may include the harvesting and removal of overstory invasive/exotic trees. Descriptions of community types are detailed in the Resource Management Component.

3. *Potential Silvicultural Treatments*

Several silvicultural treatments may be considered and utilized over the next ten years. The various types of timber harvests may include pine thinning, targeted hardwood overstory removal, and clearcutting. Silvicultural treatments will be selectively implemented to minimize potential impacts to water and soil resources, non-target vegetation, and wildlife (see BMPs). Depending upon the condition and marketability of the timber being manipulated, it is possible to generate revenue from the harvest. It is also possible the timber removal could be a cost to DRP. In all decisions, the mission of preserving and restoring natural communities will be the guiding factor.

Thinning is conducted to reduce the basal area (BA) or density of trees/stems in a stand to improve forest health and growth conditions for residual trees. Allowing trees more room to grow has the potential to increase tree and forest vigor, which helps mitigate the potential for damaging insect and disease outbreaks. Most tree harvesting/removals also increase sunlight reaching the forest floor and fine fuels that facilitate consistent fire return intervals and responses, which can benefit groundcover vegetation abundance, species richness, and overall ecological diversity. The disruption of natural fire regimes and fire return intervals can often result in the need to remove undesirable or overstocked hardwood stems that currently occupy growing space in the canopy and sub-canopy. Clearcutting may be used to support restoration goals by removing off-site pine or hardwood species and is a precursor to establishing site-appropriate species. It can also be used to control insect infestations that are damaging or threatening forest resources and ecosystem conditions.

On occasion, salvage cuts may need to be conducted to remove small volumes of wood damaged by fire, wind storm, insect or other natural causes. The decision whether or not to harvest the affected timber will depend on the threat to the surrounding stands, risk of collateral ecological damage, and the volume/value of the trees involved. For example, small, isolated lightning-strike and beetle kills are a natural part of a healthy ecosystem and normally would not be cut. However, if a drought caused the insect infestation to spread, the affected trees and buffer zone might have to be removed to prevent significant damage.

4. *Inventory Data and Potential Actions per Area of Interest or Management Zone*

Atlantic Ridge comprises 5,800 acres in Martin County. A total of 3,248 acres of mesic flatwoods are potential candidates for timber management. In July 2018, an inventory based on field plots was conducted across and within these areas to quantify overstory, midstory and understory conditions. Various park-level and NatCom-level summary statistics can be found in the following tables.

This timber assessment was based on management zone and NatCom boundary GIS data provided by DRP in September 2018. It is not intended to be prescriptive. Stakeholders and DRP staff are encouraged to view this timber assessment and inventory data as supplemental information for future consideration. Given the dynamic nature of property ownership and land management activities at Atlantic Ridge, together with the timeframe required to create or update a UMP, it is possible that some tabular data may be dated. Therefore, NatCom acreages and recent treatments that

occurred after the September 2018 period may not be reflected in the following tables.

Table 1. General summary statistics for Atlantic Ridge Preserve State Park

Number of Management Zones within the Park	23
Upland Natural Communities acres	3,248

Mesic Flatwoods (3,247.7 acres)

Longleaf (*Pinus palustris*) and south Florida slash pine (*Pinus elliottii var. densa*) are the preferred overstory pine species in the region. The FNAI reference site in this region for mesic flatwoods contains longleaf and south Florida slash pine at a basal area (BA) of 10 to 50 square feet per acre with non-pine at a density of 0 trees per acre (TPA). The following table shows the overstory condition for this natural community at Atlantic Ridge and target overstory condition for mesic flatwoods in this region.

