HUGH TAYLOR BIRCH STATE PARK

UNIT MANAGEMENT PLAN

APPROVED

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

APRIL 21, 2006

Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard, MS 140
Tallahassee, Florida 32399-3000
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Colleen Castille
Secretary

May 23, 2006

Ms. BryAnne White
Office of Park Planning
Division of Recreation and Parks
3900 Commonwealth Blvd.; M.S. 525
Tallahassee, Florida 32399

Re: Hugh Taylor Birch State Park Lease #3624

Dear Ms. White:

On April 21, 2006, the Acquisition and Restoration Council recommended approval of the Hugh Taylor Birch State Park management plan. Therefore, the Office of Environmental Services, acting as agent for the Board of Trustees of the Internal Improvement Trust Fund, approved the management plan for the Hugh Taylor Birch State Park. Pursuant to Sections 253.034 and 259.032, Florida Statutes, and Chapter 18-2, Florida Administrative Code this plan's ten-year update will be due on April 21, 2016.

Approval of this land management plan does not waive the authority or jurisdiction of any governmental entity that may have an interest in this project. Implementation of any upland activities proposed by this management plan may require a permit or other authorization from federal and state agencies having regulatory jurisdiction over those particular activities. Pursuant to the conditions of your lease, please forward copies of all permits to this office upon issuance.

Sincerely,

Paula L. Allen
Office of Environmental Services
Division of State Lands
Department of Environmental Protection

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Hugh Taylor Birch State Park is located in Broward County (see Vicinity Map) within the city limits of Ft. Lauderdale. There is both pedestrian and vehicular access from Sunrise Boulevard (State Road 838) just west of the intersection with State Road A-1-A (see Reference Map). The vicinity map also reflects significant land and water resources existing near the park.

The park consists of 175.24 acres. The Florida Board of Forestry and Parks (FBFP) obtained title to the property on December 31, 1941. The unit takes its name from a Chicago attorney, the late Hugh Taylor Birch, who came to the area in 1893 in search of a winter home. In 1903, he began purchasing all the dry land along the barrier island, and at the age of 93, he stipulated that upon his death that the property be donated to the state. He wanted both present and future generations to be able to experience the Florida that he had enjoyed so much.

At Hugh Taylor Birch State Park, public outdoor recreation is the designated single use of the property (see Addendum 1). There are no legislative or executive directives that constrain the use of this property.

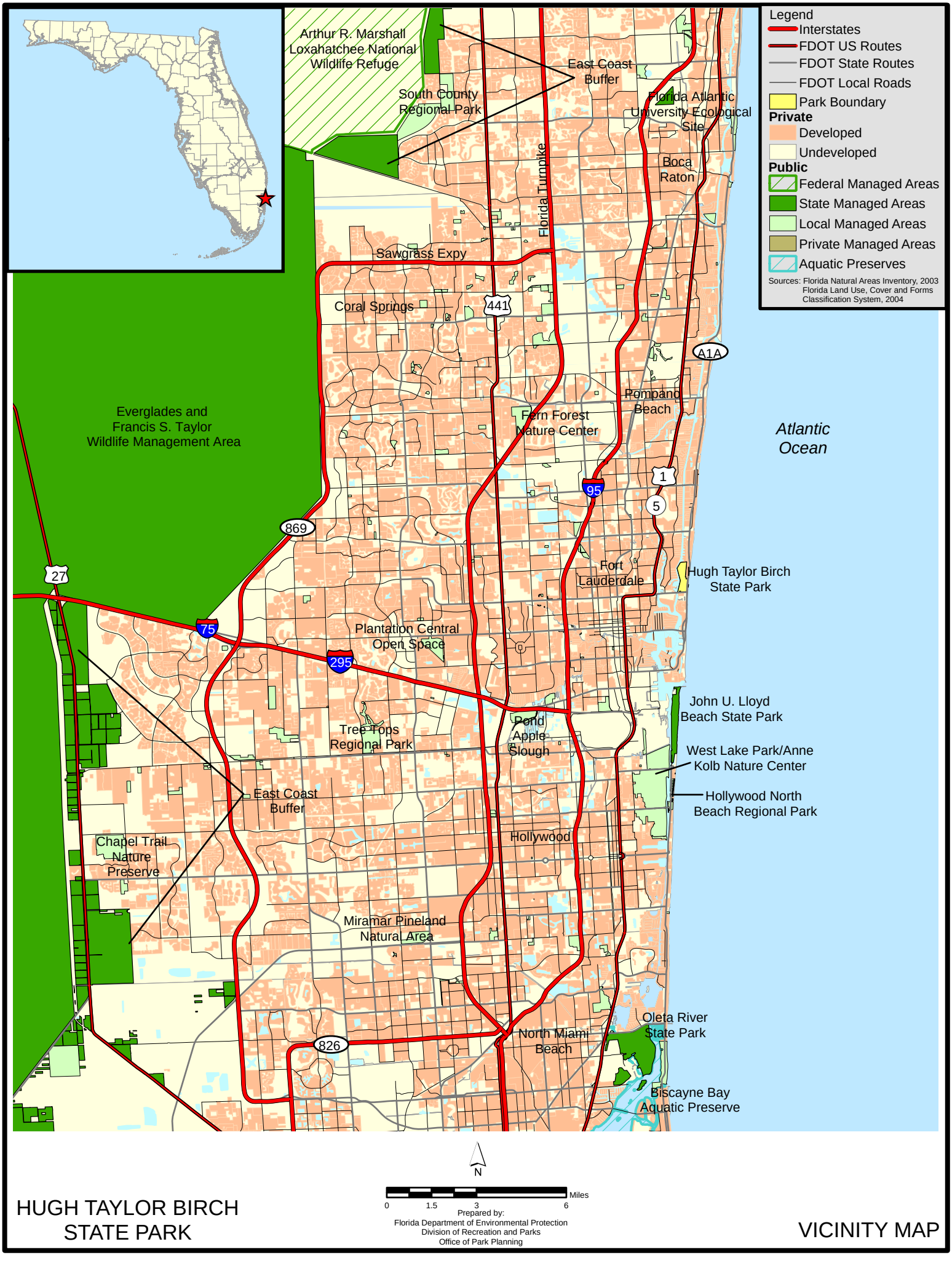
PURPOSE AND SCOPE OF THE PLAN

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 objectives, criteria and standards that guide each aspect of park administration, and sets forth the specific measures that will be implemented to meet management objectives. The plan is intended to meet the requirements of Sections 253.034 and 259.032, Florida Statutes, Chapter 18-2, Florida Administrative Code, and intended to be consistent with the State Lands Management Plan. With approval, this management plan will replace the November 19, 1999, approved plan. All development and resource alteration encompassed 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.

The plan consists of two interrelated components. Each component corresponds to a particular aspect of the administration of the park. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. Resource management problems and needs are identified, and specific management objectives are established for each resource type. This component provides guidance on the application of such measures as prescribed burning, exotic species removal and restoration of natural conditions.

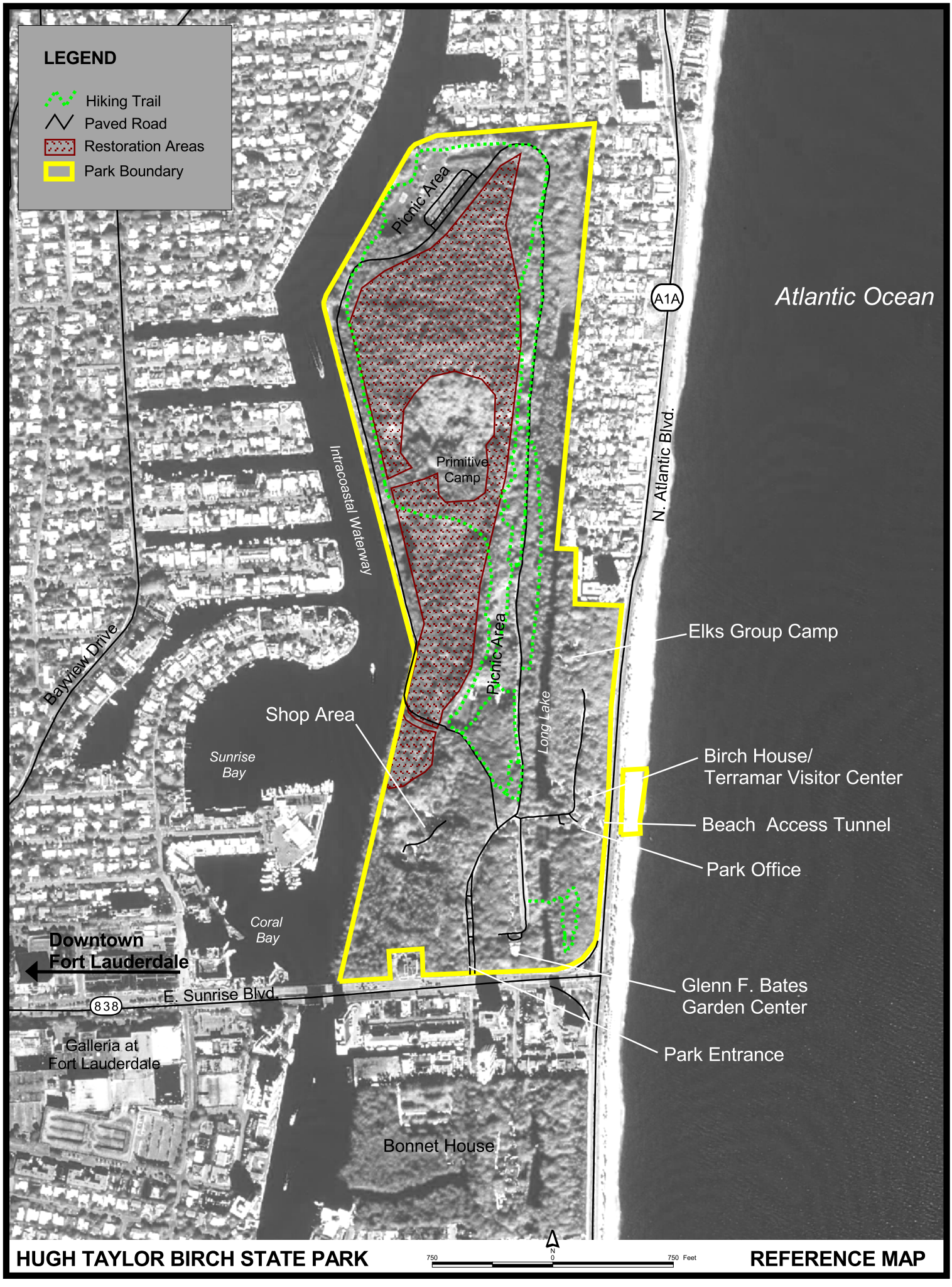
The land use component is the recreational resource allocation plan for the unit. Based on considerations such as access, population and adjacent land uses, an optimum allocation of the physical space of the park is made, locating use areas and proposing types of facilities and volume of use to be provided.

In the development of this plan, the potential of the park to accommodate secondary management purposes (“multiple uses”) was analyzed. These secondary purposes were considered within the context of the Division’s statutory responsibilities and an analysis of the resource needs and values of the park. This analysis considered the park natural and cultural



HUGH TAYLOR BIRCH STATE PARK

VICINITY MAP


LEGEND
Hiking Trail
Paved Road
Restoration Areas
Park Boundary
Picnic Area
Primitive Camp
Intracoastal Waterway
Bayview Drive
Sunrise Bay
Coral Bay
Shop Area
Picnic Area
Long Lake
A1A
N. Atlantic Blvd.
Atlantic Ocean
Elks Group Camp
Birch House/
Terramar Visitor Center
Beach Access Tunnel
Park Office
Glenn F. Bates
Garden Center
Park Entrance
Downtown
Fort Lauderdale
E. Sunrise Blvd.
838
Galleria at
Fort Lauderdale
Bonnet House
HUGH TAYLOR BIRCH STATE PARK
750
0
750 Feet
N
REFERENCE MAP

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. 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) are not consistent with this plan or the management purposes of the park.

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

The use of private land managers to facilitate restoration and management of this unit was also analyzed. Decisions regarding this type of management (such as outsourcing, contracting with the private sector, use of volunteers, etc.) will be made on a case-by-case basis as necessity dictates.

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 (Division) 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 Trustees have also granted management authority of certain sovereign submerged lands to the Division 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 impact public recreational uses.

Many operating procedures are standard system wide and are set by policy. These procedures are outlined in the Division Operations Manual (OM) and cover such areas as personnel management, uniforms and personal appearance, training, signs, communications, fiscal procedures, interpretation, concessions, camping regulations, resource management, law enforcement, protection, safety and maintenance.

In the management of Hugh Taylor Birch State Park, primary emphasis is placed on maximizing the area's recreational potential; however, preservation of resources remains important. Depletion of a resource by any recreational activity is not permitted. In order to realize the unit's recreational potential, development in the park is aimed at providing facilities that are accessible, convenient and safe, as needed to support recreational use or the unit's natural, aesthetic and educational attributes.

Park Goals and Objectives

The following park goals and objectives express the Division long-term intent in managing the state park. At the beginning of the process to update this management plan, the Division reviewed the goals and objectives of the previous plan to determine if they remain meaningful and practical and should be included in the updated plan. This process ensures that the goals and objectives for the park remain relevant over time.

Estimates are developed for the funding and staff resources needed to implement the management plan based on these goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers and partnerships with agencies, local governments and the private sector, for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Natural and Cultural Resources

1. Continue to protect, improve and effectively manage the natural resources of the park.
- **A.** Expand existing exotic plant removal efforts.
- **B.** Continue maintenance and monitoring of restored tidal wetlands.
- **C.** Develop a restoration plan for the ruderal waterbody aquatic resources (Long Lake).
- **D.** Develop a restoration plan to bring back a tidal zone community along the west boundary intracoastal seawall.
- **E.** Control visitor access to remote and sensitive areas.
- **F.** Continue updating the plant and animal inventories.
- **G.** Continue to facilitate research in the park that will provide information beneficial to preservation and the natural resources.
- **H.** Continue to manage for and monitor status of listed species in the park.

2. Continue to identify, preserve and actively manage cultural resources of the park.
- **A.** Conduct a literature survey of the historical resources to determine the extent and location of prehistoric and historical sites.
- **B.** Protect existing archaeological sites and their associated artifact assemblage from vandalism, erosion and other forms of encroachment.
- **C.** Conduct all ground-disturbing activities in accordance with Division policy.
- **D.** Coordinate with Division of Historical Resources (DHR) architects to address the moisture problem at the Birch House.

E. Pursue adding the Birch House to the Florida Master Site File and pursue the designation of the Birch House in the National Register of Historic Places.

Recreational Goals

1. Continue to provide quality resource based outdoor recreational and interpretive programs and facilities at the state park.
   A. Continue to provide controlled access for beach recreation.
   B. Continue to provide well-maintained self-guided nature trail.
   C. Raise elevation of primitive camping area to alleviate flooding.
   D. Upgrade existing trail north of picnic area to alleviate flooding.
   E. Continue to provide and enhance programs offered to the community by working with local schools.

2. Seek funding to expand recreational and interpretive opportunities through the improvement of programs and the development of new use areas and facilities, as outlined in this management plan.
   A. Emphasize public awareness and provide visitor education through the Terramar Visitor Center and other park programs.
   B. Upgrade exhibits in the Terramar Visitor Center and enhance the buildings use for educational programming.
   C. Provide enhanced passive recreational opportunities, such as nature observation and interpretive signage at restored tidal wetland.
   D. Renovate and include the two trestle bridges into the trail system.
   E. Improve the existing picnic areas.
   F. Enhance fishing and boating opportunities.

Park Administration/Operations

1. Seek funding and staffing to meet park operational need such as corrective maintenance, visitor protection, resource management and visitor services.
   A. Replace shop, pole barn, chemical/fuel shed.
   B. Improve bike/pedestrian safety along park road.

2. Continue to promote positive working relationships with federal, state and local agencies and private organizations.

3. Pursue opportunities for a future partnership with the Garden Club for public access to their gardens and butterfly observation.

Management Coordination

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

The Department of Agriculture and Consumer Services, Division of Forestry (DOF), 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 (FFWCC), assists staff in the enforcement of state laws pertaining to wildlife, freshwater fish and other aquatic life existing within park boundaries. In addition, the FFWCC aids the Division with wildlife management programs, including the development and management of Watchable Wildlife programs. The Department of State, Division of Historical Resources (DHR) assists staff to assure protection of archaeological and historical sites. The Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA) aids staff in aquatic preserves management programs. The DEP Bureau of Beaches and Wetland Resources aids staff in planning and construction activities seaward of the Coastal Construction Line. In addition, the Bureau of Beaches and Wetland Resources aid the staff in the development of erosion control

projects. Emphasis is placed on protection of existing resources as well as the promotion of compatible outdoor recreational uses.

Public Participation

The Division provided an opportunity for public input by conducting a public workshop and an advisory group meeting. A public workshop was held on December 6, 2005. The purpose of this meeting was to present this draft management plan to the public. An Advisory Group meeting was held on December 7, 2005. The purpose of this meeting was to provide the Advisory Group members the opportunity to discuss this draft management plan.

Other Designations

Hugh Taylor Birch State Park has not been designated as an Area of Critical State Concern as defined in section 380.05, Florida Statutes. Currently, it is not under study for such designation. The park is a component of the Florida Greenways and Trails System.

All waters within the unit have been designated as Outstanding Florida Waters, pursuant to Chapter 62-302 Florida Administrative Code. Administered by the Department of Environmental Protection, this program was created by Section 403.061, Florida Statutes, and protects lakes, rivers and streams against degradation of existing ambient water quality. Surface waters in this unit are also classified as Class III waters by DEP.

This unit is not designated as an aquatic preserve under provision of the Florida Aquatic Preserve Act of 1975 (section 258.35, Florida Statutes).

RESOURCE MANAGEMENT COMPONENT

INTRODUCTION

The Division of Recreation and Parks 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. The stated management measures in this plan are consistent with the Department's overall mission in ecosystem management. Cited references are contained in Addendum 2.

The Division's philosophy of resource management is natural systems management. Primary emphasis is on restoring and maintaining, to the degree practicable, the natural processes that shape the structure, function and species composition of Florida's diverse natural communities as they occurred in the original domain. Single species management may be implemented when the recovery or persistence of a species is problematic provided it is compatible with natural systems management.

The management goal of cultural resources is to preserve sites and objects that represent all of Florida's cultural periods as well as significant historic events or persons. This goal may entail 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 is often affected by conditions and occurrences beyond park boundaries. Ecosystem management is implemented through a resource management evaluation program (to assess resource conditions, evaluate management activities and refine management actions), review of local comprehensive plans and review of permit applications for park/ecosystem impacts.

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.

The general trend of the topography is one that is, and will be affected by general sea level rise, the construction of jetties, northeastern winter storms and hurricanes.

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

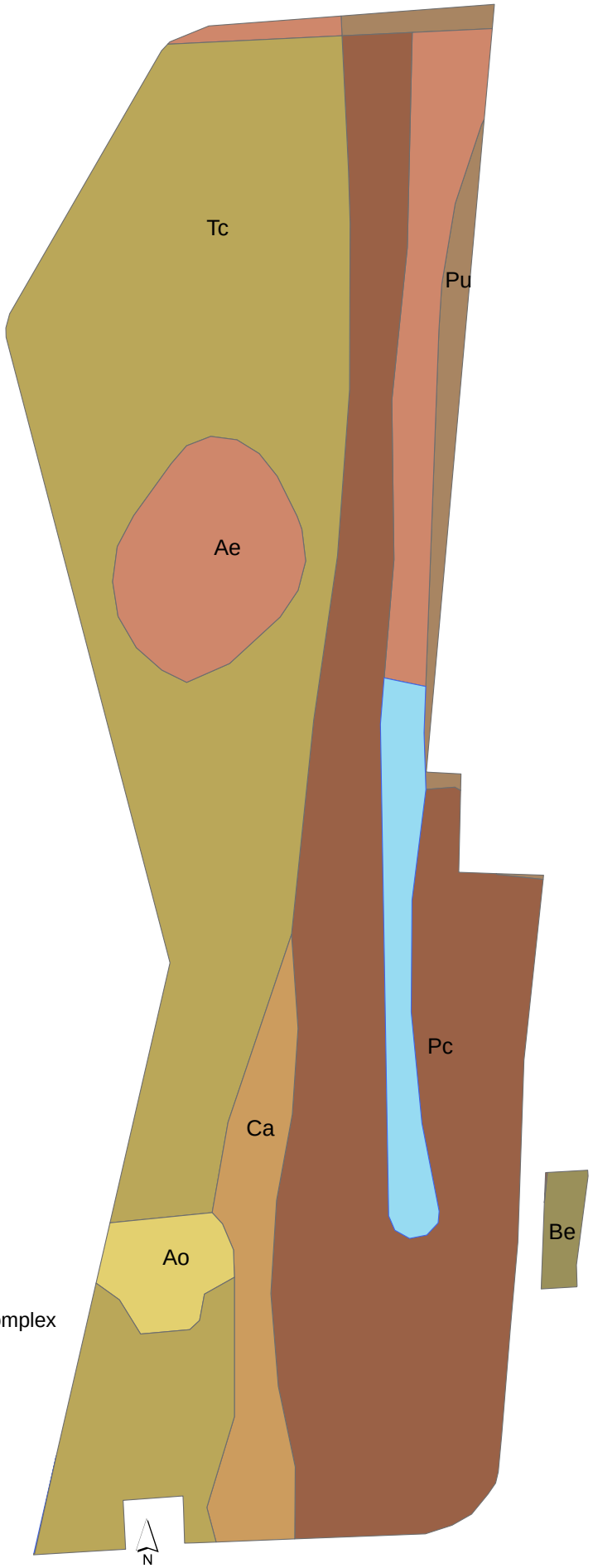
With the recession of each glacier stage, the sand left behind became modified due to the influence of the climatic conditions and vegetation, thus bringing about, in many cases, the development of distinct soil profiles. The state park's soils are rather geologically immature due to the recent formation of the barrier island and the action of wind and rain on the soil. Except for the wetland soils, the removal of vegetation could lead to oxidation, leaching, and eventually, immaturely profiled soils.

For many years, biologists and soil scientists have recognized the relationship that exists between soil types and plant distribution, and often vegetation can provide clues regarding dominant soil types. 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, (USDA 1984) is contained in Addendum 3.

