MIAMI-DADE COUNTY
Deering Estate at Cutler

DRAFT MANAGEMENT PLAN

Miami-Dade County Parks, Recreation and Open Spaces Department

December 13, 2012

Public Hearing
Draft

PREPARED FOR:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

PREPARED BY:

MIAMI-DADE COUNTY PARKS, RECREATION AND OPEN SPACES DEPARTMENT

Cover photo courtesy of Brian F Call

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TABLE OF CONTENTS

MANAGEMENT PLAN

MAPS:

TABLES:

EXHIBITS:

APPENDICES:

Introduction

Deering Estate at Cutler is located in Miami-Dade County approximately thirteen (13) miles southwest of downtown Miami and adjacent to Biscayne Bay Aquatic Preserve. The park encompasses +/- 455 acres with regionally significant natural, archaeological and historical resources.

Prominent features in or adjacent to the Estate include seven native habitats - rockland hammock, remnant slough, pine rockland, mangroves, beach dune, salt marsh, and submerged aquatic vegetation - a complex of historic buildings, and archaeological significant sites. These features create a unique opportunity for visitors to experience a microcosm of South Florida ecological and cultural history spanning more than 10,000 years.

With significant community support, the State of Florida and Miami-Dade County negotiated a purchase agreement for approximately 346 acres (the Main Estate) in 1985 from the last remaining heir of Charles Deering. Subsequent purchases have increased the acreage of the Estate to 444.31 acres (plus an additional 10.36 acres of managed right-of-way) for a total of approximately 454.67 acres.

Purpose and Significance of Park

Managed by the Miami-Dade County Parks, Recreation, and Open Spaces Department (MDPROS), the Deering Estate at Cutler is considered to be one of the most important public properties in the County. It is valued not only for its diverse natural resources, but also for its rich historical, architectural and archaeological significance. Residents and tourists visit the Estate to enjoy and appreciate its resources and participate in a multitude of recreational, educational and cultural events and programs.

The Estate contains the following resources: 1) unique examples of rockland hammock, remnant slough, pine rockland, mangroves, beach dune, salt marsh, and submerged marine grass bed communities; 2) a complex of historic buildings representing varying architectural periods; and 3) archaeological sites that evidence Paleo-Indian to early pioneer settlements.

In 1992, Hurricane Andrew caused substantial damage to the historic buildings and natural areas. On March 27, 1999, Miami-Dade County completed the rehabilitation and restoration of the historic buildings and main grounds of the Estate. Since re-opening to the public in 1999, restoration of the Estate has continued.

Purpose of this Plan

The intent of this management plan is to update and enhance the Estate's guiding policy document. The plan is the result of collaboration of the project team, technical resource team and advisory board. It requires approval by the State Land Management Advisory Committee and Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

This plan reflects current resource protection, management, planning, and programming needs. It provides a guide for operation, maintenance, and management of the Estate to achieve a balance between protecting natural and historic resources and providing appropriate public access. Consistent with the original 1993 plan, this plan seeks to:

"*preserve and protect the natural and historic legacy of this unique property by using wise stewardship practices to manage and restore sensitive resources, enhance public appreciation and provide for compatible use*."

This plan provides a basic statement of policy necessary to continue bringing this vision to fruition. It functions as a broad directive for managing the entire Estate as a whole, as compared to a more specifically focused implementation plan that provides detailed illustrations of land use and facility development, operations manual, or resource protection plan.