Timber Management Analysis

MZ ID	Mesic Flatwoods (Acres)	Current Average Overstory Conditions							Target Overstory Conditions	
		Pine BA (ft2/ac)	Pine TPA	Pine Volume (tons/ac)	Non-Pine BA (ft2/ac)	Non-Pine TPA	Non-Pine Volume (tons/ac)	Total Pine and Non-Pine Volume (tons/ac)	FNAI Reference Condition Pine BA Range (ft2/ac)	FNAI Reference Condition Non-Pine TPA Range
AT-A1	37.9	12.5	12.4	6.8	27.5	79.9	5.9	12.7	10 - 50	0 - 0
AT-A2	116.0	36.9	106.2	14.6	27.5	69.0	9.8	24.3	10 - 50	0 - 0
AT-A3	90.1	21.0	107.1	8.0	26.0	105.8	8.6	16.7	10 - 50	0 - 0
AT-B1	38.6	15.0	41.5	7.0	1.7	3.1	0.0	7.0	10 - 50	0 - 0
AT-B2	171.9	10.3	47.2	3.3	0.0	0.0	0.0	3.3	10 - 50	0 - 0
AT-B3	70.8	15.4	43.3	6.9	0.0	0.0	0.0	6.9	10 - 50	0 - 0
AT-B4	187.0	10.7	24.4	5.0	0.7	1.3	0.0	5.0	10 - 50	0 - 0
AT-B5	112.7	22.4	75.7	9.4	0.0	0.0	0.0	9.4	10 - 50	0 - 0
AT-B6	161.6	16.7	52.7	9.1	8.8	16.0	0.0	9.1	10 - 50	0 - 0
AT-B7	103.7	12.8	44.6	2.6	0.0	0.0	0.0	2.6	10 - 50	0 - 0
AT-B8	116.5	16.1	99.2	1.4	0.0	0.0	0.0	1.4	10 - 50	0 - 0
AT-C1	269.5	24.8	90.8	8.0	7.4	13.2	2.2	10.2	10 - 50	0 - 0
AT-C2	309.4	16.0	28.1	8.4	1.5	2.8	0.0	8.4	10 - 50	0 - 0
AT-C3	197.5	24.4	75.7	10.1	4.4	8.0	0.0	10.1	10 - 50	0 - 0
AT-C4	79.6	15.8	38.7	7.7	6.8	12.6	0.0	7.7	10 - 50	0 - 0
AT-C5	171.7	15.7	64.8	5.2	0.0	0.0	0.0	5.2	10 - 50	0 - 0
AT-C6	270.7	15.2	84.7	1.8	0.0	0.0	0.0	1.8	10 - 50	0 - 0
AT-D1	66.6	34.6	99.7	15.5	0.8	1.4	0.0	15.5	10 - 50	0 - 0
AT-D2	115.9	10.5	24.7	4.7	0.5	0.9	0.0	4.7	10 - 50	0 - 0
AT-D3	182.2	21.9	35.4	10.2	31.9	54.7	2.0	12.2	10 - 50	0 - 0
AT-D4	146.5	21.4	53.3	8.0	7.7	14.2	0.0	8.0	10 - 50	0 - 0
AT-D5	223.4	29.2	94.5	12.4	4.6	8.5	0.0	12.4	10 - 50	0 - 0
AT-D6*	8.1	--	--	--	--	--	--	--	--	--
Total	**3,247.7**									

Addendum 9 —Land Management Review

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

TO: Aric Larson, Governmental Operations Consultant III
Division of State Lands

FROM: Parks Small, Chief, Bureau of Natural and Cultural Resources
Division of Recreation and Parks

Sine Murray, Chief, Office of Park Planning
Division of Recreation and Parks

SUBJECT: Response to Draft Land Management Review (LMR)
Atlantic Ridge Preserve State Park

The Land Management Review draft report provided to Division of Recreation and Parks (DRP) determined that management of Atlantic Ridge Preserve State Park by the DRP met the two tests prescribed by law. Namely, the review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

Attached is DRP's Managing Agency Response to the draft LMR report. The responses were prepared via a coordinated effort of the park, district office, and our offices.

Thank you for your attention.

/ca

2016 Land Management Review Team Report for Atlantic Ridge Preserve State Park

Table of Contents

1. Introduction

Section 259.036, F.S. requires a periodic on-site review of conservation and recreation lands titled in the name of the Board of Trustees to determine (1) whether the lands are being managed for the purposes for which they were acquired and (2) whether they are being managed in accordance with their land management plan adopted pursuant to s. 259.032, F.S. In case where the managed areas exceed 1,000 acres in size, such a review must be scheduled at least every five years. In conducting this review, a statutorily constructed review team "shall evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions or archaeological features. The review shall also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan."

The land management review teams are coordinated by the Division of State Lands and consist of representatives from the Division of Recreation and Parks (DEP), the Florida Forest Service (DACS), the Fish and Wildlife Conservation Commission, the local government in which the property is located, the DEP District in which the parcel is located, the local soil and water conservation district or jurisdictional water management district, a conservation organization member, and a local private land manager.