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,



LEGEND

- Ae - Arents-Urban land complex
- Ao - Arents, organic substratum-Urban land complex
- Be - Beaches
- Ca - Canaveral-Urban land complex
- Pc - Palm Beach sand
- Pu - Palm Beach-Urban land complex
- Tc - Terra Ceia muck, tidal
- Water

HUGH TAYLOR BIRCH STATE PARK

Prepared by:
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

SOILS MAP

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

Regional hydrology. As designated by the South Florida Water Management District, the park is within the Lower East Coast Planning Area, which consists of the southeast corner of Martin County, eastern part of Palm Beach, Broward and Dade Counties and the southeast area of Monroe County. Urban development along the coast is expanding westward. With this increase, additional demands are being placed on the water resources and their proper management and use.

The county's annual rainfall averages approximately 60 inches per year, but it can vary widely from year to year. Most of the rainfall occurs in the summer and could coincide with a hurricane. Man-made problems are caused by development of canals that result in over-drainage of wetlands, and well withdrawals that can result in coastal salt-water intrusion.

One of the greatest areas of change in the region's hydrology has been around Hugh Taylor Birch State Park. 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.

Old charts and maps indicated that the only major concentrations of mangroves near this site occurred near the mouth of the New River (less than 1.5 miles from the existing south boundary of the park). This changed with the dredging of the Intracoastal Waterway in 1912, the opening of the Port Everglades Inlet to the Ocean in 1929, and the draining of the land that started in 1906 when the Everglades Drainage District began their program. The salt water entering the area created a brackish water environment killing fresh water species and resulting in the growth of the present mangrove forest.

Now the 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. Flow is seasonally variable.

Most of the municipal and industrial supplies of water come from the Biscayne aquifer. This aquifer extends from near the top of the ground to depths of more than 200 feet close to the coast, but is thinner westward near the Everglades.

In Broward County, the threat of salt-water intrusion into the aquifer and well fields has been a historical problem. During dry periods, salt water tends to encroach further inland, but during wet times, fresh water tends to push seaward and displace and override encroaching salt water. Chloride content of water is generally a good indicator of intrusion problems. The park is subjected to intrusion from both the ocean and Intracoastal Waterway, and, it receives little fresh water recharge from mainland ground water sources. A small quantity of fresh water can be found a few feet below the surface of the ground, especially in areas of higher elevations.

Unit hydrology. Rainfall is abundant during the wet season, mainly resulting from convection and the differences between the land and sea temperatures. In this area of Florida, the annual average is over 60 inches per year. However, it is less in the area immediately around the park, as there is a tendency for rainfall to increase further inland from the coast. Though much of the rain infiltrates into the shallow unconfined aquifer, a great deal runs off or remains on the surface, where it adds to the prominent waters of the park and surrounding area. However, these

beneficial rains also can cause problems in water quality for the park area through suburban runoff, especially in the ruderal lake system. The lake receives an unknown quantity of suburban stormwater. To protect the system the amount needs to be quantified and its quality determined. Assistance will be required from the South Florida Water Management District and the Department's "Ambient Water Quality Monitoring Program" to meet this objective.
The largest historical change to park hydrology was the construction of the Intracoastal Waterway. Undoubtedly, occasional storms brought salt water into this area (there was an old inlet just south of the park in 1884), but with a relatively stable man-made inlet to the sea established and the dredging of the Intracoastal, it rapidly converted to a estuarine ecosystem. Then, as development spread around the area, so did the dredge and fill activity and bulkhead construction. The park's western shoreline is bulkheaded 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).

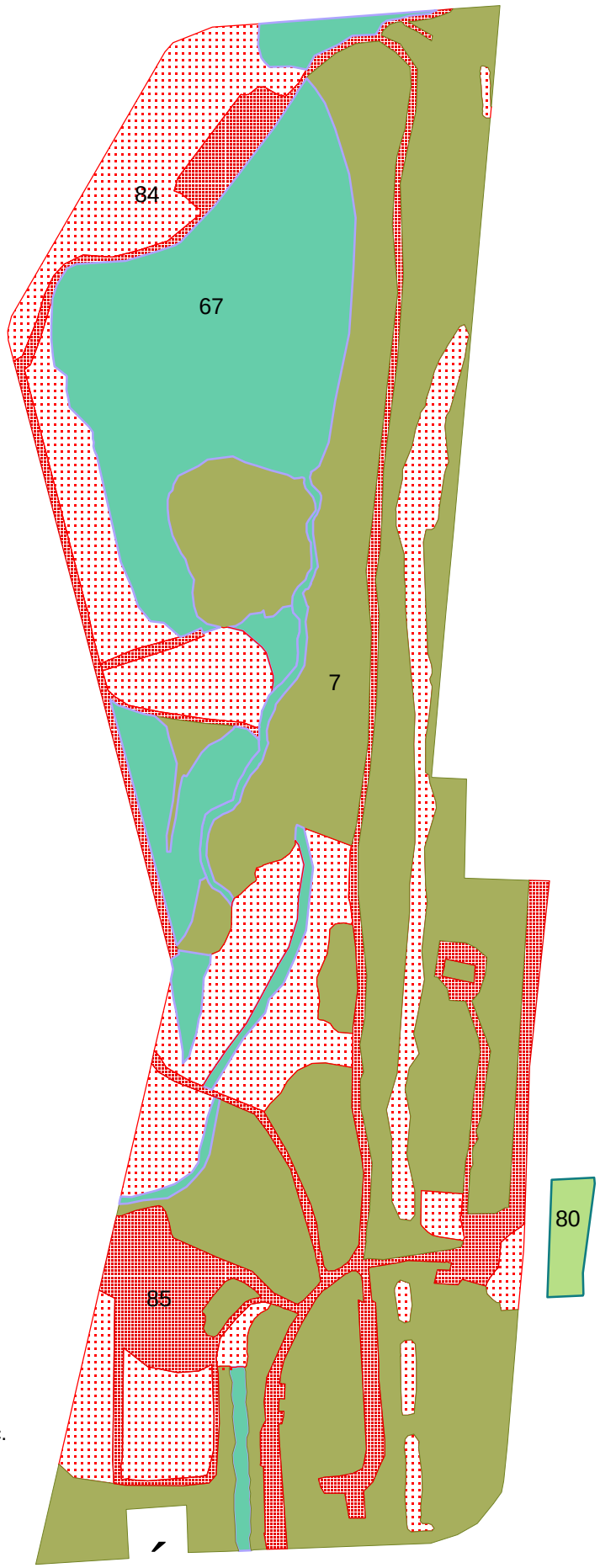
Natural Communities

The system of classifying natural communities employed in this plan was developed by the Florida Natural Areas Inventory (FNAI). The premise of this system is that physical factors, such as climate, geology, soil, hydrology and fire frequency generally determine the species composition of an area, and that areas which are similar with respect to these factors will tend to have natural communities with similar species compositions. Obvious differences in species composition can occur, 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.

The park contains three distinct natural communities (see Natural Communities Map) in addition to ruderal and developed areas. Park specific assessments of the existing natural communities are provided in the narrative below. A list of plants and animals occurring in the unit is contained in Addendum 4.

Maritime hammock. The maritime hammock has two subzones. There is the tropical hammock that lies west of State Road A-1-A (N. Atlantic Boulevard) and the "low hammock" that is located mainly west of the park drive. The term low hammock is used in South Florida to apply to any hardwood forest that is mainly dominated by temperate species and generally found on lower elevations than a tropical hammock. The biggest impacts to the maritime hammock have been the spread of exotic vegetation, and to a lesser extent, foot trails and old roads.

Estuarine tidal swamp. Located as fragments, secondary tidal swamps (mangrove forests) have established themselves in areas where primarily fresh-water marshes once were prevalent. They were isolated into four separate areas during the placement of dredge fill onto the property in the early days of creating the Intracoastal Waterway. Although most mangroves appear healthy, their only hydraulic connection to the Intracoastal Waterway is a u-shaped ditch with culverts through the bulkhead at each end.



LEGEND

- 7 - Maritime Hammock-81.32 ac.
- 67 - Estuarine Tidal Swamp-34.54 ac.
- 80 - Marine Unconsolidated Substrate-1.32 ac.
- 84 - Ruderal-38.05 ac.
- 85 - Developed-20.01 ac.

HUGH TAYLOR
BIRCH STATE PARK

0 195 390 780 Feet

Prepared by:
Florida Department of Environmental Protection
Division of Recreation and Parks
Office of Park Planning

NATURAL COMMUNITIES
MAP

Marine unconsolidated substrate. This community is largely unvegetated, and the supratidal zone is an intensely used recreation area. This community has been impacted because of its limited size, heavy foot traffic, and past renourishment projects.

Ruderal uplands. These areas generally consist of dredge-spoil.

Ruderal waterbody. Extending north and south through the park is a ruderal waterbody within the old coastal dune system. When natural, such systems are generally characterized as shallow irregularly shaped depressions that depend largely on lateral ground water seepage and rainfall for recharge. However, as mentioned in the topography section, this wetland was once part of a much larger saw grass dominated system called Bonnet Slough that was dredged out in the 1940s. This altered system also has been degraded by stormwater and exotic vegetation. The ruderal lake can be divided into four separate areas, three of which are approximately 6,000 square meters in size, and one larger water body of approximately 130,000 square meters.

Developed. These areas consist of facilities, roads, etc.

Designated Species

Designated species are those that are listed by the Florida Natural Areas Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Department of Agriculture and Consumer Services (FDA) as endangered, threatened or of special concern. Addendum 5 contains a list of the designated species and their designated status for this park. Management measures will be addressed later in this plan.

In general, the wildlife resources of barrier islands exhibit a number of unusual characteristics that support the contention that these islands represent a unique ecosystem. For several species of listed birds, barrier islands and their surrounding waters are much needed areas for feeding, loafing, and roosting. Probably one of the most important influences on demographics of wildlife resources on undeveloped barrier islands is insularity. However, the urban infrastructure surrounding Hugh Taylor Birch State Park has essentially eliminated this effect. Nevertheless, the number of aquatic and terrestrial organisms associated with this island is great and niches vary from a stopover place during migration to providing breeding habitats and primary feeding areas.

Special 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.

Cultural Resources

Evaluating the condition of cultural resources is accomplished using a three part evaluative scale, expressed as good, fair, and poor. These terms describe the present state of affairs, rather than comparing what exists against the ideal, a newly constructed component. 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 judgment is cause for concern. Poor describe 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 to reestablish physical stability.

A review of the Florida Master Site File indicates that there are no known prehistoric sites within the park boundary. However, Hugh Taylor Birch has not been systemically surveyed for cultural resources. Given the physiographic setting and the cultural prehistory of this region, there is a high probability of finding sites. The park does contain the following historic sites: the Birch House, constructed in 1940, which has been renovated for use as the Terramar Visitor center, and the grounds keeper's residence, which is used as a staff residence. Currently, the Birch House/Terramar Visitor center building is in poor shape and action is required to address the moisture problem. Coordination with the DHR architects should be initiated to address possible solutions to this problem. In addition, Historic Structures Report is highly recommended.

When Hugh Taylor Birch purchased this land in 1903, the local settlers, who had located further inland, doubted the wisdom of his decision. At the time, they could not foresee the economic significance of owning a piece of the barrier island. The sandy soil made it unsuitable for farming, storms eroded the land and there was little fresh water.

The first recorded human visitors to this shore were the early Tequesta Indians, who came in search of food, but usually did not remain in this locale for long. Probably the first people to live on the beach were the soldiers of the Second Seminole War, who came in 1839 to establish the second Fort Lauderdale near the New River, less than 2 miles south of what is now the park. It was later abandoned in 1842, but then opened again briefly in 1856 to 1857.

In 1876, at the site of the old fort, the government built one of the houses of refuge (New River House of Refuge) along these isolated beaches to render aid to shipwrecked survivors. It was here that the island's first permanent resident, Washington Jenkins, lived as the first keeper of the House of Refuge.

He and his successors were all alone until, in 1893, Hugh Taylor Birch came to the area in search of a winter home and with a friend, John McGregor Adams, purchased approximately 3 miles of the island for a total cost of $3,500. Mr. Birch eventually divided their holdings and he settled a little further north in a cottage that was built for him on what is now Granada Street.

Mr. Birch sold much of his land during the boom in the 1920s. Later, he donated the right-of-way for Sunrise Boulevard, ceded land for Highway A-1-A, and leased or gave most of the beach he owned to the city.

He moved again, into what is now called the Bonnet House, located south of Sunrise Boulevard on a 35-acre tract of land, but in 1940, built a new home for him on the property that is now the state park.

In March 1942, then Governor Spessard Holland was presented a deed by Mr. Birch for the property that would be turned over to the State of Florida upon his death. He continued to make additional alterations to the land until his death on January 7, 1943. After his death, the State took possession of the property.

Both the old farmland and barrier island property have changed drastically in just one man's lifetime, from a natural wild Florida, to a large block of urban landscape.

RESOURCE MANAGEMENT PROGRAM

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 Division'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 early successional communities such as sand pine scrub and coastal strand.

A timber management analysis was not conducted for this park. The total acreage for the unit is below the 1,000-acre threshold established by Florida Statutes. Timber management will be reevaluated during the next revision of this management plan.

Restoration of Disturbed or Manipulated Areas

Management of natural communities is often enhanced by physically restoring areas that have been disturbed or otherwise manipulated by people. Such management is often achieved in the course of hydrologic, scenic or other restoration measures, such that two or more management goals can often be achieved simultaneously. Most of the park's disturbed sites are large-scale and will require cooperation from other agencies to achieve restoration.

Management Needs and Problems

Continuing urban sprawl in South Florida and the desire to obtain waterfront real estate undoubtedly will result in additional secondary impacts to park resources. From a visitation perspective, a carrying capacity for some resources may need to be implemented. The guidelines contained in this management plan, our rules, and Operations Manual, are designed to ensure that park public trust resources are used wisely. Ultimately, it will be public awareness, understanding and appreciation of the unique and sensitive resources of Hugh Taylor Birch State Park that will assure their protection and existence in perpetuity.

Management Objectives

The resources administered by the Division are divided into two principal categories: natural resources and cultural resources. The Division primary objective in natural resource management is to maintain and restore, to the extent possible, to the conditions that existed before the ecological disruptions caused by man. The objective for managing cultural resources is to protect these resources from human-related and natural threats. This will arrest deterioration and help preserve the cultural resources for future generations to enjoy.

1. Conserve site soil resources.
2. Conserve ruderal aquatic resources.
3. Improve tidal wetland productivity.
4. Restore tidal zone community to intracoastal boundary.
5. Reduce/eliminate invasive exotic plant populations.
6. Continue to manage for and monitor status of listed species in the park.

Management Measures for Natural Resources

1. There are no soil erosion problems at this park.
2. The ruderal lake receives an unknown quantity of suburban stormwater. To protect the system the amount needs to be quantified and its quality determined. Assistance will be required from the South Florida Water Management District and the Departments' "Ambient Water Quality Monitoring Program" to meet this objective.
3. A bulkhead on the Intracoastal Waterway restricts tidal exchange in the mangrove wetlands; flow has been improved with additional culverts. Monitoring of wildlife utilization to the created tidal swamp community needs to be done to evaluate the ongoing success of these improvements.
4. Develop a restoration plan to bring back a tidal zone community along the west boundary intracoastal seawall, while stabilizing the seawall.
5. The invasive exotic plant removal program should be continued, reviewed and updated on an annual basis.
6. Current management actions for beach jacquemontia, gopher tortoises, marine turtles and other listed species to be continued, including periodic monitoring of population status.

Prescribed Burning

The objectives of prescribed burning are to create those conditions that are most natural for a particular community, and to maintain ecological diversity within the unit's natural communities. To meet these objectives, the park is partitioned into burn zones, and burn prescriptions are implemented for each zone. The park burn plan is updated annually to meet current conditions. All prescribed burns are conducted with authorization from the Department of Agriculture and Consumer Services, Division of Forestry (DOF). Wildfire suppression activities will be coordinated between the Division and the DOF.

The use of prescribed burning is not proposed for any of the natural communities within this park.

Designated Species Protection

The welfare of designated species is an important concern of the Division. In many cases, these species will benefit most from proper management of their natural communities. At times, however, additional management measures are needed because of the poor condition of some communities, or because of unusual circumstances that aggravate the particular problems of a species. To avoid duplication of efforts and conserve staff resources, the Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species. Specifically, data collected by the FWC and USFWS as part of their ongoing research and monitoring programs will be reviewed periodically to inform management of decisions that may have an impact on designated species at the park.

Beach jacquemontia (*Jacquemontia reclinata)* deserves special consideration because of its federally endangered status. Only a few populations of this rare morning glory relative are known throughout its range (Palm Beach County to Dade County), with this being the only known occurrence in a state park. Without continued special attention, the park's beach

jacquemontia could disappear. Consultation should be initiated with the U.S. Fish and Wildlife Service to promote local recovery efforts. Current management actions for this species involve selective pruning of the maritime hammock ecotone surrounding the disturbed site occupied by the plants. This technique has maintained the terrain's open, sparsely vegetated character. The plants also have been mapped and the area is posted and protected as "sensitive habitat". In consideration of its rarity, leathery prickly ash (*Zanthoxylum coriaceum)* also should be mapped.

Other listed plants in a park are not systematically or routinely monitored. Monitoring may be conducted for specific listed plants depending upon a need or project type, or the research interests of qualified academic investigators. Some plants receive more passive monitoring because of their locations. Any declines of vigor and/or persistence observed in populations of listed plants result in increased monitoring by park staff for probable cause.
Some of the listed species documented from this property are colonial waterbirds using the area for foraging or loafing. Generic actions protecting the health of the unit's wetland communities and associated trophic webs will benefit these species. During fall, various raptors and neotropical migrants also frequent the area. Some of these species may benefit from exotic plant removal efforts in maritime hammock communities.

Staff has located and monitors known gopher tortoise (*Gopherus polyphemus)* burrow sites. Vegetation in these areas will be regularly thinned to maintain open, sparsely vegetated habitat for the tortoises. No additional protection measures are required at the time of this writing.

Marine turtle monitoring along the 400 feet of park beach is conducted or contracted by Broward County.

Exotic Species Control

Exotic species are those plants or animals that are not native to Florida, but were introduced because of human-related activities. Exotics have fewer natural enemies and may have a higher survival rate than do native species, as well. They may also harbor diseases or parasites that significantly affect non-resistant native species. Consequently, it is the strategy of the Division to remove exotic species from native natural communities.

Exotic vegetation treatment plan. Of the invasive exotic plants found at Hugh Taylor Birch State Park, several are targeted for intensive treatment, due to their aggressive growth and tendency to disrupt native plant communities. These invasive exotic plants are:

Rosary pea	*Abrus precatorius*
Earleaf acacia	*Acacia auriculiformis*
Asparagus fern	*Asparagus densiflorus*
Bishopwood	*Bishofia javanica*
Australian pine	*Casuarina spp.*
Royal poinciana	*Delonix regia*
Melaleuca	*Melaleuca quinquenervia*
Chinaberry	*Melia azedarach*
Cat's claw	*Mimosa pigra*
Bowstring hemp	*Sanseveria hyacinthoides*
Beach naupaka	*Scaevola serica*
Brazilian pepper	*Schinus terebinthifolius*
Java plum	*Syzygium cumini*

Schedule for Invasive Exotic Plant Control Methods. Hugh Taylor Birch State Park has

several major concentrations of invasive exotic plants, which occur on and adjacent to disturbed land. These areas are a high priority for exotic plant treatment, as they threaten unique habitats and are a seed source for an otherwise pristine area. Threats for new invasions come from several sources; exotics already established in the park, spread by natural means (birds, wind, water, etc.), and neighboring developments. The exotic plants listed above are listed as Category I or II by the Florida Exotic Pest Plant Council (EPPC).

At the beginning of each fiscal year, the park manager should determine which areas of the park should have focused exotic plant treatment for the upcoming year, and enter this on the park goals and objectives report.

Exotic animals. The potential exotic animal threats already present in the park include:

Cuban brown anole	*Anolis sagrei sagrei*
Domestic and feral cats	*Felis domesticus*
Cuban tree frog	*Hyla septentrionalis*
Green iguana	*Iguana iguana*
Fire ant	*Solenopsis invicta*
Squirrel monkey (transient)	*Saimiri sciureus*

Problem Species

Problem species are defined as native species whose habits create specific management problems or concerns. Occasionally, problem species are also a designated species, such as alligators. The Division will consult and coordinate with appropriate federal, state and local agencies for management of designated species that are considered a threat or problem.

Southern naiad *(Najas guadalupensis)* has grown excessively in the ruderal lakes thereby requiring special attention. In the past, naiad located adjacent to the boat concession had been periodically removed by manual labor. In December 1989, sterile grass carp were introduced to control this plant. Low carp numbers were utilized. Within approximately six months, the amount of naiad was significantly reduced. Today, very little submerged aquatic vegetation persists in lake areas containing grass carp. Efforts will be taken to reduce the number of grass carp to a level that controls, but does not eliminate the growth of aquatic vegetation.

Management Measures for Cultural Resources

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. Approval from Department of State, Division of Historical Resources (DHR) must be obtained before taking any actions, such as development or site improvements that could affect or disturb the cultural resources on state lands (see DHR Cultural Management Statement).

Actions that require permits or approval from the DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past.

The park has not been subjected to a systematic cultural resource assessment survey, and no prehistoric sites are recorded with the Florida Master Site File. Ground disturbing activities should be conducted in accordance with DHR policy.

Vandalism should be discouraged using interpretive signage that includes warnings against collecting artifacts in both terrestrial and aquatic environments. This signage should be placed at access points or areas of high visitor concentration rather than at sites themselves.

1. Actions that require permits or approval from DHR include development, site excavations or surveys, disturbances of sites or structures, disturbances of the substrate, and any other actions that may affect the integrity of the cultural resources. These actions could damage evidence that would someday be useful to researchers attempting to interpret the past. A comprehensive scientifically informed cultural resources survey of the park would be helpful. (A funding source will be required.)
2. Action is required to address the moisture problem at the Birch House. This should be coordinated with the architects of the DHR.
3. Seek listing the Birch House with the Florida Master Site File.
4. A Historic Structures Report needs to be performed on the Birch House.
5. Establish a routine to monitor cultural resources. The routine should include a visual condition assessment of all cultural sites on a semiannual basis.
6. Establish photo points and photograph cultural resources on a regular schedule. Long-term management of cultural resources will be improved with the compilation of a photographic record that will allow comparison of future conditions with previous ones.

Research Needs

Natural Resources

Any research or other activity that involves the collection of plant or animal species on park property requires a collecting permit from the Department of Environmental Protection. Additional permits from the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, or the U.S. Fish and Wildlife Service may also be required.

As on most of the Division's managed lands, additional floral and faunal inventories are recommended to document the presence of rare species, evaluate habitat management practices, and understand community succession within the unit. The ruderal waterbodies in the park receive an unknown quantity of stormwater runoff. This amount needs to be quantified and its quality determined. Monitoring of the wildlife utilization of the created tidal marsh swamp system needs to be continued.