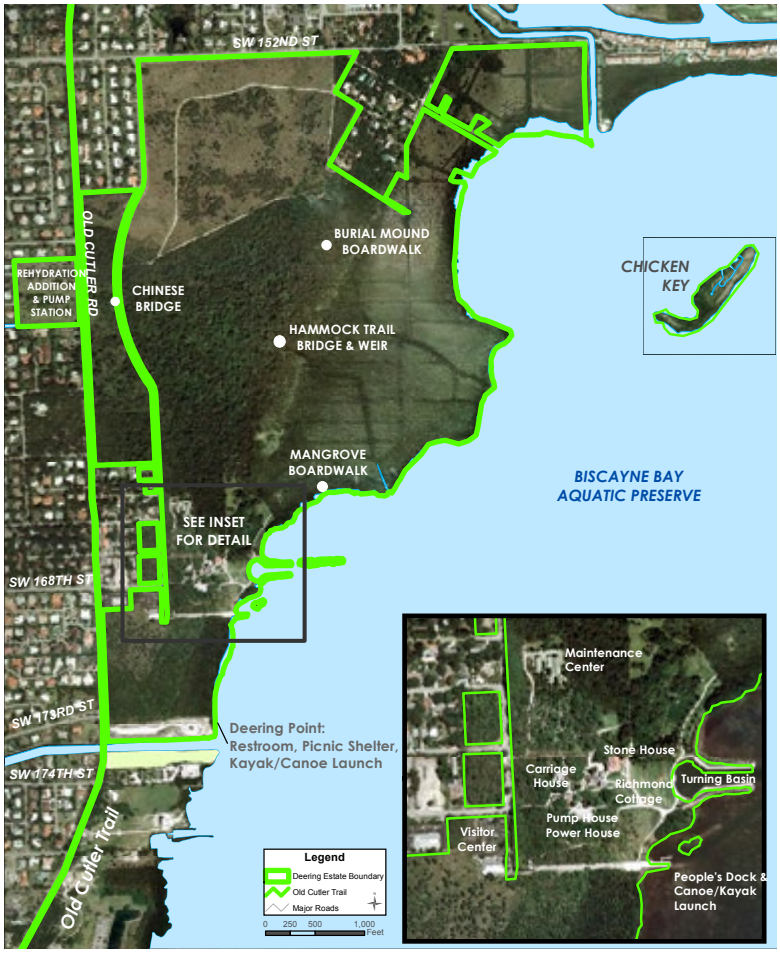
The management plan is composed of 10 sections:

1. Executive Summary
2. General Information
3. Location and Description of Resources
4. Uses and Management
5. Additional Requirements
6. 253.034 - State-Owned Lands Uses
7. 253.036 - Forest Management
8. 259.032 - Conservation and Recreation Lands Trust Fund
9. 259.036 - Management Review Teams
10. Other Requirements

Management Program

The Board of Trustees of the Internal Improvement Trust Fund (TIITF) of the State of Florida holds fee simple title interest for a portion of the Estate as specified by the deed. Restrictions, reservations, and easements are contained within the Legal Description. The Board of TIITF also holds title interest for the South Addition. These properties were leased to the Department of Environmental Protection, Division of State Lands and sub-leased to Miami-Dade County in April 21, 1987. Title Interests for the North Addition (EEL), Rehydration Addition (Powers Property) (MDPROS), and Out-Parcels (MDPROS) located at 16480 SW 72nd Avenue and SW 164th Terrace and SW 72nd Avenue are held by the county as shown on Map 2 - Site Boundaries and Ownership.

Map 1: Location of Structures and Improvements to Property



Management Coordination

The Estate consists of a number of parcels purchased at different times through various funding sources both solely and in partnership with other agencies. Thus, individual parcels may have different specific uses and management restrictions. This plan provides a comprehensive management approach for the Estate to achieve an appropriate balance for protecting natural and cultural resources and providing public access and compatible recreational opportunities. Specific management requirements are described below.

Conservation and Recreation Lands (CARL)

Properties purchased under the CARL land acquisition program must be managed under the following terms. All lands shall: 1) provide the greatest combination of benefits to the public and to the resources; and 2) provide for public outdoor recreation, which is compatible with the conservation and protection of public lands.

Florida Communities Trust (FCT)

Properties purchased with assistance from FCT are subject to covenants and restrictions that ensure the use of the property at all times complies with Sections 375.051 and 380.510, Florida Statutes; Section 11(e), Article VII of the Florida Constitution; the applicable bond indenture under which the bonds were issued that funded the FCT program; and any Internal Revenue Code regulations pertaining to tax exempt bonds. Failure to meet the requirements of the FCT grant award agreement may lead to the Board of Trustees of the Internal Improvement Trust Fund acquiring property deeds. Furthermore, Sections 253.034 and 259.032, Florida Statutes, and Rule 18-2, Florida Administrative Code, require a management plan for all State lands, including those leased or sub-leased by local governments, be submitted to the Department of Environmental Protection for approval by the State Land Management Advisory Committee and the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida.