Each Land Management Review Report is divided into three sections. Section 1 provides the details of the property being reviewed as well as the overall results of the report. Section 2 provides details of the Field Review, in which the Review Team inspects the results of management actions on the site. Section 3 provides details of the Land Management Plan Review, in which the team determines the extent to which the Management Plan provides for and documents adequate natural and recreational resource protection.

Finally, each report may also contain an Appendix that lists individual team member comments. This is a compilation of feedback, concerns or other thoughts raised by individual team members, but not necessarily indicative of the final consensus reached by the Land Management Review Team.

1.1. Property Reviewed in this Report

Name of Site: Atlantic Ridge Preserve State Park

Managed by: DEP- Division of Recreation and Parks

Acres: 4,886.08 **County:** Martin County

Purpose(s) for Acquisition: The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida (Trustees) have acquired Atlantic Ridge to manage the property in such a way as to protect and restore the natural and cultural values of the property and provide the greatest benefit to the citizens of the state.

Acquisition Program(s): CARL/P2000 **Original Acquisition Date:** 11/4/98

Area Reviewed: Entire Property **Last Management Plan Approval Date:** 3/21/06

Review Date: 11/16/16

Agency Manager and Key Staff Present:

- Mark Nelson, Park Manager
- Rob Rossmanith, Park Biologist

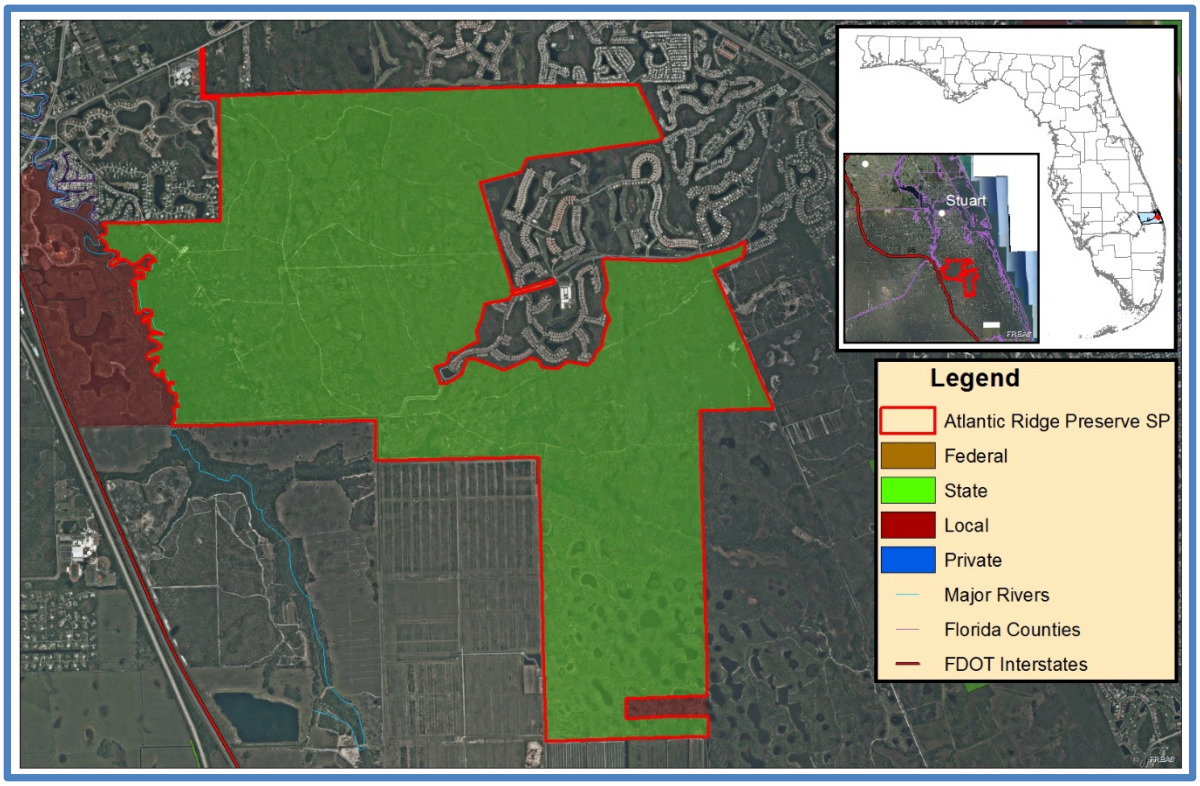
Review Team Members Present (voting)

- DRP: Scott Tedford
- FWC: Carrie Black
- FFS: Michael Edwards
- DEP: Ben Fisch
- SFWMD: Justin Nolte
- Martin County: William Bob Harris
- Conservation Organization: Amanda Lindsay
- Private land manager:

Other Non-Team Members Present (attending)

- Aric Larson, DEP/DSL
- Ernest Cowan, FPS District 5

1.2 Property Map



1.3. Overview of Land Management Review Results

Is the property managed in accordance with the purposes for which it was acquired?