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 contained in Addendum 6. Cost estimates for conducting priority management activities are based on the most cost effective methods and recommendations currently available.

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 of the Internal Improvement Trust Fund (board) are being managed for the purposes for which they were acquired and in accordance with a land management plan adopted pursuant to s. 259.032, the board of trustees, acting through the Department of Environmental Protection (department). The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required update of its management plan.

Hugh Taylor Birch State Park was subject to a land management review on November 3, 1998. The review team made the following determinations:

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

LAND USE COMPONENT

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, through public workshops, and environmental groups. With this approach, the Division 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 described and located 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 the park's interaction with other facilities.

Hugh Taylor Birch State Park is located within Broward County, in urban Fort Lauderdale Beach along the southeast coast of Florida. The populations of Broward County and the adjacent Miami-Dade and Palm Beach Counties have grown 30 percent since 1990, and are projected to grow an additional 29 percent by 2020 (BEBR, University of Florida, 2004). The median age of Broward County is 38.1, which is slightly younger than the state average of 39.4 (BEBR, University of Florida, 2004). Nearly 4,852,090 reside within 50 miles of the park, which includes the cities of West Palm Beach, Lake Worth, Boynton Beach, Delray Beach, Boca Raton, Pompano Beach, Fort Lauderdale, Hollywood, Hialeah, Miami, Coral Gables, Miami Beach and Key Biscayne (Census, 2000).

Hugh Taylor Birch State Park recorded 204,853 visitors in 2004/2005. Visitation had exceeded 250,000 visitors prior to a recent drop in visitation starting in 2001. By DRP estimates, these visitors contributed $8,255,239 in direct economic impact and the equivalent of 165 jobs to the local economy (Florida Department of Environmental Protection, 2005).

Existing Use of Adjacent Lands

Hugh Taylor Birch State Park is surrounded by extensive urban development. The Intracoastal Waterway forms the park's western boundary. Residential single-family development exists to the north and west (across the Intracoastal Waterway) and along the northern half of the eastern boundary. Heavily trafficked Highway A-1-A represents the southern half of the

eastern boundary. Residential apartments and condominium developments, along with some commercial development, exist to the south, east and north of the park.

There is a variety of resource-based recreation opportunities within the vicinity of Hugh Taylor Birch State Park. The City of Fort Lauderdale provides numerous, small urban parks for both passive and active pursuits. Broward County manages more than 3700 acres of natural areas and nature centers that provide opportunities for picnicking, hiking, biking, camping, horseback riding, boating, swimming, fishing and nature appreciation. In addition, two state parks lie within a few miles south of Hugh Taylor Birch State Park. John U. Lloyd Beach State Park offers beach activities, picnicking, hiking, fishing, boating and wildlife viewing. Recreational activities at Oleta River State Park include mountain biking, picnicking, fishing, paddling, swimming, and cabin camping.

Planned Use of Adjacent Lands

Due to the extensive development already surrounding Hugh Taylor Birch State Park, no change is anticipated in the land use patterns. According to the City of Fort Lauderdale Comprehensive Plan (2005), Hugh Taylor Birch State Park is designated as "Park-Open Space" and "Conservation" on the Future Land Use Map. Land to the north and east of the park is designated as "High Residential" which permits up to 48 dwelling units per acre and "Low-Medium Residential" which permits up to 8 dwelling units per acre. To the south of the park is property designated as "Regional Activity Center". This designation is intended to facilitate mixed-use development, encourage mass transit, reduce the need for automobile travel, provide incentive for quality development and give definition to the urban form. Across the Intracoastal Waterway, most of the property is designated as "Low Residential" which permits up to 4.4 dwelling units per acre and the remainder is designated as "Low-Medium Residential" and a small area of "Commercial Recreation", namely a private marina.

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.

Recreation Resource Elements

This section assesses the unit's recreation resource elements those physical qualities that, either singly or in certain combinations, supports the various resource-based recreation activities. Breaking down the property into such elements provides a means for measuring the property's capability to support individual recreation 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 175.24 acres located on a barrier island surrounded by urban Fort Lauderdale. The park contains three distinct native biological communities in addition to ruderal and developed areas, including the last significant remnant of a maritime hammock in Broward County. These communities can support a variety of recreational activities including hiking, picnicking, camping, nature appreciation, and interpretive/educational programming.

Water Area

A narrow lake, the remnant of an impounded freshwater lagoon, extends almost the full length of the park, and provides opportunities for limited canoeing and kayaking.

Shoreline

The park contains a 400-foot stretch of beautiful Ft. Lauderdale beach. The beach is on the Atlantic side of Highway A-1-A, and is connected to the park through a tunnel under the heavily traveled road. Sunbathing, swimming and strolling are very popular along this stretch of beach. A seawall was constructed along the Intracoastal Waterway shoreline (5,500 linear feet). Due to heavy boat traffic and the fast speeds of the vessels in the Intracoastal Waterway, there is no safe or appropriate area within the park to launch boats or canoes. Fishing is permitted along the seawall.

Significant Wildlife Habitat

Mangroves, within the western portion of the park, provide habitat for several species of herons and other shoreline animals. This area is becoming increasingly popular with the birding community. In addition, several endangered and threatened animals and plants make the park their home including the gopher tortoise and the golden leather fern.

Archaeological and Historical Features

There are no known archaeological features on the property. The Tequesta Indians inhabited this general area until the arrival of Europeans, and it is possible that the park contains sites of aboriginal hunting camps.

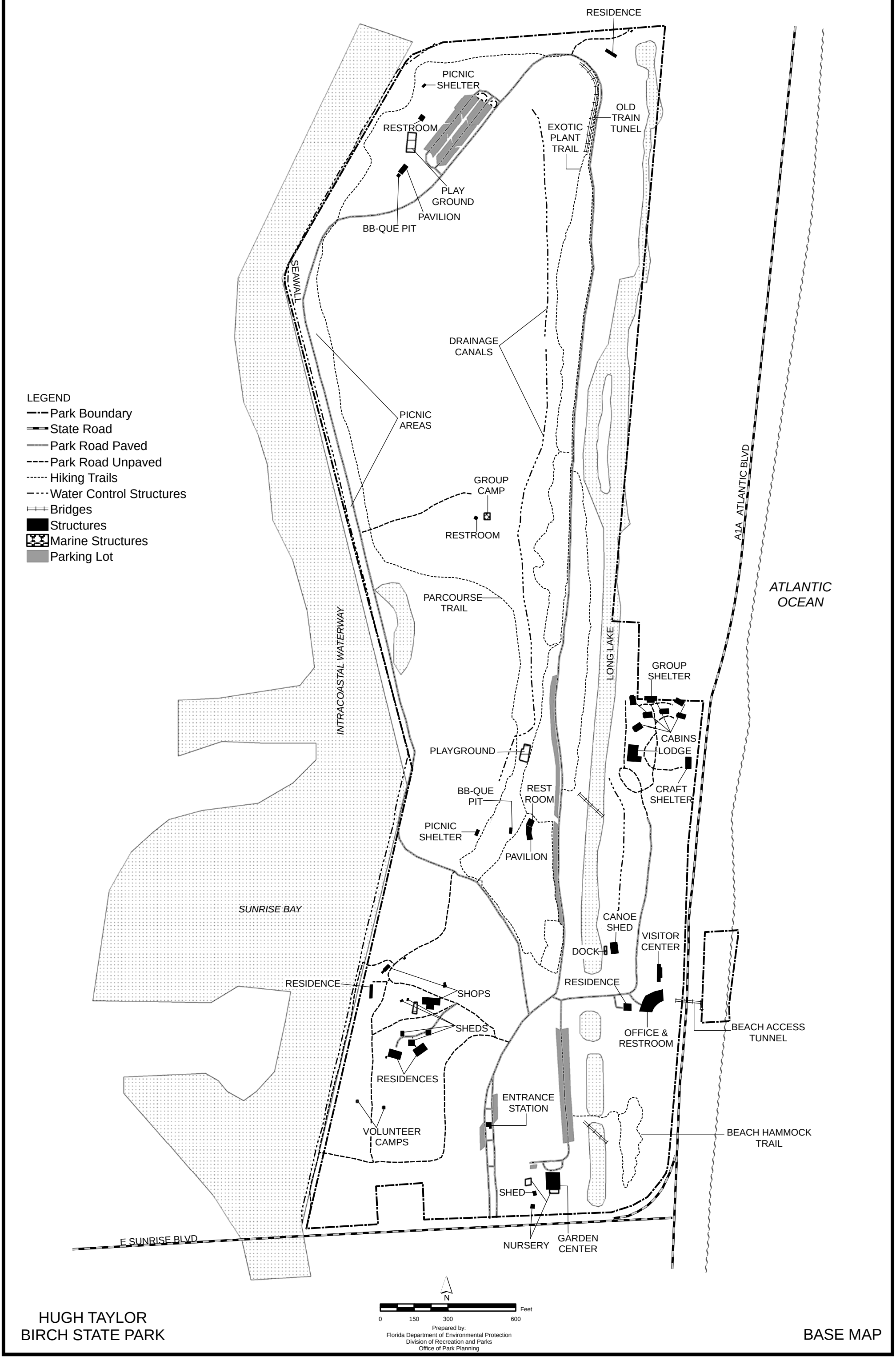
In 1893, Hugh Taylor Birch, a prominent Chicago attorney, traveled to south Florida in search of peace and tranquility. He was driven ashore during a storm at what is now the City of Ft. Lauderdale. He was impressed with the area's remote wilderness and set about acquiring a portion of this American frontier. Purchasing oceanfront property for about a dollar an acre, he eventually owned a three-and-a-half mile stretch of land along the beach. Henceforth, he spent the winters on his beachfront land where he could absorb the seascapes, enjoy a daily swim in the ocean and grow fruits and other plants. He presented 35-acres of this land to his daughter, Helen, upon her marriage to Frederic Bartlett. On this property, evolved the Bonnet House, which was deeded to the Florida Trust for Historic Preservation and today is listed on the National Register of Historic Places. In 1940, at age 90, Mr. Birch built his last home less than half a mile north of the Bonnet House. He called his 180-acre estate Terramar, "land to sea". Wishing to preserve his subtropical paradise from the development that was springing up all around it, Birch donated this estate for use as a public park, which opened to the public in 1949. The most significant historical features within Hugh Taylor Birch State Park are the Birch House and the grounds keeper's residence. The Birch House has been renovated for use as the Terramar Visitor Center, and the grounds keeper's residence is being used as 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

Before State ownership, the park property was owned by Mr. Hugh Taylor Birch. Upon his death, Mr. Birch donated the property to the State in March 1942, to be used as a public park,



HUGH TAYLOR BIRCH STATE PARK

BASE MAP

operated by the State of Florida.

Recreational Uses

Beach activities such as sunbathing and swimming in the Atlantic Ocean are popular along the short section of beachfront property; however, the area west of Highway A-1-A offers a greater variety of recreational pursuits. One self-guided nature trail takes visitors through the maritime hammock, highlighting plants and historical information. Another self-guided trail introduces visitors to many of the park's non-invasive exotic plants planted by Mr. Birch. Ranger-led walks are conducted seasonally and by special request for groups. The park may also be explored by bicycle or roller skates on the 2-mile scenic park road or on foot along the 1.7-mile exercise course. Several shaded picnic areas with playground equipment, pavilions and barbecue grills are conveniently located close to parking throughout the park. Canoes may be rented at the park entrance for short trips on the lagoon. Fishing is only permitted in the Intracoastal Waterway. The Birch House serves as the Terramar Visitor Center and offers exhibits that interpret the natural and cultural history of the park and south Florida. A short video orients visitors to the park and its facilities.

The recently renovated Elk's Group Camp is available for organized groups of up to 68 people. Reservations are required for these facilities, which include six cabins, an air-conditioned meeting/dining hall with a fully equipped kitchen, and a craft shelter. In addition, a primitive camp for tent camping is available to groups by reservation.

Other Uses

A small strip of beach on the Atlantic side of Highway A-1-A is managed under contract by the City of Fort Lauderdale. This heavily used urban bathing beach is frequently raked to remove trash and debris. The City provides a lifeguard for this portion of beach in exchange for public use of the park restroom at the west end of the beach access tunnel.

A small area in the southern portion of the park has been sub-leased to the Federated Garden Circles of Fort Lauderdale, Inc., a local garden club. The club operates the Glenn F. Bates Garden Center. During scheduled events, this facility is available to the public.

The park also hosts Camp Live Oak, an environmental day camp for children. Camp sessions run the entire summer and when the local schools experience their spring and winter breaks.

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 lakes 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 at Hugh Taylor Birch State Park:

Recreation Facilities

Trails
- Parcourse (1.7-mile exercise trail)
- Exotic Plant Trail (900 ft.)
- Beach Hammock Nature Trail (1500 ft.)

Main Picnic Area
- Large Picnic Shelter (2)
- Small Picnic Shelter (1)
- Playground
- Barbecue Pit
- Restroom

North End Picnic Area
- Large Picnic Shelter (1)
- Small Picnic Shelter (1)
- Playground
- Barbecue Pit
- Restroom

Terramar Visitor Center

Long Lake
- Canoe Launch
- Storage Shed/Activity Shelter

Elk's Group Camp
- Elk Lodge Dining/Meeting Hall
- Cabins (6)
- Craft Shelter

Primitive Group Camp
- Composting Toilet
- Outdoor Shower
- Large Campfire Ring

Support Facilities

Ranger Station

Park Administration Office

Shop Area
- Shop Building
- Paint Shed
- Carpentry Shed
- Chemical Shed
- Nursery

Residences (5)

Parking Lots
- Main Picnic Area (86 vehicles)
- North End Picnic Area (88 vehicles)
- Beach and Garden Center Parking Area (80 vehicles)

Roads
- Park Road (2 miles)
- Service Roads (1 mile)

Glenn F. Bates Garden Center

Other Facilities
- Beach Restrooms
- Beach Access Tunnel (150 ft.)
- Trestle Bridges (2)
- Old train tunnel (600 ft., closed off)

CONCEPTUAL LAND USE PLAN

The following narrative represents the current conceptual land use proposal for this park. As new information is provided regarding the environment of the park, cultural resources, recreational use, and as new land is acquired, the conceptual land use plan may be amended to address the new conditions (see Conceptual Land Use Plan). A detailed development plan for

HUGH TAYLOR BIRCH STATE PARK

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400 0 400 800 Feet

CONCEPTUAL LAND USE PLAN

the park and a site plan for specific facilities will be developed based on this conceptual land use plan, as funding becomes available.

During the development of the unit management plan, the Division assesses potential impacts of proposed uses on the resources of the property. Uses that could result in unacceptable impacts are not included in the conceptual land use plan. Potential impacts are more thoroughly identified and assessed through the site planning process once funding is available for the development project. At that stage, design elements, such as sewage disposal and stormwater management, and design constraints, such as designated species or cultural site locations, are more thoroughly investigated. Advanced wastewater treatment or best available technology systems are applied for on-site sewage disposal. Stormwater management systems are designed to minimize impervious surfaces to the greatest extent feasible, and all facilities are designed and constructed using best management practices to avoid impacts and to mitigate those that cannot be avoided. Federal, state and local permit and regulatory requirements are met by the final design of the projects. 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, the park staff monitors conditions to ensure that impacts remain within acceptable levels.

Potential Uses and Proposed Facilities

The existing recreational activities provided to the public at Hugh Taylor Birch State Park are appropriate and should be continued. As with all of the older units of the state park system, improvements to park facilities and infrastructure are needed for the Division to fulfill its responsibilities of providing outdoor recreation and protecting and enhancing the natural and cultural resources of the park. A variety of renovations, replacements, and other improvements are recommended by this plan as well as enhancing the interpretive/educational programming.

Recreation Facilities

Environmental Education and Interpretation Facilities. The education of recreational users will become an important issue for Hugh Taylor Birch State Park as population pressure continues to bring large numbers of visitors to the park. Environmental stewardship issues, therefore, need to be brought to the attention of the park's recreational users to balance recreation with protection and management of the park's natural and cultural resources. Toward this end, a system of environmental education and interpretation facilities is recommended for Hugh Taylor Birch State Park.

Static interpretive displays are recommended at each trailhead and use area to inform visitors about park resources and management activities. For example, displays explaining the wetland restoration efforts would be provided at the mitigation areas, while information regarding the endangered *Beach jacquemontia* and the sensitivity of its habitat would be located at the Garden Center parking area, and aquatic fauna and submerged natural communities protection would be highlighted at the park's canoe launch and lake areas.

In order to develop the full potential for interpretation at the park and provide additional education opportunities, improvements are proposed for the Terramar Visitor Center. Recommendations include changing/updating the static displays within the visitor center to be more interactive and upgrading the audiovisual equipment to share more up-to-date information. While it is recommended that the displays focus on environmental and educational issues, the visitor center will continue to provide information about the history of the property. Facilities should be designed to allow for learning by the casual visitor or

through structured staff-led interpretive programs.

Educational programs should be developed for student groups with a mix of classroom and hands-on field experiences, which might include actively participating in restoration and monitoring projects. Program development could be integrated with local school curricula to encourage participation by school groups throughout the school year. During the summer, this facility would be available for environmental camps for children.

The adjacent canoe storage shelter should be renovated to host the hands-on environmental activities. A portion of this building is currently used for group activities and should be further adapted to include a field laboratory to take advantage of that established feature in the park and provide meeting space for groups of 20 to 30 students or program participants.

Other facilities within the park are already being renovated, in part, to support the new educational programming focus at the Birch House. Within the Elk's Group Camp, the six cabins have been remodeled to include restrooms and air conditioning and can provide some lodging for those participating in the proposed educational activities. And, the kitchen in the Elk Lodge has been renovated and major appliances replaced. The former bathhouse is no longer needed and should be replaced by an open-air classroom facility. The craft shelter will be utilized once additional program needs are identified.

Observation Platforms at Restoration Area. The estuarine swamp mitigation areas are already attracting a variety of waterbirds and thus bird watchers. In an effort to provide high-quality bird watching opportunities as well as interpreting the restoration efforts at the park, two observation platforms are recommended to view the project area. One platform should be located along the hiking trail near the northern picnic area and a second platform should be placed on top of the tall mound to get a different perspective.

Trail System. Two trestle bridges that cross the lagoons remain from the days the park offered train rides around the property. These abandoned bridges appear structurally sound and would provide a great enhancement to the trail system and interpretive/educational programming. Incorporating the bridges into the trail system will require additional investigation on how to design a safe, accessible boardwalk along the length of each bridge.

A portion of the trail system north of the main picnic area can become flooded following heavy rain. Measures should be taken to alleviate the effects of this flooding.

Picnic Area Improvements. The facilities in the picnic areas are old and some are in need of replacement. Both picnic area restrooms should be replaced with new medium-sized restrooms. In the main picnic area, one additional large shelter and two medium-sized shelters are proposed. In the northern picnic area, both shelters should be replaced and an additional large shelter should be constructed.

Seawall Enhancements. Upon completion of the project to stabilize the seawall with rip-rap, the Division of Recreation and Parks will consider providing a boater access dock and a fishing platform along the seawall. The access dock would allow visitors to access the park by the popular water taxi that travels the Intracoastal Waterway in Fort Lauderdale. The preferred location is immediately south of where the park road turns away from the seawall. Associated facilities would include a waiting shelter and an interpretive kiosk. The best location for a fishing platform would be at one of the tidal creek culverts.

Interpretive Program Seating. Seating for 30 to 40 individuals is recommended at the south end of Long Lake near the existing canoe shed to support future interpretive and environmental education programs.

Support Facilities

Shop Area Improvements. The shop area needs a total overhaul. The existing structures are old and in poor condition. Recommended improvements include a new shop building with office space, break room, and staff restroom; 4-bay equipment shelter; and a flammable storage building.

Park Road Enhancements. The 2-mile looped park drive is quite popular with local joggers, in-line skaters and bicyclists; however, the road is too narrow to allow vehicles to pass these visitors. Widening the road to include a bike lane is only possible for a portion of the route. This would not be practical along the eastern side of the loop due to the many native trees in close proximity to the road. In these areas, it is recommended that occasional pull-offs be established. These pull-offs could serve the dual purpose of providing interpretive stations as well as offering a safe space for the non-vehicular traffic to avoid motorized traffic.

Facilities Development

Preliminary cost estimates for the following list of proposed facilities are provided in Addendum 6. These cost estimates are based on the most cost-effective construction standards available at this time. The preliminary estimates are provided to assist the Division in budgeting future park improvements, and may be revised as more information is collected through the planning and design processes.

Recreation Facilities

Trails
- Renovate Trestle Bridges (2)
- Observation Platforms (2)
- Interpretive Signs (10)

Main Picnic Area
- Large Picnic Shelter (1)
- Medium Picnic Shelters (2)
- Restroom (medium-sized)

North End Picnic Area
- Large Picnic Shelters (2)
- Small Picnic Shelter (1)
- Restroom (medium-sized)

Terramar Visitor Center Improvements
- Exhibit Upgrades
- Audiovisual Equipment

Long Lake
- Storage Shed/Field Laboratory
- Interpretive Program Seating (30 people)

Elk's Group Camp
- Open-Air Classroom Facility

Seawall Enhancements
- Access Dock
- Fishing Platform

Support Facilities

Shop Area
- Shop Building
- Equipment Shelter – 4 bay
- Flammable Storage Building

Roads
- Pull-Offs (5)

Existing Use and Optimum Carrying Capacity

Carrying capacity is an estimate of the number of users a recreation resource or facility can accommodate and still provide a high quality recreational experience and preserve the natural

values of the site. The carrying capacity of a unit is determined by identifying the land and water requirements for each recreation activity at the unit, and then applying these requirements to the unit's land and water base. Next, guidelines are applied which estimate the physical capacity of the unit's natural communities to withstand recreational uses without significant degradation. This analysis identifies a range within which the carrying capacity most appropriate to the specific activity, the activity site and the unit's classification is selected (see Table 1).

The optimum carrying capacity for this park is a preliminary estimate of the number of users the unit could accommodate after the current conceptual development program has been implemented. When developed, the proposed new facilities would approximately increase the unit's carrying capacity as shown in Table 1.

Table 1 Existing Use And Optimum Carrying Capacity

	Existing Capacity		Proposed Additional Capacity		Estimated Optimum Capacity	
Activity/Facility	**One Time**	**Daily**	**One Time**	**Daily**	**One Time**	**Daily**
Trails						
Nature	20	80			20	80
Fitness	20	80			20	80
Bicycle/Roller Skate (on park drive)	40	160			40	160
Picnicking	522	1,044			522	1,044
Beach Use	875	1,750			875	1,750
Canoeing/Kayaking	20	40			20	40
Camping						
Primitive	30	30			30	30
Group	68	68			68	68
Fishing	25	50			25	50
Terramar - Birch House	30	60			30	60
Interpretive Programs			30	60	30	60
TOTAL	**1,650**	**3,362**	**30**	**60**	**1,680**	**3,422**

Optimum Boundary

As additional needs are identified through park use, development, research, and as adjacent land uses change on private properties, modification of the unit's optimum boundary may occur for the enhancement of natural and cultural resources, recreational values and management efficiency.

