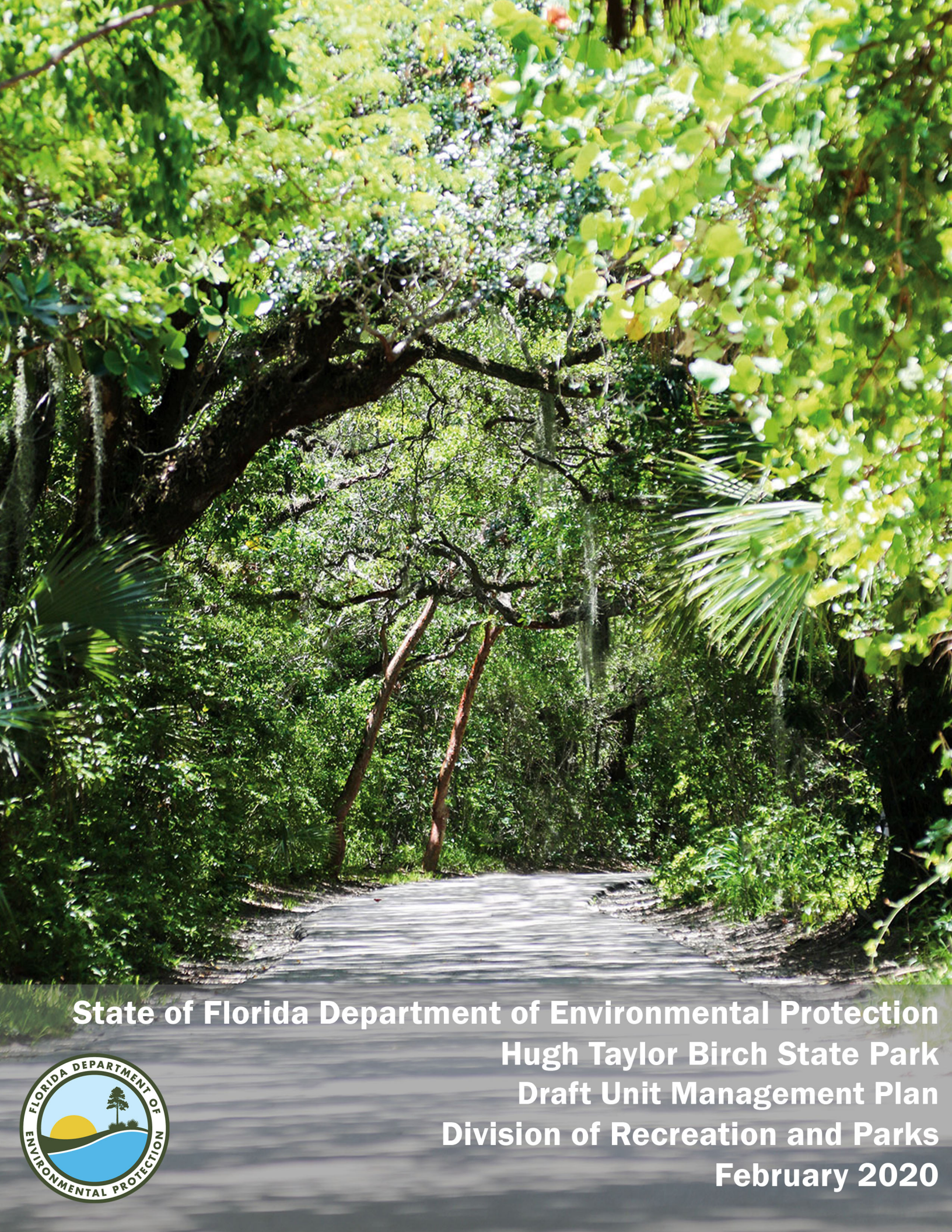

State of Florida Department of Environmental Protection
Hugh Taylor Birch State Park
Draft Unit Management Plan
Division of Recreation and Parks
February 2020

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INTRODUCTION

Hugh Taylor Birch State Park is in Broward County (see Vicinity Map). Access to the park is from East Sunrise Blvd, a street off State Road A-1-A (see Reference Map). The Vicinity Map also reflects significant land and water resources existing near the park.

Hugh Taylor Birch State Park was initially acquired on December 31, 1941 with funds from the Land Acquisition Trust Fund (LATF). Currently, the park comprises of 175 acres. The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to the park and on 1/23/1968 the Trustees leased Lease Number 3624 the property to DRP under a 99-year lease. The current lease will expire on January 22nd, 2067.

Hugh Taylor Birch 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 Department of Environmental Protection.

Purpose and Significance of the Park

The purpose of Hugh Taylor Birch State Park is to protect the natural resources and cultural history of this Atlantic Coastal Lowland barrier island for resource-based recreation in a populous and fast-growing region of Florida.

Park Significance

- The park protects an area of estuarine tidal swamp, coastal strand, and maritime hammock, which are among the largest remaining examples of these natural community types in southeast Florida, providing a subtropical oasis in the urban setting of Fort Lauderdale between the Atlantic Ocean and the Intracoastal Waterway.

- The natural communities present in the park provide significant habitat for five imperiled plant species and three imperiled insects, that are regionally distinct in Southeast Florida. The park's beach serves as critical habitat for nesting sea turtles and its densely vegetated interior provides refuge for several imperiled bird species.

- The park preserves and interprets the historic structures built by Hugh Taylor Birch in 1940, namely the Mediterranean Revival style Terramar House, which serves an architectural and interpretive centerpiece of the park's visitor experience.

Hugh Taylor Birch State Park is classified as a State Recreation Area in the DRP's unit classification system. In the management of a state recreation area, major emphasis is placed on maximizing the recreational potential of the unit. However, preservation of the park's natural and cultural resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the park's recreational potential, the development of appropriate park facilities is undertaken with the goal to provide facilities that are accessible, convenient and safe, to support public recreational use or appreciation of the park's natural, aesthetic and educational attributes.

Purpose and Scope of the Plan

This plan serves as the basic statement of policy and direction for the management of Hugh Taylor Birch State Park as a unit of Florida's state park system. It identifies the goals, objectives, actions and criteria or standards that guide each aspect of park administration and sets forth the specific measures that will be implemented to meet management objectives and provide balanced public utilization. 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. With approval, this management plan will replace the 2006 approved plan.

The plan consists of three interrelated components: The Resource Management Component, the Land Use Component and the Implementation Component. 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. This component provides guidance on the application of such measures as prescribed burning, exotic species removal, imperiled species management, cultural resource management and restoration of natural conditions.

The Land Use Component is the recreational resource allocation plan for the park. Based on considerations such as access, population, adjacent land uses, the natural and cultural resources of the park, and 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 as well as the volume of public use to be provided.

The Implementation Component consolidates the measurable objectives and actions for each of the park's management goals. An implementation schedule and cost estimates are included for each objective and action. Included in this table are (1) measures that will be used to evaluate the DRP's implementation progress, (2) timeframes for completing actions and objectives and (3) 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. This plan is also intended to meet the requirements for beach and shore preservation, as defined in Chapter 161, Florida Statutes, and Chapters 62B-33, 62B-36 and 62R-49, Florida Administrative Code.

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 the DRP's statutory responsibilities and the resource needs and values of the park. This analysis considered the park 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.

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. For example, a concessionaire could be authorized to sell merchandise and food and to rent recreational equipment for use in the park. A concessionaire may also be authorized to provide specialized services, such as interpretive tours, or overnight accommodations 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).

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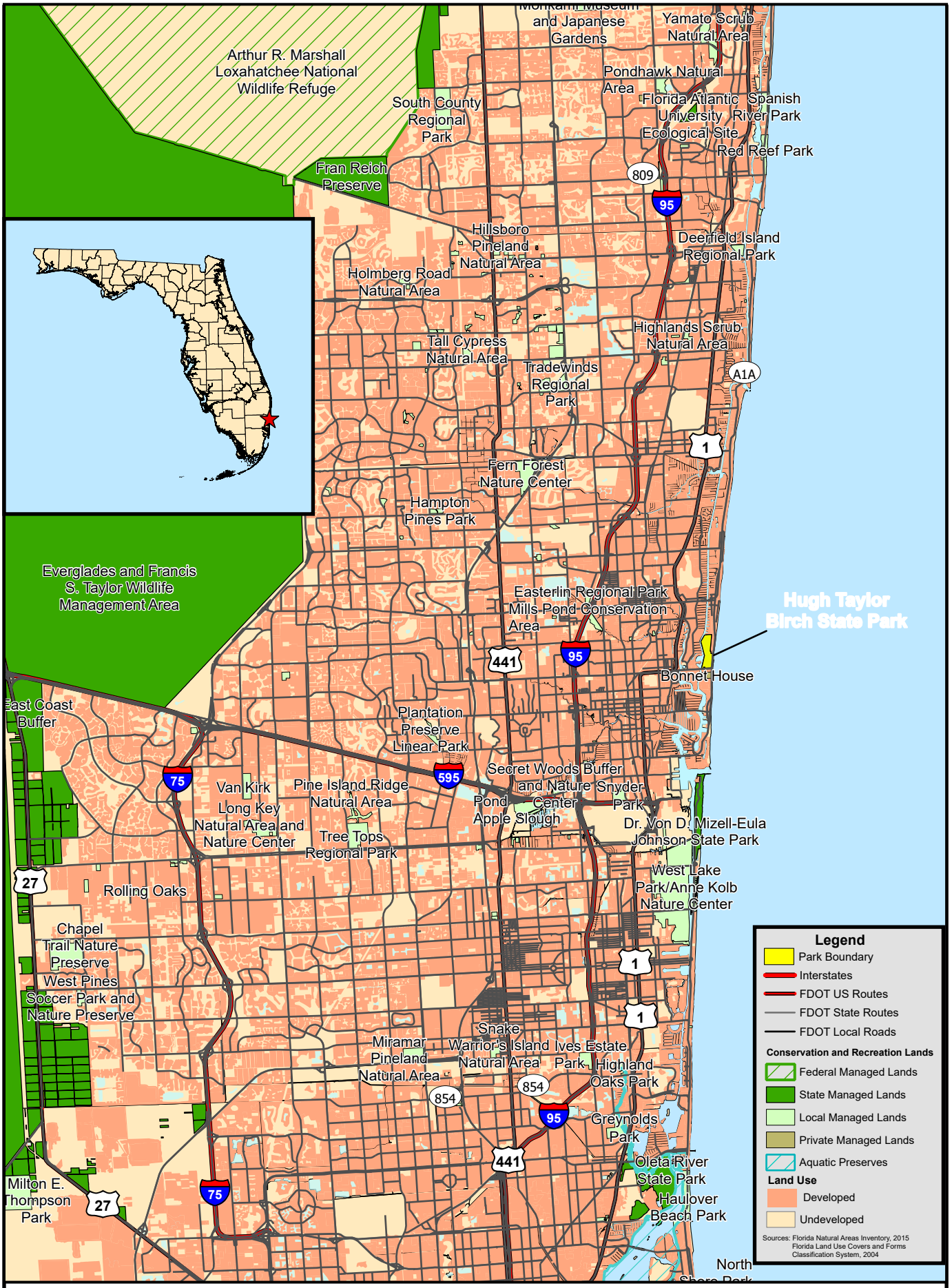
Arthur R. Marshall Loxahatchee National Wildlife Refuge
Morikami Museum and Japanese Gardens
Yamato Scrub Natural Area
Pondhawk Natural Area
South County Regional Park
Florida Atlantic University Ecological Site
Spanish River Park
Red Reef Park
Fran Reich Preserve
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95
Hillsboro Pineland Natural Area
Deerfield Island Regional Park
Holmberg Road Natural Area
Highlands Scrub Natural Area
Tall Cypress Natural Area
Tradewinds Regional Park
A1A
1
Fern Forest Nature Center
Hampton Pines Park
Everglades and Francis S. Taylor Wildlife Management Area
Easterlin Regional Park
Mills Pond Conservation Area
Hugh Taylor Birch State Park
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Bonnet House
East Coast Buffer
Plantation Preserve Linear Park
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595
Secret Woods Buffer and Nature Center
Snyder Park
Van Kirk Long Key Natural Area and Nature Center
Pine Island Ridge Natural Area
Pond Apple Slough
Dr. Von D. Mizell-Eula Johnson State Park
Tree Tops Regional Park
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West Lake Park/Anne Kolb Nature Center
Rolling Oaks
Chapel Trail Nature Preserve
West Pines Soccer Park and Nature Preserve
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1
Snake Warrior's Island Natural Area
Ives Estate Park
Highland Oaks Park
Miramar Pineland Natural Area
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854
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Greynolds Park
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Oleta River State Park
Haulover Beach Park
Milton E. Thompson Park
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75
North
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
HUGH TAYLOR BIRCH STATE PARK
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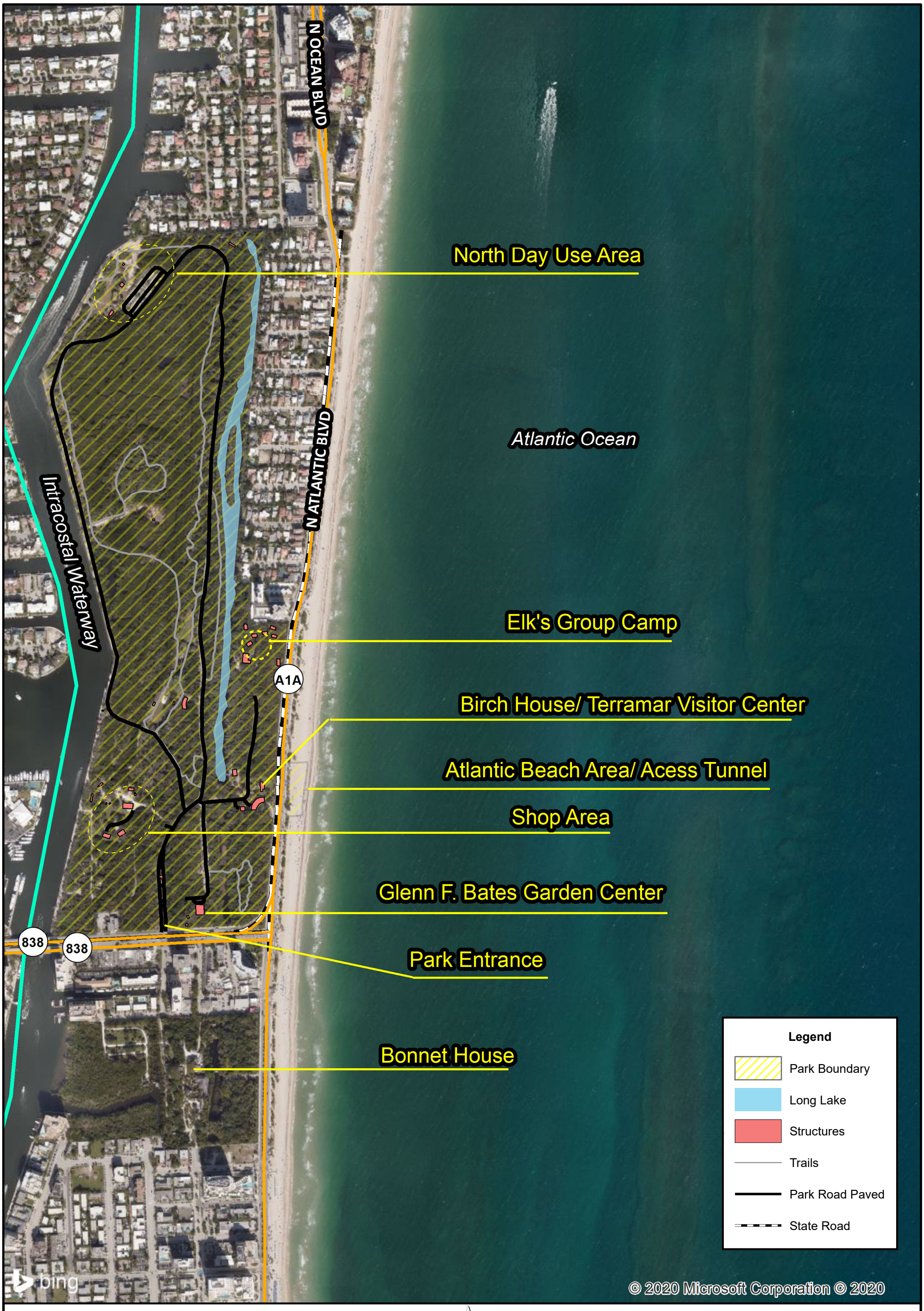
Florida Department of Environmental Protection
Division of Recreation and Parks
VICINITY MAP



HUGH TAYLOR BIRCH STATE PARK

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

REFERENCE MAP

Management Program Overview

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.

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 in the park, restore hydrology to the extent feasible and maintain the restored condition.
- Restore and maintain the natural communities/habitats of the park.
- Maintain, improve or restore imperiled species populations and habitats in the park.
- Remove exotic and invasive plants and animals from the park and conduct needed maintenance-control.
- Protect, preserve and maintain the cultural resources of the park.
- Provide public access and recreational opportunities in the park.
- Develop and maintain the capital facilities and infrastructure necessary to meet the goals and objectives of this management plan.

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. The Florida Department of Environmental Protection (DEP), Florida Coastal Office (FCO) aids staff in aquatic preserves management programs. The DEP, Bureau of Beaches and Coastal Systems aids staff in planning and construction activities seaward of the Coastal Construction Control Line (CCCL). In addition, the Bureau of Beaches and Coastal Systems aid the staff in the development of erosion control projects.

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).

Other Designations

Hugh Taylor Birch 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.

RESOURCE MANAGEMENT COMPONENT

Introduction

The Florida Department of Environmental Protection (DEP), Division of Recreation and Parks in accordance with Chapter 258, Florida Statutes, has implemented resource management programs for preserving for all time the representative examples of natural and cultural resources of statewide significance under its administration. This component of the unit 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. Cited references are contained in Addendum 3.