Yes = 7, No = 0

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

Yes = 7, No = 0

Table 1 shows the average scores received for each applicable category of review. *Field Review* scores refer to the adequacy of management actions in the field, while *Management Plan Review* scores refer to adequacy of discussion of these topics in the management plan. Scores range from 1 to 5 with 5 signifying excellence. For a more detailed key to the scores, please see *Appendix A*.

Table 1: Results at a glance.

Major Land Management Categories	Field Review	Management Plan Review
Natural Communities / Forest Management	3.47	3.62
Prescribed Fire / Habitat Restoration	3.52	4.27
Hydrology	3.10	4.05
Imperiled Species	4.29	3.67
Exotic / Invasive Species	4.10	3.81
Cultural Resources	3.64	3.93
Public Access / Education / Law Enforcement	3.83	3.74
Infrastructure / Equipment / Staffing	3.88	N/A

Color Code (See Appendix A for detail)

Excellent	Above Average	Below Average	Poor

1.3.1 Consensus Commendations for the Managing Agency

The following commendations resulted from discussion and vote of the review team members:

1. The team commends the park staff for efforts and success in prescribed burning, especially considering challenges associated with urban interface. (7+, 0-)

2. The team commends the park staff for successful efforts in invasive/exotic plant control. (7+, 0-)

1.3.2. Consensus Recommendations to the Managing Agency

The following recommendations resulted from a discussion and vote of review team members. The next management plan update should include information about how these recommendations have been addressed:

1. The team recommends that park staff consider thinning flatwoods natural communities, where basal areas are currently 60-100 or greater. (7+, 0-)

   Managing Agency Response: *The Park Service is in the process of improving its forest management through the implementation of a multi-phased statewide project which includes a vegetation inventory of upland forest communities and creating a comprehensive GIS dataset of forest/vegetation on all parks. This data will be utilized to create the timber management*

component of future unit management plans, and to guide forest management decisions to produce the desired future condition for each natural community.

2. The team recommends that park staff pursue funding or cooperative opportunities to conduct a hydrologic assessment of the park. (7+, 0-)

   Managing Agency Response: *Park staff will continue to seek partnerships with other government agencies and non-governmental organizations to fund or assist in the development of a hydrologic assessment of the park.*

2. Field Review Details

2.1 Field Review Checklist Findings

The following items received high scores on the review team checklist, which indicates that management actions exceeded expectations.

1. **Natural Communities, specifically mesic hammock, basin swamp, depression marsh, dome swamp, hydric hammock, slough, wet and mesic flatwoods, wet prairie and blackwater stream**:
2. **Listed Species Protection and Preservation, specifically animals and plants in general**:
3. **Natural Resources Survey/Monitoring Resources, specifically fire effects monitoring and invasive species survey and monitoring:**
4. **Cultural Resources, specifically protection and preservation**:
5. **Prescribed Fire, specifically area being burned, frequency and quality**:
6. **Non-native, invasive, and problem species, specifically prevention and control of plants, pests and pathogens**
7. **Hydro-alteration, specifically roads/culverts and ditches**:
8. **Resource Protection, specifically boundary survey and signage**:
9. **Adjacent Property Concerns, specifically residential development, road extension and inholdings and additions**:
10. **Public Access and Education, specifically roads, parking and boat access**:
11. **Management resources pertaining to maintenance and infrastructure, specifically waste disposal, sanitary facilities, buildings and equipment:**

2.2. Items Requiring Improvement Actions in the Field

The following items received low scores on the review team checklist, which indicates that management actions noted during the Field Review were not considered sufficient (less than 3.0 score on average). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. **The management plan update should include information on how these items have been addressed**:

1. **Natural Resources Survey, specifically other habitat management effect monitoring, received below average scores. The review team is asked to evaluate, based on information provided by**

the managing agency, whether survey and monitoring of the resources or their habitats are sufficient.