A management plan must be submitted within the first 12 months of the initial sub-lease and updated every 10 years. The management plan must meet the requirements of Florida Statutes and must be consistent with the State of Florida's Lands Management Plan. Furthermore, the

plan must be consistent with local administrative rules and regulations as well as the county's Comprehensive Development Management Plan (CDMP).

Environmentally Endangered Lands (EEL)

Properties purchased with assistance from Miami-Dade County Department of Environmental Resource Management's Environmentally Endangered Lands program (EEL) are subject to management requirements that ensure their use complies with Chapters 24-50 of the County Code. The EEL program was established to acquire, preserve, enhance, restore, conserve, and maintain threatened natural forest and wetland communities located in the county for the benefit of present and future generations.

Miami-Dade County Parks, Recreation and Open Spaces (MDPROS)

The Estate is part of the county's park system and is classified as an Area Wide/Special Activity Area. It is managed to serve the recreational needs of county residents and tourists on a countywide basis in a manner consistent with the county's Comprehensive Development Master Plan (CDMP). As the responsible agency, the MDPROS operates the Estate with on-site staff, assigned crew from the MDPROS Natural Areas Management Division, and support from other MDPROS divisions. MDPROS manages the North and South Additions jointly with the County's EEL Program.

Deering Estate Historic Buildings

As a county facility, technical support is provided by other county agencies, such as:

- Regulatory and Economic Resources (RER);
- Public Works and Waste Management (PWWM); and
- Information Technology (ITD).

Deering Estate Foundation, Inc.

Established in 1989, the Deering Estate Foundation, Inc., is a nonprofit community based 501(c)3 Florida Corporation and the philanthropic arm of the Deering Estate at Cutler. The Board of Directors, members and volunteers of the Foundation are made up of a diverse group of business and community leaders who are dedicated advocates of the Estate and active supporters of education, research, cultural arts, restoration and preservation. The Foundation enjoys a seamless and productive partnership with the Estate's staff. The Foundation respectfully leaves the core programming and operations in the capable hands of the Estate's staff, focusing instead on obtaining and providing the added resources the Estate staff needs in the way of capital, equipment, supplies and marketing to get programs up and running until they are self-supporting and obtaining scholarship funding to secure and/or extend the development and reach of programs.

Biscayne Bay Aquatic Preserves

Biscayne Bay is home to two state aquatic preserves, part of a system of 41 aquatic preserves around the state managed by the Florida Department of Environmental Protection's Office of Coastal and Aquatic Managed Areas. The first aquatic preserve in Biscayne Bay borders Deering Estate at Cutler and was established in 1974. It runs the length of Biscayne Bay, from the headwaters of the Oleta River down to Card Sound near Key Largo and comprises approximately 63,000 submerged acres. The second aquatic preserve, named the Biscayne Bay-Cape Florida to Monroe County Line, was established in 1975 and lies offshore of Bill Baggs Cape Florida State Park. Management of the nearly 70,000 acres of submerged lands that comprise the Biscayne Bay Aquatic Preserves' (BBAP) are established in Chapter 18-18 Florida Administrative Code., according to its designation in Chapter 258.397, Florida Statutes. Through these provisions, BBAP was established for the purpose of preserving and enhancing Biscayne Bay and all natural waterways tidally connected to the bay in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations.

BBAP provides habitat for a wide variety of juvenile and adult marine species including several of Florida's imperiled species, such as the west Indian manatee, the smalltooth sawfish, the American crocodile, and Johnson's seagrass. Other vital resources of the BBAP

include expansive hardbottom communities with corals, sponges and algae, mangrove-lined shores, and a variety of invertebrate species throughout the length of the bay. Seagrass beds within the BBAP, and namely those nearshore areas adjacent to Deering Estate at Cutler, are prime feeding areas for wading birds and a valuable nursery area for juvenile fish and invertebrates, including many of commercial interest. The BBAP is also historically part of the Everglades ecosystem. The Cutler Slough Rehydration Project (Deering Flow-way) will restore a more natural flow of freshwater to BBAP thereby reducing salinity levels and supporting BBAP's nursery habitat for fish and invertebrate species. BBAP staff will continue to partner with Deering Estate at Cutler to address natural resource issues affecting the bay in the vicinity of the park, assist in environmental education training for park staff, and raise awareness in the community about the presence and importance of Miami's aquatic preserves.