The DRP's philosophy of resource management is natural systems management. Primary emphasis is placed on restoring and maintaining, to the degree possible, 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 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 the park values.

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. This goal often entails active measures to stabilize, reconstruct or restore resources, or to rehabilitate them for appropriate public use.

Because park units are often components of larger ecosystems, their proper management can be affected by conditions and events that occur beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program that assesses resource conditions, evaluates management activities and refines management actions, and reviews local comprehensive plans and development permit applications for park/ecosystem impacts.

The entire park is divided into management zones that delineate areas on the ground that are used to reference 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 natural fire breaks. It is important to note that all burn zones are management zones; however, not all management zones include fire-dependent natural communities. Table 1 reflects the management zones with the acres of each zone.

Table 1. Hugh Taylor Birch State Park Management Zones			
Management Zone	**Acreage**	**Managed with Prescribed Fire**	**Contains Known Cultural Resources**
HTB-01	11.42	No	
HTB-02	1.21	No	
HTB-03	13.02	No	Yes
HTB-04	21.73	No	
HTB-05	9.98	No	
HTB-06	10.60	No	
HTB-07	41.51	No	
HTB-08	14.21	No	
HTB-09	9.71	No	
HTB-10	8.27	No	
HTB-11	16.16	No	
HTB-12	4.66	No	

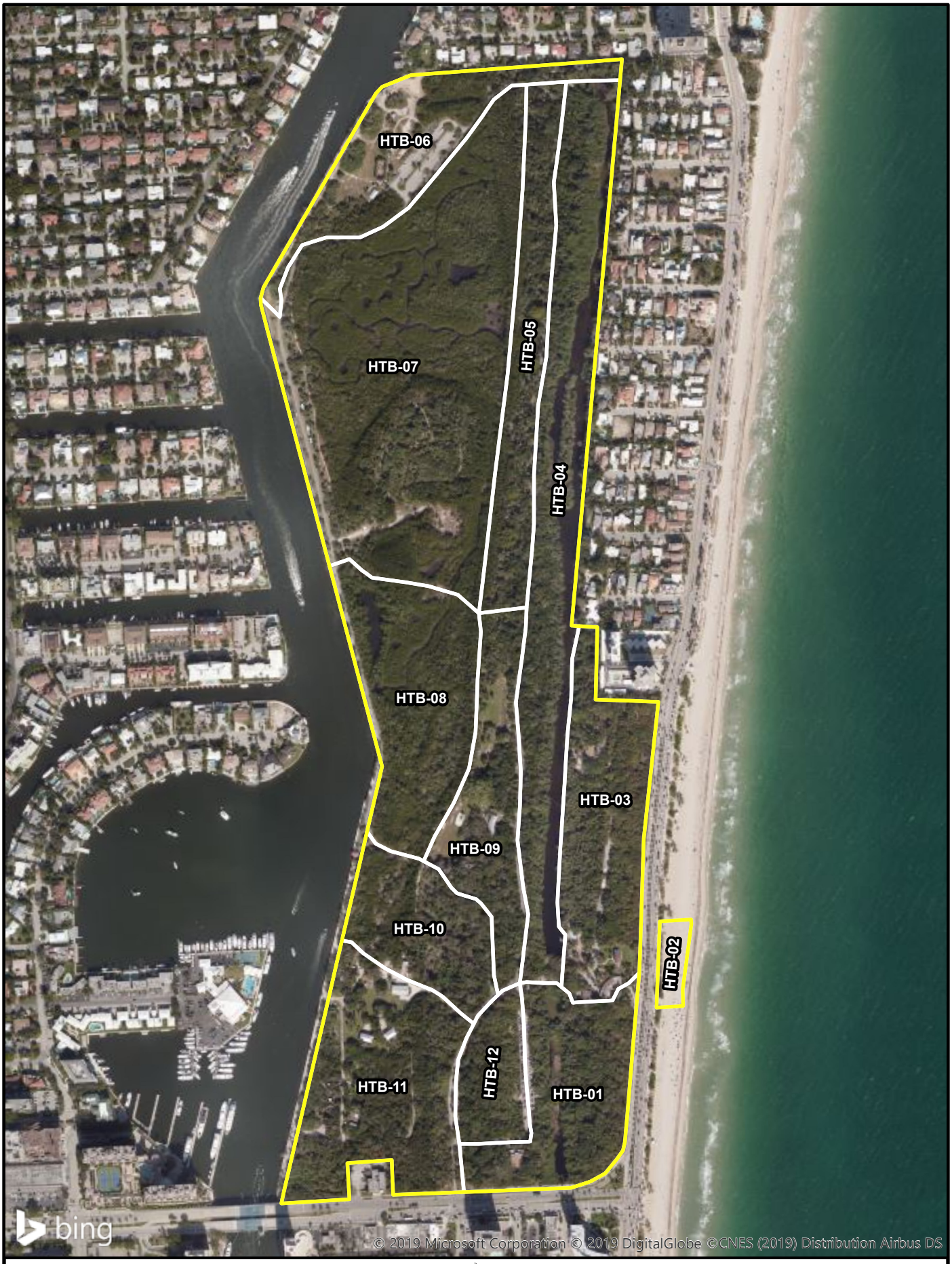
Resource Description and Assessment

Natural Resources

Topography

The physiographic landforms found today reflect the geologic history of the area. Puri and Vernon (1964) have identified the area occupied by the park as part of the Atlantic Coastal Lowlands, which extends the entire length of the peninsula along the eastern shore from the Georgia/Florida line to the Homestead area. The subzone of this physiographic division is the Atlantic Beach Ridges and Barrier Chain that makes up the present-day shoreline. Located on the southeast coast of the Florida peninsula, Hugh Taylor Birch State Park is on a barrier island that is between the Atlantic Ocean and the Intracoastal Waterway. Historically marked on M.A. William's 1870 survey charts, that part of the present Intracoastal Waterway was the New River Sound. Also on this same survey, Bonnet Slough stretched for over 3-1/2 miles north of the existing park boundary and less than 1/2 mile south of the park entrance.

Because of these old waterways and a series of old dune ridges running north to south, there is a wide diversity in the park's topography as compared to the surrounding area. At the widest point, this property is over 1,600 feet and at the narrowest cross section, it is approximately 1,000 feet. The elevation ranges within the unit from sea level along the Atlantic shoreline to an elevation of 12.79 feet along the crest of the old dune ridge.



HUGH TAYLOR BIRCH STATE PARK

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0 150 300 600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2019

MANAGEMENT ZONES MAP

Geology

Dominant geographic features along much of Florida's coastline are its many barrier islands. Shaped by past geological changes, wind, waves and tidal action, barrier islands often occur in long chains, separated from the mainland by estuaries and salt-water wetlands.

The formation of this barrier island took place as part of the series of events that shaped Florida. This peninsula began with sediment deposition in northern Florida from rivers draining the Appalachian Mountains, and in places south of this area from sediments of marine carbonates, shell fragments and microscopic animals being deposited under a shallow sea.

During the Pleistocene epoch, four great Ice Ages brought peninsular exposure with the glacial advances and flooding with each retreat. Each cycle was marked by a different thickness and composition of sediments laid down during inundation, and subsequent consolidation during regression. During several events in the Pleistocene, the consolidated coquinoid limestones of the Anastasia Formation were being formed and extend to approximately 140 feet along the eastern edge of the county.

With the beginning of the Wisconsin Ice Age, the final Ice Age of the Pleistocene epoch, the ice increased, and the sea level steadily fell until about 20,000 years ago. Then, the sea reached a low point close to 300 feet below the present level. At that time, the climate was windy, cool and dry- conducive for forming dune formations along the coast.

From about 15,000 to 6,000 years ago, this barrier island became more than just a large sandbar. The sea level rose relatively rapid at a rate of more than 3 feet per century. Near the end of this period, modern vegetation and climate became better established, and the rise in sea level slowed down.

Soils

The following soil types have been identified in the park: Beaches, Palm Beach Sand, Canaveral, Terra Ceia Muck and Arents (see Soils Map). A complete description of soil types found in the park, as recorded in the Soil Survey of Broward County, Florida, Eastern Part, is contained in Addendum 4.

Limited soil erosion is known from this site. All management activities will follow best management practices to conserve soil resources and prevent soil erosion.

Minerals

The dominant mineral in most of east Florida's beach sands is quartz, a very stable form of silicon dioxide. The nearest sources of quartz are the rivers of Georgia. Over millions of years this quartz has been pushed south along Florida's beaches. The beaches in south Florida also contain large amounts of shell fragment, which is composed mainly of calcium carbonate and some aragonite. No known mineral deposits of commercial value exist in the park.

Hydrology

Hugh Taylor Birch falls within the South Florida Water Management Districts Lower East Coast water supply Planning Area, including Palm Beach, Broward, Dade and of Monroe Counties.

Urban development has increased regionally along coastal Florida bringing with it the additional demands placed on the water resources and their management. Much of this development involved canals that result in over-drainage of wetlands, and well withdrawals that can result in coastal salt-water intrusion

Currently a large quantity of surface water flow within the county is either carried into the sea by a system of canals or stored in the South Florida Water Management District's Conservation Areas.

The largest historical change to park hydrology was most likely the construction of the Intracoastal Waterway. The U.S.G.S. map of 1884 by E.L. Taney indicated that the western edge of what is presently the park was dominated by fresh water vegetation, such as saw grass. Undoubtedly, occasional storms brought salt water into this area through a series of ephemeral natural inlet connections; with a relatively stable man-made inlet to the sea established and the dredging of the Intracoastal, it rapidly converted the area to an estuarine ecosystem. As development continued to spread around the area, so did the dredge and fill activity and bulkhead construction. The park's western shoreline is bulk headed and dredge-fill material was placed in the western part of the park altering its mangrove wetlands. A u-shaped mosquito ditch was constructed many years ago, which approximately defines the eastern extent of the mangroves. This ditch currently suffers from poor tidal circulation, but still supports mangrove productivity.

The need to protect the value and function of park waters is important and all such areas within state parks have been designated as Outstanding Florida Waters. The statutory requirement for an Outstanding Florida Water designation is that the water body must have "natural attributes worthy of special protection" (Section 403.061 (28), FS).

HUGH TAYLOR BIRCH STATE PARK

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0 150 300 600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2019

SOILS MAP

Natural Communities

This section of the management plan describes and assesses each of the natural communities found in the state 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. Specific management objectives and actions for natural community management, exotic species management, imperiled species management [and population restoration] are discussed in the Resource Management Program section of this component.

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, fire frequency and hydrology 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. For example, coastal strand and scrub--two communities with similar species compositions--generally have quite different climatic environments, and these necessitate different management programs. Some physical influences, such as fire frequency, may vary from FNAI's descriptions for certain natural communities in this plan.

When a natural community within a park reaches the desired future condition, it is considered to be in a "maintenance condition." Required actions for sustaining a community's maintenance condition may include; maintaining optimal fire return intervals for fire dependant communities, ongoing control of non-native plant and animal species, maintaining natural hydrological functions (including historic water flows and water quality), preserving a community's biodiversity and vegetative structure, protecting viable populations of plant and animal species (including those that are imperiled or endemic), and preserving intact ecotones that link natural communities across the landscape.

The park contains 5 distinct natural communities as well as 2 altered landcover types (see Natural Communities Map). A list of known plants and animals occurring in the park is contained in Addendum 5.

Beach Dune

Desired Future Condition: Beach dune is a coastal mound or ridge of unconsolidated sediments found along shorelines with high energy waves. Vegetation will consist of herbaceous dune forming grass species such as sea oats (*Uniola paniculata*) and sand cordgrass (*Spartina alterniflora*). Other typical species to include railroad vine (*Ipomea pes-caprae*), beach morning glory (*Ipomea imperati*), and beach sunflower (*Helianthus debilis*, along the Atlantic coast). Occasionally shrubs such as seagrape (*Coccoloba uvifera*) will be scattered within the herbaceous vegetation.

Description and assessment*:* The beach dune community is located within HTB-02 and is in good condition. The beach dune is mostly composed of a healthy population

of sea oats, Beach star (Cyperus pedunculatus) and scattered seagrape; however, scattered populations of the exotic beach naupaka (*Scaevola sericea*) can be found near the main beach access.

The beach community serves as an important nesting habitat for federal and state listed loggerhead sea turtles (*Caretta caretta*), leatherback sea turtles (*Dermochelys coriacea*) and green sea turtles (*Chelonia mydas*) and as potential nesting habitat for solitary and colonial nesting shorebirds and seabirds.

General management measures: The impacts to the beach dune community are invasive exotic vegetation, visitor impacts, and erosion caused by natural storm events. To mitigate for these impacts the park will continue to implement management activities as needed to improve the beach dune community; these activities include invasive exotic removal, planting of native dune vegetation, and establishing designated access trails.

Coastal Strand

Desired Future Condition: Coastal strand is characterized as stabilized, wind-deposited coastal dunes that are thickly vegetated with evergreen salt-tolerant shrubs; usually found as an ecotone community that will between the beach dune and maritime hammock. Coastal strand dunes will contain deep, well drained sands that are generally quite stable but become susceptible to severe damage if the vegetation is significantly disturbed. South of Cape Canaveral, tropical species are more prevalent including seagrape (*Coccoloba uvifera*), swamp privit (*Forestiera segregata*), myrsine (*Rapanea punctata*), buttonsage (*Lantana involcrata*), white indigoberry (*Randia aculeata*), snowberry (*Chiococca alba*), and numerous others. Smooth domed canopies will develop as the taller vegetation is “pruned” by the windblown salt spray that kills the outer buds. This process is not as prevalent on the west coast of Florida or on the lee-side of islands due to prevailing easterly winds.

Description and assessment: The parks coastal strand is in good condition. It is characterized by large seagrapes, cabbage palms, myrsine. It is located along the eastern boundary of HTB-03 and in the eastern boundary of HTB-12. Listed species that can be found within the coastal strands more open areas include Beach jacquemontia (*Jacquemontia reclinata*) and Beach peanut (*Okenia hypogea*) and the main population of Gopher Tortoises.

Invasive exotic species such as crow’s-foot grass, wedelia, oyster plant tend to dominate the ground cover, while shrubby species like Brazillian Pepper and scavoela occupy the mid-story.

General management measures: There is little information on natural fire frequency of this specific community, and it is not anticipated to be a management tool used at Hugh Taylor Birch. Salt spray and other natural occurrences should keep the canopy open for the persistence of the listed species; however, more specific vegetation management actions may take place as needed.

Invasive exotic removal projects will take place to prevent re-colonization of Australian pines and other category I and II species to achieve the desired conditions for this community.

HUGH TAYLOR BIRCH STATE PARK

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0 150 300 600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial: 2019

NATURAL COMMUNITIES MAP

Maritime Hammock

Desired Future Condition: Maritime hammock is a coastal evergreen hardwood forest occurring in narrow bands along stabilized coastal dunes. Canopy species will typically consist of live oak, gumbo limbo, and cabbage palm. The canopy will typically be dense and often salt-spray pruned. Understory species may consist of Spanish stopper, saw palmetto, strangler fig, wild coffee and marlberry. Herbaceous groundcover will typically be very sparse or absent.

Description and assessment: Maritime hammock is one of the prevelant natural communities at Hugh Taylor Birch and is in fair condition. It is composed of both tropical and subtropical species such as mastic, gumbo limbo, cabbage palms, stopper, myrsine, marlberry, wild coffee. Category I and II invasive exotic plants are prevelant through the Maritime Hammock including Surinam cherry, Brazilian pepper, tropical almond, sapodilla, scattered Australian pines, air potato, oyster plant, wedelia, pothos and arrowhead vines.

General management measures: Due to its coastal location, the maritime hammock is mainly influenced by salt spray and storm events. Invasive exotic species are an ongoing threat and should take a high priority for removal. The Garden Center located in HTB-01 and is also home to a variety of exotic species. These plants should be evaluated based on invasive potential and removed.

Mangrove Swamp

Desired Future Condition*:* Mangrove swamp is typically characterized as a dense forest occurring along relatively flat, low wave energy, marine and estuarine shorelines. The dominant overstory will include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and buttonwood (*Conocarpus erectus*). These four species may occur either in mixed stands or often in differentiated, monospecific zones based on varying degrees of tidal influence, levels of salinity, and types of substrate. Red mangroves will typically dominate the deepest water, followed by black mangrove in the intermediate zone, and white mangroves and buttonwood in the highest, least tidally influenced zone. Mangroves will typically occur in dense stands (with little to no understory) but may be sparse, particularly in the upper tidal reaches where salt marsh species predominate. When present, shrub species can include seaside oxeye (*Borrichia arborescens, B. frutescens*), and vines including gray nickerbean (*Caesalpinia bonduc*), coinvine (*Dalbergia ecastaphyllum*), rubbervine (*Rhabdadenia biflora*), and herbaceous species such as saltwort (*Batis maritime*), shoregrass (*Monanthocloe littoralis*), perennial glasswort (*Sarcocornia perennis*), and giant leather fern (*Acrostichum danaeifolium*). Soils will generally be anaerobic and are saturated with brackish water at all times, becoming inundated at high tides. Mangrove swamps will occur on a wide variety of soils, ranging from sands and mud to solid limestone rock. Soils in South Florida are primarily calcareous marl muds or calcareous sands and along Central Florida coastlines, siliceous sands. In older mangrove swamps containing red mangroves, a layer of peat may build up over the soil from decaying plant material (primarily red and black mangrove roots).

Description and assessment: This community plays vital role in the marine and estuarine ecosystems of Florida as the shallow waters provide an ideal nursery grounds, food and shelter for fish and invertebrate species. A variety of birds also use the mangrove swamp for roosting nesting and protection.

In 1999, the mangrove swamp community was the subject of a large mitigation project. This restoration involved major invasive exotic removal of Australian pine trees, culvert installations, and new native plantings.