***Managing Agency Response**: Primary habitat effects monitoring focus must be on areas of the park that have ongoing resource management. The park will continue to monitor the effects of resource management where appropriate to assess their successes. All habitat monitoring generally must be a lower priority than actually conducting actions to manage habitats. As needed, costs for monitoring will be included in the unit management plan, but can only be allocated as funds become available on a statewide priority needs basis.*

2. **Restoration, specifically hydrology and old field/pasture received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether restoration is sufficient.**

   ***Managing Agency Response:** The park is currently working on a draft plan that addresses the hydrological restoration of Atlantic Ridge Preserve State Park. This includes components of pasture restoration as a function of restored hydrology to large areas of the park. The scope of the restoration project (planning and implementation of the hydrological restoration and pasture restoration) exceeds the park staffs' capacity using currently available, internal funds. While restoration is a high priority, it is also a costly process for this scale of a project and no funding has yet been identified for this project.*

3. **Forest management, specifically timber inventory and assessment, received below average scores. The review team is asked to evaluate, based on information provided by the managing agency, as well as overall management actions, whether forest management is sufficient.**

   ***Managing Agency Response:** The Park Service is in the process of improving its forest management through the implementation of a multi-phased statewide project which includes a vegetation inventory of upland forest communities and creating a comprehensive GIS dataset of forest/vegetation on all parks. This data will be utilized to create the timber management component of future unit management plans, and to guide forest management decisions to produce the desired future condition for each natural community.*

4. **Hydrologic/Geologic function, specifically hydro-period alteration, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether consideration of past and present hydrologic and geologic functions are sufficient.**

   ***Managing Agency Response:** The park is currently working on a draft plan that addresses the hydrological restoration of Atlantic Ridge Preserve State Park, via ditch filling and historic flow way reconnections.*

5. **Resources Protection, law enforcement presence, received a below average score. The review team is asked to evaluate, based on information provided by the managing agency, whether resources are sufficient to protect the property.**

   Managing Agency Response: *Law enforcement assistance must be obtained through the Florida Fish and Wildlife Conservation Commission's Division of Law Enforcement or from a local law enforcement agency. Park staff will request additional presence to protect resources as necessary.*

2.3. Field Review Checklist and Scores

Field Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Hammock	I.A.3	5	5	5	5	4	5	5		4.86
Basin Swamp	I.A.4	4	4	4	4	4	4	4		4.00
Depression Marsh	I.A.5	4	4	5	5	5	4	4		4.43
Dome Swamp	I.A.6	5	5	5	5	5	5	5		5.00
Hydric Hammock	I.A.7	4	4	4	4	4	4	4		4.00
Slough	I.A.8	4	5	5	5	4	4	4		4.43
Wet Flatwoods/Mesic Flatwoods	I.A.9	5	5	5	5	4	5	5		4.86
Wet Prairie	I.A.10	4	4	4	5	4	5	5		4.43
Blackwater Stream	I.A.14	4	5	5	5	4	4	5		4.57
									Natural Communities Average Score	4.51
Listed Species: Protection & Preservation (I.B)										
Animals	I.B.1	4	4	5	5	4	5	3		4.29
Plants	I.B.2	4	4	5	5	4	5	3		4.29
									Listed Species Average Score	4.29
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	4	3	5	4	3	5	3		3.86
Other non-game species or their habitat monitoring	I.C.3	4	3	4	4	3	4	3		3.57
Fire effects monitoring	I.C.4	5	4	4	4	3	4	4		4.00
Other habitat management effects monitoring	I.C.5	3	3	4	2	1	4	3		2.86
Invasive species survey / monitoring	I.C.6	4	4	4	4	4	5	5		4.29
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	3	3	4	4	4	1		3.29
Protection and preservation	II.B	4	3	4	5	4	5	3		4.00
									Cultural Resources Average Score	3.64
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A1	5	5	5	5	5	5	5		5.00
Frequency	III.A.2	5	5	5	5	5	5	5		5.00
Quality	III.A.3	5	4	5	5	4	5	5		4.71
									Resource Management, Prescribed Fire Average Score	4.90