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

Addendum 1—Acquisition History

Sequence Of Acquisition

On December 31, 1941, through a donation, the Florida Board of Forestry and Parks (FBFP) obtained title to the property that became Hugh Taylor Birch State Park. Since the initial acquisition, no additional lands have been added to Hugh Taylor Birch State Park.

Title Interest

The Board of Trustees of the Internal Improvement Trust Fund (Trustees) hold fee simple title to Hugh Taylor Birch State Park.

Lease Agreement

On September 28, 1967, the Division of Recreation and Parks (Division), conveyed title to Hugh Taylor Birch State Park to the Trustees. In 1968, the Trustees conveyed management authority of Hugh Taylor Birch State Park to the Division under Lease No. 2324. In 1988, the Trustees assigned a new lease number to Hugh Taylor Birch State Reaction Area without making any changes to the terms and conditions of Lease No. 2324. Hence, the Division presently manages the recreation area under Lease No. 3624, and the lease will expire on January 23, 2067.

Special Conditions On Use

In accordance with the Trustees lease, the property must be used for public outdoor recreation and related purposes. 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) are not consistent with this plan or the management purposes of the park.

Outstanding Reservations

Instrument: Special Warranty Deed
Instrument Holder: Hugh Taylor Birch
Beginning Date: December 31, 1941
Ending Date: No ending date is given.
Outstanding Rights, Uses, Etc.: The warranty deed is subject to easements granted by Hugh Taylor Birch to the United States of America on December 14, 1931; April 5, 1935; January 2, 1939; and November 25, 1940.

Instrument: Deed
Instrument Holder: Hugh Taylor Birch
Beginning Date: December 31, 1941
Ending Date: No ending date is given.
Outstanding Rights, Uses, Etc.: In the event the said property ceases to be used for the purposes stated in the deed for any continuous period of one year, the title shall revert to and become part of the corpus of the estate of the grantor.

The Honorable Kristin Jacobs, Mayor
Broward County Board of County Commissioners
115 South Andrews Avenue
Ft. Lauderdale, Florida 33301

Represented by:
Linda Briggs
Broward County Parks and Recreation
950 Northwest 38th Street
Oakland Park, Florida 33309

The Honorable Jim Naugle, Mayor
City of Ft. Lauderdale
100 North Andrews Avenue
Ft. Lauderdale, Florida 33301

Also, send to:
Terry Rynard
1350 West Broward
Ft. Lauderdale, Florida 33312

Mr. Jim Gibson, Park Manager
Hugh Taylor Birch State Park
3109 East Sunrise Boulevard
Ft. Lauderdale, Florida 33304

Mr. David Crane, Manager
Everglades District
Florida Division of Forestry
3315 Southwest College Avenue
Davie, Florida 33314

Mr. Ricardo Zambrano
Non-Game Wildlife Biologist
South Region
Florida Fish and Wildlife Conservation Commission
8535 Northlake Boulevard
West Palm Beach, Florida 33412

Mr. Henry Graham, Chair
Broward County Soil and Water Conservation District
2525 Raleigh Street
Hollywood, Florida 33020

Ms. Clare Singer, President
Friends of Birch State Park
917 Northeast 29th Drive
Wilton Manors, Florida 33334

Mr. Graf Carlson, President
South Broward Wheelers
1290 East Oakland Park Boulevard
Suite 200
Ft. Lauderdale, Florida 33334

Ken Evans, Director
Camp Live Oak
4624 Sea Grape Drive
Ft. Lauderdale, Florida 33308

Mr. Harold Hancock, Club Chair
C/o Ms. Loren Colburn, Vice Chair
Broward Sierra Club
600 Southwest 13th Street
Ft. Lauderdale, Florida 33315

Mr. Barry N. Heimlich, President
Broward County Audubon Society
3650 North 36th Avenue, #55
Hollywood, Florida 33021

Mr. Joe Holland
1919 Northeast 32nd Avenue
Ft. Lauderdale, Florida 33305

The Advisory Group meeting to review the proposed land management plan for Hugh Taylor Birch State Park was held at the Glenn F. Bates Garden Center within the state park on December 7, 2005 at 9AM. Commissioner Kristin Jacobs (Broward County) was represented by Linda Briggs. Harold Hancock (Sierra Club) was represented by Loren Colburn. David Crane (Division of Forestry) sent written comments. Henry Graham (Broward County Soil and Water Conservation District) and Graf Carlson (South Broward Wheelers) did not attend. All other appointed Advisory Group members were present. Attending staff were Jim Gibson, George Jones, Paul Rice, Ernie Cowan, Ron Bogner, Russ Mapp and Brian Burket.

Mr. Burket began the meeting by explaining the purpose of the Advisory Group and reviewing the meeting agenda. He provided a brief overview of the Division's planning process and summarized public comments received during the previous evening's public workshop. He then asked each member of the advisory group to express his or her comments on the plan.

Summary of Advisory Group Comments

Ricardo Zambrano (Florida Fish and Wildlife Conservation Commission) requested that the management plan contain more information about the gopher tortoises in the park and the management efforts to protect them. Jim Gibson replied that there is a project to thin the area where the tortoises are known to live. Mr. Zambrano also requested that the plan include a list of the butterfly species found in the park and recommended that the park manage for a diversity of butterflies as they can draw a new user group. Barry Heimlich recommended seeking help from a local butterfly organization to compile the list.

Barry Heimlich (Audubon Society) expressed support for an observation platform at the restoration area and suggested that a small boardwalk be considered as well. After rip-rap is placed in front of the seawall, he recommends constructing a fishing platform on top of the seawall to support fishing at the park. He also supported widening the road, where possible, to improve its safe use by recreational users and suggested incorporating "pinch points" in the road to reduce vehicular speeds. He remarked how very important the large ficus tree in the picnic area is to warblers and songbirds and thus appreciated by birders. He mentioned the importance of the maritime hammock. He then asked if it was possible to create habitat for shorebirds in the park since there is a shortage of this habitat in Broward County. Ernie Cowan said he would consider this idea. The challenge would be keeping the mangroves from overtaking the area thus rendering them unsuitable to shorebirds. Mr. Heimlich then discussed the potential of the successful mitigation project at the park to result in future projects here and elsewhere. He proposed scientific follow-up studies of the birdlife, marine life and other wildlife that utilize the mangrove tidal area. He suggested that censuses be taken at least 4 times per year of species and numbers in the mangrove area for at least several years to quantify the impact of the project on wildlife populations. He recommended working with Broward County and South Florida Water Management District to educate neighbors about reducing phosphorus runoff into the park's lagoon system. He also stated that adding rip-rap to the seawall should be considered a major boating improvement and suggested that the park's Citizen Support Organization approach the boating community about helping finance the project. A list of bird observations were later provided to the park by Wally George, former member of Broward Audubon, to help update the park's species list found in the management plan.

Linda Briggs (Broward County) requested that more information be provided in the management plan about the progress and success of the restoration project. She cautioned that the Royal Palm in the park might not be of the native variety. She asked that Roseate Spoonbill be added to the list of designated species. She requested an expanded discussion of the management of Beach jacquemontia in the plan. She pointed out that some of the scientific names of the plants listed in the plan have changed. She said the estimated cost for fencing the park boundary seemed low. In addition, she liked the recommendation for providing observation platforms at the restoration area.

Loren Colburn (Sierra Club) stated her support of the proposed observation platforms and expressed her appreciation with the overall management of the park.

Ken Evans (Camp Live Oak) also stated his approval of the proposed observation platforms. He expressed concern about the current condition and use of the Terramar Visitor Center but was pleased to see these issues addressed in the management plan. He voiced his interest in helping with the proposed renovations/upgrades to the exhibits and programs at the visitor center as well as the layout of new facilities in the picnic areas. He recommended interpretive seating near pavilions 1 & 2 in the picnic area to support interpretive and environmental education programming.

Joe Holland (adjacent landowner) stated that the "High Residential" land use designation for the area north and east of the state park has been changed from "up to 60" to "up to 48 dwelling units per acre." He then expressed concern about the park drive road shoulders. Since repaving, there is a significant drop-off at the edge of pavement, which creates dangerous situation for bicyclists trying to avoid motorized traffic on this narrow road. Jim Gibson said the park would look into building up shoulder with sod, mulch, or other material to address this problem. Mr. Holland suggested building a multi-level observation platform overlooking the restoration area or providing a viewing platform on top of the mound. He also recommended that telescopes be provided at the Terramar Visitor Center. He asked if the cost of rip-rap could be shared with the Army Corps of Engineers. George Jones said the seawall is the responsibility of the park but viable funding sources could be found to help pay for the rip-rap. Mr. Holland then took a moment to recognize Mayor Kristin Jacobs for the development of the NatureScape Broward program.

Mayor Jim Naugle (City of Ft. Lauderdale) expressed the City's support for removing exotics from the park, adding rip-rap to the seawall, and maintaining the pedestrian entrance at the north gate. He suggested that the Division of Recreation and Parks consider providing boater access in the southern portion of the park. He offered the City's help to distribute information to park neighbors regarding stormwater runoff. He stated that the City would like to continue the current beach management agreement. In addition, he cautioned that widening the park road could lead to faster vehicular speeds.

Jim Gibson (Division of Recreation and Parks, Hugh Taylor Birch State Park) thanked the advisory group for their comments and support. He agreed that the beach management agreement with the City is working well and would like to continue. He suggested that the Citizen Support Organization could pursue grant funding for the many of the projects discussed in the plan.

George Jones (Division of Recreation and Parks, District 5) thanked the City for its support with difficult management issues, particularly exotic removals and handling the raccoon problem. He also expressed his appreciation for the productive, beach management agreement with the City. He said positive support and cooperation from other agencies and the public goes a long way for gaining political support and thus funding for park projects.

Summary of Written Comments

David Crane (Florida Division of Forestry) commented that he supports the proposed plan. As stated within the plan, there is no prescribed burning currently proposed for the park. The Division of Forestry will continue to coordinate wildfire suppression activities with the Park Manager.

Staff Recommendations

The staff recommends approval of the proposed management plan for Hugh Taylor Birch State Park as presented with the following changes:

Monitoring Plan. The park will have a monitoring plan for the created tidal swamp in place by January 1, 2006 and staff will begin collecting data before the end of January.

Observation Platforms. An observation platform at the top of the mound is recommended as well as one platform off the hiking trail near the northern picnic area. A short boardwalk into the mangroves was considered, but due to the density of the mangroves, it is not recommended at this time.

Seawall Enhancements. Upon completion of the project to stabilize the seawall with rip-rap, the Division of Recreation and Parks will consider providing a boater access dock and a fishing platform along the seawall. The access dock would allow visitors to access the park by the popular water taxi that travels the Intracoastal Waterway in Fort Lauderdale. The preferred location is immediately south of where the park road turns away from the seawall. Associated facilities would include a waiting shelter and an interpretive kiosk. The best location for a fishing platform would be at one of the tidal creek culverts.

Interpretive Program Seating. Seating for 30 to 40 individuals is recommended at the south end of Long Lake near the existing canoe shed to support future interpretive and environmental education programs.

Partnership with Garden Center. Park staff will pursue opportunities for a future partnership with the Garden Club for public access to their gardens and butterfly observation.

Addendum 2—References Cited

Bureau of Economic and Business Research (BEBR), University of Florida. 2004. Florida Statistical Abstract 2004. Gainesville, Florida.

Fort Lauderdale. 2005. The City of Fort Lauderdale Comprehensive Plan 2005. Broward County, Florida.

Florida Department of Environmental Protection. 2005. Florida State Park System Economic Impact Assessment for Fiscal Year 2004/2005. Tallahassee, Florida.

Puri, H. S., and R. O. Vernon. 1964. Summary of the geology of Florida and a guidebook to the classic exposures. Fla. Geol. Surv. Tallahassee, FL.

USDA. 1984. Soil survey of Broward County, Florida, Eastern Part. U.S. Dept. Agricul., U.S. Govt. Print. Off.

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Addendum 3—Soils Descriptions

As classified in the General Soil Map, "Broward County, Florida, Eastern Part," 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.

Addendum 4—Plant And Animal List

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Pteridophytes		
Swamp fern	*Blechnum serrulatum*	
Boston fern	*Nephrolepis cordifolia* *	
Boston fern	*Nephrolepis exaltata* *	
Boston fern	*Nephrolepis multiflora* *	
Golden polypody	*Phlebodium aureum*	
Whisk fern	*Psilotum nudum*	
Golden leather fern	*Acrostichum aureum*	7
Giant leather fern	*Acrostichum danaeifolium*	7
Bracken fern	*Pteridium aquilinum var. caudatum*	
Shoestring fern	*Vittaria lineata*	
Angiosperms - Monocots		
False sisal	*Agave decipiens*	
Bowstring hemp	*Sansevieria hyacinthoides* *	
Spanish bayonet	*Yucca aloifolia*	
Spider lily	*Hymenocallis latifolia*	
Coconut palm	*Cocos nucifera* *	
Cabbage palm	*Sabal palmetto*	
Saw palmetto	*Serenoa repens*	
Senegal date palm	*Phoenix reclinata* *	
Florida thatch palm	*Thrinax radiata*	
Common wild pine	*Tillandsia fasciculata*	epiphyte
Ball moss	*Tillandsia recurvata*	
Spanish-moss	*Tillandsia usneoides*	
Giant wild pine	*Tillandsia utriculata*	epiphyte
Dayflower	*Commelina diffusa*	
Dayflower	*Commelina erecta var. augustifolia*	
Beach star	*Remirea maritima*	1
Umbrella sedge	*Cyperus planifolius*	
Asparagus fern	*Asparagus densiflorus* *	
Toothed habenaria	*Habenaria floribunda*	
African ground orchid	*Oeceoclades maculata* *	
Carpetgrass	*Axonopus affinis*	
Southern sandbur	*Cenchrus echinatus*	
Coastal sandbur	*Cenhrus incertus*	
Sandspur	*Cenchrus tribuloides*	
Egyptian grass	*Dactyloctenium aegyptium* *	
Finger grass	*Eustachys petraea*	
Guniea grass	*Panicum maximum* *	
Panic grass	*Panicum portoricense*	
Seashore paspalum	*Paspalum distichum*	

*** Non-native Species**

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Salt joint grass	*Paspalum setaceum*	
Foxtail grass	*Setaria macrosperma*	
Saltmeadow cordgrass	*Spartina patens*	
Dropseed	*Sporobolus indicus var. indicus* *	
Sea oats	*Uniola paniculata*	
Greenbrier	*Smilax auriculata*	
Bamboo vine	*Smilax laurifolia*	
Angiosperms - Dicots		
Sea purslane	*Sesuvium portulacastrum*	
Chaff flower	*Alternanthera flavescens*	
Chaff flower	*Alternanthera maritima*	
Notch-leaved amaranth	*Amaranthus lividus* *	
Samphire	*Blutaparon vermiculare*	
Bloodleaf	*Iresine diffusa*	
Poisonwood	*Metopium toxiferum*	
Brazilian pepper	*Schinus terebinthifolius* *	
Poison ivy	*Toxicodendron radicans*	
Pond apple	*Annona glabra*	
Madagascar periwinkle	*Catharanthus roseus**	
Devil's potato	*Echites umbellata*	
Oleander	*Nerium oleander* *	
Milkweed vine	*Sarcostemma clausum**	
Common ragweed	*Ambrosia artemisiifolia*	
Salt bush	*Baccharis halimifolia*	
Spanish needle	*Bidens alba var. radiata*	
Sea oxeye	*Borrichia frutescens*	
Tasselflower	*Emilia fosbergii* *	
Dog fennel	*Eupatorium aromaticum*	
Dog fennel	*Eupatorium capillifolium*	
Rabbit tobacco	*Gnaphalium obtusifolium*	
Cudweed	*Gnaphalium purpureum var. falcatum*	
Beach sunflower	*Helianthus debilis var. debilis*	
Beach elder	*Iva imbricata*	
Marsh elder	*Melanthera nivea*	
	Melanthera parvifolia	
Hemp vine	*Mikania cordifolia*	
Goldenrod	*Solidago chapmanii*	
Frostweed	*Verbesina virginica*	
Wedelia	*Wedelia trilobata* *	
Black mangrove	*Avicennia germinans*	
Black calabash	*Amphitecna latifolia* *	
Sea lavender	*Argusia gnaphalodes*	1

*** Non-native Species**

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Scorpion tail	*Heliotropium angiospermun*	
Pineland heliotrope	*Heliotropium polyphyllum*	
Sea rocket	*Cakile edentula*	
Peppergrass	*Lepidium virginicum*	
Gumbo limbo	*Bursera simaruba*	
Barb-wire cactus	*Acanthocereus tetragonus*	3, 5, 7
Prickly pear cactus	*Opuntia humifusa*	
Prickly pear cactus	*Opuntia stricta*	3, 5
Jamaica caper	*Capparis cynophallophora*	
Limber caper	*Capparis flexuosa*	
Southern elderberry	*Sambucus canadensis*	
Papaya	*Carica papaya* *	
Australian pine	*Casuarina equisetifolia* *	
Woody glasswort	*Salicornia perennis*	
	Salsola kali ssp. pontice *	
Sea blite	*Suaeda linearis*	
Cocoplum	*Chrysobalanus icaco*	
Rock-rose	*Helianthemum corymbosum*	
Buttonwood	*Conocarpus erecta*	
White mangrove	*Languncularia racemosa*	
Moon-flower	*Ipomoea alba*	
Morning glory	*Ipomoea indica var. acuminata*	
Railroad vine	*Ipomoea pes-caprae ssp. brasiliensis*	
Life plant	*Kalanchoe pinnata* *	
Creeping cucumber	*Melothria pendula*	
Wild balsam apple	*Momordica charantia* *	
Persimmon	*Diospyros virginiana*	
Highbush blueberry	*Vaccinium corymbosum*	
Bishopwood	*Bischofia javanica* *	
Sand dune spurge	*Chamaesyce bombensis*	
Pillpod sandmat	*Chamaesyce hirta*	
Seaside spurge	*Chamaesyce mesembryanthemifolia*	
Stinging nettle	*Cnidoscolus stimulosus*	
Croton	*Croton glandulosus var. glandulosus*	
Beach croton	*Croton punctatus*	
Milkbark	*Drypetes diversifolia*	
Guiana plum	*Drypetes lateriflora*	
	Phyllanthus abnormis	
	Phyllanthus amarus	
	Phyllanthus tenellus *	
Hairy crabweed	*Phyllanthus urinaria* *	
Wild poinsettia	*Poinsettia cyathophora*	
Fiddler's spurge	*Poinsettia heterophylla*	
Rosary pea	*Abrus precatorius* *	

*** Non-native Species**

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Earleaf acacia	*Acacia auriculiformis* *	
Yellow nicker-bean	*Caesalpinia bonduc*	
Bay-bean	*Canavalia rosea*	
	Chaemecrista nictitans var. aspera	
Coin vine	*Dalbergia ecastophyllum*	
Royal poinciana	*Delonix regia* *	
Coral bean	*Erythrina herbacea*	
Milk pea	*Galactia macreei*	
Blackbead	*Pithecellobium keyense*	
Brown haired snoutbean	*Rhynchosia cinerea*	
Necklace-pod	*Sophora tomentosa*	
Cow-pea	*Vigna luteola*	
Live oak	*Quercus virginiana*	
Inkberry	*Scaevola plumieri*	1
Beach naupaka	*Scaevola sericea* *	
St. Andrew's cross	*Hypericum hypericoides*	
Blue curls	*Trichostema suffrutescens*	
Love vine	*Cassytha filiformis*	
Lancewood	*Ocotea coriacea*	
Redbay	*Persea borbonia var. borbonia*	
Poor man's patch	*Mentzelia floridana*	
Rustweed	*Polypremum procumbens*	
Broomweed	*Sida acuta*	
	Sida elliottii	
Indian hemp	*Sida rhombifolia*	
Seaside mahoe	*Thespesia populnea* *	
Chinaberry	*Melia azedarach* *	
Strangler fig	*Ficus aurea*	
Red mulberry	*Morus rubra*	
Wax myrtle	*Myrica cerifera*	
Marlberry	*Ardisia escallonioides*	
Myrsine	*Myrsine floridana*	
White stopper	*Eugenia axillaris*	
Spanish stopper	*Eugenia foetida*	
Surinam cherry	*Eugenia uniflora* *	
Guava	*Psidium guajava* *	
Java plum	*Syzygium cumini* *	
Blolly	*Guapira discolor*	
Beach peanut	*Okenia hypogaea*	1
Cockspur	*Pisonia aculeata*	
Gulf graytwig	*Schoepfia chrysophylloides*	
Hog-plum	*Ximenia americana*	
Florida privet	*Foresteria segregata*	
Seaside evening primrose	*Oenothera humifusa*	

*** Non-native Species**

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Lady's sorrel	*Oxalis corniculata*	
Corky-stemmed passionflower	*Passiflora suberosa*	
Guinea-hen weed	*Petiveria alliacea*	
Pokeweed	*Phytolacca americana*	
Rougeberry	*Rivina humilis*	
Milkwort	*Polygala grandiflora*	
Pigeon plum	*Coccoloba diversifolia*	
Sea plum	*Coccoloba diversifolia x Coccoloba uvifera*	
Seagrape	*Coccoloba uvifera*	
Pink purslane	*Portulaca pilosa*	
Lather leaf	*Colubrina asiatica* *	
Black ironwood	*Krugiodendron ferreum*	
Red mangrove	*Rhizophora mangle*	
Loquat	*Eriobotrya japonica* *	
Snowberry	*Chiococca alba*	
Bedstraw	*Galium hispidulum*	
Wild coffee	*Psychotria nervosa*	
Wild coffee	*Psychotria sulzneri*	
White indigo-berry	*Randia aculeata*	
Torchwood	*Amyris elemifera*	
Hercules club	*Zanthoxylum clava-herculis*	
Wild lime	*Zanthoxylum fagara*	
Carrotwood	*Cupaniopsis anacardiopsis* *	
Inkwood	*Exothea paniculata*	
Satinleaf	*Chrysophyllum oliviforme*	7
Mastic	*Sideroxylon foetidissimum*	
Willow bustic	*Sideroxylon salicifolia*	
Tough buckhorn	*Sideroxylon tenax*	
Paradise tree	*Simarouba glauca*	
Ground cherries	*Physalis viscosa*	
Bahama nightshade	*Solanum bahamense*	
Bay-cedar	*Suriana maritima*	1
Lantana	*Lantana camara* *	
Beautyberry	*Callicarpa americana*	
Wild lantana	*Lantana involucrata*	
Creeping charlie	*Phyla nodiflora*	
Pepper vine	*Ampelopsis arborea*	
Virginia creeper	*Parthenocissus quinquefolia*	
	Vitis cinerea var. floridana	
Southern fox grape	*Vitis munsoniana*	
Muscadine grape	*Vitis rotundifolia*	
Calusa grape	*Vitis shuttleworthii*	
Puncture weed	*Tribulus cistoides* *	