Currently, the mangrove swamp appears to be in good condition; however, there is still limited connectivity to the Intracoastal Waterway through the original culverts. Invasive exotic plants such as Brazilian pepper, Australian pine, and seaside mahoe are still found scattered throughout the mangrove swamps.

General management measures: Due to connections through culverts to the Intracoastal Waterway examining water flow and re-establishing any missing or broken connections to this community is a high priority. Investigating the integrity of these culverts is a high priority to ensure adequate water exchange is occurring.

Infestations of all Category I and II invasive species are a high priority for removal. Monitoring infestation levels, removals and identifying the potential for new exotic recruitment will be ongoing.

Marine Unconsolidated Substrate

Desired Future Condition*:* Marine unconsolidated substrate will consist of expansive, open areas of mineral based substrate composed of shell, and/or sand (sand beaches). The presence of natural marine debris, or wrack, is considered desirable as it greatly enhances nutrient cycling and the food web. Desired conditions include preventing soil compaction, dredging activities, vehicle traffic and disturbances such as the accumulation of pollutants.

Description and assessment*:* The marine consolidated substrate is located in management zone HTB-02. Located just west of the beach dune, it is utilized as nesting and feeding grounds for a variety of animals and important recreational area for visitors. As such it is subject to visitor impacts such as trash, marine debris but overall it is considered in good condition.

General management measures: Unconsolidated substrate faces impacts from compaction and disturbances associated with vehicular traffic and dredging operations. However, once these disturbances are removed the community tends to rebound and recover shortly after. Vehicular traffic should be strongly discouraged to avoid impacts to the resources.

Altered Landcover Types

Canal/Ditch

Desired Future Condition: The ruderal lake system is likely a derivative of the former sawgrass dominated Bonnet Slough. The lakes within the park will be managed to remove priority invasive plant species (EPPC Category I and II species). Scattered emergent vegetation, and hydrophytic trees should be present on the fringe while maintaining stable freshwater levels throughout the year. A specific improvement plans analyzing cost-effectiveness, return on investment with consideration of other projects needs should be updated to guide the management of the ruderal lakes.

Description and assessment: Prior to the states ownership, it is believed the lake system was cut off from the natural slough and in the 1940s it is believed to have been dredged by Hugh Taylor Birch and has likely been impacted by storm water runoff, excess nutrients, invasive vegetation. These ruderal lakes are separated into 4 lakes running linearly within management zones HTB-01 and HTB-04. The shorelines are composed of the invasive Brazilian pepper, pond apple and very few isolated cypress trees with emergent and floating vegetation such as cat tails and water lily.

General management measures: Draft restoration plans were developed in 1993 and also in 1999. These plans should be revisited and updated to reflect the newest best management processes. Invasive exotic and nuisance plants should be monitored and removed from the shoreline edges and submerged areas; further investigation is required to determine impacts of sedimentation, current nutrient levels, and wildlife utilization. To protect the system the amount needs to be quantified and its quality determined.

Developed

***Desired Future Condition*:** The ruderal areas within the park will be managed to minimize the effect of the developed areas on adjacent natural areas. Priority invasive plant species (FLEPPC Category I and II species) will be removed from all developed areas. Other management measures include proper stormwater management and development guidelines that are compatible with management in adjacent natural areas.

Description and assessment: Developed areas include the ranger station, botanical garden house, Elks group camp, picnic areas, pavilions, office, shop area, roads, parking lots, and staff residences.

General management measures: These areas will be managed according to surrounding adjacent natural community guidelines. Residential areas and the Garden Center should be regularly monitored to make sure non-native vegetation does not impact natural areas. Control of FLEPPC Category I and II invasive plant species will occur in the ruderal day use areas as needed. Occasional mowing may take place for vegetation management and continued visitor use.

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.

Plants

Beach jacquemontia is a perennial vine that requires open areas. Plants are usually found growing in the shade of adjacent low-lying shrubs and spread laterally as they mature. Loss of habitat, increased urbanization and the threats of beach erosion continue to contribute to the listing of this species. The low growing nature of the plant also makes it susceptible to trampling and competition with native and invasive exotic species.

Beach Peanut or Burrowing four o'clock is a ground hugging plant that is found in south east Florida coastal beach dune habitats. As a member of the Four O'clock family, flowers tend to open in late afternoon from spring through fall. Habitat fragmentation, urban developments and invasive plants have also contributed to the loss of this species in many areas.

Biscayne Prickly Ash is a perennial shrub/small tree found in tropical coastal hammocks of south east Florida. As a member of the Rutacea family, it is an important larval plant for swallowtail butterflies. The leaves are compound with 1-2 leaflets and in an alternate arrangement. As its common name suggests, young trees form spiny thorns along the trunks and branches that morph into lumps as they mature. The plant faces threats of urbanization and loss of habitat as it is only found in coastal upland areas. Management measures should be to limit clearing, development and remove invasive exotics that may out compete plants and alter ecosystems.

Animals

The distribution of Gopher Tortoises in the southern peninsula is limited due to increased fragmentation and urbanization. The gopher tortoise is a keystone species because tortoise burrows are not just home to the gopher tortoise, but they also provide habitat and shelter for many species, including invertebrates, amphibians, other reptiles and mammals.

The gopher tortoise occurs throughout most of the park's upland areas where there is herbaceous groundcover for forage and sandy soils to dig its burrow. Gopher tortoise populations and burrows are being periodically surveyed to determine population status and trends of the tortoise and its commensals.

The amount of sea turtle nesting activity fluctuates annually. While the entire park borders a long stretch of beach the beach habitat within the boundary of Hugh Taylor Birch has seen nesting activity range from zero to five nests a season. The majority of nests belong to Loggerheads with the occasional green and leatherback nesting.

NOVA University monitors nesting females and marks nests along Broward County municipalities and Sea Turtle Oversight Protection monitors hatchlings during nest windows; recovering many hatchlings from disorientation.

Hugh Taylor Birch will extinguish the park lights where feasible and/or retrofit existing lighting according to FWC, Marine Turtle Act and Endangered Species Act protocol providing a dark zone for the turtles, and hatchlings.

The freshwater areas of the ruderal lakes and lower salinity waters associated with mangrove swamp are important habitat and nursery areas for a large number of invertebrates, fish and birds. Herons, egrets, ibis and other wading birds can be observed foraging in both and along the mangrove swamp.

If issues concerning imperiled species and their management arise, DRP staff will coordinate with USFWS and FFWCC to ensure that management and monitoring of imperiled animal species is consistent with recovery goals.

Table 2 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.

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
PLANTS						
Barbwire cactus *Acanthocerus tetragonus*			ST		2.10	Tier 1
Beach Jacquemotia *Jacquemontia reclinata*		FE		G1/S1	2, 10	Tier 3
Florida shrubverbena *Lantana depressa var floridana*			SE	G2T2	2,10	Tier 1
Beach Peanut *Okenia hypogaea*			SE	G3? S2	2 ,10	Tier 1
Biscayne Prickly Ash *Zanthoxylum coriaceum*			SE	G3G4/ S1	2,10	Tier 1
INSECTS						
Atala *Eumaeus atala*				G4/S2	10	Tier 1
Cassius blue butterfly *Leptotes cassius theonus*		FT(S/A)			10	Tier 1
Ceraunus blue butterfly *Hemiargus ceraunus antibubastus*		FT(S/A)			10	Tier 1
REPTILES						
Loggerhead sea turtle *Caretta caretta*		FT			8,10,13	Tier 2
Green sea turtle *Chelonia mydas*		FE			8,10,13	Tier 2
Leatherback sea turtle *Dermochelys coriacea*		FE			8,10,13	Tier 2
Gopher tortoise *Gopherus polyphemus*	ST			G3, S3	2,6,10,13	Tier 3
BIRDS						
Brown pelican *Pelecanus occidentalis*	SSC				4,10	Tier 1
Limpkin *Aramus guarauna*	SSC				4,10	Tier 1
Little blue heron *Egretta caerulea*	SSC			G5, S4	4,10	Tier 1
Roseate spoonbill *Platalea ajaja*	SSC				4,10	Tier 1
Least tern *Sterna antillarum*	ST				4,10	Tier 1
Snowy egret *Egretta thula*	SSC				4,10	Tier 1

Table 2: Imperiled Species Inventory						
Common and Scientific Name	**Imperiled Species Status**				**Management Actions**	**Monitoring Level**
	FWC	**USFWS**	**FDACS**	**FNAI**		
Tricolored heron *Egretta tricolor*	SSC				4,10	Tier 1
White ibis *Eudocimus albus*	SSC				4,10	Tier 1
MAMMALS						
West Indian manatee (Florida manatee) *Trichechus manatus (Trichechus manatus latirostris)*		FE			4,10	Tier 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.

Tier 2. Targeted Presence/Absence: includes monitoring methods/activities that are specifically intended to document presence/absence of a particular species or suite of species.

Tier 3. Population Estimate/Index: an approximation of the true population size or population index based on a widely accepted method of sampling.

Tier 4. Population Census: A complete count of an entire population with demographic analysis, including mortality, reproduction, emigration, and immigration.

Tier 5. Other: may include habitat assessments for a particular species or suite of species or any other specific methods used as indicators to gather information about a particular species.

Detailed management goals, objectives and actions for imperiled species in this park are discussed in the Resource Management Program section of this component and the Implementation Component of this plan.

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.

The policy of DRP is to remove exotic species from native natural communities. In areas that exotic plants become established, annual removal plans are developed and updated to control them.

Monitoring and treatment efforts are ongoing for all exotic species, with an increased emphasis for those found on the FLEPPC Category I and II plant lists and known EDRR species. In order to accurately reflect infestation levels, specific surveys for exotic plants should take place every two years. Using these surveys, the park will be able to monitor and review past efforts to make more informed future management decisions.

Currently, there are a variety of FLEPPC Category I & II species throughout the park; notably, Surinam cherry, Brazilian pepper, Australian pine, sapodilla and air potato. A detailed site-specific invasive management plan needs to be developed and written for this park.

Treatment, removal, and long-term monitoring of Brazilian pepper, Surinam cherry, Australian pine and air potato will be a top priority. Secondarily, infestations of ground cover species wedelia, oyster plant, sanseveria, pothos and arrowhead vine will require large removal efforts having been found in almost every management zone.

DRP staff continues to work hard to control a number of exotic species in the upland portions of the park. Treatment of the exotics at Hugh Taylor Birch requires a multi-pronged approach of bio-control agents, herbicides, hours of manual removals and will require special partnerships with park staff and volunteer groups to be successful. Additionally, the park will take a proactive approach to prevent new infestations and adopt an early detection rapid response management approach to all exotic species. DRP staff will evaluate the need for additional contracted removal while continuing to monitor and remove the known infestations on a yearly basis.

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.

Non-native lizards including green iguanas, monk parakeets, muscovy ducks, feral cats, have all been documented at Hugh Taylor Birch or near the park's boundary.

Non-native reptiles, specifically iguanas, pose a risk to native flora and fauna and should be removed by park staff when feasible.

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 raccoon (*Procyon lotor*) has adapted well to life in the urban landscape without major predators. In the 1980s-2000 unlawful feeding of wildlife gave rise to an unnaturally high raccoon population. This in turn led to raccoons routinely harassing visitors for food and creating a safety hazard from animal contact and food contamination.

Detailed management goals, objectives and actions for management of invasive exotic plants and exotic and nuisance animals are discussed in the Resource Management Program section of this component.

Table 3 contains a list of the Florida Exotic Pest Plant Council (FLEPPC) Category I and II invasive, exotic plant species found within the park (FLEPPC, 2015). 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 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
PLANTS			
Abrus precatorius rosary pea	I	2	HTB-01, HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Acacia auriculiformis earleaf acacia	I	2	HTB-03, HTB-05, HTB-06
Agave sisalana sisal hemp	II	1	HTB-02, HTB-04
Albizia lebbeck womans tongue	I	1	HTB-07
Ardisia elliptica shoebutton ardisia	I	2	HTB-01, HTB-04, HTB-06, HTB-07 HTB-08, HTB-09, HTB-10
Asparagus aethiopicus Sprenger's asparagus-fern	I	2	HTB-06
Asysasia gangetica Ganges primrose	II		
Bauhina variegata orchid tree	I		
Bischofia javanica bishopwood	I	1	HTB-11
Callisia fragrans inch plant	II	2	HTB-12
Callophyllum antillanum santa maria	I	1	HTB-01
		2	HTB-07
Casuarina equisetifolia Australian pine	I	2	HTB-05,HTB-06, HTB-07, HTB-08, HTB-09
Cestrum diurnum day jessamine	II	2	HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Cocos nucifera coconut palm	II	1	HTB-06, HTB-07, HTB-12
		2	HTB-01, HTB-11
Colubrina asiatica lather leaf	I	2	HTB-07

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Cryptostegia madagacariensis rubbervine	II		
Cupaniopsis anacardioides carrotwood	I	2	HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Cyperus involucratus umbrella sedge	II	2	HTB-01, HTB-04
Dactyloctenium aegyptium crowfoot grass	II	2	HTB-01, HTB-12
Dioscorea bulbifera air potato	I	3	HTB-1, HTB-02, HTB-03, HTB-04, HTB-05, HTB-09, HTB-11
Eichhornia crassipes water hyacinth	I	2	HTB-04,
Epipremnum pinnatum pothos	II	3	HTB-01, HTB-02, HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-10, HTB-11
Eugenia unifloria Surinam cherry	I	3	HTB-01, HTB-02, HTB-03, HTB-04, HTB-05, HTB-06, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Ficus altissima council tree	II		
Ficus microcarpa laurel fig	I		
Hemarthria altissima limpo grass	II		
Hydrillia verticillata hydrilla	I	2	HTB-04,
Hyparrhenia rufa jaragua	II		

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Kalanchoe pinnata life plant	II	2	HTB-01, HTB-03, HTB-04, HTB-09, HTB-10, HTB-11, HTB-12
Koellreuteria elegans subsp. formosana flamegold tree	II		
Lantana camara lantana	I	2	HTB-01, HTB-03, HTB-12
Leucaena leucocephala leadtree	II	2	HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-10, HTB-11, HTB-12
Livistona chinensis Chinese fan palm	II	1	HTB-05
Manikara zapota sapodilla	I	3	HTB-04, HTB-05, HTB-08, HTB-09, HTB-10
Melalueca quinquenervia melalueca	I	1	HTB-09
Melaueca viminalis bottlebrush	II	1	HTB-01, HTB-10, HTB-11
Melia azedarach Chinaberry	II		
Melinis repens natal grass	II		
Mimosa pigra catclaw mimosa	I		
Momordica charantia balsampear	II	1	HTB-04
Nephrolepis brownii Asian sword fern			
Nephrolepis cordifolia tuberous sword fern	I	2	HTB-09, HTB-10
Neyraudia reynaudiana Burma reed	I	1	HTB-05
Panicum maximum Guinea grass	II	2	HTB-01, HTB-12
Panicum repens torpedo grass	I	2	HTB-01, HTB-12

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Phoenix reclinata Senegal date palm	II	1	HTB-04, HTB-05, HTB-06, HTB-07, HTB-11,
		2	HTB-12
Psidium cattleianum strawberry guava	I		
Psidium guajava common guava	I	1	HTB-05
Pteris vittata Chinese brake fern	II	1	HTB-05
Ptychsperma elegans solitare palm	II		
Ricinis communis castor bean	II	2	HTB-10, HTB-11
Ruella blechum Browns blechum	II		
Ruella simplex Mexican petunia	I	2	HTB-07
Sansevieria hyacinthoides bowstring hemp	II	2	HTB-02, HTB-03, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
		3	HTB-01
Scaevola taccada beach naupaka	I	2	HTB-01, HTB-02, HTB-06, HTB-07, HTB-08, HTB-11
Schefflera actinophylla Queensland umbrella tree	I	2	HTB-03, HTB-04, HTB-05, HTB-08, HTB-10, HTB-11
Schinus terebinthifolius Brazilian pepper	I	3	HTB-01, HTB-03, HTB-04, HTB-05, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Solanum diphyllum two-leaf nightshade	II		

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Spermacoce verticillata shrubby false buttonweed	II		
Sphagneticola trilobata wedelia	II	3	HTB-01, HTB-02, HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12
Syngonium podophyllum arrowhead vine	I	3	HTB-01, HTB-02, HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12,
Syzygium cumini javaplum			
Syzygium jambos rose-apple	II	1	HTB-09, HTB-10,
Taliparti tilaceum mahoe, seahibiscus		2	HTB-07, HTB-11
Terminalia catappa tropical-almond	II	2	HTB-05, HTB-06, HTB-11, HTB-12
Terminilla muelleri Australian almond			
Thespesia populnea seaside mahoe, portia tree	I	2	HTB-1, HTB-06, HTB-07, HTB-08, HTB-10, HTB-11
Tradescantia spathacea oyster plant	II	3	HTB-1, HTB-03, HTB-04, HTB-05, HTB-06, HTB-07, HTB-08, HTB-09, HTB-10, HTB-11, HTB-12

Table 3: Inventory of FLEPPC Category I and II Exotic Plant Species			
Common and Scientific Name	**FLEPPC Category**	**Distribution**	**Management Zone (s)**
Tribulus cistoides burr-nut	II	2	HTB-01, HTB-02, HTB-06, HTB-07, HTB-08, HTB-12
Urena lobata Ceasar's weed	I	1	HTB-08
Vitex trifolia Simple-leaf chaste tree	II		
Washingtonia robusta Washington fan palm	II		

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.

Special Natural Features

This park contains a rare, tropical maritime hammock, and has a diverse assemblage of tropical trees and understory. These areas are becoming mere remnants of a unique system for residential and commercial developments along coastal sites. In years to come, the hammock sites within Hugh Taylor Birch State Park will continue to become more valuable for biological research and passive recreation.

The mangrove community in this park is also now rare in this part of Florida. Although isolated, the overall health of the wetland community can be improved by through efforts to enhance and maintain tidal connections and circulation.