Management Goals:

The following goals highlight the long-term intent in managing the Estate:

1. Preserve, restore and manage native plant and wildlife communities and the natural processes that historically influenced these communities.
2. Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties, which are mandatory for all properties listed on the National Register of Historic Places.
3. Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.
4. Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, on-site and outreach educational, cultural, research and recreational opportunities.
5. Provide appropriate, efficient, effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.
6. Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.

Public Participation:

Miami-Dade County provided multiple opportunities for public input throughout the development of this management plan update. These included a stakeholder committee comprised of county staff, an advisory group consisting of public agency representatives, non-profit organizations and lastly, a Public Hearing, which was conducted on January 15, 2013. Each meeting or hearing was conducted with the purpose of providing an opportunity for input.

Map 2: Site Boundaries

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page Numbers**
18-2.021 Acquisition and Restoration Council.	
1. Executive Summary	16
Management Plans. Plans submitted to the division for ARC review under the requirements of Section 253.034 F.S.should be in a form and manner prescribed by rule by the board and in accordance with the provisions of S. 259.032 and should contain where applicable to the management of resources the following:	
2. The common name of the property.	28
3. A map showing the location and boundaries of the property plus any structures or improvements to the property.	28
4. The legal description and acreage of the property.	31
5. The degree of title interest held by the Board, including reservations and encumbrances such as leases.	32
6. The land acquisition program, if any, under which the property was acquired.	32
7. The designated single use or multiple use management for the property, including other managing agencies.	32
8. Proximity of property to other significant State/local/federal land or water resources.	32
9. A statement as to whether the property is within an Aquatic Preserve or a designated Area of Critical State Concern or an area under study for such designation. If yes, make sure appropriate managing agencies are notified of the plan.	32
10. The location and description of known and reasonably identifiable renewable and non-renewable resources of the property including, but not limited to, the following:	
A. Brief description of soil types, using U. S. D. A. maps when available;	36
B. Archaeological and historical resources*;	37
C. Water resources including the water quality classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Waters;	43
D. Fish and wildlife and their habitat;	45
E. State and federally listed endangered or threatened species and their habitat;	48
F. Beaches and dunes;	48
G. Swamps, marshes and other wetlands;	48
H. Mineral resources, such as oil, gas and phosphate;	49
I. Unique natural features, such as coral reefs, natural springs, caverns, large sinkholes, virgin timber stands, scenic vistas, and natural rivers and streams; and	49
J. Outstanding native landscapes containing relatively unaltered flora, fauna, and geological conditions.	49
11. A description of actions the agency plans , to locate and identify unknown resources such as surveys of unkhnown archeological and historical resources.	50