Restoration (III.B)										
hydrology	III.B.1	2	1	3	1	1	4	2		2.00
Old field/pastures → flatwoods/wet prairies	III.B.2	2	2	3	2	1	4	2		2.29
								Restoration Average Score		2.14
Forest Management (III.C)										
Timber Inventory/assessment	III.C.1	2	2	4	2	1	3	3		2.43
								Forest Management Average Score		2.43
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.D.1. a	5	5	5	5	4	5	4		4.71
prevention - animals	III.D.1. b	3	3	4	3	4	4	4		3.57
prevention - pests/pathogens	III.D.1. c	4	5	4	4	4	4	4		4.14
Control										
control - plants	III.D.2. a	5	4	4	5	4	5	4		4.43
control - animals	III.D.2. b	4	3	4	3	4	4	4		3.71
control - pest/pathogens	III.D.2. c	4	4	4	4	4	4	4		4.00
								Non-Native, Invasive & Problem Species Average Score		4.10
Hydrologic/Geologic function Hydro-Alteration (III.E.1)										
Roads/culverts	III.E.1. a	2	2	4	5	4	4	4		3.57
Ditches	III.E.1. b	2	2	4	2	4	4	3		3.00
Hydro-period Alteration	III.E.1. c	2	2	4	1	3	4	3		2.71
								Hydrologic/Geologic function, Hydro-Alteration Average Score		3.10
Ground Water Monitoring (III.E.2)										
								Ground Water Monitoring Average Score		N/A
Surface Water Monitoring (III.E.3)										
								Surface Water Monitoring Average Score		N/A
Resource Protection (III.F)										
Boundary survey	III.F.1	4	5	5	5	4	5	5		4.71
Gates & fencing	III.F.2	4	4	4	5	2	4	4		3.86
Signage	III.F.3	5	4	4	4	4	4	4		4.14
Law enforcement presence	III.F.4	2	2	3	3	3	3	3		2.71
								Resource Protection Average Score		3.86
Adjacent Property Concerns (III.G)										
Land Use										
Residential development	III.G.1. a	4	4	4	5	5	5	4		4.43
Agriculture	III.G.1. b	4	2	4	5	5	4	3		3.86
Road extension	III.G.1. c						5	5		5.00
Inholdings/additions	III.G.2	4	5	4	4	5	4	4		4.29
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										
Public Access										
Roads	IV.1. a	4	3	5	4		4	4		4.00
Parking	IV.1. b	4	3	5	4		4	4		4.00

Boat Access	IV.1.c						4			4.00
Environmental Education & Outreach										
Wildlife	IV.2. a	4	3	4	4	3	4	4		3.71
Invasive Species	IV.2. b	4	3	4	3	3	4	4		3.57
Habitat Management Activities	IV.2. c	4	3	4	4	4	4	4		3.86
Interpretive facilities and signs	IV.3	4	2	4	3	1	4	3		3.00
Recreational Opportunities	IV.4	3	4	4	4		4	4		3.83
Management of Visitor Impacts	IV.5	4	5	4	4	5	4	4		4.29
								Public Access & Education Average Score		3.81
Management Resources (V.1, V.2, V.3. V.4)										
Maintenance										
Waste disposal	V.1.a	4	5	5	5	3	4	4		4.29
Sanitary facilities	V.1.b	4	5	5	5	3	4	4		4.29
Infrastructure										
Buildings	V.2.a	4	4	5	4	4	4	4		4.14
Equipment	V.2.b	4	4	5	5	4	4	3		4.14
Staff	V.3	4	4	4	3	3	4	2		3.43
Funding	V.4	3	3	3	3	3	4	2		3.00
								Management Resources Average Score		3.88

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

3. Land Management Plan Review Details

3.1 Items Requiring Improvements in the Management Plan

The following items received low scores on the review team checklist, which indicates that the text noted in the Management Plan Review does not sufficiently address this issue (less than 3.0 score on average.). Please note that overall good scores do not preclude specific recommendations by the review team requiring remediation. The next management plan update should address the checklist items identified below:

1. **Natural Resources Survey and Monitoring Resources, specifically other non-game species or their habitat monitoring and other habitat management effects monitoring, received a below average score. This is an indication that the management plan does not sufficiently address survey or monitoring.**

   Managing Agency Response: *Natural Resources Survey and Monitoring Resources, specifically other non-game species or their habitat monitoring, will be more thoroughly addressed in the next plan update. The current management plan was reviewed by the relevant agencies and was in full compliance with Chapters 253 and 259, F.S., and Chapter 18-2, F.A.C., when it was approved by ARC.*

2. **Adjacent Property Concerns pertaining to land use, specifically agriculture, received a below average score. This is an indication that the management plan does not sufficiently address concerns related to adjacent land uses.**