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 normal occurs. Fair describes a condition in which there is a discernible decline in condition between inspections, and the wholeness or physical integrity is and continues to be threatened by factors other than normal wear. A fair assessment is 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.

The following is a summary of the FMSF inventory. In addition, this inventory contains the evaluation of significance.

Prehistoric and Historic Archaeological 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.

There are no known prehistoric and historic archeological sites within the park. A review of FMSF data indicates that one countywide Phase II Archeological survey was completed in some areas located within the park. This would not have included any systematic testing within the park, and no archaeological sites have been found or are known within the park boundary. (AIST) Through some predictive modeling it was found that approximately 7% of the park yields a high probability and 25% yields a medium probability of archeological sensitivity. Thorough systematic surveys should be completed in the medium to high probability areas.

Historic Structures

***Desired future condition**:* All significant historic structures and landscapes 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.

In 1893, Chicago attorney Hugh Taylor Birch traveled with Henry Flagler to Palm Beach, Florida. From there he sailed further south looking for land to purchase until a violent storm forced him to take shelter at Lake Mabel, less than four miles south of the park. From there he started purchasing tracks of land until he owned a 3.5 mile stretch of beachfront property including his 180-acre estate which he called Terramar. The Birch House (BD2152) and Servant's Quarters/Garage Apartments (BD4521) were both completed in 1940 in the Mediterranean Revival Style. Indications of this style at the Birch House are the red barrel tile roof, stucco exterior finish, a symmetrical façade, and broad chimney. Preliminary National Register paperwork indicates an influence of Spanish Revival and Art Deco styles. All fit within the popular building styles of Miami and Fort Lauderdale between 1920-40.
Prior to and after its opening as a state park in 1949, development in the mid-1940s and early 1950s included an Entrance Station (BD4543), Garden Center (BD4542), Concession Building (BD4522), and beginning of the Elk's Youth Camp

(BD4525-30,33). The concession building was designed as one component of a six-part plan that contained four buildings in a Mediterranean Revival style to match previous construction at the park, and a mid-century modern in keeping with the popular style around the country and within the park system. The Garden Center built in the mid-century modern style was constructed and still operated by the Fort Lauderdale Garden Club.

Construction continued in the late 1950s with recreational structures including the Beach Underpass (BD4523), Canoe Shed (BD4524), additional overnight cabins in the Youth Camp area (BD4531-2), a Restroom-Pavilion (BD4534), and a Barbecue Pit Shelter (BD4535).

In the 1960s recreational opportunities expanded including Picnic Area Restrooms (BD4538), a Picnic Shelter (BD4539), Barbecue Pit (BD4540), and a Storage Building (BD4541). In 1965 one of the most iconic features of the park was constructed; a narrow-gauge railroad. It traversed the park in a three- mile loop and included a 30-minute narrated tour, until it was decommissioned in 1985. The train was electric with an engine made to look like one on a steam train. Today, sections of track, canals, train trestles (BD4544) and bridge are all that remains of the ride. Picnic pavilions were also constructed along the route for visitors to enjoy (BD4536-7).

Collections

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

Description: The park's small collection includes a copied letter correspondence between Mr. Hugh Taylor Birch and Dr. David Fairchild, and a silver dollar from Mr. Martha Schneider noting that the silver dollar was given to Mr. Birch from Governor Spessard Holland dated March 4th, 1942.

Condition Assessment: Overall the limited park collections are in good condition stored and locked within the administrative office of the park.

General Management Measures*:* A scope of collections statement should be developed and maintained by the park including inventory, condition assessments, and recommendations.

Detailed management goals, objectives and actions for the management of cultural resources in this park are discussed in the Cultural Resource Management Program section of this component. Table 4 contains the name, Florida Master Site File number, culture or period, and brief description of all the cultural sites within the park that are listed in the Florida Master Site File. The table also summarizes each site's level of significance, existing condition and recommended management treatment. An explanation of the codes is provided following the table.

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name & FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Hugh Taylor Birch State Park - **BD4520**	1821-present	Resource Group	NE	G	P
Birch House - **BD2152**	1940	Historic House	NR	F	RS
Hugh Taylor Birch Garage Apartment- **BD4521**	1940	Historic Building	NE	G	P
Concession Building- **BD4522**	1947	Historic Building	NE	G	P
Beach Underpass- **BD4523**	1959	Historic Structure	NE	F	P
Canoe Shed- **BD4524**	1957	Historic Building	NE	G	P
Elks Youth Camp Bathhouse- **BD4525**	1947	Historic Building	NE	P	
Elks Youth Camp Lodge- **BD4526**	1947	Historic Building	NE	G	P
Elks Youth Camp Cabin 1- **BD4527**	1947	Historic Building	NE	G	P
Elks Youth Camp Cabin 2- **BD4528**	1947	Historic Building	NE	G	P
Elks Youth Camp Cabin 3- **BD4529**	1947	Historic Building	NE	G	P
Elks Youth Camp Cabin 4- **BD4530**	1947	Historic Building	NE	G	P
Overnight Cabin 5- **BD4531**	1950	Historic Building	NE	G	P
Overnight Cabin 6- **BD4532**	1955	Historic Building	NE	F	P
Craft Shelter- **BD4533**	1947	Historic Building	NE	F	P
Restroom-Pavilion- **BD4534**	1955	Historic Building	NE	G	P
Barbecue Pit-Shelter- **BD4535**	1959	Historic Building	NE	F	P

Table 4. Cultural Sites Listed in the Florida Master Site File					
Site Name & FMSF #	**Culture/Period**	**Description**	**Significance**	**Condition**	**Treatment**
Railroad Station Pavilion 1-**BD4536**	1965	Historic Building	NE	G	P
Railroad Station Pavilion 2-**BD4537**	1965	Historic Building	NE	G	P
Picnic Area Restroom-**BD4538**	c.1961	Historic Building	NE	G	P
Picnic Shelter-**BD4539**	1963	Historic Building	NE	F	P
Barbecue Pit-**BD4540**	1963	Historic Structure	NE	F	P
Storage/Carpentry Shop **BD4541**	1965	Historic Building	NE	P	P
Garden Center-**BD4542**	1947	Historic Building	NE	G	P
Entrance Station (Original)-**BD4543**	1947	Historic Building	NE	F	P
Birch Scenic Railroad Trestle-**BD4544**	1965	Historic Railroad	NE	P	RH

Significance:

NRL	National Register listed
NR eligible	National Register
NE	not evaluated
NS	not significant

Condition

G	Good
F	Fair
P	Poor
NA	Not accessible
NE	Not evaluated

Recommended Treatment:

RS	Restoration
RH	Rehabilitation
ST	Stabilization
P	Preservation
R	Removal
N/A	Not applicable

Resource Management Program

Management Goals, Objectives and Actions

Measurable objectives and actions have been identified for each of the DRP's management goals for Hugh Taylor Birch State Park. Please refer to the Implementation Schedule and Cost Estimates in the Implementation Component of this plan for a consolidated spreadsheet of the recommended actions, measures of progress, target year for completion and estimated costs to fulfill the management goals and objectives of this park.

While the DRP utilizes the ten-year management plan to serve as the basic statement of policy and future direction for each park, several annual work plans provide more specific guidance for DRP staff to accomplish many of the resource management goals and objectives of the park. Where such detailed planning is appropriate to the character and scale of the park's natural resources, annual work plans are developed for prescribed fire management, exotic plant management and imperiled species management. Annual or longer- term work plans are developed for natural community restoration and hydrological restoration. The work plans provide the DRP with crucial flexibility in its efforts to generate and implement adaptive resource management practices in the state park system.

The work plans are reviewed and updated annually. Through this process, the DRP's resource management strategies are systematically evaluated to determine their effectiveness. The process and the information collected is used to refine techniques, methodologies and strategies, and ensures that each park's prescribed management actions are monitored and reported as required by Sections 253.034 and 259.037, Florida Statutes.

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.

Natural Resource Management

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 has been 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: Conduct/obtain an assessment of the park's hydrological restoration needs.

Action 1 Evaluate water quality of the ruderal lake system

Action 2 Evaluate water flows and tidal exchange through existing culverts.

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 fire is used to mimic natural lightning-set fires, which are one of the primary natural forces that shaped Florida's ecosystem. Prescribed burning increases the abundance and health of many wildlife species. A large number of Florida's imperiled species of plants and animals are dependent on periodic fire for their continued existence. Fire-dependent natural communities gradually accumulate flammable vegetation; therefore, prescribed fire reduces wildfire hazards by reducing these wild land fuels.

All prescribed burns in the Florida state park system are conducted with authorization from the FDACS, Florida Forest Service (FFS). Wildfire suppression activities in the park are coordinated with the FFS.

Prescribed fire is planned for each burn zone on the appropriate 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 very 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.

In order to track fire management activities, the DRP maintains a statewide burn database. The database allows staff to track various aspects of each park's fire management program including individual burn zone histories and 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.

There are currently no acres to be managed with fire at Hugh Taylor Birch State Park.

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 that may include 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.

At this time, there are currently no restoration activities identified or planned for the park.

Natural Community Improvement: Improvements are similar to restoration but on a smaller, less intense scale. This typically includes small-scale vegetative management activities or minor habitat manipulation. Following are the natural community/habitat improvement actions recommended at the park.

Objective: Conduct natural community/habitat improvement activities on 7 acres of the ruderal lake natural community.

Action 1 Study water movement within ruderal lakes system
Action 2 Control/remove invasive aquatic vegetation.
Action 3 Evaluate need for muck removal.

Imperiled Species Management

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

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.

Objective B: Monitor and document 4 selected imperiled animal species in the park.

Action 1 Implement monitoring protocols for 4 imperiled animal species including those the Gopher tortoise and Sea turtles.

Monitoring protocols do not need to be developed at this time.

The park and its partners will continue the monitoring efforts for the Gopher Tortoise and will coordinate monitoring for Sea Turtles with FWC and local partners.

Objective C: Monitor and document 3 selected imperiled plant species in the park.

Action 1 Develop monitoring protocols for 3 selected imperiled plant species.
Action 2 Implement monitoring protocols for 3 imperiled plant species including those listed in Action 1.

A monitoring protocol for Biscayne Prickly Ash, Beach Peanut, Beach jacquemontia, need to be developed and implemented.

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 most ecological damage. Removal techniques may include mechanical treatment, herbicides or biocontrol agents.

Objective A: Annually treat 60 acres of exotic plant species in the park.

Action 1 Annually develop/update exotic plant management work plan.
Action 2 Implement annual work plan by surveying and treating 60 acres in park, and continuing maintenance and follow-up treatments, as needed.

Park staff will conduct exotic removal treatment at the park for FLEPPC Category I and II invasive exotics, EDRR species and other non-native plant species. Treatments will include areas of heavy infestations and continued maintenance of previously infested management zones.

Continued surveys, monitoring and maintenance activities to control new infestations will be implemented by park staff in order to gauge success of past efforts and update yearly goals.

An exotic plant management work plan will be developed and updated once during the life of this plan with more specific achievable goals submitted upon the beginning of each fiscal year.

Objective B: Implement control measures on 2 nuisance and exotic animal species in the park.

Action 1	Monitor and remove populations of Green iguanas and Cuban knight anoles.
Action 2	Utilize an early detection rapid response to new invasive species.

Green iguanas and Cuban knight anoles will continue to be controlled at Hugh Taylor Birch. Following occasional frost and cold events, park staff should survey and opportunistically remove both reptile species from the park. While total eradication of this species may be unlikely; it is important to keep populations reduced to minimize negative impacts to natural systems and native species. By taking an EDRR approach to new species, the park can help slow or contain new potentially invasive species to the region and state.

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 Hugh Taylor Birch 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, alterations, or additions to historic structures listed or eligible for listing in the National Register of Historic Places, or that have not had a formal determination of eligibility 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, monitoring of the project site by a DHR certified archaeological monitor, cultural resource assessment survey by a qualified professional archaeologist, modifications to the proposed project to avoid or mitigation of potential adverse effects. 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: Assess and evaluate all recorded cultural resources in the park expect for the Elks Youth Camp Bathhouse which was removed ca. 2013

Action 1	Obtain a Historic Structures Report (HSR) for each structure and/or district determined potentially eligible for the National Register of Historic Places. Including but not limited to the Birch House and Garage Apartments constructed in 1940.
Action 2	Pursue nomination to the National Register of Historic Places. Preliminary work was begun in 1990s.

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

Action 1	Develop and adopt a Scope of Collections.
Action 2	Maintain a networked and updated version of Past Perfect Software for collections management.
Action 3	Update Florida Master Site File forms when significant alternations are made to structures or they are removed.
Action 4	Conduct Level 1 archeological surveys for medium and high priority areas identified by predictive model. There are currently no known archeological sites on the property.

All of the known archeological and historical sites need to be updated or recorded in the FMSF. There are no known archeological sites within the park boundaries, some high and medium probability areas exist with more extensive surveys required. A scope of collections statement should be developed and updated to reflect conditions and recommended actions.

Objective C: Bring all existing cultural resources to at least good condition.

Action 1	Implement a yearly monitoring program that checks the conditions of structures within the park and make note of significant changes.
Action 2	Create and implement a cyclical maintenance program for each cultural resource with a focus on preservation.

Special Management Considerations

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

A timber management analysis was not conducted for this park since its total acreage is below the 1,000-acre threshold established by statute. Timber management will be re-evaluated during the next revision of this management plan.

Coastal/Beach Management

The DRP manages over 100 miles of sandy beach, which represents one-eighth of Florida's total sandy beach shoreline. Approximately one-quarter of Florida's state parks are beach-oriented parks and account for more than 60 percent of statewide park visitation. The management and maintenance of beaches and their associated systems and processes is complicated by the presence of inlets and various structures (jetties, groins, breakwaters) all along the coast. As a result, beach restoration and nourishment have become increasingly necessary and costly procedures for protecting valuable infrastructure. Beach and inlet management practices affect beaches for long distances on either side of a particular project. DRP staff needs to be aware of and participate in the planning, design and implementation of these projects to ensure that park resources and recreational use are adequately considered and protected.

Hugh Taylor Birch State Park boundary encompasses about 500ft of beach habitat and will continue to work with local and state partners to determine the appropriate management strategies to balance natural resources and recreational uses.

As part of the effort to implement our goal to restore and maintain the natural communities and habitats of the state park, the following special management objectives for coastal systems are recommended.

Arthropod Control Plan

An arthropod control plan was developed and is on file for Hugh Taylor Birch State Park.

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 adulticide is not allowed, but larvicide and ground adulticide (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. Additional concepts for addressing impacts of sea level rise are briefly described under the Resiliency Planning section of the Land Use Component (see page 16)

Resource Management Schedule

A priority schedule for conducting all management activities that is based on the purposes for which these lands were acquired, and to enhance the resource values, is located in the Implementation Component of this management plan.

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 considered recommendations of the land management review team and updated this plan accordingly.

Hugh Taylor Birch State Park was subject to a land management review on 10/24/2013. The review team made the following determinations:

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

LAND USE COMPONENT

Introduction

Land use planning and park development decisions for the state park system are based on the dual responsibilities of the Division of Recreation and Parks. 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.

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

This component of the unit plan includes a brief inventory of the external conditions and the recreational potential of the unit. Existing uses, facilities, special conditions on use, and specific areas within the park that will be given special protection, are identified. The land use component then summarizes the current conceptual land use plan for the park, identifying the existing or proposed activities suited to the resource base of the park. Any new facilities needed to support the proposed activities are expressed in general terms.

External Conditions

An assessment of the conditions that exist beyond the boundaries of the unit can identify any special development problems or opportunities that exist because of the unit's unique setting or environment. This also provides an opportunity to deal systematically with various planning issues such as location, regional demographics, adjacent land uses and park interaction with other facilities.

Hugh Taylor Birch State Park is located within Broward County, about 4 miles northeast of Fort Lauderdale in the southeast part of the state. Approximately 3.8 million people reside within 30 miles of the park.

According to the U.S. Census Data (2018), approximately 30% of residents in Broward County identify as black, Hispanic or Latino, or another minority group. 30% of residents in Broward County can be described as youth or seniors (U.S. Census 2010). 66% of the population in Broward County are of working age (16 to 65) (U.S. Census Bureau 2010). Broward County’s per capita personal income was $43,283 in 2014, slightly above the statewide average of $42,737 (U.S. Bureau of Economic Analysis 2014).

A significant amount of resource-based recreation opportunities exists within 15 miles of Hugh Taylor Birch State Park. Dr. Von Mizell-Eula Johnson State Park offers beach access, bicycling, paddling, boating, fishing, hiking, diving, snorkeling, swimming, and wildlife viewing. Oleta River State Park offers beach access, bicycling, camping, paddling, fishing, hiking, swimming and wildlife viewing. The Everglades and Francis S. Taylor Wildlife Management Area, managed by FWC, offers hunting, fishing, hiking, bicycling, camping and, and wildlife viewing. Arthur R. Marshall Loxahatchee National Wildlife Refuge, managed by the U.S. Fish and Wildlife Service, offers hunting, fishing, interpretive programming, and wildlife viewing.

Several parks and preserves managed by local entities are in the vicinity of the park. West Lake Park managed by Broward County offers fishing, hiking, ball courts, paddling and boating. Hollywood North Beach Park offers beach access and fishing. Chapel Trail Nature Preserve is managed by Pembroke Pines and offers paddling. Miramar Pineland Natural Area, managed by Broward County, offers hiking and interpretive programing. Tree Tops Regional Park is managed by Broward County and offers a variety of activities including hiking, boating, fishing, equestrian trails, and a reservable hall. The Fern Forest Nature Center, also managed by Broward County offers hiking, interpretive exhibits and reservable spaces.