33. A quantitative data description of the land which includes an inventory of forest and other natural resources; exotic and invasive plants; hydrological features; infrastructure, including recreational facilities; and other significant land, cultural, or historical features.	79
34. A detailed description of each short-term and long-term land management goal, the associated measurable objectives, and the related activities that are to be performed to meet the land management objectives. Each land management objective must be addressed by the land management plan, and where practicable, no land management objective shall be performed to the detriment of the other land management activities.	80
35. A schedule of land management activities which contains short-term and long-term land management goals and the related measurable objectives and activities. The schedule shall include for each activity a timeline for completion, quantitative measures, and detailed expense and manpower budgets. The schedule shall provide a management tool that facilitates development of performance measures.	86
36. A summary budget for the scheduled land management activities of the land management plan. For state lands containing or anticipated to contain imperiled species habitat, the summary budget shall include any fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitats, which fees shall be used solely to restore, manage, enhance, repopulate, or acquire imperiled species habitat. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3).	96
37. Each management plan shall describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. *Short-term and long-term management goals shall include measurable objectives for the following, as appropriate:* ***(A)** Habitat restoration and improvement;*	97
(B) Public access and recreational opportunities;	97
(C) Hydrological preservation and restoration;	97
(D) Sustainable forest management;	97
(E) Exotic and invasive species maintenance and control;	97
(F) Capital facilities and infrastructure;	97
(G) Cultural and historical resources;	97
(H) Imperiled species habitat maintenance, enhancement, restoration, or population restoration	97
253.036 Forest Management. —	
38. For all land management plans for parcels larger than 1,000 acres, the lead agency shall prepare the analysis, which shall contain a component or section prepared by a qualified professional forester which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel. (Example #8)	101
259.032 Conservation And Recreation Lands Trust Fund; Purpose. —	
(10)(a) State, regional or local governmental agencies or private entities designated to manage lands under this section shall develop and adopt, with the approval of the Board of Trustees, an individual management plan for each project designed to conserve and protect such lands and their associated natural resources. Private sector involvement in management plan development may be used to expedite the planning process.	
39. Individual management plans required by s. 259.032(10)(b), for parcels over 160 acres, shall be developed with input from an advisory group - Management plan should list advisory group members and affiliations.	104
40. The advisory group shall conduct at least one public hearing in each county in which the parcel or project is located. Managing agency should provide DSL/OES with documentation showing date and location of public hearing.	104

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EXECUTIVE SUMMARY
(REQUIREMENT 1)

Photo courtesy of Brian F. Call

Deering Estate at Cutler

Listed on the National Register of Historic Places, the +/- 455 acre Deering Estate at Cutler (the Estate), located in Miami-Dade County, is jointly owned by Miami-Dade County and the State of Florida, and is managed by the Miami-Dade County's Parks, Recreation and Open Spaces Department through a sub-lease agreement with the State of Florida. Located in south Miami-Dade with significant environmental, archaeological and historical resources in a single site, in FY 2010-11, the Estate welcomed 62,578 visitors.

The Estate is one of the few places in South Florida where Biscayne Bay meets the Atlantic Coastal Ridge. For this reason, the area has been an attractive destination for many visitors and settlers throughout its existence. Archaeological investigations conducted at the Estate revealed that Paleo-Indians used the area as early as 10,000 years ago. In the mid- to late-1880s, the Town of Cutler attracted early pioneer settlers to the area. Finally, in 1916, the property was acquired by Charles Deering, a prominent American industrialist.

With community support for the preservation of the Deering Estate at Cutler, the State of Florida and Miami-Dade County negotiated a purchase agreement for the 346.28 acre property from the Cutler Development Corporation for $22.5 million in 1985. The initial acquisition consisted of: the grounds within the stone wall containing the Stone House; Richmond Cottage; the Power, Pump and Carriage Houses; the boat turning basin; coastal wetland, hardwood hammock, and pine rockland habitats; and two parcels west of SW 72nd Avenue.

In subsequent years, the state and county have acquired and/or assumed responsibility for the management of an additional +/- 108 acres comprised of the parcels and acreage shown on the following table:

Table 1: Acreage by Parcel

Location	Uplands	Wetlands/ submerged	Total
Main Estate	250.78 Ac.	95.50 Ac.	346.28 Ac.
Shoreline adjustment	----------	12.86 Ac.	12.86 Ac.
North Addition	2.00 Ac.	38.74 Ac.	40.74 Ac.
North Addition PW R.O.W.*	0.50 Ac.	9.86 Ac.	10.36 Ac.
South Addition	27.50 Ac.	6.50 Ac.	34.00 Ac.
Rehydration Addition	9.66 Ac.	----------	9.66 Ac.
7200 SW 164th Terrace	0.47 Ac.	----------	0.47 Ac.
16480 SW 72nd Avenue	0.30 Ac.	----------	0.30 Ac.
ESTATE ACREAGE:			**454.67**

**Plus ROWs in North Addition and an adjusted shoreline based on current aerial photos / mangroves of entire Estate since 1993.*

Notes: Management of Deering Estate at Cutler extends to the Mean High Water Line. Main Estate acreage includes Chicken Key.