   Managing Agency Response: *Adjacent property concerns, specifically agricultural uses, will be more thoroughly addressed in the next management plan update. The current management plan was reviewed by the relevant agencies and was in full compliance with Chapters 253 and 259, F.S., and Chapter 18-2, F.A.C., when it was approved by ARC.*

3.2 Management Plan Review Checklist and Scores

Plan Review Item	Reference #	Anonymous Team Members								Average
		1	2	3	4	5	6	7	8	
Natural Communities (I.A)										
Mesic Hammock	I.A.3	4	5	5	4	3	4	4		4.14
Basin Swamp	I.A.4	4	4	4	4	2	4	4		3.71
Depression Marsh	I.A.5	4	4	4	4	2	4	4		3.71
Dome Swamp	I.A.6	4	4	5	4	3	4	4		4.00
Hydric Hammock	I.A.7	4	4	4	4	3	4	4		3.86
Slough	I.A.8	4	4	5	4	3	4	4		4.00
Wet Flatwoods/Mesic Flatwoods	I.A.9	4	5	5	4	4	4	4		4.29
Wet Prairie	I.A.10	4	4	4	4	4	4	4		4.00
Blackwater Stream	I.A.12	4	4	4	4	3	4	4		3.86
									Natural Communities Average Score	3.95
Listed species: Protection & Preservation (I.B)										
Animals	I.B.1	4	3	5	4	3		3		3.67
Plants	I.B.2	4	3	5	4	3		3		3.67
									Listed Species Average Score	3.67
Natural Resources Survey/Management Resources (I.C)										
Listed species or their habitat monitoring	I.C.2	3	3	5	4	3	4	3		3.57
Other non-game species or their habitat monitoring	I.C.3	3	3	4	3	1	4	2		2.86
Fire effects monitoring	I.C.4	4	4	4	4	2	4	3		3.57
Other habitat management effects monitoring	I.C.5	2	3	4	2	1	4	2		2.57
Invasive species survey / monitoring	I.C.6	3	4	4	2	2	4	3		3.14
Cultural Resources (Archeological & Historic sites) (II.A, II.B)										
Cultural Res. Survey	II.A	4	3	3	5	5	4	4		4.00
Protection and preservation	II.B	4	4	4	4	3	4	4		3.86
									Cultural Resources Average Score	3.93
Resource Management, Prescribed Fire (III.A)										
Area Being Burned (no. acres)	III.A.1	4	5	5	4	3	5	4		4.29
Frequency	III.A.2	4	4	5	4	4	5	4		4.29
Quality	III.A.3	4	5	5	5	3	5	4		4.43

								Resource Management, Prescribed Fire Average Score		4.33
Restoration (III.B)										
hydrology	III.B.1	4	5	3	5	5	4	5		4.43
Old field/pastures → flatwoods/wet prairies	III.B.2	4	5	3	5	3	4	4		4.00
								Restoration Average Score		4.21
Forest Management (III.C)										
Timber Inventory/assessment	III.C.1	4	4	4	4	1	3	3		3.29
								Forest Management Average Score		3.29
Non-Native, Invasive & Problem Species (III.D)										
Prevention										
prevention - plants	III.E.1. a	4	5	4	5	3	4	3		4.00
prevention - animals	III.E.1. b	3	5	4	5	3	4	3		3.86
prevention - pests/pathogens	III.E.1. c	3	5	4	4	3	3	3		3.57
Control										
control - plants	III.E.2. a	4	5	4	4	3	4	4		4.00
control - animals	III.E.2. b	4	5	4	4	3	4	3		3.86
control - pest/pathogens	III.E.2. c	3	5	4	4	3	3	3		3.57
								Non-Native, Invasive & Problem Species Average Score		3.81
Hydrologic/Geologic function, Hydro-Alteration (III.E.1)										
Roads/culverts	III.F.1. a	4	4	4	4	3	4	4		3.86
Ditches	III.F.1. b	4	4	4	5	4	4	4		4.14
Hydro-period Alteration	III.F.1. c	4	4	4	5	4	4	4		4.14
								Hydrologic/Geologic function, Hydro-Alteration Average Score		4.05
Ground Water Monitoring (III.E.2)										
								Ground Water Monitoring Average Score		N/A
Surface Water Monitoring (III.E.3)										
								Surface Water Monitoring Average Score		N/A
Resource Protection (III.F)										
Boundary survey	III.G.1	3	5	5	5	3	4	4		4.14
Gates & fencing	III.G.2	3	5	4	5	3	4	4		4.00
Signage	III.G.3	3	5	4	4	3	4	4		3.86
Law enforcement presence	III.G.4	3	5	3	4	3	4	4		3.71
								Resource Protection Average Score		3.93
Adjacent Property Concerns (III.G)										
Land Use										
Residential development	III.H.1. a	4	4	4	4	5	4	4		4.14
Agriculture	III.H.1. b	1	2	4	1	1	2	1		1.71
Road extension	III.H.1. c						4	4		4.00
Inholdings/additions	III.H.2	4	5	4	5	5	4	5		4.57
Discussion of Potential Surplus Land Determination	III.H.3	4	5	4	5	5	4	4		4.43
Surplus Lands Identified?	III.H.4	4	5	4	5	5	4	4		4.43
Public Access & Education (IV.1, IV.2, IV.3, IV.4, IV.5)										