The park is located in the Southeast Vacation Region, which includes Broward, Miami-Dade, Monroe, and Palm Beach counties (Visit Florida 2014). According to the 2014 Florida Visitor Survey, approximately 17.1% of domestic visitors to Florida visited this region. Roughly 88% visitors to the region traveled to the Southeast for leisure purposes. The top activities for domestic visitors were beach/waterfront followed by culinary experience and visiting friends or relatives. Spring was the most popular travel season, but visitation was generally spread throughout the year. Most visitors traveled by air (58%), reporting an average of 4.1 nights and spending an average of $181 per person per day (Visit Florida 2014).

Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that participation rates in this region for freshwater beach activities, saltwater non-boat fishing, and hunting are higher than the state average with demand for additional facilities increasing through 2020 (FDEP 2013).

Existing Use of Adjacent Lands

The existing land use designations surrounding the park is primarily single family residential to the west, north, and east. There is some multi-family residential to the north, south, and small amount to the west. To the southwest is a large commercial district leading into downtown Fort Lauderdale. There is also some areas of commercial development along the southern boundary of the park.

Planned Use of Adjacent Lands

Land directly north and east of the park is mostly low-mid-density residential development. There is also a small patch of high-density residential development to the east and a more significant patch to the north. Also, to the north is medium density residential. To the west of the park, across the intercoastal waterway is more residential development at low, medium, and high densities. To the south of the park is the Central Beach Activity Center. Development in this area is limited by traffic capacity and has residential, commercial, recreation and community facility permitted uses (Comprehensive Plan 2008). This significant development may have adverse effects on the park and water quality.

Broward County is a member of the South Florida Regional Planning Council. The population of the region is expected to reach 5.2 million people by 2040. Broward County is expected to have population of 1.94 million by 2040, accepting approximately 200,000 new residents during this time (SFRPC 2015).

Property Analysis

Effective planning requires a thorough understanding of the unit's natural and cultural resources. This section describes the resource characteristics and existing uses of the property. The unit's recreation resource elements are examined to identify the opportunities and constraints they present for recreational development. Past and present uses are assessed for their effects on the property, compatibility with the site, and relation to the unit's classification.

Recreational Resource Elements

This section assesses the park's recreational resource elements, those physical qualities that, either singly or in certain combinations, can support various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support potential recreational activities. This process also analyzes the existing spatial factors that either favor or limit the provision of each activity.

Land Area

Hugh Taylor Birch State Park occupies 173 acres, situated on a barrier island that is surrounded by urban downtown Fort Lauderdale. The park has the last significant amount of maritime hammock found in Broward County, along with ruderal and developed areas. With the park's diverse communities, it can support a wide range of recreational activities such as hiking, picnicking, camping, wildlife viewing, and interpretive and educational opportunities.

Water Area

Extending almost the full length of the park is a freshwater lagoon. Long Lake is 0.8 miles and provides limited opportunities for canoeing, kayaking, and paddle boarding.

Shoreline

The park has two main areas of shoreline. The first is the beach area, which is a 404-foot stretch of shoreline along the Atlantic Ocean. The beach is located along Highway A-1-A. Access to the beach from the main section of the park is by an underground tunnel located underneath the heavily traveled road. Typical activities done in this portion of the park include sunbathing, swimming and walking along the shoreline. The second area is located against the Intracoastal Waterway. Fishing is permitted along the seawall, which was recently elevated.

Natural Scenery

Hugh Taylor Birch State Park has the last remaining tropical maritime hammock, a rare natural community.

Significant Habitat

Within the western portion of the park, are mangroves. The mangroves provide habitat for herons and other shoreline animals. Along with the birds that are in this habitat, several endangered and threated animals and plants such as the gopher tortoise and golden leather fern.

Natural Features

This park contains a rare, tropical maritime hammock, and has a diverse assemblage of tropical trees (e.g., mastic) as well as tropical (e.g., wild coffee and Spanish stopper) understory. Generally, because of cooler weather, tropical species rapidly decline in abundance north of this area. Because of threats of clearing for residential and commercial developments along coastal sites, plus projects of understory removal for “beautification”, these areas are becoming mere remnants of a unique system. Few land use controls even delay such destruction. Thus, there is little hope of salvaging much of this community outside of protected areas. In years to come, the hammock sites within Hugh Taylor Birch State Park will become more valuable for biological research and passive recreation.

The mangrove community in this park is now rare in this part of Florida. Although isolated, the overall health of the wetland community can be improved by restoration activities including efforts to enhance tidal connections and circulation.

Archaeological and Historical Features

Currently, there are no known archaeological features on the property. The Tequesta Indians did inhabit this general area until the arrival of the Europeans, and its possible that the park contains sites of aboriginal hunting camps.

In 1893, a prominent Chicago attorney, Mr. Hugh Taylor Birch, traveled to Florida in search of an area that would provide him peace and tranquility. Stumbling on what is present day Ft. Lauderdale, he was impressed with the area's remote wilderness and beach shoreline. Mr. Birch purchased his ocean front property for about a dollar an acre, and ultimately owned a three and half mile stretch of land along the beach. Every winter from then on, Mr. Birch spent his time on his beachfront estate where he could absorb the seascapes, enjoy a daily swim and grow fruits and other plants.

Mr. Birch later gifted 35 acres of property to his daughter Helen upon her marriage to Frederic Bartlett. Later evolving on this property would be the winter residence for the couple, named the "Bonnet House". Eventually the house and the grounds were deeded to the Florida Trust for Historic Preservation, and today the house is listed on the National Register of Historic Places.

In 1940, at the age of 90, Mr. Birch built his final residence. This property was located less than a half of a mile north of the Bonnet House, and the 180-acre estate was called Terramar, "land to the sea".

Upon his death, Birch donated his estate for use as a public park that was opened in 1949. His hopes for the property that the donated land would help preserve the subtropical paradise from future development that was starting to emerge around the park.

The most significant historical features of the park are the Birch House and the grounds keeper's residence. As of today, the Birch House has been repurposed as the Terramar Visitor Center, and the grounds keeper residence is currently being used a staff residence.

Assessment of Use

All legal boundaries, significant natural features, structures, facilities, roads and trails existing in the unit are delineated on the base map (see Base Map). Specific uses made of the unit are briefly described in the following sections.

Past Uses

Prior to becoming a state park, the property was owned by Mr. Hugh Taylor Birch. Upon his death, Mr. Birch donated his property to the State in March of 1942 to be used as a public park, operated by the State of Florida.

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 as designated by the Fort Lauderdale Comprehensive Plan is Park-Open Space and Conservation. These uses are compatible with current park functions.

Current Recreational Use and Visitor Programs

Hugh Taylor Birch State Park has a variety of resource-based recreational opportunities such as beach access, bicycling, camping, paddling, kayaking, fishing, hiking, swimming, wildlife viewing, and interpretive activities. *The park* offers several interpretive programs on Fridays and Saturdays. These programs include Live Animal Presentation, Mangrove Habitat Walk, Mid-Trail Wail, Coastal Dune/Residual Slough and Historical Homes Lake Walk, Beach Hammock Trail and Sensitive Habitats Walk, Beach/Dune Habitat and Coastal Walk, and a Mid-Trail Audio Tour (available at all times). The park also has a visitor center with interpretive exhibits on the history of the area and environmental displays on the unique ecosystem.

Hugh Taylor Birch State Park is part of the Great Florida Birding and Wildlife Trail.

Hugh Taylor Birch State Park recorded 407,352 visitors in FY 2018/2019. By DRP estimates, the FY 2018/2019 visitors contributed $36.6 million in direct economic impact, the equivalent of adding 513 jobs to the local economy (FDEP 2019).

Other Uses

Other uses for the park include hosting an environmental day camp for local children called Camp Live Oak. The camp sessions run the entire summer and when schools in the area have their spring and winter breaks.

A small area of the park is subleased to the Federated Garden Circles of Ft. Lauderdale, Inc a local garden club. The building is in the southern portion of the park, and the club operates the Glenn F. Bates Garden Center. This building is open to the public during scheduled events.

Also, a small area of beach on the Atlantic side of Highway A-1-A is managed under contract by the City of Fort Lauderdale. The City provides a lifeguard for this portion of beach, in exchange for public use of the park restroom at this same area near the beach access tunnel. It is important to note that this area is heavily used and frequently raked to remove trash and debris.

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 Hugh Taylor Birch State Park, the maritime hammock, fresh water and marine tidal swamps have been designated as protected zones as delineated on the Conceptual Land Use Plan.

Existing Facilities

The following is a list of facilities currently at Hugh Taylor Birch State Park

Recreation Facilities

Trails
- oBeach Hammock Trial (1500 ft)

Main Day Use Area
- oLarge Picnic Shelter (2)
- oSmall Picnic Shelter (1)
- oPlayground
- oBarbecue Pit
- oRestroom

North End Day Use Area
- oRestroom
- oMedium Picnic Pavilion (1)
- oSmall Picnic Pavilion (1)

Terramar Visitor Center

Long Lake
- oCanoe Launch
- oStorage Shed

Elk's Group Camp
- oElk's Lodge Dining/ Meeting Hall
- oCabins (6)
- oCraft Shelter

Primitive Group Camp
- oComposting Toilet
- oOutdoor Shower
- oLarge Campfire Ring

Support Facilities

Ranger Station

Park Administration Office

Glenn F. Bates Garden Center

Shop Area
- o6 - Bay Shop Building
- oPaint Shed
- oCarpentry Shed
- oChemical Shed
- oNursery
- oPole Barn

Parking Lots
- oMain Picnic Area (82 vehicles)
- oNorth Picnic Area (100 vehicles)
- oLong Lake/ Beach Access Area (70 vehicles)
- oGarden Center (5 vehicles)

Roads
- oPark Road (2 miles)
- oService Roads (1 mile)

Other Facilities
- oBeach Restrooms
- oBeach Access Tunnels
- oTrestle Bridge
- oOld Train Tunnel (600 ft, closed)

Residence (5)

HUGH TAYLOR BIRCH STATE PARK

N

0 150 300 600 Feet

Florida Department of Environmental Protection
Division of Recreation and Parks
Date of aerial; 2019

BASE MAP

Conceptual Land Use Plan

The following narrative represents the current conceptual land use proposal for this park. The conceptual land use plan is the long-term, optimal development plan for the park, based on current conditions and knowledge of the park's resources, landscape and social setting (see Conceptual Land Use Plan). The conceptual land use plan is modified or amended, as new information becomes available regarding the park's natural and cultural resources or trends in recreational uses, in order to adapt to changing conditions. Additionally, the acquisition of new parkland may provide opportunities for alternative or expanded land uses. The DRP develops a detailed development plan for the park and a site plan for specific facilities based on this conceptual land use plan, as funding becomes available.

During the development of the conceptual land use plan, the DRP assessed the potential impact of proposed uses or development on the park resources and applied that analysis to determine the future physical plan of the park as well as the scale and character of proposed development. Potential resource impacts are also identified and assessed as part of the site planning process once funding is available for facility development. At that stage, design elements (such as existing topography and vegetation, sewage disposal and stormwater management) and design constraints (such as imperiled species or cultural site locations) are investigated in greater detail. Municipal sewer connections, advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Creation 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 avoid resource impacts. Federal, state and local permit and regulatory requirements are addressed during facility development. This includes the design of all new park facilities consistent with the universal access requirements of the Americans with Disabilities Act (ADA). After new facilities are constructed, park staff monitors conditions to ensure that impacts remain within acceptable levels.

Public Access and Recreational Opportunities

Goal: Provide public access and recreational/interpretive 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 points and recreational uses.

Resource-based recreation activities including beach access, picnicking, kayaking, hiking and interpretation of the historic Terramar House are the most popular activities at Hugh Taylor Birch State Park.

The expansion of the North Trestle Bridge will allow for more opportunities for wildlife viewing along Long Lake and will connect visitors from sections of the parks two-mile loop to other areas of the park all from this project.

Objective: Continue current interpretive programs.

Having a unique ecosystem, the parks interpretive programs are centered around the different types of habitats one could encounter while on a visit. Throughout the week, ranger led guided walks are offered to showcase these unique ecosystems such as the mangroves and the tropical hardwood hammock.

The parks rangers also offer Live Animal Presentations. This is a one-hour hands on presentation displaying many of the native reptiles that can be found at the park.

The Terramar House serves as the main interpretation center for the park. Visitors can view an interactive timeline of South Florida beginning from 8000bc to the time the Terramar House was constructed by Mr. Birch himself.

Objective: Develop 2 new interpretive and educational programs.

For future opportunities, the park plans to develop interpretation around the L.I.F.E. program, and further expand the Junior Ranger program.

With the development of L.I.F.E at Hugh Taylor Birch State Park, interpretive programs would be reflective of calendar events such as Earth Day, World Ranger Day, National Public Lands Day etc.

For the Junior Ranger program, the park plans to host ranger led activities on a weekly basis that are centered around activities that can be done at the park.

Capital Facilities and Infrastructure

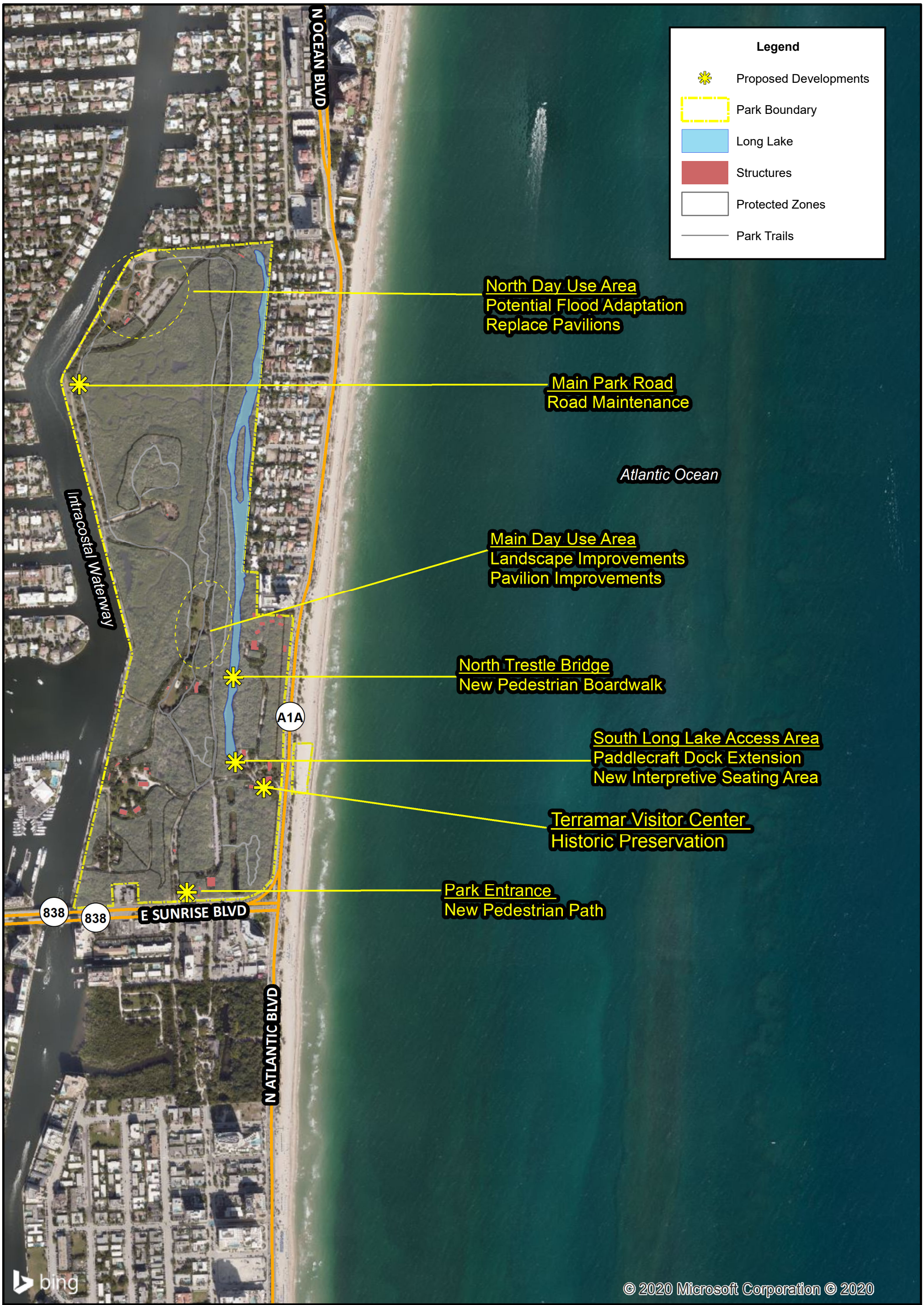
Goal: Develop and maintain the capital facilities and infrastructure necessary to implement the recommendations of the management plan.

Objective: Improve 8 existing use areas

South Long Lake Access Area

- Replacement or extension of paddle craft dock (L shape at water's edge)
- Interpretive seating area

The south shore of Long Lake is located near the park's main day use area, which includes the Terramar House, restaurant and concession and Atlantic beach access. The parks paddling concession building is locate directly on the shoreline along with a small floating dock and vessel storage. This shoreline offers a scenic view of Long Lake, which is the main freshwater body of water in



HUGH TAYLOR BIRCH STATE PARK

N

0 200 400 800 Feet

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

CONCEPTUAL LAND USE PLAN

the park but is underutilized for general public use. Segments of the shoreline are currently eroded and often unsuitable for walking due to highwater levels. To maximize use of this shoreline and offer optimal appreciation of Long Lake, proposed modifications include expansion or replacement of the current wooden dock structure up to the curvature of the eroded shoreline. These proposed changes will allow for an improved site for launching/landing small boats or paddle crafts and provide an area for viewing of Long Lake.

Adjacent to the shoreline and proposed dock, the open area would serve well for an interpretive seating area (20-30 people). The seating may be constructed as a small amphitheater style with audience views facing north into Long Lake and east towards the Terramar House. This addition would support future interpretive and environmental education programs.

Long Lake has recently undergone an extensive invasive and exotic aquatic vegetation removal.