*** Non-native Species**

Hugh Taylor Birch State Park

Plants

Common Name	*Scientific Name*	Primary Habitat Codes (for designated species)
Dicots - Seagrasses		
Shoal grass	*Halodule wrightii*	
Engelman's seagrass	*Halophila engelmannii*	
Johnson's seagrass	*Halophila johnsonii*	
Turtle grass	*Thalassia testudinum*	

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Invertebrates		
Florida fighting conch	*Strombus alatus*	69, 78
Queen conch	*Strombus gigas*	69, 78
Florida crown conch	*Melogones corona*	69, 78
Rigid pen shell	*Atrina rigada*	69, 77, 78
American oyster	*Crassostrea virginica*	59, 64, 69, 78
Quahog	*Merceneria* sp.	59, 69, 78
Atlantic ribbed mussel	*Geukensia demissa*	59, 64, 69, 78
Barnacle	*Balanus amphitrite*	69, 78
Horshoe crab	*Limulus polyphemus*	59, 69, 78
Honeybee	*Apis mellifera*	Throughout Uplands
Sand fly	*Phlebotomus* sp.	1, 7
Mosquito	*Culex* spp. and others	Throughout
Golden orb weaver	*Nephila clavipes*	7
Spiny orb weaver	*Gasteracantha elipsoides*	7
Pink shrimp	*Penaeus duorarum*	59, 64, 69, 77
Sand flea	*Emerita talpodia*	69, 78
Fiddler crab	*Uca minax*	64
Fiddler crab	*Uca pugilator*	64
Fiddler crab	*Uca pugnax*	64
Mangrove crab	*Aratus pisonii*	64
Great land crab	*Cardisoma guanhumii*	7, 64
Land hermit crab	*Coenobita clypeatus*	7, 64
Hermit crab	*Pagarus annulipes*	59, 64, 69, 78
Striped hermit crab	*Clibinarius vittatus*	59, 64, 69, 78
Blue crab	*Callinecties sapidus*	59, 64, 69, 77, 78
Speckled crab	*Arenaeus cribrarius*	59, 64, 69, 77, 78
Stone crab	*Menippe mercenaria*	59, 64, 69, 77, 78
Ghost crab	*Ocypode quadrata*	1
Fish		
Many fish move between marine and estuarine habitats.		
Nurse shark	*Ginglymostoma cirratum*	
Bull shark	*Charcharhinus leucas*	
Blacktip shark	*Charcharhinus limbatus*	
Southern stingray	*Dasyatis americana*	
Bluntnose ray	*Dasyatis sayi*	
Ladyfish	*Elops saurus*	
Tarpon	*Megalops atlantica*	
American eel	*Anguilla rostrata*	
Scaled sardine	*Harengula jaguana*	

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Bay anchovy	*Anchoa mitchilli*	
Atlantic needlefish	*Strongylura marina*	
Redfin needlefish	*Strongylura notata*	
Marsh killifish	*Fundulus confluentus*	
Gulf killifish	*Fundulus grandis*	
Dusky pipefish	*Syngnathus floridae*	
Gulf pipefish	*Syngnathus scovelli*	
Snook	*Centropomus undecimalis*	
Inshore lizardfish	*Synodus foetens*	
Hardhead catfish	*Arius felis*	
Bluefish	*Pomatomus saltatrix*	
Fringed filefish	*Monacanthus ciliatus*	
Planehead filefish	*Monacanthus hispidus*	
Leatherjacket	*Oligoplites sauras*	
Tripletail	*Lobotes surinamensis*	
Sailors choice	*Haemulon parrai*	
Bluestriped grunt	*Haemulon sciurus*	
Bluelip parrotfish	*Cryptotmus roseus*	
Great barracuda	*Sphyraenidae barracuda*	
Banded blenny	*Paraclinus fasciatus*	
Blackcheek tonguefish	*Symphurus plagiusa*	
Checkered puffer	*Sphoeroides testudineus*	
Striped burrfish	*Chilomycterus schoepfi*	
Crevalle jack	*Caranx hippos*	
Lookdown	*Selene vomer*	
Permit	*Trachinotus falcatus*	
Mutton snapper	*Lutjanus analis*	
Schoolmaster	*Lutjanus apodus*	
Gray snapper	*Lutjanus griseus*	
Irish pompano	*Diapterus olisthostomus*	
Striped mojarra	*Diapterus plumieri*	
Spotfin mojarra	*Eucinostomus argenteus*	
Silver jenny	*Eucinostomus gula*	
Mottled mojarra	*Eucinostomus lefroyi*	
Slender mojarra	*Eucinostomus pseudogula*	
Sheepshead	*Archosargus probatocephalus*	
Sea bream	*Archosargus probatocephalus*	
Pinfish	*Lagodon rhomboides*	
Pigfish	*Orthopristis chrysoptera*	
Spotted seatrout	*Cynoscion nebulosus*	
Red drum	*Sciaenops ocellatus*	
Striped mullet	*Mugil cephalus*	
White mullet	*Mugil curema*	
Southern flounder	*Paralichthys lethostigma*	

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Lined sole	*Arcirus lineatus*	
Amphibians		
Southern toad	*Bufo terrestris*	7
Cuban treefrog	*Osteopilus septentrionalis* *	7, 81, 82
Reptiles		
Atlantic loggerhead turtle	*Caretta caretta*	1, 69, 77, 78
Atlantic green turtle	*Chelonia mydas*	1, 69, 77, 78
Atlantic leatherback turtle	*Dermochelys coriacea*	1, 69, 77, 78
Gopher tortoise	*Gopherus polyphemus*	7
Indo-pacific gecko	*Hemidactylus garnotii* *	81
Green anole	*Anolis carolinensis*	1, 7
Cuban brown anole	*Anolis sagrei* *	1, 7
Ground skink	*Scincella lateralis*	7
Southeastern five-lined skink	*Eumeces inexpectatus*	7
Six-lined racerunner	*Cnemidophorous sexlineatus sexlineatus*	1, 7
Southern black racer	*Coluber constrictor priapus*	1, 7
Corn snake	*Elaphe guttata*	7
Yellow rat snake	*Elaphe obsoleta quadrivittata*	7
Scarlet kingsnake	*Lampropeltis triangulum elapsoides*	7
Eastern coachwhip	*Masticophis flagellum flagellum*	1, 7
Dusky pigmy rattlesnake	*Sistrurus miliarius*	7
Eastern diamondback rattlesnake	*Crotalus adamenteus*	7
Birds		
Common loon	*Gavia immer*	59, 69, 77, 78
Pied-billed grebe	*Podilymbus podiceps*	59
Brown pelican	*Pelecanus occidentalis*	59, 69, 77, 78
Double-crested cormorant	*Phalacrocorax auritus*	59, 64, 69, 77, 78
Anhinga	*Anhinga anhinga*	59, 64
Great egret	*Ardea alba*	59, 64
Great blue heron	*Ardea herodias*	59, 64
Cattle egret	*Bubulcus ibis*	64
Green heron	*Butorides virescens*	64
Little blue heron	*Egretta caerulea*	59, 64
Reddish egret	*Egretta rufescens*	59, 64
Snowy egret	*Egretta thula*	59, 64
Tricolored heron	*Egretta tricolor*	59, 64
Yellow-crowned night heron	*Nyctanassa violacea*	1, 59, 64
Black-crowned night heron	*Nycticorax nycticorax*	59, 64

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Roseate spoonbill	*Ajaia ajaja*	59, 64
White ibis	*Eudocimus albus*	59, 64
Wood stork	*Mycteria americana*	59, 64
Turkey vulture	*Cathartes aura*	Throughout
Black vulture	*Coragyps atratus*	Throughout
Lesser scaup	*Aythya affinis*	59
White-winged scoter	*Melanitta deglandi*	69, 77, 78
Surf scoter	*Melanitta perspicillata*	69, 77, 78
Red-breasted merganser	*Mergus serrator*	59
Sharp-shinned hawk	*Accipiter striatus*	Throughout Uplands
Cooper's hawk	*Accipiter cooperii*	Throughout Uplands
Red-shouldered hawk	*Buteo lineatus*	Throughout Uplands
Red-tailed hawk	*Buteo jamaicensis*	Throughout Uplands
Osprey	*Pandion haliaetus*	1, 59, 69, 77, 78
Merlin	*Falco columbarius*	Throughout Uplands
Peregrine falcon	*Falco peregrinus*	Throughout Uplands
American kestrel	*Falco sparverius*	Throughout Uplands
American coot	*Fulica americana*	59
Clapper rail	*Rallus longirostris*	64
American oystercatcher	*Haematopus palliatus*	59, 64
Semi-palmated plover	*Charadrius semipalmatus*	1, 64
Killdeer	*Charadrius vociferus*	1, 64, 81
Wilson's plover	*Charadrius wilsonia*	1, 64
Black-bellied plover	*Pluvialis squatarola*	1, 64
Ruddy turnstone	*Arenaria interpres*	1, 64
Spotted sandpiper	*Actitus macularia*	1, 64
Sanderling	*Calidris alba*	1, 64
Dunlin	*Calidris alpina*	1, 64
Western sandpiper	*Calidris mauri*	1, 64
Least sandpiper	*Calidris minutilla*	1, 64
Semi-palmated sandpiper	*Calidris pusilla*	1, 64
Short-billed dowitcher	*Limnodromus griseus*	1, 64
Willet	*Catoptrophorus semipalmatus*	1, 64
Lesser yellowlegs	*Tringa flavipes*	1, 64
Greater yellowlegs	*Tringa melanoleuca*	1, 64
Laughing gull	*Larus articulla*	1, 59, 64, 69, 77, 78
Ring-billed gull	*Larus delawarensis*	1, 59, 64, 69, 77, 78
Great black-backed gull	*Larus marinus*	1, 59, 64, 69, 77, 78
Black skimmer	*Rynchops niger*	1, 59
Least tern	*Sterna antillarum*	1, 59, 69, 77, 78
Forster's tern	*Sterna forsteri*	1, 59, 69, 77, 78
Royal tern	*Sterna maxima*	1, 59, 69, 77, 78
Sandwich tern	*Sterna sandvicensis*	1, 59, 69, 77, 78
Rock pigeon	*Columbia livia* *	Throughout Uplands

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Ground dove	*Columbina passerina*	Throughout Uplands
Mourning dove	*Zenaida macroura*	Throughout Uplands
Yellow-billed cuckoo	*Coccyzus americanus*	Throughout Uplands
Smooth-billed ani	*Crotophaga ani*	Throughout Uplands
Great horned owl	*Bubo virginianus*	Throughout Uplands
Eastern screech owl	*Megascops asio*	Throughout Uplands
Chuck-will's widow	*Caprimulgus carolinensis*	Throughout Uplands
Common nighthawk	*Chordeiles minor*	Throughout Uplands
Belted kingfisher	*Ceryle alcyon*	59, 64
Northern flicker	*Colaptes auratus*	Throughout Uplands
Pileated woodpecker	*Dryocopus pileatus*	Throughout Uplands
Red-bellied woodpecker	*Melanerpes carolinus*	Throughout Uplands
Downy woodpecker	*Picoides pubescens*	Throughout Uplands
Great-crested flycatcher	*Myiarchus crinitus*	Throughout Uplands
Eastern kingbird	*Tyrannus tyrannus*	Throughout Uplands
Barn swallow	*Hirundo rustica*	Throughout
Purple martin	*Progne subis*	Throughout
Tree swallow	*Tachycineta bicolor*	Throughout
Fish crow	*Corvus ossifragus*	Throughout
Blue jay	*Cyanocitta cristata*	Throughout Uplands
Carolina wren	*Thryothorus ludovicianus*	Throughout Uplands
House wren	*Troglodytes aedon*	Throughout Uplands
Blue-gray gnatcatcher	*Polioptila caerulea*	Throughout Uplands
American robin	*Turdus migratorius*	Throughout Uplands
Gray catbird	*Dumetella carolinensis*	Throughout Uplands
Northern mockingbird	*Mimus polyglottos*	Throughout Uplands
Brown thrasher	*Toxostoma rurum*	Throughout Uplands
European starling	*Sturnus vulgaris* *	Throughout Uplands
Black-whiskered vireo	*Vireo altiloquus*	Throughout Uplands
White-eyed vireo	*Vireo griseus*	Throughout Uplands
Red-eyed vireo	*Vireo olivaceus*	Throughout Uplands
Solitary vireo	*Vireo solitarius*	Throughout Uplands
Red-winged blackbird	*Agelaius phoeniceus*	Throughout
Northern cardinal	*Cardinalis cardinalis*	Throughout Uplands
Black-throated blue warbler	*Dendroica caerulescens*	Throughout Uplands
Yellow-rumped warbler	*Dendroica coronat*	Throughout Uplands
Prairie warbler	*Dendroica discolor*	Throughout Uplands
Yellow-throated warbler	*Dendroica dominica*	Throughout Uplands
Palm warbler	*Dendroica palmarum*	Throughout Uplands
Cape May warbler	*Dendroica tigrina*	Throughout Uplands
Common yellowthroat	*Geothylpis trichas*	Throughout Uplands
Black-and-white warbler	*Mniotilta varia*	Throughout Uplands
Northern parula	*Parula americana*	Throughout Uplands
Painted bunting	*Passerina ciris*	Throughout Uplands

*** Non-native Species**

Hugh Taylor Birch State Park

Animals

Common Name	*Scientific Name*	Primary Habitat Codes (for all species)
Boat-tailed grackle	*Quiscalus major*	Throughout
Common grackle	*Quiscalus quiscula*	Throughout
Ovenbird	*Seirus aurocapilla*	Throughout Uplands
American redstart	*Setophaga ruticalla*	Throughout Uplands
Mammals		
Opossum	*Didelphis marsupialis*	Throughout Uplands
Nine-banded armadillo	*Dasypus novemcinctus**	Throughout Uplands
Eastern cottontail	*Sylvilagus floridanus floridanus*	Throughout Uplands
Marsh rabbit	*Sylvilagus palustris*	Throughout
Gray squirrel	*Scirurus carolinensis*	Throughout
Hispid cotton rat	*Sigmodon hispidus*	Throughout
Gray fox	*Urocyon cineroargenteus*	Throughout
Raccoon	*Procyon lotor*	Throughout
Eastern spotted skunk	*Spilogale putoris*	Throughout Uplands
West Indian manatee	*Trichecus manatus latirostris*	59, 69, 77

*** Non-native Species**

Habitat Codes

Terrestrial

1 Beach Dune
2 Bluff
3 Coastal Berm
4 Coastal Rock Barren
5 Coastal Strand
6 Dry Prairie
7 Maritime Hammock
8 Mesic Flatwoods
9 Coastal Grasslands
10 Pine Rockland
11 Prairie Hammock
12 Rockland Hammock
13 Sandhill
14 Scrub
15 Scrubby Flatwoods
16 Shell Mound
17 Sinkhole
18 Slope Forest
19 Upland Glade
20 Upland Hardwood Forest
21 Upland Mixed Forest
22 Upland Pine Forest
23 Xeric Hammock

Palustrine

24 Basin Marsh
25 Basin Swamp
26 Baygall
27 Bog
28 Bottomland Forest
29 Depression Marsh
30 Dome
31 Floodplain Forest
32 Floodplain Marsh
33 Floodplain Swamp
34 Freshwater Tidal Swamp
35 Hydric Hammock
36 Marl Prairie
37 Seepage Slope
38 Slough
39 Strand Swamp
40 Swale
41 Wet Flatwoods
42 Wet Prairie

Lacustrine

43 Clastic Upland Lake
44 Coastal Dune Lake
45 Coastal Rockland Lake

Lacustrine

46 Flatwood/Prairie Lake
47 Marsh Lake
48 River Floodplain Lake
49 Sandhill Upland Lake
50 Sinkhole Lake
51 Swamp Lake

Riverine

52 Alluvial Stream
53 Blackwater Stream
54 Seepage Stream
55 Spring-Run Stream

Estuarine

56 Estuarine Composite Substrate
57 Estuarine Consolidated Substrate
58 Estuarine Coral Reef
59 Estuarine Grass Bed
60 Estuarine Mollusk Reef
61 Estuarine Octocoral Bed
62 Estuarine Sponge Bed
63 Estuarine Tidal Marsh
64 Estuarine Tidal Swamp
65 Estuarine Unconsolidated Substrate
66 Estuarine Worm Reef

Marine

67 Marine Algal Bed
68 Marine Composite Substrate
69 Marine Consolidated Substrate
70 Marine Coral Reef
71 Marine Grass Bed
72 Marine Mollusk Reef
73 Marine Octocoral Bed
74 Marine Sponge Bed
75 Marine Tidal Marsh
76 Marine Tidal Swamp
77 Marine Unconsolidated Substrate
78 Marine Worm Reef

Subterranean

79 Aquatic Cave
80 Terrestral Cave

Miscellaneous

81 Ruderal
82 Developed

MTC Many Types Of Communities

OF Overflying

Addendum 5—Designated Species List

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 Game and Freshwater Fish 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 man-made factor.
G2	=	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	=	Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction 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 and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction 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)

LEGAL STATUS

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

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.

STATE

Animals **(Listed by the Florida Fish and Wildlife Conservation Commission - FFWCC)**

LE	=	Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
LT	=	Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
LS	=	Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

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.

Hugh Taylor Birch State Park

Designated Species—Plants

Common Name/ *Scientific Name*	**Designated Species Status** FDA	USFWS	FNAI
Golden leather fern *Acrostichum aureum*	E		G5, S3
Leather fern *Acrostichum danaeifolium*	C		
Barbwire cactus *Cereus pentagonus*	E		
Satinleaf *Chrysophyllum olivaeforme*	E		
Pitch apple *Clusea rosea*	E		
Silver palm *Coccothrinax argentata*	E		G3,S2?
Butterfly orchid *Encyclia tampensis*	C		
Beach creeper *Ernodea littoralis*	T		
Beach jacquemontia *Jacquemontia reclinata*	E	E	G1,S1
Simpson's stopper *Myrcianthes fragrans*	T		
Giant sword fern *Nephrolepis biserrata*	T		
Burrowing four-o'clock *Okenia hypogaea*	E		G3,S2
Peperomia *Peperomia obtusifolia*	E		G5,S2
Beach star *Remirea maritima*	E		
Royal palm *Roystonea elata*	E		G2Q, S2
Mahogany *Swietenia mahagoni*	E		G3,G4,S2
Brittle thatch palm *Thrinax morrisii*	E		G4,G5,S3
Florida thatch palm *Thrinax radiata*	E		G4,G5,S2
Reflexed wild pine *Tillandsia balbisiana*	T		
Stiff-leaved wild pine *Tillandsia fasciculata*	E		
Banded wild pine *Tillandsia flexuosa*	E		G4,S3

Hugh Taylor Birch State Park

Designated Species—Plants

Common Name/ *Scientific Name*	**Designated Species Status** FDA	USFWS	FNAI
Giant wild pine *Tillandsia utriculata*	E		
Leathery prickly ash *Zanthoxylum coriaceum*	E		G3,G4,S1

Hugh Taylor Birch State Park

Designated Species—Animals

Common Name/ *Scientific Name*	Designated Species Status FFWCC	USFWS	FNAI
FISH			
Mangrove rivulus *Rivulus marmoratus*	SSC		G5, S3
REPTILES			
American alligator *Alligator mississippiensis*	SSC	T(S/A)	G5, S4
Atlantic loggerhead turtle *Caretta caretta*	T	T	G3,S3
Gopher tortoise *Gopherus polyphemus*	SSC		G3,S3
BIRDS			
Limpkin *Aramus guarauna*	SSC		G5,S3
Great egret *Ardea alba*			G5, S4
Little blue heron *Egretta caerulea*	SSC		G5,S4
Snowy egret *Egretta thula*	SSC		G5,S4
Tricolored heron *Egretta tricolor*	SSC		G5,S4
Roseate spoonbill *Ajaia ajaja*	SSC		G5, S2, S3
Swallow-tailed kite *Elanoides forficatus*			G4,S2,S3
White ibis *Eudocimus albus*	SSC		G5,S4
Merlin *Falco columbarius*			G5,SU
Magnificent frigatebird *Fregata magnificens*			G5,S1
Worm-eating warbler *Helmitheros vermivorus*			G5,S1
Least bittern *Ixobrychus exilis*			G5,S4
Yellow-crowned night heron *Nyctanassa violacea*			G5,S3?
Black-crowned night-heron *Nycticorax nycticorax*			G5,S3?

Hugh Taylor Birch State Park

Designated Species—Animals

Common Name/ *Scientific Name*	**Designated Species Status** FFWCC	USFWS	FNAI
Osprey *Pandion haliaetus*			G5,S3,S4
Brown pelican *Pelecanus occidentalis*	SSC		G4,S3
Louisiana waterthrush *Seiurus motacilla*			G5,S3
American redstart *Setophaga ruticilla*			G5,S3
Black-whiskered vireo *Vireo altiloquus*			G5,S3

Addendum 6—Priority Schedule And Cost Estimates

Estimates are developed for the funding and staff resources needed to implement the management plan based on goals, objectives and priority management activities. Funding priorities for all state park management and development activities are reviewed each year as part of the Division's legislative budget process. The Division prepares an annual legislative budget request based on the priorities established for the entire state park system. The Division also aggressively pursues a wide range of other funds and staffing resources, such as grants, volunteers, and partnerships with agencies, local governments and the private sector for supplementing normal legislative appropriations to address unmet needs. The ability of the Division to implement the specific goals, objectives and priority actions identified in this plan will be determined by the availability of funding resources for these purposes.