Public Access										
Roads	IV.1. a	4	5	5	4	3	4	4		4.14
Parking	IV.1. b	4	5	5	4	5	4	4		4.43
Environmental Education & Outreach										
Wildlife	IV.2. a	3	4	3	3	1	4	4		3.14
Invasive Species	IV.2. b	3	4	3	3	1	4	4		3.14
Habitat Management Activities	IV.2. c	3	4	3	3	2	4	4		3.29
Interpretive facilities and signs	IV.3	3	4	3	3	2	4	4		3.29
Recreational Opportunities	IV.4	3	5	3	4	2	4	4		3.57
Management of Visitor Impacts	IV.5	3	4	3	4	2	4	4		3.43
								Public Access & Education Average Score		3.55
Managed Area Uses (VI.A, VI.B)										
Existing Uses										
Hiking	VI.A.1	5	5	4	5	5	5	5		4.86
Equestrian trails	VI.A.2	5	5	4	4	5	5	3		4.43
Wildlife viewing	VI.A.3	5	5	4	5	5	5	5		4.86
Picnicking	VI.A.4	5	5	4	5	5	5	4		4.71
Proposed Uses										
Primitive camping areas	VI.B.1	5	5	4	4	5	5	4		4.57

Color Code:	Excellent	Above Average	Below Average	Poor	See Appendix A for detail
		Missing Vote	Insufficient Information		

Appendix A: Scoring System Detail

Explanation of Consensus Commendations:

Often, the exceptional condition of some of the property's attributes impress review team members. In those instances, team members are encouraged to offer positive feedback to the managing agency in the form of a commendation. The teams develop commendations generally by standard consensus processes or by majority vote if they cannot obtain a true consensus.

Explanation of Consensus Recommendations:

Subsection 259.036(2), F.S., specifically states that the managing entity shall consider the findings and recommendations of the land management review. We ask team members to provide general recommendations for improving the management or public access and use of the property. The teams discuss these recommendations and develop consensus recommendations as described above. We provide these recommendations to the managing agency to consider when finalizing the required ten-year management plan update. We encourage the manager to respond directly to these recommendations and include their responses in the final report when received in a timely manner.

Explanation of Field Review Checklist and Scores, and Management Plan Review Checklist and Scores:

We provide team members with a checklist to fill out during the evaluation workshop phase of the Land Management Review. The checklist is the uniform tool used to evaluate both the management actions and condition of the managed area, and the sufficiency of the management plan elements. During the evaluation workshop, team members individually provide scores on each issue on the checklist, from their individual perspective. Team members also base their evaluations on information provided by the managing agency staff as well as other team member discussions. Staff averages these scores to evaluate the overall conditions on the ground, and how the management plan addresses the issues. Team members must score each management issue 1 to 5: 1 being the management practices are clearly insufficient, and 5 being that the management practices are excellent. Members may choose to abstain if they have inadequate expertise or information to make a cardinal numeric choice, as indicated by an "X" on the checklist scores, or they may not provide a vote for other unknown reasons, as indicated by a blank. If a majority of members failed to vote on any issue, that issue is determined to be irrelevant to management of that property or it was inadequately reviewed by the team to make an intelligent choice. In either case staff eliminated the issue from the report to the manager.

Average scores are interpreted as follows:

Scores 4.0 to 5.0 are *Excellent*

Scores 3.0 to 3.99 are *Above Average*

Scores 2.0 to 2.99 are *Below Average*

Scores 1.0 to 1.99 are considered *Poor*