North Trestle Bridge

- New Pedestrian Boardwalk

From 1965 to 1985, scenic train trips were offered to visitors providing a 30-minute narrated tour of the entire park. With of the main sections of the train path crossing over Long Lake. After the tours ceased, remints of the trestle along the Long Lake portion remained, and are present till this day. Current plans for the extension of the trestle include the construction of a boardwalk directly on the original trestles, with an ADA compliant covered observation area in the middle.

The North Trestle Bridge project would connect visitors from a section of the Main Loop Road over to either the main day use area or to the Youth Camp.

The Trestle Bridge completion would provide visitors scenic views of the parks unique freshwater feature and provide an interpretive opportunity with the addition of a small interpretive panel providing information about the bridge's original history or Long Lake itself.

North Day Use Area

- Flood Adaptations
- Pavilion Improvements

The North End Day Use area and parking lot is susceptible to flooding that currently occurs during King Tide. Recently, the seawall profile along the Intracoastal Waterway has been elevated by 14' as well as the platform of the renovated bathroom. Further repair is needed on the existing sea wall. There is noted erosion and vegetation loss due to the increase in salinity of the soil.

Plans for consideration of this area include, but are not limited to:

- Raising profile of day use area, adding height to the ground level.
- Widening and or adding new culverts to drain water
- Revegetation of natural grass and erosion control.

Further work and improvements are needed address the undermining issues at the existing seawall, the above flood plans are long term goals and currently unfunded. Any future flood improvements which address the issue of sea level rise should be done in collaboration with the City of Ft. Lauderdale.

Additionally, the existing covered barbecue pavilion (BL039029) is to be removed and replaced with a new structure in the same footprint.

Main Park Road

- Road Maintenance

The parks main road is a two-mile loop, with portions boarding the Intracoastal Waterway. This road is heavily trafficked by visitors for various activities such as biking and running. It is important to note that sections of the recently repaved asphalt have begun to crack and need general maintenance. Notably, beneath the parks two-mile loop are several culverts which feed the mangroves from the Intracoastal Waterway. Two of these existing 72'' culverts are need of some type of repair and recently the northernmost culvert has separated likely causing a sinkhole in the public use area.

Possible replacement of the main loop road may have to be done to accommodate the culvert repairs.

Main Day Use Area

- Pavilion Improvements
- Landscape Improvements

To improve aesthetics, the existing barbeque pavilion (BL039015) is to be removed and replaced with a new structure on the same footprint. There is also need of general landscaping improvements to the area.

Terramar Visitor Center

- Historic Preservation

Continued renovations are expected to be completed on the Terramar House. Improvements include full replacement of the building's roof to be reminiscent of the Mediterranean style roofing, as originally done by Mr. Birch. New gutters, downspouts and installation of hurricane impact resistant windows. As well, new plumbing repairs throughout.
Currently, park administrative offices occupy the second floor of the Terramar House. In the future staff will reevaluate the use of office space within existing park facilities.

Park Entrance

- New Pedestrian Path

Due to the main entrance being located off East Sunrise Boulevard, a major road in downtown Ft. Lauderdale, the park often experiences visitors coming in on foot to the ranger station. To divert foot traffic away from vehicles, a new pedestrian path from the edge of the main road through the maritime hammock leading to the ranger station is proposed. Appropriate signage will be installed along the trail to direct pedestrians, also the creation of the trail would be developed in a manner that would minimally disrupt the existing natural community. This path would also accommodate visitors coming in on bikes as well.

Facilities Development

Preliminary cost estimates for these recommended facilities and improvements are provided in the Ten-Year Implementation Schedule and Cost Estimates (Table 7) located in the Implementation Component of this plan. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist DRP in budgeting future park improvements and may be revised as more information is collected through the planning and design processes. New facilities and improvements to existing facilities recommended by the plan include:

Resiliency Planning

Specific effects of sea-level rise at this park are not yet known, however, changes to the parks natural and landscapes are predictable.
The park's North Day Use Area is already subject to heavy flooding during king tide events, though the Intracoastal Waterway seawall cap as already been elevated. Future studies would need to be conducted in order to address the issue of flooding and how it may affect the future of the day use area and its current infrastructure, such as the restrooms and pavilions. Adjacent to the Intracoastal Waterway is the parks two-mile loop which serves as the main road for visitors and park management. This is another area of concern with potential flooding, as it may become inundated over time.
Changing coastal and hydrological conditions may also yield implications for preservation of the park's historic structures. Historic preservation needs prioritizing to these conditions will be and assessed with available data.

In the future, considerations regarding resiliency planning for Hugh Taylor Birch State Park should be done in collaboration with local city government and DRP.

At this stage in resiliency planning process, no specific developments, renovations, landscape alterations, or augmentations are proposed.

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 next ten-year planning period include:

- Erosion along trails through maritime hammock and other sensitive natural communities
- Erosion or disturbance of vegetation along the shoreline of Long Lake

Quality of visitor experience indicators to be considered during the next ten-year planning period include:
Congestion of day use areas by visitors at one time
Insufficient visitor amenities to safely and comfortably 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 or actions to improve resource conditions. 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 Hugh Taylor Birch State 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 through park use, development, and research, and as land use changes on adjacent property, 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.

At this time, no lands are considered surplus to the needs of the park, and no additional lands are identified for acquisition.

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.

MANAGEMENT PROGRESS

Since the approval of the last management plan for Hugh Taylor Birch State Park in 2006, significant work has been accomplished and progress made towards meeting the DRP's management objectives for the park. These accomplishments fall within four of the five general categories that encompass the mission of the park and the DRP.

Park Administration and Operations

- Received more than $4.5 million dollars in grants from Florida Inland Navigational District (F.I.N.D.) and Broward Boating Improvement Program (B.B.I.P.) to help reconstruct the 1.2 miles of seawall cap and to build the Welcome Pavilion and 300' Floating Dock.
- Working with the Friends of Birch State Park to create new interpretive programs and partnerships with local schools, museums and corporations.
- Extensive support from the Friends of Birch State Park to meet the operational needs in administration, maintenance, park protection, resource management and visitor services.

Resource Management

Natural Resources

- Completed first phase of Long Lake restoration including excess vegetation removal and muck removal in the moat area.
- Extensive effort from district and supporting agencies to help control non-native flora and fauna.
- Hosting 2 AmeriCorps members each year to help with exotic vegetation control.
- Added a Butterfly Garden at the north end of the park utilizing native flora for host plants and to attract several species of endangered butterflies.

Cultural Resources

- Designs for repurposing of historic trestle bridge developed – creating a fully ADA accessible trail over Long Lake.
- Continued maintenance of the Terramar House

Recreation and Visitor Services

- Welcome Pavilion and 300' floating dock have been constructed allowing park access from boats along the Intracoastal Waterway.
- Repaved Main Park Road
    - Widened road by 4' in most areas
    - Added a designated pedestrian/bicycle shared-use lane
- Continually updating interpretive kiosks and signage

Park Facilities

- Park shop and pole barn both have been replaced
- Elevated cap of seawall along Intracoastal Waterway by 14 inches
- Elks Youth Camp cabins were renovated to add restrooms to each of the cabins and accessibility to one cabin.

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 7) 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, several 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.

Addendum 1—Acquisition History

Hugh Taylor Birch State Park Acquisition History

LAND ACQUISITION HISTORY REPORT	
Park Name	Hugh Taylor Birch State Park
Date Updated	1/21/2020
County	Broward County, Florida
Trustees Lease Number	3624 (Original lease, Lease No. 2324)
Current Park Size	175.24 acres
Purpose of Acquisition	The State of Florida acquired Hugh Taylor Bich State Park only and exlusively for state park purposes.

Acquisition History **(Acquisition of a parcel or parcels with a total size of 10 acres or more)**

Parcel Name or Parcel DM-ID	Date Acquired	Initial Seller (donar)	Initial Purchaser	Size in acres	Instrument Type
DMID 367559	12/31/1941	Hugh Taylor Birch	Florida Board of Forestry and Parks	178.59	Special Warrantly Deed

Hugh Taylor Birch State Park Acquisition History

Management Lease

Parcel Name or Lease Number	Date Leased	Initial Lessor	Initial Lessee	Current Term	Expiration Date
Lease No.3624 (original lease, Lease No. 2324)	Restatement of Lease No. 3624 07/13/2017	The Trustees of the Internal Improvement Fund of the State of Florida	The Florida Board of Parks and Historic Memorials	Ninety-nine (99) years	1/22/2067

Outstanding Issue	Type of Instrument	Brief Description of the Outstanding Issue	Term of the Outstanding Issue
Reverter	Special Warranty Deed	The property was donated to the state of Florida to be used only and exlusively for the state Park purposes. If and when this property ceseases to be used for the state park puposes for a period of one (1) consective year, in that event the title interest shall revert to the donar or the donar's successor in interest. The property is also to be called Hugh Taylor Birch State Park.	In Perpetuity (Forever)

Addendum 2—Advisory Group Members and Report

List

Report

Addendum 3—References Cited

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Addendum 4—Soil Descriptions

As classified in the General Soil Map, the soil associations of the park and barrier island are nearly level to sloping, dominantly excessively drained, with a mixture of sand and fine shell fragments.

Beaches (Be)

Soil mixture is fine to coarse sand mixed with multi-colored calcareous shells and shell fragments that are constantly being reworked by wave action. Soil slopes range from 0 to 8 percent and are usually sparsely vegetated.

Palm Beach Sand (Pc)

Palm Beach Sand has a surface layer that is sand and shell fragments and dark in color, the next layer is very grayish brown, and below this, dark grayish brown to yellowish brown. Soil slopes range from 0 to 8 percent, are excessively well drained, and vegetated with xeric species.

Canaveral - Urban Land Complex (Ca)

The Canaveral soils formed in thick deposits of marine sands and shell fragments are on the western side of the dune ridge. Typically, the surface layer is very dark grayish browns followed by brown sand. Slopes are usually 0 to 5 percent.

Terra Ceia Muck, tidal (Tc)

Terra Ceia Muck is very poorly drained organic soil usually associated with mangrove swamps. Organic materials generally exceed 50 inches in depth. The soils are subject to daily/periodic tidal flooding. Slopes are level. The surface layer is black muck, then further down, reddish brown muck of more fibrous material, followed by grayish brown sands.

Arents (Ae, Ao)

Arents are ruderal soils that have been reworked and shaped by equipment and have no orderly sequence, such as dredge-fill from the Intracoastal Waterway. Permeability, available water capacity, slope, soil color, and fertility are variable depending upon the nature of the overburden material.

The symbol "HO" also appeared within the boundaries of the recreation area, however, there was neither a legend for this symbol, nor a soil description in the text. Also, there was no determination made on the map of the soil type of the Bonnet Slough area. In the evaluation of the general map, it appears that it was not done in great detail, nor many samples taken, and a more systematic study may be needed.

Hugh Taylor Birch State Park Plants and Animals List

Rosary pea..... *Abrus precatorius*
Everglades palm ..... *Acoelorrhaphe wrightii*
Barbed-Wire cactus ..... *Acanthocereus tetragonus*
Everglades palm ..... *Acoelorrhaphe wrightii*

Golden Leather Fern ..... *Acrostichum aureum*
Giant leather Fern ..... *Acrostichum danaeifolium*
Manila palm..... *Adonidia merrillii**
Urn bromeliad..... *Aechmea bracteata**
Century plant ..... *Agave angustifolia**
False sisal..... *Agave decipiens*

Woman's tongue ..... *Albizia lebbeck **
Candlenut tree..... *Aleurites moluccana **
Ginger..... *Alpinia mutica **
Shell ginger..... *Alpinia zerumbet **
Yellow joyweed ..... *Alternanthera flavescens*
Seaside joyweed ..... *Alternanthera maritima*
Purple amaranth ..... *Amaranthus blitum*
Common ragweed ..... *Ambrosia artemisiifolia*
Pink redstem ..... *Ammannia latifolia*
Peppervine..... *Ampelopsis arborea*
Sea torchwood..... *Amyris elemifera*
Bushy bluestem ..... *Andropogon glomeratus var. pumilus*
Pond apple..... *Annona glabra*
Coral vine ..... *Antigonon leptopus*
Shoebutton ardisia ..... *Ardisia elliptica **
Marlberry..... *Ardisia escallonioides*
Mexican pricklypoppy..... *Argemone mexicana*
Sea lavender ..... *Argusia gnaphalodes*
Scarlet milkweed..... *Asclepias curassavica*
Sprenger's asparagus fern ..... *Asparagus aethiopicus **
Common asparagus fern..... *Asparagus setaceus **
Black mangrove ..... *Avicennia germinans*
Saltwater falsewillow ..... *Baccharis angustifolia*
Silverling ..... *Baccharis glomeruliflora*
Groundsel tree..... *Baccharis halimifolia*
Herb-of-grace..... *Bacopa monnieri*
Beggars ticks..... *Bidens alba*
Javansese bishopwood ..... *Bischofia javanica **
Swamp fern..... *Blechnum serrulatum*
Samphire..... *Blutaparon vermiculare*
False nettle ..... *Boehmeria cylindrica*
Red spiderling..... *Boerhavia diffusa*
Bushy seaside oxeye..... *Borrichia frutescens*
Bougainvillea..... *Bougainvillea glabra*
Bromeliad ..... *Bromelia balansae*

Hugh Taylor Birch State Park Plants and Animals List

American bluehearts ..... *Buchnera americana*

Capillary hairsedge ..... *Bulbostylis ciliatifolia*
Gumbo limbo ..... *Bursera simaruba*
Nickerbean ..... *Caesalpinia bonduc*
Pigeon pea ..... *Cajanus cajan* *
Sea rocket ..... *Cakile edentula*
American beautyberry ..... *Callicarpa americana*
Bottlebrush ..... *Callistemon viminalis=Melaleuca viminalis*
Santamaria ..... *Calophyllum antillanum* *
Alexandrian laurel ..... *Calophyllum inophyllum* *
Straggler daisy ..... *Calyptocarpus vialis*
Baybean ..... *Canavalia rosea*
..... *Canna sp.*
Limber caper ..... *Capparis flexuosa*
Jamacian caper ..... *Capparis jamaicensis*
Goatweed ..... *Capraria biflora*
Papaya ..... *Carica papaya* *
Natal plum ..... *Carissa macrocarpa* *
Burmese fishtail palm ..... *Caryota mitis* *
Love vine ..... *Cassytha filiformis*
Australian pine ..... *Casuarina equisetifolia* *
Australian pine ..... *Casuarina glauca* *
Madagascar periwinkle ..... *Catharanthus roseus* *
Southern sandbur ..... *Cenchrus echinatus*
Sandbur ..... *Cenchrus incertus = Cenchrus spinifex*
Sandspur ..... *Cenchrus tribuloides*
Spadeleaf ..... *Centella asiatica*
Larkdaisy ..... *Centratherum punctatum* *
Common buttonbush ..... *Cephalanthus occidentalis*
Day Jessamine ..... *Cestrum diurnum* *
Partridge pea ..... *Chamaecrista fasciculata*
Sensitive pea ..... *Chamaecrista nictitans var. aspera*
Limestone sandmat ..... *Chamaesyce blodgettii*
Dixie sandmat ..... *Chamaesyce bombensis*
Pillpod sandmat ..... *Chamaesyce hirta*
Graceful sandmat ..... *Chamaesyce hypericifolia*
Hyssopleaf sandmat ..... *Chamaesyce hyssopifolia*
Roadside sandmat ..... *Chamaesyce lasiocarpa*
Spotted sandmat ..... *Chamaesyce maculata*
Mendez's sandmat ..... *Chamaesyce mendezii* *
Coastal beach sandmat ..... *Chamaesyce mesembrianthemifolia*
Florida hammock sandmat ..... *Chamaesyce ophthalmica*
Gulf sandmat ..... *Chamaesyce thymifolia*
Snowberry ..... *Chiococca alba*
Cocoplum ..... *Chrysobalanus icaco*
Watermelon ..... *Citrullus lanatus*
Key lime ..... *Citrus aurantifolia*

Hugh Taylor Birch State Park Plants and Animals List

Sour orange ..... *Citrus x aurantium*
Jamaica swamp sawgrass ..... *Cladium jamaicense*
Turks turban ..... *Clerodendrum indicum* *
Javanese glorybower ..... *Clerodendrum speciosissimum* *
Java glorybean ..... *Clerodendrum x speciosum* *
Pitch apple ..... *Clusia rosea*
Tread softly ..... *Cnidoscolus stimulosus*
Pigeon plum ..... *Coccoloba diversifolia*
Sea plum ..... *Coccoloba diversifolia x Coccoloba uvifera*
Sea grape ..... *Coccoloba uvifera*
Florida silverpalm ..... *Coccothrinax argentata*
Coconut palm ..... *Cocos nucifera* *
Latherleaf ..... *Colubrina asiatica* *
Common dayflower ..... *Commelina diffusa*
Whitemouth dayflower ..... *Commelina erecta*
Buttonwood ..... *Conocarpus erectus*
Blue mistflower ..... *Conoclinium coelestinum*
Canadian Horseweed ..... *Conyza canadensis*
Largeleaf Geiger tree ..... *Cordia sebestena**
String Liliy ..... *Crinum americanum*
Poision bulb ..... *Crinum asiaticum**
Shakeshake ..... *Crotalaria incana**
Smooth rattlebox ..... *Crotalaria pallida var. obovate**
Low rattlebox ..... *Crotalaria pumila*
Rattle weed ..... *Crotalaria retusa**
Rabbit bells ..... *Crotalaria rotundifolia*
Showy rattlebox ..... *Crotalaria spectabilis**
Vente conmigo ..... *Croton glandulosus var. floridanus*
Vente conmigo ..... *Croton glandulosus var. septentrionalis*
Gulf croton ..... *Croton punctatus*
Carrotwood ..... *Cupaniopsis anacardioides**
Five angles dodder ..... *Cuscuta pentagona*
Little ironweed ..... *Cyanthillium cinereum**
Sago palm ..... *Cycas revolute**
Bermuda grass ..... *Cynodon dactylon**
Poorland flatsedge ..... *Cyperus compressus*
Baldwins flatsedge ..... *Cyperus croceus*
Swamp flatsedge ..... *Cyperus distinctus*
Yellow nutgrass ..... *Cyperus esculentus*
Umbrella plant ..... *Cyperus involucratus**
Swamp flatsedge ..... *Cyperus ligularis*
Fragrant flatsedge ..... *Cyperus odoratus*
Beach Star ..... *Cyperus pedunculatus =Remirea maritima*
Flatleaf flatsedge ..... *Cyperus planifolius*
Manyspike flatsedge ..... *Cyperus polystachyos*
Nutgrass ..... *Cyperus rotundus*
Tropical flatsedge ..... *Cyperus surinamensis*
Crowsfoot grass ..... *Dactyloctenium aegyptium**