Natural and Cultural Resources - Ongoing Activities (Per annum basis)

1. Beach patrol and cleanup - daily activity by staff to monitor human encroachment on dunes, remove debris, empty trash cans, and interpret rules for the overall protection of coastal resources. Regular monitoring of the beach to ensure protection of the floral and faunal components. **Estimated Cost: $10,000**
2. Daily activity by staff to monitor illegal taking of plants and animals. Maintain documentation of illegal takings to address this problem. Coordinate with Florida Park Patrol. **Estimated Cost: $10,000**
3. Management of alligators - evaluations by district wildlife biologist estimated at 3 days per year in accordance with procedures in Florida Park Service resource management policy no. 1 "Nuisance and Exotic Animals." **Estimated Cost: $600**
4. Monitoring and control of non-native invasive plants. Regular monitoring and removal of invasive exotic vegetation throughout the various natural communities within the park. **Estimated Cost: $18,000**
5. Maintenance of canals and ditches to allow intertidal flushing of wetlands. Periodic monitoring and maintenance of the canals and ditches within the park to maintain hydrological flow. **Estimated Cost: $2,500**
6. Boundary encroachments. Monitoring and protection of park boundaries next to residential homes. **Estimated Cost: $2,500**

Additional Projects Should Funding Allow

7. Seek funding to restore the basin marsh. A 1993 study conducted by the University of Florida made recommendations regarding the restoration and long term management of the marsh. Estimated Cost: $167,000 total (in 1993 dollars). Extrapolated to 2004 dollars at 5% inflation rate/yr. E**stimated Cost: $365,000.**
8. Seek funding to replace intracoastal seawall on west boundary with rip/rap and replant with native vegetation to restore natural slope and tidal zone community. E**stimated Cost: $575,000**
9. Surface water monitoring (quality and quantity). Testing would monitor discharges of pesticides, nutrients and heavy metals into Long Lake and monitor water quantity. **Estimated Cost: $31,000**
10. Repair and/or replace boundary fence. **Estimated Cost: $1367,000**

11. Repair and enhance Birch House. **Estimated Cost: $125,000**
12. Upgrade existing trail north of picnic area to alleviate flooding. **Estimated Cost: $19,000**
13. Raise elevation of primitive camp to alleviate flooding. **Estimated Cost: $96,000**
14. Contracted removal of exotic vegetation around power lines, roadways, buildings, and in the basin marsh, etc. **Estimated Costs: $45,000**
15. Seek funding to study populations of threatened and endangered species of flora and fauna within the park. **Estimated Costs: $20,000/year for a 2-4 year study**

Capital Improvements

Development Area or Facilities	**Cost**
Elk's Group Camp	$99,000.00
Long Lake	32,500.00
Main Picnic Area	492,000.00
North End Picnic Area	541,500.00
Roads	48,750.00
Seawall Enhancements	120,750.00
Shop Area	465,000.00
Terramar Visitor Center	50,000.00
Trails	187,500.00
Total w/contingency	**$2,410,000.00**

Additional Information

FNAI Descriptions

DHR Cultural Management Statement

Descriptions Of Natural Communities Developed By FNAI

This summary presents the hierarchical classification and brief descriptions of 82 Natural Communities developed by Florida Natural Areas Inventory and identified as collectively constituting the original, natural biological associations of Florida.

A Natural Community is defined as a distinct and recurring assemblage of populations of plants, animals, fungi and microorganisms naturally associated with each other and their physical environment. For more complete descriptions, see Guide to the Natural Communities of Florida, available from Florida Department of Natural Resources.

The levels of the hierarchy are:

Natural Community Category - defined by hydrology and vegetation.

Natural Community Groups - defined by landform, substrate, and vegetation.

Natural Community Type - defined by landform and substrate; soil moisture condition; climate; fire; and characteristic vegetation.

TERRESTRIAL - Upland habitats dominated by plants which are not adapted to anaerobic soil conditions imposed by saturation or inundation for more than 10% of the growing season.

XERIC UPLANDS - very dry, deep, well-drained hills of sand with xeric-adapted vegetation.

Sandhill - upland with deep sand substrate; xeric; temperate; frequent fire (2-5 years); longleaf pine and/or turkey oak with wiregrass understory.

Scrub - old dune with deep fine sand substrate; xeric; temperate or subtropical; occasional or rare fire (20 - 80 years); sand pine and/or scrub oaks and/or rosemary and lichens.

Xeric Hammock - upland with deep sand substrate; xeric-mesic; temperate or subtropical; rare or no fire; live oak and/or sand live oak and/or laurel oak and/or other oaks, sparkleberry, saw palmetto.

COASTAL UPLANDS - substrate and vegetation influenced primarily by such coastal (maritime) processes as erosion, deposition, salt spray, and storms.

Beach Dune - active coastal dune with sand substrate; xeric; temperate or subtropical; occasional or rare fire; sea oats and/or mixed salt-spray tolerant grasses and herbs.

Coastal Berm - old bar or storm debris with sand/shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; buttonwood, mangroves, and/or mixed halophytic herbs and/or shrubs and trees.

Coastal Grassland - coastal flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; grasses, herbs, and shrubs with or without slash pine and/or cabbage palm.

Coastal Rock Barren - flatland with exposed limestone substrate; xeric; subtropical; no fire; algae, mixed halophytic herbs and grasses, and/or cacti and stunted shrubs and trees.

Coastal Strand - stabilized coastal dune with sand substrate; xeric; subtropical or temperate; occasional or rare fire; dense saw palmetto and/or seagrape and/or mixed stunted shrubs, yucca, and cacti.

Maritime Hammock - stabilized coastal dune with sand substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods and/or live oak.

Shell Mound - Indian midden with shell substrate; xeric-mesic; subtropical or temperate; rare or no fire; mixed hardwoods.

MESIC UPLANDS - dry to moist hills of sand with varying amounts of clay, silt or organic material; diverse mixture of broadleaved and needleleaved temperate woody species.

Bluff - steep slope with rock, sand, and/or clay substrate; hydric-xeric; temperate; sparse grasses, herbs and shrubs.

Slope Forest - steep slope on bluff or in sheltered ravine; sand/clay substrate; mesic-hydric; temperate; rare or no fire; magnolia, beech, spruce pine, Shumard oak, Florida maple, mixed hardwoods.

Upland Glade - upland with calcareous rock and/or clay substrate; hydric-xeric; temperate; sparse mixed grasses and herbs with occasional stunted trees and shrubs, e.g., eastern red cedar.

Upland Hardwood Forest - upland with sand/clay and/or calcareous substrate; mesic; temperate; rare or no fire; spruce pine, magnolia, beech, pignut hickory, white oak, and mixed hardwoods.

Upland Mixed Forest - upland with sand/clay substrate; mesic; temperate; rare or no fire; loblolly pine and/or shortleaf pine and/or laurel oak and/or magnolia and spruce pine and/or mixed hardwoods.

Upland Pine Forest - upland with sand/clay substrate; mesic-xeric; temperate; frequent or occasional fire; longleaf pine and/or loblolly pine and/or shortleaf pine, southern red oak, wiregrass.

ROCKLANDS - low, generally flat limestone outcrops with tropical vegetation; or limestone exposed through karst activities with tropical or temperate vegetation.

Pine Rockland - flatland with exposed limestone substrate; mesic-xeric; subtropical; frequent fire; south Florida slash pine, palms and/or hardwoods, and mixed grasses and herbs.

Rockland Hammock - flatland with limestone substrate; mesic; subtropical; rare or no fire; mixed tropical hardwoods, often with live oak.

Sinkhole - karst feature with steep limestone walls; mesic-hydric; subtropical or temperate; no fire; ferns, herbs, shrubs, and hardwoods.

MESIC FLATLANDS - flat, moderately well-drained sandy substrates with admixture of organic material, often with a hard pan.

Dry Prairie - flatland with sand substrate; mesic-xeric; subtropical or temperate; annual or frequent fire; wiregrass, saw palmetto, and mixed grasses and herbs.

Mesic Flatwoods - flatland with sand substrate; mesic; subtropical or temperate; frequent fire; slash pine and/or longleaf pine with saw palmetto, gallberry and/or wiregrass or cutthroat grass understory.

Prairie Hammock - flatland with sand/organic soil over marl or limestone substrate; mesic; subtropical; occasional or rare fire; live oak and/or cabbage palm.

Scrubby Flatwoods - flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; longleaf pine or slash pine with scrub oaks and wiregrass understory.

PALUSTRINE - Wetlands dominated by plants adapted to anaerobic substrate conditions imposed by substrate saturation or inundation during 10% or more of the growing season. Includes non-tidal wetlands; tidal wetlands with ocean derived salinities less than 0.5 ppt and dominance by salt-intolerant species; small (less than 8 ha), shallow (less than 2 m deep at low water) water bodies without wave-formed or bedrock shoreline; and inland brackish or saline wetlands.

WET FLATLANDS - flat, poorly drained sand, marl or limestone substrates.

Hydric Hammock - lowland with sand/clay/organic soil, often over limestone; mesic-hydric; subtropical or temperate; rare or no fire; water oak, cabbage palm, red cedar, red maple, bays, hackberry, hornbeam, blackgum, needle palm, and mixed hardwoods.

Marl Prairie - flatland with marl over limestone substrate; seasonally inundated; tropical; frequent to no fire; sawgrass, spikerush, and/or mixed grasses, sometimes with dwarf cypress.

Wet Flatwoods - flatland with sand substrate; seasonally inundated; subtropical or temperate; frequent fire; vegetation characterized by slash pine or pond pine and/or cabbage palm with mixed grasses and herbs.

Wet Prairie - flatland with sand substrate; seasonally inundated; subtropical or temperate; annual or frequent fire; maidencane, beakrush, spikerush, wiregrass, pitcher plants, St. John's wort, mixed herbs.

SEEPAGE WETLANDS - sloped or flat sands or peat with high moisture levels maintained by downslope seepage; wetland and mesic woody and/or herbaceous vegetation.

Baygall - wetland with peat substrate at base of slope; maintained by downslope seepage, usually saturated and occasionally inundated; subtropical or temperate; rare or no fire; bays and/or dahoon holly and/or red maple and/or mixed hardwoods.

Seepage Slope - wetland on or at base of slope with organic/sand substrate; maintained by downslope seepage, usually saturated but rarely inundated; subtropical or temperate; frequent or occasional fire; sphagnum moss, mixed grasses and herbs or mixed hydrophytic shrubs.

FLOODPLAIN WETLANDS - flat, alluvial sand or peat substrates associated with flowing water courses and subjected to flooding but not permanent inundation; wetland or mesic woody and herbaceous vegetation.

Bottomland Forest - flatland with sand/clay/organic substrate; occasionally inundated; temperate; rare or no fire; water oak, red maple, beech, magnolia, tuliptree, sweetgum, bays, cabbage palm, and mixed hardwoods.

Floodplain Forest - floodplain with alluvial substrate of sand, silt, clay or organic soil; seasonally inundated; temperate; rare or no fire; diamondleaf oak, overcup oak, water oak, swamp chestnut oak, blue palmetto, cane, and mixed hardwoods.

Floodplain Marsh - floodplain with organic/sand/alluvial substrate; seasonally inundated; subtropical; frequent or occasional fire; maidencane, pickerelweed, sagittaria spp., buttonbush, and mixed emergents.

Floodplain Swamp - floodplain with organic/alluvial substrate; usually inundated; subtropical or temperate; rare or no fire; vegetation characterized by cypress, tupelo, black gum, and/or pop ash.

Freshwater Tidal Swamp - river mouth wetland, organic soil with extensive root mat; inundated with freshwater in response to tidal cycles; rare or no fire; cypress, bays, cabbage palm, gums and/or cedars.

Slough - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; pop ash and/or pond apple or water lily.

Strand Swamp - broad, shallow channel with peat over mineral substrate; seasonally inundated, flowing water; subtropical; occasional or rare fire; cypress and/or willow.

Swale - broad, shallow channel with sand/peat substrate; seasonally inundated, flowing water; subtropical or temperate; frequent or occasional fire; sawgrass, maidencane, pickerelweed, and/or mixed emergents.

BASIN WETLANDS - shallow, closed basin with outlet usually only in time of high water; peat or sand substrate, usually inundated; wetland woody and/or herbaceous vegetation.

Basin Marsh - large basin with peat substrate; seasonally inundated; temperate or subtropical; frequent fire; sawgrass and/or cattail and/or buttonbush and/or mixed emergents.

Basin Swamp - large basin with peat substrate; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; vegetation characterized by cypress, blackgum, bays and/or mixed hardwoods.

Bog - wetland on deep peat substrate; moisture held by sphagnum mosses, soil usually saturated, occasionally inundated; subtropical or temperate; rare fire; sphagnum moss and titi and/or bays and/or dahoon holly, and/or mixed hydrophytic shrubs.

Coastal Interdunal Swale - long narrow depression wetlands in sand/peat-sand substrate; seasonally inundated, fresh to brackish, still water; temperate; rare fire; graminoids and mixed wetland forbs.

Depression Marsh - small rounded depression in sand substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; frequent or occasional fire; maidencane, fire flag, pickerelweed, and mixed emergents, may be in concentric bands.

Dome Swamp - rounded depression in sand/limestone substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; cypress, blackgum, or bays, often tallest in center.

LACUSTRINE - Non-flowing wetlands of natural depressions lacking persistent emergent vegetation except around the perimeter.

Clastic Upland Lake - generally irregular basin in clay uplands; predominantly with inflows, frequently without surface outflow; clay or organic substrate; colored, acidic, soft water with low mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Coastal Dune Lake - basin or lagoon influenced by recent coastal processes; predominantly sand substrate with some organic matter; salinity variable among and within lakes, and subject to saltwater intrusion and storm surges; slightly acidic, hard water with high mineral content (sodium, chloride).

Coastal Rockland Lake - shallow basin influence by recent coastal processes; predominantly barren oolitic or Miami limestone substrate; salinity variable among and within lakes, and subject to saltwater intrusion, storm surges and evaporation (because of shallowness); slightly alkaline, hard water with high mineral content (sodium, chloride).

Flatwoods/Prairie Lake - generally shallow basin in flatlands with high water table; frequently with a broad littoral zone; still water or flow-through; sand or peat substrate; variable water chemistry, but characteristically colored to clear, acidic to slightly alkaline, soft to moderately hard water with moderate

mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

Marsh lake - generally shallow, open water area within wide expanses of freshwater marsh; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

River Floodplain Lake - meander scar, backwater, or larger flow-through body within major river floodplains; sand, alluvial or organic substrate; colored, alkaline or slightly acidic, hard or moderately hard water with high mineral content (sulfate, sodium, chloride, calcium, magnesium); mesotrophic to eutrophic.

Sandhill Upland Lake - generally rounded solution depression in deep sandy uplands or sandy uplands shallowly underlain by limestone; predominantly without surface inflows/outflows; typically sand substrate with organic accumulations toward middle; clear, acidic moderately soft water with varying mineral content; ultra-oligotrophic to mesotrophic.

Sinkhole Lake - typically deep, funnel-shaped depression in limestone base; occurs in most physiographic regions; predominantly without surface inflows/outflows, but frequently with connection to the aquifer; clear, alkaline, hard water with high mineral content (calcium, bicarbonate, magnesium).

Swamp Lake - generally shallow, open water area within basin swamps; still water or flow-through; peat, sand or clay substrate; occurs in most physiographic regions; variable water chemistry, but characteristically highly colored, acidic, soft water with moderate mineral content (sodium, chloride, sulfate); oligo-mesotrophic to eutrophic.

RIVERINE - Natural, flowing waters from their source to the downstream limits of tidal influence and bounded by channel banks.

Alluvial Stream - lower perennial or intermittent/seasonal watercourse characterized by turbid water with suspended silt, clay, sand and small gravel; generally with a distinct, sediment-derived (alluvial) floodplain and a sandy, elevated natural levee just inland from the bank.

Blackwater Stream - perennial or intermittent/seasonal watercourse characterized by tea-colored water with a high content of particulate and dissolved organic matter derived from drainage through swamps and marshes; generally lacking an alluvial floodplain.

Seepage Stream - upper perennial or intermittent/seasonal watercourse characterized by clear to lightly colored water derived from shallow groundwater seepage.

Spring-run Stream - perennial watercourse with deep aquifer headwaters and characterized by clear water, circumneutral pH and, frequently, a solid limestone bottom.

SUBTERRANEAN - Twilight, middle and deep zones of natural chambers overlain by the earth's crust and characterized by climatic stability and assemblages of trogloxenic, troglophilic, and troglobitic organisms.

Aquatic Cave - cavernicolous area permanently or periodically submerged; often characterized by troglobitic crustaceans and salamanders; includes high energy systems which receive large quantities of organic detritus and low energy systems.

Terrestrial Cave - cavernicolous area lacking standing water; often characterized by bats, such as Myotis spp., and other terrestrial vertebrates and invertebrates; includes interstitial areas above standing water such as fissures in the ceiling of caves.

MARINE/ESTUARINE (The distinction between the Marine and Estuarine Natural Communities is often subtle, and the natural communities types found under these two community categories have the same

descriptions. For these reasons they have been grouped together.) - Subtidal, intertidal and supratidal zones of the sea, landward to the point at which seawater becomes significantly diluted with freshwater inflow from the land.

Consolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of nonliving compacted or coherent and relatively hard, naturally formed mass of mineral matter (e.g., coquina limerock and relic reefs); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Unconsolidated Substrate - expansive subtidal, intertidal and supratidal area composed primarily of loose mineral matter (e.g., coralgal, gravel, marl, mud, sand and shell); octocorals, sponges, stony corals, nondrift macrophytic algae, blue-green mat-forming algae and seagrasses sparse, if present.

Octocoral Bed - expansive subtidal area occupied primarily by living sessile organisms of the Class Anthozoa, Subclass Octocorallia (e.g., soft corals, horny corals, sea fans, sea whips, and sea pens); sponges, stony corals, nondrift macrophytic algae and seagrasses spares, if present.

Sponge Bed - expansive subtidal area occupied primarily by living sessile organisms of the Phylum Porifera (e.g., sheepswool sponge, Florida loggerhead sponge and branching candle sponge); octocorals, stony corals, nondrift macrophytic algae and seagrasses sparse, if present.

Coral Reef - expansive subtidal area with elevational gradient or relief and occupied primarily by living sessile organisms of the Class Hydrozoa (e.g., fire corals and hydrocorals) and Class Anthozoa, Subclass Zoantharia (e.g., stony corals and black corals); includes deepwater bank reefs, fringing barrier reefs, outer bank reefs and patch reefs, some of which may contain distinct zones of assorted macrophytes, octocorals, & sponges.

Mollusk Reef - substantial subtidal or intertidal area with relief from concentrations of sessile organisms of the Phylum Mollusca, Class Bivalvia (e.g., molluscs, oysters, & worm shells); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Worm Reef - substantial subtidal or intertidal area with relief from concentrations of sessile, tubicolous organisms of the Phylum Annelida, Class Polychaeta (e.g., chaetopterids and sabellarids); octocorals, sponges, stony corals, macrophytic algae and seagrasses sparse, if present.

Algal Bed - expansive subtidal, intertidal or supratidal area, occupied primarily by attached thallophytic or mat-forming prokaryotic algae (e.g, halimeda, blue-green algae); octocorals, sponges, stony corals and seagrasses sparse, if present.

Grass Bed - expansive subtidal or intertidal area, occupied primarily by rooted vascular macrophytes, (e.g., shoal grass, halophila, widgeon grass, manatee grass and turtle grass); may include various epiphytes and epifauna; octocorals, sponges, stony corals, and attached macrophytic algae sparse, if present.

Composite Substrate - expansive subtidal, intertidal, or supratidal area, occupied primarily by Natural Community elements from more than one Natural Community category (e.g., Grass Bed and Algal Bed species; Octocoral and Algal Bed species); includes both patchy and evenly distributed occurrences.

Tidal Marsh - expansive intertidal or supratidal area occupied primarily by rooted, emergent vascular macrophytes (e.g., cord grass, needlerush, saw grass, saltwort, saltgrass and glasswort); may include various epiphytes and epifauna.

Tidal Swamp - expansive intertidal and supratidal area occupied primarily by woody vascular macrophytes (e.g., black mangrove, buttonwood, red mangrove, and white mangrove); may include various epiphytes and epifauna.

DEFINITIONS OF TERMS Terrestrial and Palustrine Natural Communities

Physiography

Upland - high area in region with significant topographic relief; generally undulating
Lowland - low area in region with or without significant topographic relief; generally flat to gently sloping
Flatland - generally level area in region without significant topographic relief; flat to gently sloping
Basin - large, relatively level lowland with slopes confined to the perimeter or isolated interior locations
Depression - small depression with sloping sides, deepest in center and progressively shallower towards the perimeter
Floodplain - lowland adjacent to a stream; topography influenced by recent fluvial processes
Bottomland - lowland not on active floodplain; sand/clay/organic substrate

Hydrology

occasionally inundated - surface water present only after heavy rains and/or during flood stages
seasonally inundated - surface water present during wet season and flood periods
usually inundated - surface water present except during droughts

Climatic Affinity of the Flora

tropical - community generally occurs in practically frost-free areas
subtropical - community generally occurs in areas that experience occasional frost, but where freezing temperatures are not frequent enough to cause true winter dormancy
temperate - community generally occurs in areas that freeze often enough that vegetation goes into winter dormancy

Fire

annual fire - burns about every 1-2 years
frequent fire - burns about every 3-7 years
occasional fire - burns about every 8-25 years
rare fire - burns about every 26-100 years
no fire - community develops only when site goes more than 100 years without burning

LATIN NAMES OF PLANTS MENTIONED IN NATURAL COMMUNITY DESCRIPTIONS

anise - Illicium floridanum
bays:
- swamp bay -Persea palustris
- gordonia -Gordonia lasianthus
- sweetbay -Magnolia virgiana

beakrush - Rhynchospora spp.
beech - Fagus grandifolia
blackgum - Nyssa biflora
blue palmetto - Sabal minor
bluestem - Andropogon spp.
buttonbush - Cephalanthus occidentalis
cabbage palm - Sabal palmetto
cacti - Opuntia and Harrisia spp.,
- predominantly stricta and pentagonus

cane - Arundinaria gigantea or A. tecta
cattail - Typha spp.
cedars:
- red cedar - Juniperus silicicola
- white cedar - Chamaecyparis thyoides or C. henryi

cladonia - Cladonia spp.
cypress - Taxodium distichum
dahoon holly - Ilex cassine
diamondleaf oak - Quercus laurifolia
fire flag - Thalia geniculata
Florida maple - Acer barbatum
gallberry - Ilex glabra
gums:
- tupelo - Nyssa aquatica
- blackgum - Nyssa biflora
- Ogeechee gum - Nyssa ogeche

hackberry - Celtis laevigata
hornbeam - Carpinus caroliniana
laurel oak - Quercus hemisphaerica
live oak - Quercus virginiana
loblolly pine - Pinus taeda
longleaf pine - Pinus palustris
magnolia - Magnolia grandiflora
maidencane - Panicum hemitomon
needle palm - Rhapidophyllum hystrix
overcup oak - Quercus lyrata
pickerel weed - Pontederia cordata or P. lanceolata
pignut hickory - Carya glabra
pop ash - Fraxinus caroliniana
pond apple - Annona glabra
pond pine - Pinus serotina
pyramid magnolia - Magnolia pyramidata
railroad vine - Ipomoea pes-caprae
red cedar - Juniperus silicicola
red maple - Acer rubrum
red oak - Quercus falcata
rosemary - Ceratiola ericoides
sagittaria - Sagittaria lancifolia
sand pine - Pinus clausa
saw palmetto - Serenoa repens
sawgrass - Cladium jamaicensis
scrub oaks - Quercus geminata, Q. chapmanii, Q. myrtifolia,Q. inopina
sea oats - Uniola paniculata
seagrape - Coccoloba uvifera
shortleaf pine - Pinus echinata
Shumard oak - Quercus shumardii
slash pine - Pinus elliottii
sphagnum moss - Sphagnum spp.
spikerush - Eleocharis spp.
spruce pine - Pinus glabra
St. John's wort - Hypericum spp.
swamp chestnut oak - Quercus prinus
sweetgum - Liquidambar styraciflua
titi - Cyrilla racemiflora, and Cliftonia monophylla
tuliptree - Liriodendron tulipfera
tupelo - Nyssa aquatica
turkey oak - Quercus laevis
water oak - Quercus nigra
waterlily - Nymphaea odorata
white cedar - Chamaecyparis thyoides
white oak - Quercus alba
willow - Salix caroliniana
yucca - Yucca aloifolia

A. GENERAL DISCUSSION

Archaeological and historic sites are defined collectively in 267.021(3), F.S., as "historic properties" or "historic resources." They have several essential characteristics that must be recognized in a management program.