The intent of this management plan is to update the Estate's guiding policy document. The plan requires approval by the State Land Management Advisory Committee and Board of Trustees of the Internal Improvement Trust Fund of the State of Florida. This plan functions as a broad directive for managing the entire Estate, the development of which included public involvement, including Stakeholder meetings, Advisory Group Meeting, and a Public Hearing.

The Main Estate parcels were sub-leased (No. 3418) to Miami-Dade County on April 21, 1987 and will revert back to the management of the Department of Environmental Protection, Division of State Lands on December 18, 2035 unless the lease is extended or renewed. The Main Estate at the time of original acquisition included 346.28 acres acquired through the Conservation and Recreation Lands (CARL) Program in 1985.

The Estate is categorized as a Multiple Use site with a conservation-designated land use. While the Estate is made up of multiple parcels, no encumbrances were deemed as an impediment to the management of the property by Miami-Dade County Parks, Recreation, and Open Spaces Department. None of the parcels have been deemed suitable for surplus.

The Estate contains many unique features that make the property one of the most important public properties in the County. It is valued not only for its rich natural resources but also for its historical, architectural and archaeological significance. Important features include:

Tropical Hardwood Hammock

Biodiversity/Natural Heritage

- The Estate preserves and protects native South Florida habitats, including pine rocklands, tidal marshes, tropical hardwood hammocks, mangrove forests, fresh water wetlands and beach dunes, that face increasing pressure from urban expansion in Miami-Dade County.
- The Estate occurs adjacent to the coastal waters and resources of Biscayne Bay Aquatic Preserve.

Geology

- The Estate features excellent examples of unique geologic features including karst topography, terrestrial and aquatic caves, Cutler Creek, and the Silver Bluff formation. These formations have been exposed above sea level for the last 120,000 years.

Hydrology

- The Cutler Slough Rehydration Project (Deering Flow Way) located on the Estate provides relevant opportunities to study the effects of urbanization and management decisions on hydrology in South Florida.

Cultural Landscape

- The Estate is an example of historic South Florida settlements and development patterns.
- The Estate is located within a major suburban residential area and is easily accessible to local residents, students, and researchers in the Miami-Dade County area.

Archaeology

- The Estate contains a number of significant State-designated and recognized archaeological sites that offer rare insight into Paleo-Indian and Tequesta cultures, including the Cutler Fossil Site, Cutler Burial Mound, and Cutler Midden as well as the historic Addison Homestead indicative of early area pioneer settlements.

Collections

- The Estate houses a number of historically significant art pieces that were part of Charles Deering's extensive collection, one of the most valuable in south Florida during the 1920s.
- Many of these pieces have been donated by the Deering Family and include more than 340 historic books, a number of paintings, antique furniture, and wine and spirit bottles.

Architecture

- The Estate contains numerous historic and architecturally significant buildings constructed in the late 19th and early 20th centuries including the Richmond Cottage, Stone House, Carriage House, Power House, and Pump House.

Education and Research

- The Deering Estate at Cutler provides education and outreach to the local and regional community through K-12 curriculum, field study programs, research, workshops, daily public tours and other interactive learning experiences.

Management Goals

The management needs of the Estate include the protection, restoration and enhancement of natural and cultural resources to provide educational and research-based programming consistent with the goals and objectives of this plan, including:

1. Preserve, restore and manage native plant and wildlife communities and the natural processes that historically influenced these communities.
2. Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties, which are mandatory for all properties listed on the National Register of Historic Places.
3. Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.
4. Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, on-site and outreach educational, cultural, research and recreational opportunities.
5. Provide appropriate, efficient, effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.
6. Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.

Several required or mandated conditions exist on the property that affect regular Estate operations. Most relate to either 1) restoration and/or management of natural systems or 2) protection of cultural resources. The following are conditions for restoration and/or management of natural systems:

Water Quality, Quantity and Flow

Improvement to the quality, quantity, distribution and timing of surface and groundwater flows will help improve circulation characteristics in Biscayne Bay and also help protect and restore on-site natural ecosystems. Deering Flow-way components that were recently constructed will provide freshwater distribution and timing more similar to historic water flows and reduce point source freshwater discharges exiting the C-100 Canal located on the southern end of the Estate. The Deering Flow-way is anticipated to benefit a minimum of 1.6 miles of coastline and bay habitats.