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Coinvine ..... *Dalbergia ecastaphyllum*
Royal ponciana ..... *Delonix regia**
Zarzabacoa comun ..... *Desmodium incanum**
Dixie ticktrefoil ..... *Desmodium tortuosum**
Threeflower ticktrefoil ..... *Desmodium triflorum**
Carolina ponyfoot ..... *Dichondra carolinensis*
Asian crabgrass ..... *Digitaria bicornis**
Southern crabgrass ..... *Digitaria ciliaris*
Jamaican crabgrass ..... *Digitaria horizontalis*
Pangola grass ..... *Digitaria eriantha**
Virginia buttonweed ..... *Diodia virginiana*
Air potato ..... *Dioscorea bulbifera**
Saltgrass ..... *Distichlis spicata*
Red edge dracaena ..... *Dracaena marginata**
West Indian chickweed ..... *Drymaria cordata**
Golden dewdrops ..... *Duranta erecta**
Mexican tea ..... *Dysphania ambrosioides**
Areca palm ..... *Dypsis lutescens**
Barnyard grass ..... *Echinochloa crus-galli**
Coast cockspur ..... *Echinochloa walteri*
Rubbervine ..... *Echites umbellatus*
False daisy ..... *Eclipta prostrata*
Water-hyacinth ..... *Eichhornia crassipes**
Spikerush ..... *Eleocharis geniculata*
Indian goose grass ..... *Eleusine indica**
Florida tasselflower ..... *Emilia fosbergii**
Lilac tasselflower ..... *Emilia sonchifolia**
Butterfly orchid ..... *Encyclia tampensis*
Golden pothos ..... *Epipremnum pinnatum cv. Aureum**
Feather lovegrass ..... *Eragrostis amabilis**
Thalia lovegrass ..... *Eragrostis atrovirens**
Gophertail lovegrass ..... *Eragrostis ciliaris**
Elliots lovegrass ..... *Eragrostis elliottii*
Fireweed ..... *Erechtites hieraciifolius*
Centipede grass ..... *Eremochloa ophiuroides*
Oakleaf fleabane ..... *Erigeron quercifolius*
Loquat ..... *Eriobotrya japonica**
Blacktorch ..... *Erithalis fruticosa*
Beach creeper ..... *Ernodea littoralis*
Coralbean ..... *Erythrina herbacea*
River redgum ..... *Eucalyptus camaldulensis**
White stopper ..... *Eugenia axillaris*
Spanish stopper ..... *Eugenia foetida*
Surinam cherry ..... *Eugenia uniflora**
Eulophia ..... *Eulophia graminea**
Dogfennel ..... *Eupatorium capillifolium*
Late flower throughwort ..... *Eupatorium serotinum*
Saltmarsh fingergrass ..... *Eustachys glauca*

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Pinewoods fingergrass..... *Eustachys petraea*
Marsh gentian..... *Eustoma exaltatum*
Inkwood ..... *Exothea paniculata*
Council tree..... *Ficus altissima**
Strangler fig ..... *Ficus aurea*
Banyan tree ..... *Ficus benghalensis**
Weeping fig..... *Ficus benjamina**
Wild Banyan tree..... *Ficus citrifolia*
Laurel fig ..... *Ficus microcarpa**
Hurricane grass..... *Fimbristylis cymosa*
Marsh fimbry ..... *Fimbristylis spadicea*
Clustered yellowtops..... *Flaveria trinervia*
Florida swamp privet ..... *Forestiera segregata*
Firewheel..... *Gaillardia pulchella*
Eastern milkpea ..... *Galactia volubilis*
Coastal bedstraw..... *Galium hispidulum*
Stiff marsh bedstraw..... *Galium tinctorium*
Carribean purple everlasting .... *Gamochaeta antillana*
Purple everlasting ..... *Gamochaeta purpurea*
Seven-year apple ..... *Genipa clusiifolia*
Globe amaranth ..... *Gomphrena serrata*
Blolly..... *Guapira discolor*
Hammock velvetseed..... *Guettarda elliptica*
Firebush ..... *Hamelia patens*
Dune sunflower..... *Helianthus debilis*
Scorpions tail..... *Heliotropium angiospermum*
Seaside heliotrope..... *Heliotropium curassavicum*
Limpograss ..... *Hemarthria altissima**
Camphorweed ..... *Heterotheca subaxillaris*
Garden rosemallow..... *Hibiscus rosa-sinensis**
Roundleaf bluet..... *Houstonia procumbens*
Hydrilla..... *Hydrilla verticillata**
Manyflowered marshpennywort *Hydrocotyle umbellata*
Whorled marshpennywort..... *Hydrocotyle verticillata*
Night blooming cactus..... *Hylocereus undatus**
Mangrove spiderlily..... *Hymenocallis latifolia*
Jaruga grass..... *Hyparrhenia rufa**
Dahoon holly ..... *Ilex cassine*
Hairy indigo..... *Indigofera hirsute**
Trailing indigo..... *Indigofera spicata**
Anil de pasto ..... *Indigofera suffruticosa**
Moonflower ..... *Ipomoea alba*
Blue moring glory..... *Ipomoea indica*
Railroad vine ..... *Ipomoea pes-caprae subsp. brasiliensis*
Littlebell ..... *Ipomoea triloba**
Jubas bush..... *Iresine diffusa*
Seacoast marshelder ..... *Iva imbricata*
Jungle flame..... Ixora sp*

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Beach jacquemontia ..... *Jacquemontia reclinata*
Needle rush..... *Juncus roemerianus*
Devils backbone..... *Kalanchoe daigremontiana**
Chandelier plant..... *Kalanchoe delagoensis**
Lavendar scallops..... *Kalanchoe fedtschenkoi**
Lifeplant ..... *Kalanchoe pinnata**
Virginia saltmarshmallow..... *Kosteletzkya pentacarpos*
Black ironwood ..... *Krugiodendron ferreum*
Shortleaf spike sedge..... *Kyllinga brevifolia**
Grass leaf lettuce ..... *Lactuca graminifolia*
White mangrove..... *Laguncularia racemosa*
Lantana ..... *Lantana camara**
Shrub verbena..... *Lantana depressa var. floridana*
Buttonsage..... *Lantana involucrata*
Duckweed ..... *Lemna sp.*
Virginia pepperweed ..... *Lepidium virginicum*
Leadtree ..... *Leucaena leucocephala**
Brittle thatchpalm ..... *Leucothrinax morrisii*
Gopher apple..... *Licania michauxii*
Chinese fan falm ..... *Livistona chinensis**
Winged primrose willow..... *Ludwigia alata*
Small fruit primrose willow..... *Ludwigia microcarpa*
Mexican primrose willow..... *Ludwigia octovalvis*
Pruvian primrose willow..... *Ludwigia peruviana**
Creeping primrose willow..... *Ludwigia repens*
Wand loostrife ..... *Lythrum lineare*
Wild bushbean ..... *Macroptilium lathyroides**
Texas wax mallow ..... *Malvaviscus arboreus var. drummondii**
Mango..... *Mangifera indica**
Sapodilla..... *Manilkara zapota**
Japanese mazus..... *Mazus pumilus**
Snow squarestem..... *Melanthera nivea*
White sweet clover ..... *Melilotus albus**
Natal grass..... *Melinis repens**
Creeping cucumber..... *Melothria pendula*
Poormans patch ..... *Mentzelia floridana*
Noyau vine..... *Merremia dissecta*
Poisonwood ..... *Metopium toxiferum*
Climbing hempvine..... *Mikania scandens*
Karum tree..... *Millettia pinnata*
Black mimosa ..... *Mimosa pigra*

Four O'clock ..... *Mirabilis jalapa**
Balsam apple..... *Momordica charantia**
Red mulberry..... *Morus rubra*
Strawberry tree ..... *Muntingia calabura**
Banana..... *Musa sp.**
Simpson stopper ..... *Myrcianthes fragrans*

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Waxmyrtle ..... *Myrica cerifera*
Myrsine ..... *Myrsine cubana*
Southern waternymph..... *Najas guadalupensis*
Spiny waternymph ..... *Najas marina*
Asian sword fern ..... *Nephrolepis brownie**
Tuberous sword fern ..... *Nephrolepis cordifolia**
Boston sword fern ..... *Nephrolepis exaltata*
Fishtail sword fern..... *Nephrolepis falcate**
Tropical puff..... *Neptunia pubescens*
Oleander..... *Nerium oleander**
Burma reed..... *Neyraudia reynaudiana**
Spatterdock..... *Nuphar advena*
Monk orchid ..... *Oeceoclades maculate**
Seabeach evening primrose ..... *Oenothera humifusa*
Southern bee blossom..... *Oenothera simulans*
Beach peanut ..... *Okenia hypogaea*
Flattop mill grains ..... *Oldenlandia corymbosa**
Cochineal cactus ..... *Opuntia cochenillifera**
Pricklypear..... *Opuntia humifusa*
Leafless smallwort..... *Orthosia scoparia*
Common woodsorrell ..... *Oxalis corniculata*
Pink woodsorrell..... *Oxalis debilis**
Screwpine..... *Pandanus tectorius**
Screwpine..... *Pandanus utilis**
Bitter panic grass..... *Panicum amarum*
Fall panic grass..... *Panicum dichotomiflorum*
Guniea grass ..... *Panicum maximum**
Torpedo grass..... *Panicum repens**
Florida pellitory..... *Parietaria floridana*
Virginia creeper ..... *Parthenocissus quinquefolia*
Sour paspalum..... *Paspalum conjugatum*
Knot grass ..... *Paspalum distichum*
Bahia grass..... *Paspalum notatum**
Thin paspalum ..... *Paspalum setaceum*
Vaseygrass..... *Paspalum urvillei*
Seashore paspalum ..... *Paspalum vaginatum*
Corkystem passionflower..... *Passiflora suberosa*
Sanddune cinchweed ..... *Pectis glaucescens*
Spreading cinchweed ..... *Pectis prostrata*
Redbay..... *Persea borbonia*
Swamp smartweed..... *Persicaria hydropiperoides*
Lacy tree philodendron..... *Philodendron bipinnatifidum**
Golden polypody ..... *Phlebodium aureum*
Date palm..... *Phoenix reclinata**
Capeweed..... *Phyla nodiflora*
Drummonds leafflower..... *Phyllanthus abnormis*
Gale-of-wind ..... *Phyllanthus amarus**
Mescarine island leafflower ..... *Phyllanthus tenellus**

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Walters groundcherry ..... *Physalis walteri*
Artillery plant ..... *Pilea microphylla*
Florida Keys blackbead..... *Pithecellobium keyense*
Common plantain..... *Plantago major**
Virginia plantain..... *Plantago virginica*
Resurrection fern ..... *Pleopeltis polypodioides var. michauxiana*
Rosy camphorweed ..... *Pluchea baccharis*
Cure-for-all ..... *Pluchea carolinensis*
Sweetscent ..... *Pluchea odorata*
Frangipani..... *Plumeria rubra**
Paintedleaf..... *Poinsettia cyathophora*
Fiddlers spurge ..... *Poinsettia heterophylla*
Rustweed ..... *Polypremum procumbens*
Pickerel weed ..... *Pontederia cordata*
Bromeliad ..... *Portea petropolitana**
Little hogweed ..... *Portulaca oleracea*
Pink purslane..... *Portulaca pilosa*
Pouzolz bush ..... *Pouzolzia zeylanica**
Sweet everlasting..... *Pseudognaphalium obtusifolium*
Strawberry guava..... *Psidium cattleianum**
Guava ..... *Psidium guajava**
Whisk fern ..... *Psilotum nudum*
Wild coffee ..... *Psychotria nervosa*
Dotted wild coffee ..... *Psychotria punctata*
Shortleaf wild coffee ..... *Psychotria sulzneri*
Bracken fern..... *Pteridium aquilinum var. caudatum*
Bracken fern..... *Pteridium aquilinum var. pseudocaudatum*
Chinese brake fern ..... *Pteris vittata**
Coastal blackroot ..... *Pterocaulon pycnostachyum*
Soliatare palm ..... *Ptychosperma elegans**
Live oak..... *Quercus virginiana*
White indigoberry ..... *Randia aculeata*
Travelers palm..... *Ravenala madagascariensis**
Rubbervine..... *Rhabdadenia biflora*
Broadleaf lady palm ..... *Rhapis excels**
Red mangrove ..... *Rhizophora mangle*
Least snoutbean..... *Rhynchosia minima*
Rough Mexican clover ..... *Richardia scabra*
Castorbean ..... *Ricinus communis**
Rougeplant..... *Rivina humilis*
Florida royal palm ..... *Roystonea regia*
Browns blechnum..... *Ruellia blechum**
Hairyflower wild petunia..... *Ruellia ciliatiflora**
Britton's wild petunia ..... *Ruellia simplex**
Cabbage Palm..... *Sabal palmetto*
Coastalplain willow ..... *Salix caroliniana*
Prickly Russian thistle ..... *Salsola kali L. subsp. pontica**
Elderberry..... *Sambucus nigra subsp. canadensis*

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Bowstring hemp..... *Sansevieria hyacinthoides**
Soapberry..... *Sapindus saponaria*
Perennial glasswort..... *Sarcocornia ambigua*
White twinwvine..... *Sarcostemma clausum*

Inkberry ..... *Scaevola plumieri*
Beach naupaka ..... *Scaevola taccada**
Queensland umbrella tree..... *Schefflera actinophylla**
Brazilian pepper..... *Schinus terebinthifolius**
Crimson bluestem ..... *Schizachyrium sanguineum*
Softstem bulrush..... *Schoenoplectus tabernaemontani*
Baldwins nutrush..... *Scleria baldwinii*
Tall nutgrass ..... *Scleria triglomerata*
Sweetbroom..... *Scoparia dulcis*
Snake cactus..... *Selenicereus pteranthus**
Candlestick plant..... *Senna alata**
Septicweed ..... *Senna occidentalis**
Saw palmetto ..... *Serenoa repens*
Danglepod ..... *Sesbania herbacea*
Seapurslane ..... *Sesuvium portulacastrum*
Coral bristle grass ..... *Setaria macrosperma*
Yellow bristle grass..... *Setaria parviflora*
Llima..... *Sida cordifolia**
Common wireweed..... *Sida ulmifolia*
Cuban jute..... *Sida rhombifolia*
Saffron plum ..... *Sideroxylon celastrinum*
False mastic..... *Sideroxylon foetidissimum*
Paradise tree..... *Simarouba glauca*
Earleaf greenbriar ..... *Smilax auriculata*
Laurel greenbriar..... *Smilax laurifolia*
American black nightshade ..... *Solanum americanum*
Bahama nightshade..... *Solanum bahamense*
Twoleaf nightshade..... *Solanum diphyllum **
Garden tomato ..... *Solanum lycopersicum**
Common sowthistle ..... *Sonchus oleraceus**
Yellow necklacepod..... *Sophora tomentosa var. occidentalis**
Yellow necklacepod..... *Sophora tomentosa var. truncata*
Sand cordgrass..... *Spartina bakeri*
African tuliptree ..... *Spathodea campanulata**
Woodland false buttonweed ..... *Spermacoce remota*
Shrubby false buttonweed ..... *Spermacoce verticillata**
Creeping oxeye..... *Sphagneticola trilobata*
Smutgrass ..... *Sporobolus indicus**
West indian dropseed..... *Sporobolus indicus var. pyramidalis**
Seashore dropseed..... *Sporobolus virginicus*
Blue porterweed..... *Stachytarpheta jamaicensis*
Nettleleaf velvetberry..... *Stachytarpheta cayennensis**
St. Augustine grass ..... *Stenotaphrum secundatum**

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Cheesytoes ..... *Stylosanthes hamata*
Sea blite ..... *Suaeda linearis*
West Indian mahogany ..... *Swietenia mahagoni*
Queen palm..... *Syagrus romanzoffiana**
Bahamian aster..... *Symphyotrichum bahamense*
Rice button aster..... *Symphyotrichum dumosum*
Arrowhead vine..... *Syngonium podophyllum**
Java plum ..... *Syzygium cumini**
Rose apple ..... *Syzygium jambos**
Carribean trumpet-tree ..... *Tabebuia aurea**
White cedar..... *Tabebuia heterophylla**
Mahoe ..... *Talipariti tiliaceum**