First of all, they are a finite and non-renewable resource. Once destroyed, presently existing resources, including buildings, other structures, shipwreck remains, archaeological sites and other objects of antiquity, cannot be renewed or revived. Today, sites in the State of Florida are being destroyed by all kinds of land development, inappropriate land management practices, erosion, looting, and to a minor extent even by well-intentioned professional scientific research (e.g., archaeological excavation). Measures must be taken to ensure that some of these resources will be preserved for future study and appreciation.

Secondly, sites are unique because individually they represent the tangible remains of events that occurred at a specific time and place.

Thirdly, while sites uniquely reflect localized events, these events and the origin of particular sites are related to conditions and events in other times and places. Sites can be understood properly only in relation to their natural surroundings and the activities of inhabitants of other sites. Managers must be aware of this "systemic" character of historic and archaeological sites. Also, it should be recognized that archaeological sites are time capsules for more than cultural history; they preserve traces of past biotic communities, climate, and other elements of the environment that may be of interest to other scientific disciplines.

Finally, the significance of sites, particularly archaeological ones, derives not only from the individual artifacts within them, but equally from the spatial arrangement of those artifacts in both horizontal and vertical planes. When archaeologists excavate, they recover, not merely objects, but also a record of the positions of these objects in relation to one another and their containing matrix (e.g., soil strata). Much information is sacrificed if the so-called "context" of archaeological objects is destroyed or not recovered, and this is what archaeologists are most concerned about when a site is threatened with destruction or damage. The artifacts themselves can be recovered even after a site is heavily disturbed, but the context -- the vertical and horizontal relationships -- cannot. Historic structures also contain a wealth of cultural (socio-economic) data that can be lost if historically sensitive maintenance, restoration or rehabilitation procedures are not implemented, or if they are demolished or extensively altered without appropriate documentation. Lastly, it should not be forgotten that historic structures often have associated potentially significant historic archaeological features that must be considered in land management decisions.

B. STATUTORY AUTHORITY

Chapter 253, Florida Statutes ("State Lands") directs the preparation of "single-use" or "multiple-use" land management plans for all state-owned lands and state-owned sovereignty submerged lands. In this document, 253.034(4), F.S., specifically requires that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites, as well as other fragile resources..."

Chapter 267, Florida Statutes is the primary historic preservation authority of the state. The importance of protecting and interpreting archaeological and historic sites is recognized in 267.061(1)(a), F.S.:The rich and unique heritage of historic properties in this state, representing more than 10,000 years of human presence, is an important legacy to be valued and conserved for present and future generations. The destruction of these nonrenewable historic resources will engender a significant loss to the state's quality of life, economy, and cultural environment. It is therefore declared to be state policy to:

1. Provide leadership in the preservation of the state's historic resources; [and]
2. Administer state-owned or state-controlled historic resources in a spirit of stewardship and trusteeship;...

Responsibilities of the Division of Historical Resources in the Department of State pursuant to 267.061(3), F.S., include the following:

1. Cooperate with federal and state agencies, local Governments, and private organizations and individuals to direct and conduct a comprehensive statewide survey of historic resources and to maintain an inventory of such responses.
2. Develop a comprehensive statewide historic preservation plan.
3. Identify and nominate eligible properties to the National Register of Historic Places and otherwise administer applications for listing properties in the National Register of Historic Places.
4. Cooperate with federal and state agencies, local governments, and organizations and individuals to ensure that historic resources are taken into consideration at all levels of planning and development.
5. Advise and assist, as appropriate, federal and state agencies and local governments in carrying out their historic preservation responsibilities and programs.
6. Carry out on behalf of the state the programs of the National Historic Preservation Act of 1966, as amended, and to establish, maintain, and administer a state historic preservation program meeting the requirements of an approved program and fulfilling the responsibilities of state historic preservation programs as provided in subsection 101(b) of that act.
7. Take such other actions necessary or appropriate to locate, acquire, protect, preserve, operate, interpret, and promote the location, acquisition, protection, preservation, operation, and interpretation of historic resources to foster an appreciation of Florida history and culture. Prior to the acquisition, preservation, interpretation, or operation of a historic property by a state agency, the Division shall be provided a reasonable opportunity to review and comment on the proposed undertaking and shall determine that there exists historic authenticity and a feasible means of providing for the preservation, interpretation and operation of such property.
8. Establish professional standards for the preservation, exclusive of acquisition, of historic resources in state ownership or control.
9. Establish guidelines for state agency responsibilities under subsection (2).

Responsibilities of other state agencies of the executive branch, pursuant to 267.061(2), F.S., include:

1. Each state agency of the executive branch having direct or indirect jurisdiction over a proposed state or state-assisted undertaking shall, in accordance with state policy and prior to the approval of expenditure of any state funds on the undertaking, consider the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places. Each such agency shall afford the division a reasonable opportunity to comment with regard to such an undertaking.
2. Each state agency of the executive branch shall initiate measures in consultation with the division to assure that where, as a result of state action or assistance carried out by such agency, a historic property is to be demolished or substantially altered in a way that adversely affects the character, form, integrity, or other qualities that contribute to [the] historical, architectural, or archaeological value of the property, timely steps are taken to determine that no feasible and prudent alternative to the proposed demolition or alteration exists, and, where no such alternative is determined to exist, to assure that timely steps are taken either to avoid or mitigate the adverse effects, or to undertake an appropriate archaeological salvage excavation or other recovery action to document the property as it existed prior to demolition or alteration.
3. In consultation with the division [of Historical Resources], each state agency of the executive branch shall establish a program to locate, inventory, and evaluate all historic properties under the agency's ownership or control that appear to qualify for the National Register. Each such agency shall exercise caution to assure that any such historic property is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.

4. Each state agency of the executive branch shall assume responsibility for the preservation of historic resources that are owned or controlled by such agency. Prior to acquiring, constructing, or leasing buildings for the purpose of carrying out agency responsibilities, the agency shall use, to the maximum extent feasible, historic properties available to the agency. Each agency shall undertake, consistent with preservation of such properties, the mission of the agency, and the professional standards established pursuant to paragraph (3)(k), any preservation actions necessary to carry out the intent of this paragraph.
5. Each state agency of the executive branch, in seeking to acquire additional space through new construction or lease, shall give preference to the acquisition or use of historic properties when such acquisition or use is determined to be feasible and prudent compared with available alternatives. The acquisition or use of historic properties is considered feasible and prudent if the cost of purchase or lease, the cost of rehabilitation, remodeling, or altering the building to meet compliance standards and the agency's needs, and the projected costs of maintaining the building and providing utilities and other services is less than or equal to the same costs for available alternatives. The agency shall request the division to assist in determining if the acquisition or use of a historic property is feasible and prudent. Within 60 days after making a determination that additional space is needed, the agency shall request the division to assist in identifying buildings within the appropriate geographic area that are historic properties suitable for acquisition or lease by the agency, whether or not such properties are in need of repair, alteration, or addition.
6. Consistent with the agency's mission and authority, all state agencies of the executive branch shall carry out agency programs and projects, including those under which any state assistance is provided, in a manner which is generally sensitive to the preservation of historic properties and shall give consideration to programs and projects which will further the purposes of this section.

Section 267.12 authorizes the Division to establish procedures for the granting of research permits for archaeological and historic site survey or excavation on state-owned or controlled lands, while Section 267.13 establishes penalties for the conduct of such work without first obtaining written permission from the Division of Historical Resources. The Rules of the Department of State, Division of Historical Resources, for research permits for archaeological sites of significance are contained in Chapter 1A-32, F.A.C.

Another Florida Statute affecting land management decisions is Chapter 872, F.S. Section 872.02, F.S., pertains to marked grave sites, regardless of age. Many state-owned properties contain old family and other cemeteries with tombstones, crypts, etc. Section 872.05, F.S., pertains to unmarked human burial sites, including prehistoric and historic Indian burial sites. Unauthorized disturbance of both marked and unmarked human burial site is a felony.

C. MANAGEMENT POLICY

The choice of a management policy for archaeological and historic sites within state-owned or controlled land obviously depends upon a detailed evaluation of the characteristics and conditions of the individual sites and groups of sites within those tracts. This includes an interpretation of the significance (or potential significance) of these sites, in terms of social and political factors, as well as environmental factors. Furthermore, for historic structures architectural significance must be considered, as well as any associated historic landscapes.

Sites on privately owned lands are especially vulnerable to destruction, since often times the economic incentives for preservation are low compared to other uses of the land areas involved. Hence, sites in public ownership have a magnified importance, since they are the ones with the best chance of survival over the long run. This is particularly true of sites that are state-owned or controlled, where the basis of management is to provide for land uses that are minimally destructive of resource values.

It should be noted that while many archaeological and historical sites are already recorded within state--owned or controlled--lands, the majority of the uplands areas and nearly all of the inundated areas have

not been surveyed to locate and assess the significance of such resources. The known sites are, thus, only an incomplete sample of the actual resources - i.e., the number, density, distribution, age, character and condition of archaeological and historic sites - on these tracts. Unfortunately, the lack of specific knowledge of the actual resources prevents formulation of any sort of detailed management or use plan involving decisions about the relative historic value of individual sites. For this reason, a generalized policy of conservation is recommended until the resources have been better addressed.

The generalized management policy recommended by the Division of Historical Resources includes the following:

1. State land managers shall coordinate all planned activities involving known archaeological or historic sites or potential site areas closely with the Division of Historical Resources in order to prevent any kind of disturbance to significant archaeological or historic sites that may exist on the tract. Under 267.061(1)(b), F.S., the Division of Historical Resources is vested with title to archaeological and historic resources abandoned on state lands and is responsible for administration and protection of such resources. The Division will cooperate with the land manager in the management of these resources. Furthermore, provisions of 267.061(2) and 267.13, F.S., combined with those in 267.061(3) and 253.034(4), F.S., require that other managing (or permitting) agencies coordinate their plans with the Division of Historical Resources at a sufficiently early stage to preclude inadvertent damage or destruction to known or potentially occurring, presently unknown archaeological and historic sites. The provisions pertaining to human burial sites must also be followed by state land managers when such remains are known or suspected to be present (see 872.02 and 872.05, F.S., and 1A-44, F.A.C.)

2. Since the actual resources are so poorly known, the potential impact of the managing agency's activities on historic archaeological sites may not be immediately apparent. Special field survey for such sites may be required to identify the potential endangerment as a result of particular management or permitting activities. The Division may perform surveys, as its resources permit, to aid the planning of other state agencies in their management activities, but outside archaeological consultants may have to be retained by the managing agency. This would be especially necessary in the cases of activities contemplating ground disturbance over large areas and unexpected occurrences. It should be noted, however, that in most instances Division staff's knowledge of known and expected site distribution is such that actual field surveys may not be necessary, and the project may be reviewed by submitting a project location map (preferably a 7.5 minute U.S.G.S. Quadrangle map or portion thereof) and project descriptive data, including detailed construction plans. To avoid delays, Division staff should be contacted to discuss specific project documentation review needs.

3. In the case of known significant sites, which may be affected by proposed project activities, the managing agency will generally be expected to alter proposed management or development plans, as necessary, or else make special provisions to minimize or mitigate damage to such sites.

4. If in the course of management activities, or as a result of development or the permitting of dredge activities (see 403.918(2)(6)a, F.S.), it is determined that valuable historic or archaeological sites will be damaged or destroyed, the Division reserves the right, pursuant to 267.061(1)(b), F.S., to require salvage measures to mitigate the destructive impact of such activities to such sites. Such salvage measures would be accomplished before the Division would grant permission for destruction of the affected site areas. The funding needed to implement salvage measures would be the responsibility of the managing agency planning the site destructive activity. Mitigation of historic structures at a minimum involves the preparation of measured drawings and documentary photographs. Mitigation of archaeological resources involves the excavation, analysis and reporting of the project findings and must be planned to occur sufficiently in advance to avoid project construction delays. If these services are to be contracted by the state agency, the selected consultant will need to obtain an Archaeological Research Permit from the Division of Historical Resources, Bureau of Archaeological Research (see 267.12, F.S. and Rules 1A-32 and 1A-46 F.A.C.).

5. For the near future, excavation of non-endangered (i.e., sites not being lost to erosion or development) archaeological site is discouraged. There are many endangered sites in Florida (on

both private and public lands) in need of excavation because of the threat of development or other factors. Those within state-owned or controlled lands should be left undisturbed for the present - with particular attention devoted to preventing site looting by "treasure hunters". On the other hand, the archaeological and historic survey of these tracts is encouraged in order to build an inventory of the resources present, and to assess their scientific research potential and historic or architectural significance.

6. The cooperation of land managers in reporting sites to the Division that their field personnel may discover is encouraged. The Division will help inform field personnel from other resource managing agencies about the characteristics and appearance of sites. The Division has initiated a cultural resource management training program to help accomplish this. Upon request the Division will also provide to other agencies archaeological and historical summaries of the known and potentially occurring resources so that information may be incorporated into management plans and public awareness programs (See Management Implementation).
7. Any discovery of instances of looting or unauthorized destruction of sites must be reported to the agent for the Board of Trustees of the Internal Improvement Trust Fund and the Division so that appropriate action may be initiated. When human burial sites are involved, the provisions of 872.02 and 872.05, F. S. and Rule 1A-44, F.A.C., as applicable, must also be followed. Any state agent with law enforcement authority observing individuals or groups clearly and incontrovertibly vandalizing, looting or destroying archaeological or historic sites within state-owned or controlled lands without demonstrable permission from the Division will make arrests and detain those individuals or groups under the provisions of 267.13, 901.15, and 901.21, F.S., and related statutory authority pertaining to such illegal activities on state-owned or controlled lands. County Sheriffs' officers are urged to assist in efforts to stop and/or prevent site looting and destruction.

In addition to the above management policy for archaeological and historic sites on state-owned land, special attention shall be given to those properties listed in the National Register of Historic Places and other significant buildings. The Division recommends that the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Revised 1990) be followed for such sites.

The following general standards apply to all treatments undertaken on historically significant properties.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy materials that characterize the property. The new work shall be differentiated from the old and shall be

compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. (see Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings [Revised 1990]).

The Division of Historical Resources staff are available for technical assistance for any of the above listed topics. It is encouraged that such assistance be sought as early as possible in the project planning.

D. MANAGEMENT IMPLEMENTATION

As noted earlier, 253.034(4), F.S., states that "all management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing agency plans to identify, locate, protect and preserve, or otherwise use fragile non-renewable resources, such as archaeological and historic sites..." The following guidelines should help to fulfill that requirement.

1. All land managing agencies should contact the Division and send U.S.G.S. 7.5 minute quadrangle maps outlining the boundaries of their various properties.

2. The Division will in turn identify site locations on those maps and provide descriptions for known archaeological and historical sites to the managing agency.

3. Further, the Division may also identify on the maps areas of high archaeological and historic site location probability within the subject tract. These are only probability zones, and sites may be found outside of these areas. Therefore, actual ground inspections of project areas may still be necessary.

4. The Division will send archaeological field recording forms and historic structure field recording forms to representatives of the agency to facilitate the recording of information on such resources.

5. Land managers will update information on recorded sites and properties.

6. Land managers will supply the Division with new information as it becomes available on previously unrecorded sites that their staff locate. The following details the kind of information the Division wishes to obtain for any new sites or structures that the land managers may report:

A. Historic Sites

(1) Type of structure (dwelling, church, factory, etc.).
(2) Known or estimated age or construction date for each structure and addition.
(3) Location of building (identify location on a map of the property, and building placement, i.e., detached, row, etc.).
(4) General Characteristics: (include photographs if possible) overall shape of plan (rectangle, "L" "T" "H" "U", etc.); number of stories; number of vertical divisions of bays; construction materials (brick, frame, stone, etc.); wall finish (kind of bond, coursing, shingle, etc.); roof shape.
(5) Specific features including location, number and appearance of:
- **(a)** Important decorative elements;
- **(b)** Interior features contributing to the character of the building;
- **(c)** Number, type, and location of outbuildings, as well as date(s) of construction;
- **(d)** Notation if property has been moved;
- **(e)** Notation of known alterations to building.

B. Archaeological Sites

(1) Site location (written narrative and mapped location).
(2) Cultural affiliation and period.
(3) Site type (midden, burial mound, artifact scatter, building rubble, etc.).

(4) Threats to site (deterioration, vandalism, etc.).
(5) Site size (acreage, square meters, etc.).
(6) Artifacts observed on ground surface (pottery, bone, glass, etc.).
(7) Description of surrounding environment.

7. No land disturbing activities should be undertaken in areas of known archaeological or historic sites or areas of high site probability without prior review by the Division early in the project planning.

8. Ground disturbing activities may proceed elsewhere but land managers should stop disturbance in the immediate vicinity of artifact finds and notifies the Division if previously unknown archaeological or historic remains are uncovered. The provisions of Chapter 872, F.S., must be followed when human remains are encountered.

9. Excavation and collection of archaeological and historic sites on state lands without a permit from the Division are a violation of state law and shall be reported to a law enforcement officer. The use of metal detectors to search for historic artifacts shall be prohibited on state lands except when authorized in a 1A-32, F.A.C., research permit from the Division.

10. Interpretation and visitation which will increase public understanding and enjoyment of archaeological and historic sites without site destruction or vandalism is strongly encouraged.

11. Development of interpretive programs including trails, signage, kiosks, and exhibits is encouraged and should be coordinated with the Division.

12. Artifacts found or collected on state lands are by law the property of the Division. Land managers shall contact the Division whenever such material is found so that arrangements may be made for recording and conservation. This material, if taken to Tallahassee, can be returned for public display on a long term loan.

E. ADMINISTERING AGENCY

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

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

Contact Person

Susan M. Harp
Historic Preservation Planner
Telephone (850) 245-6333
Suncom 205-6333
FAX (850) 245-6437

Land Management Review of Hugh Taylor Birch State Recreation Area

Broward County

(Lease No. 3624): November 3, 1998

Prepared by Division of State Lands Staff

Robert Clark, Program Administrator
William Howell, OMC Manager
Amy Knight, Environmental Specialist

for
the Hugh Taylor Birch State Recreation Area Management Review Team

December 7, 1998

Land Manager:	Division of Recreation and Parks
Area:	180 acres
County:	Broward
Mngt. Plan Approved:	12/05/97
Mngt. Plan Update Due:	12/05/02

Management Review Team Members

Agency Represented	Team member appointed	Team member in attendance
DEP/DRP	Mr. Hank Smith	Mr. Hank Smith
DEP Southeast District	Mr. Herb Zebuth	Mr. Herb Zebuth
DACS/DOF	Mr. Bill Korn	Mr. Bill Korn
GFC	Mr. Robert Guerra	Mr. Robert Guerra
Soil and Water Conservation	Mr. Henry Graham	Mr. Russel M. Setti
County Commission	Mr. Eric Myers	Mr. Eric Myers
Conservation Organization	Ms. Katharine Murray (Everglades Audubon Society)	Ms. Katharine Murray
Private Land Manager	Mr. Philip Shailer	Mr. Philip Shailer

Process for Implementing Regional Management Review Teams

Legislative Intent and Guidance:

Chapter 259.036, F. S. was enacted in 1997 to determine whether conservation, preservation, and recreation lands owned by the state Board of Trustees of the Internal Improvement Trust Fund (Board) are being managed properly. It directs the Department of Environmental Protection (DEP) to establish land management review teams to evaluate the extent to which the existing management plan provides sufficient protection to threatened or endangered species, unique or important natural or physical features, geological or hydrological functions, and archaeological features. The teams also evaluate the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices, including public access, are in compliance with the adopted management plan. If a land management plan has not been adopted, the review shall consider the extent to which the land is being managed for the purposes for which it was acquired and the degree to which actual management practices are in compliance with the management policy statement and management prospectus for that property. If the land management review team determines that reviewed lands are not being managed for the purposes for which they were acquired or in compliance with the adopted land management plan, management policy statement, or management prospectus, DEP shall provide the review findings to the Board, and the managing agency must report to the Board its reasons for managing the lands as it has. A report of the review findings are given to the managing agency under review, the Land Acquisition and Management Advisory Council (LAMAC), and to the Division of State Lands. Also, DEP shall report the annual review findings of its land management review teams to the Board no later than the second board meeting in October of each year.

Review Site

The management review of Hugh Taylor Birch State Recreation Area considered approximately 180 acres in Broward County that are managed by DEP/Division of Recreation and Parks. The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. The Division of State Lands approved the management plan on December 2, 1997 and the management plan update is due in December 2002.

Review Team Analysis

The management review checklist was analyzed as follows: The checklist consisted of two parts: a plan review section that answered whether or not the management plan sufficiently addressed protection/ restoration/ management needs for a series of items; and a field review section that scored to what extent sufficient management actions were being taken for a series of items.

Review Team Findings

Checklist results

Exceptional management actions

I.A.1	Marine unconsolidated	Management/restoration of the marine unconsolidated substrate substrate community is excellent.
I.A.5	Coastal strand	Management/restoration of the coastal strand community is excellent.
I.B.2	Animals: inventory	The managing agency has done an outstanding job of locating and identifying listed animal species.
I.C.1.a	Beach jacquemontia	Management/protection of beach jacquemontia is exceptional.
I.C.1.b	Sea oats	Management/protection of sea oats is exceptional.
III.J.2.a	Roads	Public access via roads is outstanding.
III.J.2.b	Trails	Public trails on the property are excellent.
III.J.2.c	Parking	Public parking facilities are excellent.

Inadequate items: Plan review

I.A.3	Basin marsh*	Management/restoration of the basin marsh should be addressedin the plan.
DRP RESPONSE		**Agree. The basin marsh was mentioned on pages 6, 17, 20, and 26 of the management plan. A restoration plan also was briefly mentioned on pages 6 and 26. In 1993, a restoration plan was completed for the marsh by the University of Florida with an estimated cost of $167,000 (in 1993 dollars). We will mention this proposal in the next updated plan.**
I.B.1.c	American alligator	Management of alligators should be addressed in the plan.

DRP RESPONSE		**Agree. Alligators occasionally find their way into Hugh Taylor Birch S.R.A. We will mention this in the next updated plan.**
I.B.3	Animal monitoring	Monitoring for listed animals should be addressed in the plan.
DRP RESPONSE		**Disagree. All listed animals in a park are not "routinely" monitored. Monitoring may be conducted for specific listed animals depending upon a need or project type, or the research interests of qualified academic investigators. This is common practice and does not need to be addressed in management plans.**
I.C.1.b	Sea oats	Management/protection/restoration of sea oats should be addressed in the plan.
DRP RESPONSE		**Agree. Successful restoration planting of sea oats was conducted in 1993. This will be mentioned in the next updated plan.**
I.C.3	Plant monitoring	Monitoring for listed plants should be addressed in the plan.
DRP RESPONSE		**Disagree. See comments under I.B.3. above.**
II.A	Cultural Resources: Survey*	The status of/need for a cultural resources survey should beaddressed in the plan.
DRP RESPONSE		**Disagree. Both status and need for a cultural resources survey were addressed on page 29 of the management plan.**
II.B	Cultural Resources: Protection	Protection of cultural resources should be addressed in the plan.
DRP RESPONSE		**Disagree. Protection of cultural resources was addressed on page 28 of the management plan, and extensively in Addendum 7 (Cultural Management Statement Department of State, Division of Historical Resources).**
III.B.1	Restoration: Basin marsh*	The restoration of the basin marsh community should be addressed in the plan.
DRP RESPONSE		**Agree. See comments under I.A.3. above.**
III.B.2	Restoration: Spoil	The restoration of spoil areas to mangrove community areas to mangroves*should be addressed in the plan.
DRP RESPONSE		**Agree. We briefly mentioned this on pages 6, 24, and 25 of the management plan. However, we are unable to remove the fill to restore such sites**

		to grade without extensive supplemental funding or mitigation project monies.
III.B.3	Restoration: Landfill*	The restoration of the landfill to a natural area should be addressed in the plan.
DRP RESPONSE		**Disagree. The former debris dump is not planned for restoration. However, we can add the recommendation from our internal (DRP) 30 October 1996 audit to the management plan. . ." remove the invasive exotics, place a layer of clean topsoil or mulch over the area (if needed), and revegetation with native maritime hammock species".**
III.B.4	Restoration: Beach dune	The restoration of the beach dune community should be addressed in the plan.
DRP RESPONSE		**See comments I.C.1.b. above.**
III.C.2.a	Non-native invasive plants: Control*	The control of non-native invasive plants should be addressed in the plan.
DRP RESPONSE		**Agree. Although mentioned on page 26 of the current management plan additional detail will be included in the next updated plan.**
III.D.2.a	Problem plants: Control	The control of problem plants should be addressed in the plan.
DRP RESPONSE		**Disagree. This was addressed on page 27 of the management plan.**
III.E.1.a	Canals/ditches*	Hydrological problems associated with canals and ditches on the property should be addressed in the plan.
DRP RESPONSE		**Agree. We will address this in the next updated plan.**
III.E.1.b	Soil erosion	Soil/beach erosion problems should be addressed in the plan.
DRP RESPONSE		**Agree. We will mention in the next updated plan that <u>no</u> soil erosion problems occur at this park.**
III.E.1.c	Roads/culverts	Hydrological problems associated with roads should be addressed in the plan.
DRP RESPONSE		**Disagree. This park is in an urban area of downtown Fort Lauderdale and is surrounded by towering buildings and major roadways. Much of it was greatly altered, drained, or filled prior to present day wetlands regulations and department management. A proposed mitigation project may**

		soon restore some wetlands closer to their former hydrological conditions. There are no other plans to retrofit the park drive which is the only paved road within the park. Issues associated with major roadways outside the park are regulated by entities outside DRP.
III.E.2.a	Ground water quality*	Monitoring of ground water quality should be addressed in the plan.
DRP RESPONSE		**Disagree. Except in cases where there are either known or suspected problems (such as the vicinity of old cattle vats or where wells are located in areas near domestic or industrial waste treatment facilities or waste streams), ground water quality monitoring is not cost beneficial.**
III.E.2.b	Ground water quantity*	Monitoring of ground water quantity should be addressed in the plan.
DRP RESPONSE		**Disagree. See the above discussion regarding ground water quality. Ground water quantity monitoring is expensive and should be reserved for those cases where problems are suspected which could adversely impact park resources. We know salt water intrusion problems are occurring here and in many other locations along the coast of Florida.**
III.E.3.a	Surface water quality*	Monitoring of surface water quality should be addressed in the plan.
DRP RESPONSE		**Agree. Since the park is within an urban greenspace, the created lake system has surface water quality issues. This was briefly discussed in the management plan, but we will add language in the next updated plan.**
III.E.3.b	Surface water quantity*	Monitoring of surface water quantity should be addressed in the plan.
DRP RESPONSE		**Agree. Because the lake system in the park is artificial, it is difficult to determine the surface water quantity needs of the system. We will mention this in the next updated plan.**
III.G.1.a	Animal poaching	The problem of reptile poaching should be addressed in the plan.
DRP RESPONSE		**Disagree. Poaching of animals is not a significant concern at this park. Any poaching discovered would be reported to law enforcement authorities as is standard protocol for all parks.**

III.G.1.b	Plant poaching	The problem of plant poaching should be addressed in the plan.
DRP RESPONSE		**Disagree. See comments above.**
III.G.2	Vandalism	Vandalism should be addressed in the plan.
DRP RESPONSE		**Disagree. Any vandalism discovered will be handled as mentioned above.**
III.G.3	Dumping	Dumping should be addressed in the plan.
DRP RESPONSE		**Disagree. See comments above.**
III.G.4	Boundary encroachment*	The problem of boundary encroachments should be addressed in the plan.
DRP RESPONSE		**Agree. We will address this in the next updated plan.**
III.I.1.a	Adj. property concerns: Residential development*	The management problems/concerns caused by adjacent residential development should be addressed in the plan.
DRP RESPONSE		**Agree. We will address this in the next updated plan.**
III.I.1.b	Adj. property concerns: feeding*	The management problems/concerns caused by Raccoon raccoon feeding on adjacent property should be addressed in the plan.
DRP RESPONSE		**Disagree. This issue was discussed on pages 6, 27, and 28 of the management plan.**
III.I.1.c	Adj. property concerns: Stormwater runoff*	The management problems/concerns caused by stormwater runoff from adjacent property should be addressed in the plan.
DRP RESPONSE		**Disagree. See pages 5, 24, and 25 of the management plan.**
III.I.1.d	Adj. property concerns: Introduction of exotics*	The management problems/concerns caused by the introductionof non-native species should be addressed in the plan.
DRP RESPONSE		**Agree. Although we discussed exotic species introductions on pages 6, 26, and 27 of the plan, we agree that additional detail would be helpful.**

Inadequate items: Field review

I.A.3	Basin marsh*	Additional management/restoration of the basin marsh community is needed.
DRP RESPONSE		**Agree. In 1993, a restoration plan was completed for the marsh by the University of Florida with an estimated cost of $167,000 (in 1993 dollars). Funding for such actions is contingent upon DEP and DRP budget resources and priorities and also on legislative action. We will also increase efforts to get outside assistance.**
II.A	Cultural Resources: Survey*	A survey of cultural resources is needed.
DRP RESPONSE		**Agree. See comments on funding and increase efforts above.**
III.B.1	Restoration: basin marsh*	The basin marsh community should be restored.
DRP RESPONSE		**Agree. See comments under Basin marsh above.**
III.B.2	Restoration: Spoil areas to mangroves*	Spoil areas should be restored to a mangrove community.
DRP RESPONSE		**Agree. However, substantial funds will be required to remove the fill to achieve the functional elevation/topography to support a mangrove community. Also see comments on funding and increase efforts above.**
III.B.3	Restoration: Landfill*	The landfill should be restored to a natural area.
DRP RESPONSE		**Disagree. See comments above under <u>Plan Review</u>, III.B.3.**
III.C.2.a	Non-native invasive plants: Control*	Increased effort is needed to control non-native invasive plants.
DRP RESPONSE		**Agree. Every reasonable effort will be taken to increase exotic control efforts. More staff time will be allocated to treatment needs and efforts will be made to acquire assistance from volunteers and/or outside sources.**
III.E.1.a	Canals/ditches*	Water quality problems associated with storm water discharge onto the property need immediate attention.
DRP RESPONSE		**Agree. A proposed mitigation project may soon restore some of the ditch areas. Otherwise, we will need to pursue additional DEP/DRP budget funding, grant, or mitigation moneys to plan and initiate such a project.**

III.E.2.a	Ground water quality*	Monitoring of ground water quality is needed.
DRP RESPONSE		**Disagree. See comments for this item under Plan Review above.**
III.E.2.b	Ground water quantity*	Monitoring of ground water quantity is needed.
DRP RESPONSE		**Disagree. See comments for this item under Plan Review above.**
III.E.3.a	Surface water quality*	Monitoring of surface water quality is needed.
DRP RESPONSE		**Agree. As is standard protocol for these issues we will contact the South Florida Water Management District and DEP's "Surface Water Ambient Monitoring Program" for assistance and possible funding sources.**
III.E.3.b	Surface water quantity*	Monitoring of surface water quantity is needed.
DRP RESPONSE		**Agree. See comments for this item under Plan Review and under III.E.3.a. above.**
III.G.4	Boundary encroachment*	Additional effort is needed to resolve/minimize management problems associated with boundary encroachments.
DRP RESPONSE		**Agree. In 1993 the property line was surveyed and encroachments identified. Discussions with homeowners and Department legal staff are ongoing.**
III.I.1.a	Adj. property concerns: Residential development*	Effort should be made to minimize the management problems/ concerns caused by adjacent residential development.
DRP RESPONSE		**Agree. We will attempt to monitor nearby proposals and comment as deemed necessary.**
III.I.1.b	Adj. property concerns: Raccoon feeding*	Effort should be made to minimize the management problems/concerns caused by raccoon feeding on adjacent property.
DRP RESPONSE		**Agree. In 1997, DRP aggressively worked with the City of Ft. Lauderdale and other entities to develop a comprehensive plan, and binding memorandum of agreement, to resolve this issue. Unfortunately, the City formally terminated its interest in the joint action in September 1997. Alternatives are currently being explored.**
III.I.1.c	Adj. property concerns: Storm water runoff*	Effort should be made to control/minimize the management problems/concerns caused by storm water runoff from adjacent property.

DRP RESPONSE		**Disagree. See pages 5, 24, and 25 of the management plan.**
III.I.1.d	Adj. property concerns: Introduction of exotics*	Effort should be made to control/minimize the management problems caused by the introduction of non-native species.
DRP RESPONSE		**Agree. The park staff will monitor the property lines and remove exotics from park lands, provide written information to neighbors regarding the problems caused by exotic plants on park lands, and keep lines of communication open.**
III.J.3.a	Buildings	Additional buildings for staff and equipment are needed.
DRP RESPONSE		**Agree. Funding for construction will be pursued. Construction of buildings is contingent on DRP and DEP budget resources and priorities and also on legislative action.**
III.J.3.b	Equipment	Additional equipment is needed for resource management.
DRP RESPONSE		**Agree. The park acquires new and used equipment as needed relative to other DRP priorities and budgetary limitations.**
III.J.4	Staff	Additional staff are needed for property management.
DRP RESPONSE		**Agree. Additional staff are needed for all aspects of property management. However, no new staff can be assigned to this or any park unit unless the new positions are appropriated by the Legislature or reassigned from other units. This latter action is not appropriate at this time according to Division staff allocation research. Additional staff is needed by our parks statewide which is why we regularly seek positions, volunteers, and partners to help us overcome staff deficiencies.**
III.I.5.	Funding	Additional funding is needed, especially for resource management.
DRP RESPONSE		**Agree. More funding is needed, especially for resource management. Additional funds will be pursued. Funding is always contingent on DRP and DEP budget resources and priorities and also on legislative action**.

Recommendations to the managing agency

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

1. DRP should develop a detailed overall restoration plan for this park, including protection of freshwater habitats, and any mitigation projects should be consistent with the restoration goals of the park.

DRP RESPONSE **Agree. However, the plan should be brief, flexible, and included as an addendum to the next updated plan.**

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

After completing the review, team members were asked to answer "yes" or "no" to this question**.**

All team members agreed that Hugh Taylor Birch State Recreation Area is being managed for the purpose for which it was acquired.

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

After completing the review, team members were asked to answer "yes" or "no" to this question.

All team members agreed that actual management practices, including public access, were in compliance with the management plan for this site.

Memorandum

Florida Department of Environmental Protection

February 16, 1999

TO: Mr. Robert Clark, Program Administrator
Division of State Lands

FROM: Dana C. Bryan, Chief, Bureau of Natural & Cultural Resources
Albert Gregory, Chief, Office of Park Planning

SUBJECT: Response to Land Management Review (LMR) for Hugh Taylor Birch State Recreation Area

The Land Management Review dated December 7, 1998, determined that the management of the Hugh Taylor Birch State Recreation Area meets the two tests prescribed by law. The review team concluded that the land is being managed for the purposes for which it was acquired and in accordance with the land management plan.

The following comments are provided by field staff and our offices in response to specific concerns and where appropriate, recommendations that were included in the LMR. We have identified land management plan revisions and field management actions we plan to take to address the review team's concerns.

Check list items: Plan review:

I.A.3. - Natural Communities, Basin marsh: Agree. The basin marsh was mentioned on pages 6, 17, 20, and 26 of the management plan. A restoration plan also was briefly mentioned on pages 6 and 26. In 1993, a restoration plan was completed for the marsh by the University of Florida with an estimated cost of $167,000 (in 1993 dollars). We will mention this proposal in the next updated plan.

I.B.1.c. - Listed species, American alligator: Agree. Alligators occasionally find their way into Hugh Taylor Birch S.R.A. We will mention this in the next updated plan.

I.B.3. - Animals, Monitoring: Disagree. All listed animals in a park are not "routinely" monitored. Monitoring may be conducted for specific listed animals depending upon a need or project type, or the research interests of qualified academic investigators. This is common practice and does not need to be addressed in management plans.

I.C.1.b. - Listed species, Sea Oats: Agree. Successful restoration planting of sea oats was conducted in 1993. This will be mentioned in the next updated plan.

I.C.3. - Plants, Monitoring: Disagree. See comments under I.B.3. above.

II.A. - Cultural Resources, Survey: Disagree. Both status and need for a cultural resources survey were addressed on page 29 of the management plan.

II.B. - Cultural Resources, Protection: Disagree. Protection of cultural resources was addressed on page 28 of the management plan, and extensively in Addendum 7 (Cultural Management Statement Department of State, Division of Historical Resources).

III.B.1. - Restoration, Basin marsh: Agree. See comments under I.A.3. above.

III.B.2. - Restoration, Spoil to mangroves: Agree. We briefly mentioned this on pages 6, 24, and 25 of the management plan. However, we are unable to remove the fill to restore such sites to grade without extensive supplemental funding or mitigation project monies.

III.B.3. - Restoration, Landfill: Disagree. The former debris dump is not planned for restoration. However, we can add the recommendation from our internal (DRP) 30 October 1996 audit to the management plan. . .” remove the invasive exotics, place a layer of clean topsoil or mulch over the area (if needed), and revegetation with native maritime hammock species”.

III.B.4. - Restoration, Beach dune. See comments I.C.1.b. above.

III.C.2.a. - Non-native Invasive Species, Plants, Control: Agree. Although mentioned on page 26 of the current management plan additional detail will be included in the next updated plan.

III.D.2.a. - Problem Species, Plants, Control: Disagree. This was addressed on page 27 of the management plan.

III.E.a. - Hydrologic, Canals/ditches: Agree. We will address this in the next updated plan.

III.E.b. - Hydrologic, Soil erosion: Agree. We will mention in the next updated plan that no soil erosion problems occur at this park.

III.E.c. - Hydrologic, Roads/culverts: Disagree. This park is in an urban area of downtown Fort Lauderdale and is surrounded by towering buildings and major roadways. Much of it was greatly altered, drained, or filled prior to present day wetlands regulations and department management. A proposed mitigation project may soon restore some wetlands closer to their former hydrological conditions. There are no other plans to retrofit the park drive which is the only paved road within the park. Issues associated with major roadways outside the park are regulated by entities outside DRP.

III.E.2.a. - Ground Water Monitoring, Quality: Disagree. Except in cases where there are either known or suspected problems (such as the vicinity of old cattle vats or where wells are located in areas near domestic or industrial waste treatment facilities or waste streams), ground water quality monitoring is not cost beneficial.

III.E.2.b. - Ground Water Monitoring, Quantity: Disagree. See the above discussion regarding ground water quality. Ground water quantity monitoring is expensive and should be reserved for those cases where problems are suspected which could adversely impact park resources. We know salt water intrusion problems are occurring here and in many other locations along the coast of Florida.

III.E.3.a. - Surface Water Monitoring, Quality: Agree. Since the park is within an urban greenspace, the created lake system has surface water quality issues. This was briefly discussed in the management plan, but we will add language in the next updated plan.

III.E.3.b. - Surface Water Monitoring, Quantity: Agree. Because the lake system in the park is artificial, it is difficult to determine the surface water quantity needs of the system. We will mention this in the next updated plan.

III.G.1.a. - Poaching, Animals: Disagree. Poaching of animals is not a significant concern at this park. Any poaching discovered would be reported to law enforcement authorities as is standard protocol for all parks.

III.G.2.b. - Poaching, Plants: Disagree. See comments above.

III.G.2. - Vandalism: Disagree. Any vandalism discovered will be handled as mentioned above.

III.G.3. - Dumping: Disagree. See comments above.

III.G.4. - Boundary encroachment: Agree. We will address this in the next updated plan.

III.I.1.a. - Adjacent Property Concerns, Residential development: Agree. We will address this in the next updated plan.

III.I.1.b. - Adjacent Property Concerns, Raccoon feeding: Disagree. This issue was discussed on pages 6, 27, and 28 of the management plan.

III.I.1.c. - Adjacent Property Concerns, Stormwater runoff: Disagree. See pages 5, 24, and 25 of the management plan.

III.I.1.d. - Adjacent Property Concerns, Introduction of exotics: Agree. Although we discussed exotic species introductions on pages 6, 26, and 27 of the plan, we agree that additional detail would be helpful.

Inadequate Items: Field Review:

I.A.3. - Natural Communities, Basin marsh: Agree. In 1993, a restoration plan was completed for the marsh by the University of Florida with an estimated cost of $167,000 (in 1993 dollars). Funding for such actions is contingent upon DEP and DRP budget resources and priorities and also on legislative action. We will also increase efforts to get outside assistance.

II.A. - Cultural Resources, Survey: Agree. See comments on funding and increase efforts above.

III.B.1. - Restoration, Basin marsh: Agree. See comments under Basin marsh above.

III.B.2. - Restoration, Spoil to mangroves: Agree. However, substantial funds will be required to remove the fill to achieve the functional elevation/topography to support a mangrove community. Also see comments on funding and increase efforts above.

III.B.3. - Restoration, Landfill: Disagree. See comments above under Plan Review, III.B.3.

III.C.2.a. - Non-native Invasive Species, Plants, Control: Agree. Every reasonable effort will be taken to increase exotic control efforts. More staff time will be allocated to treatment needs and efforts will be made to acquire assistance from volunteers and/or outside sources.

III.E.a. - Hydrologic, Canals/ditches: Agree. A proposed mitigation project may soon restore some of the ditch areas. Otherwise, we will need to pursue additional DEP/DRP budget funding, grant, or mitigation moneys to plan and initiate such a project.

III.E.2.a. - Ground Water Monitoring, Quality: Disagree. See comments for this item under Plan Review above.

III.E.2.b. - Ground Water Monitoring, Quantity: Disagree. See comments for this item under Plan Review above.

III.E.3.a. - Surface Water Monitoring, Quality: Agree. As is standard protocol for these issues we will contact the South Florida Water Management District and DEP's "Surface Water Ambient Monitoring Program" for assistance and possible funding sources.

III.E.3.b. - Surface Water Monitoring, Quantity: Agree. See comments for this item under Plan Review and under III.E.3.a. above.

III.G.4. - Boundary encroachment: Agree. In 1993 the property line was surveyed and encroachments identified. Discussions with homeowners and Department legal staff are ongoing.

III.I.1.a. - Adjacent Property Concerns, Residential development: Agree. We will attempt to monitor nearby proposals and comment as deemed necessary.

III.I.1.b. - Adjacent Property Concerns, Raccoon feeding: Agree. In 1997, DRP aggressively worked with the City of Ft. Lauderdale and other entities to develop a comprehensive plan, and binding memorandum of agreement, to resolve this issue. Unfortunately, the City formally terminated its interest in the joint action in September 1997. Alternatives are currently being explored.

III.I.1.d. - Adjacent Property Concerns, Introduction of exotics: Agree. The park staff will monitor the property lines and remove exotics from park lands, provide written information to neighbors regarding the problems caused by exotic plants on park lands, and keep lines of communication open.

III.J.3.a. - Buildings: Agree. Funding for construction will be pursued. Construction of buildings is contingent on DRP and DEP budget resources and priorities and also on legislative action.

III.J.3.b. - Equipment: Agree. The park acquires new and used equipment as needed relative to other DRP priorities and budgetary limitations.

III.J.4. - Staff: Agree. Additional staff are needed for all aspects of property management. However, no new staff can be assigned to this or any park unit unless the new positions are appropriated by the Legislature or reassigned from other units. This latter action is not appropriate at this time according to Division staff allocation research. Additional staff is needed by our parks statewide which is why we regularly seek positions, volunteers, and partners to help us overcome staff deficiencies.

III.J.5. - Funding: Agree. More funding is needed, especially for resource management. Additional funds will be pursued. Funding is always contingent on DRP and DEP budget resources and priorities and also on legislative action.

Recommendations to the Managing Agency:

1) Park restoration plan: Agree. However, the plan should be brief, flexible, and included as an addendum to the next updated plan.

Thank you for the opportunity to comment on the LMR.

BNCR/OPP/mb
cc: George Jones, Chief, Parks District 5