Tamarind ..... *Tamarindus indica**
Bald cypress..... *Taxodium distichum*
Arjun..... *Terminalia arjuna**
Black olive ..... *Terminalia buceras**
West Indian almond..... *Terminalia catappa**
Australian almond ..... *Terminalia muelleri**
Widespread maiden fern..... *Thelypteris kunthii*
Portia tree Seaside Mahoe ..... *Thespesia populnea**
Flordia thatch palm..... *Thrinax radiata*
Northern neadleleaf..... *Tillandsia balbisiana*
Cardinal airplant ..... *Tillandsia fasciculate*
Twisted airplant ..... *Tillandsia flexuosa*
Potbelly airplant..... *Tillandsia paucifolia*
Ball moss..... *Tillandsia recurvata*
Southern needleleaf..... *Tillandsia setacea*
Spanish moss ..... *Tillandsia usneoides*
Giant wild pine..... *Tillandsia utriculata*
Poison ivy ..... *Toxicodendron radicans*
Oysterplant ..... *Tradescantia spathacea**
Nettletree ..... *Trema micrantha*
Burrnut..... *Tribulus cistoides**
Forked bluecurls..... *Trichostema dichotomum*
Coatbuttons ..... *Tridax procumbens**
Arrowgrass..... *Triglochin striata*
Limeberry ..... *Triphasia trifolia**
Purple sandgrass..... *Triplasis purpurea*
Yellow alder..... *Turnera ulmifolia**
Cattail ..... *Typha domingensis*
Sea oats ..... *Uniola paniculata*
Caesars weed ..... *Urena lobata**
Tropical signal grass ..... *Urochloa distachya**
Para grass..... *Urochloa mutica**
Humped bladderwort ..... *Utricularia gibba*
Sandpaper vervain ..... *Verbena scabra*
White crownbeard ..... *Verbesina virginica*

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Fourleaf vetch..... *Vicia acutifolia*
Hairy pod cowpea ..... *Vigna luteola*
Florida grape ..... *Vitis cinerea var. floridana*
Muscadine grape ..... *Vitis rotundifolia*
Shoestring fern ..... *Vittaria lineata*
Sleepy morning..... *Waltheria indica*
Washington fan palm ..... *Washingtonia robusta**
Yautia ..... *Xanthosoma caracu*
Oriental false hawks beard..... *Youngia japonica**
Spanish Bayonet ..... *Yucca aloifolia*
Cardboard palm ..... *Zamia furfuracea**
Coontie..... *Zamia pumila*
Hercules club..... *Zanthoxylum clava-herculis*
Biscayne prickly ash ..... *Zanthoxylum coriaceum* ..... *MH,CS*
Wild lime ..... *Zanthoxylum fagara*
Cuban zephyrlily ..... *Zephyranthes rosea**
Manila temple grass..... *Zoysia matrella**

INVERTEBRATES
..... *Acrolophus walsinghami*

Honeybee ..... *Apis mellifera*
Speckled crab ..... *Arenaeus cribrarius*
Mangrove crab ..... *Aratus pisonii*
Rigid pen shell ..... *Atrina rigada*
Atala butterfly ..... *Atala atala*

Barnacle ..... *Balanus amphitrite*
..... *Balclutuha sp.*
..... *Bothriocera transversa*

Blue crab ..... *Callinecties sapidus*
Great land crab ..... *Cardisoma guanhumii*

Striped hermit crab ..... *Clibinarius vittatus*

Land hermit crab ..... *Coenobita clypeatus*

American oyster ..... *Crassostrea virginica*
Mosquito ..... *Culex spp.*

..... *Cadrema pallida*
..... *Coccotrypes sp.*
..... *Chariesterus antennator*

..... *Chionodes sp.*
..... *Ceropsylla cubana*
..... *Ceropsylla sideroxyli*
..... *Camponotus floridanus*
..... *Camponotus planatus*

Dichrorampha manilkara

Sand flea ..... *Emerita talpodia*
..... *Euxesta sp.*

Spiny orb weaver ..... *Gasteracantha elipsoides*
Atlantic ribbed mussel ..... *Geukensia demissa*
..... *Hibana sp.*
..... *Hippopsis lemniscata*
..... *Hypothenemus sp.*

Horshoe crab ..... *Limulus polyphemus*

Florida crown conch..... *Melogones corona*
Stone crab ..... *Menippe mercenaria*
Quahog ..... *Merceneria sp.*

..... *Nacoleia sp.*
..... *Netelia sp.*
Golden orb weaver ..... *Nephila clavipes*

Ghost crab ..... *Ocypode quadrata*
..... *Oebalus pugnax*

..... *Oenobotys vinotinctalis*
..... *Omiodes simialis*
..... *Ora sp.*

..... *Ora troberti*
..... *Oxycopis mcdonaldi*
..... *Ozophora trinotata*

Hermit crab..... *Pagarus annulipes*

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..... *Palpidia pallidior*
Pink shrimp ..... *Penaeus duorarum*

..... *Pheidole sp*
Sand fly ..... *Phlebotomus sp.*
..... *Phoenicobiela chamaeropis*
..... *Phyllophaga bruneri*

..... *Platydema micans*
..... *Plecia nearctica*
..... *Prosapia bicincta*

..... *Pseudomyrmex gracilis*
..... *Pseudomopsis inflata*

..... *Rhinachola sp.*
..... *Samea ecclesialis*
..... *Scolytodes schwarzi*

Florida fighting conch..... *Strombus alatus*
Queen conch ..... *Strombus gigas*

..... *Tenebrionidae*
..... *Tetrapriocera longicornis*

..... *Theridion melanostictum*
..... *Theoborus ricini*

Fiddler crab ..... *Uca minax*
Fiddler crab ..... *Uca pugilator*
Fiddler crab ..... *Uca pugnax*

..... *Xanthaciura insecta*
..... *Xyleborus ferrugineus*

..... *Xylomeira tridens*
..... *Xystrologa grenadella*

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FISH

Bay anchovy..... *Anchoa mitchilli*
American eel ..... *Anguilla rostrate*
Sheepshead ..... *Archosargus probatocephalus*
Hardhead catfish..... *Arius felis*
Crevalle jack ..... *Caranx hippos*
Bull shark ..... *Charcharhinus leucas*
Blacktip shark ..... *Charcharhinus limbatus*
Striped burrfish ..... *Chilomycterus schoepfi*
Snook ..... *Centropomus undecimalis*
Bluelip parrotfish ..... *Cryptotmus roseus*
Spotted seatrout ..... *Cynoscion nebulosus*
Southern stingray ..... *Dasyatis Americana*
Bluntnose ray ..... *Dasyatis sayi*
Irish pompano ..... *Diapterus olisthostomus*
Striped mojarra ..... *Diapterus plumieri*
Ladyfish..... *Elops saurus*
Spotfin mojarra ..... *Eucinostomus argenteus*
Silver jenny ..... *Eucinostomus gula*
Mottled mojarra ..... *Eucinostomus lefroyi*
Slender mojarra ..... *Eucinostomus pseudogula*
Marsh killifish ..... *Fundulus confluentus*
Gulf killifish ..... *Fundulus grandis*
Nurse shark..... *Ginglymostoma cirratum*
Sailors choice ..... *Haemulon parrai*
Bluestriped grunt ..... *Haemulon sciurus*
Scaled sardine..... *Harengula jaguana*
Tarpon ..... *Megalops atlantica*
Pinfish..... *Lagodon rhomboides*
Tripletail..... *Lobotes surinamensis*
Mutton snapper ..... *Lutjanus analis*
Schoolmaster ..... *Lutjanus apodus*
Gray snapper ..... *Lutjanus griseus*
Fringed filefish..... *Monacanthus ciliatus*
Planehead filefish ..... *Monacanthus hispidus*
Striped mullet ..... *Mugil cephalus*
White mullet ..... *Mugil curema*
Leatherjacket ..... *Oligoplites sauras*
Pigfish ..... *Orthopristis chrysoptera*
Banded blenny ..... *Paraclinus fasciatus*
Southern flounder ..... *Paralichthys lethostigma*
Bluefish ..... *Pomatomus saltatrix*
Red drum ..... *Sciaenops ocellatus*
Lookdown ..... *Selene vomer*
Checkered puffer ..... *Sphoeroides testudineus*
Great barracuda ..... *Sphyraenidae barracuda*
Atlantic needlefish ..... *Strongylura marina*

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Redfin needlefish ..... *Strongylura notate*
Blackcheek tonguefish ..... *Symphurus plagiusa*
Dusky pipefish ..... *Syngnathus floridae*
Gulf pipefish ..... *Syngnathus scovelli*
Inshore lizardfish ..... *Synodus foetens*
Permit ..... *Trachinotus falcatus*

AMPHIBIANS

Southern toad..... *Bufo terrestris*
Cuban tree frog..... *Osteopilus septentrionalis*

REPTILES

Green anole ..... *Anolis carolinensis carolinensis*
Knight anole..... *Anolis equestris**
Brown anole ..... *Anollis sagrei**
Florida softshell turtle ..... *Apalone ferox*
Atlantic loggerhead turtle ..... *Caretta caretta*
Green turtle ..... *Chelonia mydas*
Six-lined racerunner ..... *Cnemidophorus sexlineatus sexlineatus*
Southern Black Racer..... *Coluber constrictor priapus*
Eastern diamondback..... *Crotalus adamanteus*
Southeastern five-lined skink ... *Eumeces inexpectatus*
Gopher tortoise..... *Gopherus polyphemus*
Indo-pacific Gecko..... *Hemidactylus garnotti**
Green Iguana ..... *Iguana iguana**
Scarlet kingsnake..... *Lampropeltis triangulum elapsoides*
Eastern coachwhip..... *Masticophis flagellum flagellum*
Corn snake..... *Pantherophis guttata*
Ground skink..... *Scincella lateralis*

BIRDS

Cooper's hawk ..... *Accipiter cooperii*
Sharp-shinned hawk ..... *Accipiter striatus*
Spotted sandpiper ..... *Actitis macularia*
Red-winged blackbird..... *Agelaius phoeniceus*
Bachman's sparrow ..... *Aimophila aestivalis*
Wood duck..... *Aix sponsa*
Seaside sparrow..... *Ammodramus maritimus*
Anhinga..... *Anhinga anhinga*
Water pipit..... *Anthus spinoletta*
Nanday parakeet..... *Aratinga nenday**
Ruby-throated hummingbird .... *Archilochus colubris*
Great blue heron..... *Ardea herodias*

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Cedar waxwing ..... *Bombycilla cedrorum*
American bittern ..... *Botaurus lentiginosus*
Great horned owl ..... *Bubo virginianus*
Cattle egret..... *Bubulcus ibis*
Bufflehead ..... *Bucephala albeola*
Common goldeneye..... *Bucephala clangula*
Red-tailed hawk..... *Buteo jamaicensis*
Red-shouldered hawk ..... *Buteo lineatus*
Broad-winged hawk..... *Buteo platypterus*
Green-backed heron ..... *Butorides striatus*
Muscovy duck..... *Cairina moschata**
Sanderling ..... *Calidris alba*
Dunlin ..... *Calidris alpina*
Least sandpiper ..... *Calidris minutilla*
Semipalmated sandpiper ..... *Calidris pusilla*
Chuck-will's widow ..... *Caprimulgus carolinensis*
Whip-poor-will ..... *Caprimulgus vociferus*
Northern cardinal ..... *Cardinalis cardinalis*
Pine siskin..... *Carduelis pinus*
American goldfinch..... *Carduelis tristis*
House finch ..... *Carpodacus mexicanus*
Purple finch..... *Carpodacus purpureus*
Great egret ..... *Casmerodius albus*
Turkey vulture ..... *Cathartes aura*
Hermit thrush..... *Catharus guttatus*
Gray-cheeked thrush ..... *Catharus minimus*
Willet ..... *Catoptrophorus semipalmatus*
Belted kingfisher ..... *Ceryle alcyon*
Chimney swift..... *Chaetura pelagica*
Semipalmated plover ..... *Charadrius semipalmatus*
Killdeer..... *Charadrius vociferous*
Common nighthawk..... *Chordeiles minor*
Northern harrier..... *Circus cyaneu*
Sedge wren..... *Cistothorus platensis*
Yellow-billed cuckooo..... *Coccyzus americanus*
Black-billed cuckoo..... *Coccyzus erthropthalmus*
Northern flicker..... *Colaptes auratus*
Rock dove..... *Columba livia*
Common ground-dove ..... *Columbina passerina*
Eastern wood-pewee..... *Contopus virens*
Black vulture ..... *Coragyps atratus*
Fish crow ..... *Corvus ossifragus*
American crow..... *Corvus brachyrhynchos*
Blue jay..... *Cyanocitta cristata*
Yellow-rumped warbler..... *Dendroica coronata*
Prairie warbler ..... *Dendroica discolor*
Palm warbler ..... *Dendroica palmarum*
Yellow warbler ..... *Dendroica petechia*

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Pine warbler ..... *Dendroica pinus*
Cape May warbler..... *Dendroica tigrina*
Boblink ..... *Dolichonyx oryzivorus*
Pileated woodpecker ..... *Dryocopus pileatus*
Gray catbird ..... *Dumetella carolinensis*
Little blue heron..... *Egretta caerulea*
Snowy egret..... *Egretta thula*
Tricolored heron..... *Egretta tricolor*
Swallow tailed kite..... *Elanoides forficatus*
White ibis..... *Eudocimus albus*
Southeastern kestrel..... *Falco sparverius*
American coot ..... *Fulica americana*
Common snipe..... *Gallinago gallinago*
Common loon ..... *Gavia immer*
Common yellowthroat ..... *Geothlypis trichas*

Bald eagle..... *Haliaeetus leucocephalus*
Barn swallow ..... *Hirundo rustica*
Wood thrush..... *Hylocichla mustelina*
Mississippi kite..... *Ictinia mississippiensis*
Orchard oriole..... *Icterus spurius*
Least bittern..... *Ixobrychus exilis*
Dark-eyed junco ..... *Junco hyemalis*
Loggerhead strike ..... *Lanius ludovicianus*
Herring gull ..... *Larus argentatus*
Laughing gull..... *Larus atricilla*
Ring-billed gull..... *Larus delawarensis*
Bonaparte's gull..... *Larus philadelpia*
Short-billed dowitcher..... *Limnodromus griseus*
Hooded merganser ..... *Lophodytes cucullatus*
Red-bellied woodpecker..... *Melanerpes carolinus*
Song sparrow ..... *Melospiza melodi*
Red-breasted merganser ..... *Mergus serrator*
Northern mockingbird ..... *Mimus polyglottos*
Black-and-white warbler..... *Mniotilta varia*
Brown-headed cowbird..... *Molothrus ater*
Great crested flycatcher ..... *Myiarchus crinitus*
Yellow-crowned night heron ..... *Nycticorax violaceus*
Eastern screech owl..... *Otus asio*
Osprey ..... *Pandion haliaetus*
Northern parula ..... *Parula americana*
Tufted titmouse ..... *Parus bicolor*
Carolina chickadee ..... *Parus carolinensis*
House sparrow..... *Passer domesticus*
Savannah sparrow..... *Passerculus sandwichensis*
Painted bunting..... *Passerina ciris*
American white pelican ..... *Pelecanus erythrorhynchos*
Brown pelican..... *Pelecanus occidentalis*

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Double crested cormorant..... *Phalacrocorax auritus*
Rose-breasted grosbeak..... *Pheucticus ludovicianus*
Downy woodpecker ..... *Picoides pubescens*
Hairy woodpecker..... *Picoides villosus*
Eastern towhee..... *Pipilo erythrophthalmus*
Scarlet tanager..... *Piranga olivacea*
Summer tanager..... *Piranga rubra*
American golden plover..... *Pluvialis dominica*
Black-bellied plover ..... *Pluvialis squatarola*
Horned grebe ..... *Podiceps auritus*
Pied-billed grebe..... *Podilymbus podiceps*
Blue-gray gnatcatcher..... *Polioptila caerulea*
Purple martin..... *Progne subis*
Boat-tailed grackle ..... *Quiscalus major*
Common grackle..... *Quiscalus quiscula*
Clapper rail ..... *Rallus longirostris*
Ruby-crowned kinglet ..... *Regulus calendula*
Golden-crowned kinglet..... *Regulus satrapa*
Bank swallow..... *Riparia riparia*
Black skimmer..... *Rynchops niger*
Eastern phoebe..... *Sayornis phoebe*
Ovenbird..... *Seiurs aurocapilla*
American redstart ..... *Setophaga ruticilla*
Yellow-bellied sapsucker..... *Sphyrapicus varius*
Chipping sparrow ..... *Spizella passerina*
Field sparrow..... *Spizella pusilla*
Least tern ..... *Sterna antillarum*
Caspian tern..... *Sterna caspia*
Forster's tern..... *Sterna forsteri*
Common tern ..... *Sterna hirundo*
Royal tern..... *Sterna maxima*
Sandwich tern ..... *Sterna sandvincensis*
Eastern meadowlark ..... *Sturnella magna*
European starling..... *Sturnus vulgaris**
Northern gannet..... *Sula bassanus*
Tree swallow ..... *Tachycineta bicolor*
Carolina wren ..... *Thryothorus ludovicianus*
Brown thrasher..... *Toxostoma rufum*
Lesser yellowlegs ..... *Tringa flavipes*
Greater yellowlegs..... *Tringa melanoleuca*
House wren..... *Troglodytes aedon*
American robin ..... *Turdus migratorius*
Gray kingbird ..... *Tyrannus dominicensis*
Eastern kingbird..... *Tyrannus tyrannus*
Orange-crowned warbler ..... *Vermivora celata*
White-eyed vireo..... *Vireo griseus*
Red-eyed vireo ..... *Vireo olivaceus*
Blue-headed vireo ..... *Vireo solitaries*

Hooded warbler..... *Wilsonia citrina*
Mourning dove..... *Zenaida macroura*

MAMMALS

Nine banded armadillo ..... *Dasypus novemcintus*
Opossum ..... *Didelphis marsupialis*
Cotton mouse..... *Peromyscus gossypinus*
Raccoon..... *Procyon lotor*
Eastern gray squirrel ..... *Sciurus carolinensis*
Hispid cotton rat ..... *Sigmodon hispidus*
Eastern cottontail..... *Sylvilagus floridanus*
Marsh rabbit..... *Sylvilagus palustris*
Eastern spotted skunk..... *Spilogale putoris*
West Indian manatee..... *Ticheus manatus latirostris*
Gray fox ..... *Urocyon cinereoargenteus*
Red fox..... *Vulpes vulpe*

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) 245-6333

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; ora 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
- **e)** 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.