Public Access

The Deering Estate at Cutler Management Plan and state legislation require that all environmentally sensitive natural areas be preserved, protected, maintained, and restored in perpetuity to ensure long-term viability of native populations and species considered rare or imperiled (species of special concern, threatened, or endangered). Public access to resources must be conducted in a manner that limits potential adverse effects on the resources.

Prescribed Burns

Prescribed burns and wildfires are critical to the long-term viability of the Estate's fire-dependent pine rockland and salt marsh habitats. Prescribed burns are used at the Estate to enhance ecosystem functions and reduce fuel accumulation that could cause undesirable wildfires. It is vital that the public understand the role of fire in maintaining wildlands and its use as a tool to reduce wildfire hazards. Public education will be utilized to increase awareness of benefits of prescribed burns.

Resource Monitoring

Monitoring efforts are conducted at the community and species level implementing adaptive management techniques. Monitoring may include: permanent photo-points; line transects or plots for community evaluations; evaluation of effects of human activities on natural communities; and rare species population dynamic assessments.

Non-Native Invasive Species Management

The Estate protects and preserves all species of native flora and fauna within the entire property. Non-native invasive plant species are a significant management challenge for the Estate. Currently, non-native invasive species control is focused on the Main Estate, North Addition, and South Addition, with limited effort for outparcels. Efforts have been targeted over the last 20 years and have successfully maintained the majority of the property with less than 5 % areal cover of non-native invasive species.

Stormwater Runoff and Treatment

The Estate provides more than 400 acres of open ground, including grassy lawns, forested uplands, and freshwater and coastal wetlands, for percolation and absorption of rainwater that help maintain more natural drainage patterns of stormwater and reduces flooding impacts to the site and surrounding properties. Runoff from impervious areas are treated on-site. Future improvements may require evaluation of stormwater treatment and retention capacity prior to installation.

Water Quality, Quantity and Flow

Improvement to the quality, quantity, distribution and timing of surface and groundwater flows will help improve circulation characteristics in Biscayne Bay and also help protect and restore on-site natural ecosystems. Deering Flow-way components that were recently constructed will provide freshwater distribution and timing more similar to historic water flows and reduce point source freshwater discharges exiting the C-100 Canal located on the southern end of the Estate. The Deering Flow-way is anticipated to benefit a minimum of 1.6 miles of coastline and bay habitats.

Ecological Research

Tropical hardwood hammock, pine rockland, and freshwater and coastal wetlands as well as cultural resources of the Estate provide extensive research opportunities. All projects must comply with established site research guidelines, county, state and federal codes. MDPROS staff are present to guide the development and implementation of research projects.

Mosquito Control

Insecticidal sprays may have impacts on native insect fauna, including butterflies. Miami-Dade County Staff monitor impacts to natural resources, and alternative control methods are being explored as part of the arthropod control plan.

The following are conditions for the protection of cultural resources on the Estate:

Public Access

Few properties in Miami-Dade County compare with the rich cultural and historical resources found within the Estate. Issues with the management of these resources primarily relate to the public demand for access. While no significant degradation of cultural resources has been documented, a proactive approach to resource protection standards and monitoring has been established. Actions that may adversely affect archaeological or historical resources must receive prior approval from the Florida State Division of Historical Resources and the Miami-Dade County Office of Historic Preservation.

Facility Hurricane Preparations

The Estate is a coastal property subject to direct storm impacts, presenting the Estate with significant management challenges. Actions are taken to secure the property in the case of hurricane and storm watches and warnings. The property follows county and site-specific guidelines for preparation.

Waste Removal Facilities

Estate staff spend considerable amounts of time cleaning following rental and special events, while MDPROS crews regularly dispose of litter and illegally dumped materials. MDPROS is considering the implementation of a comprehensive recycling program as an additional alternative waste management option.

Maintenance Responsibility and Needs

Salt spray from Biscayne Bay accelerates the deterioration of Estate buildings, equipment and materials. MDPROS staff and specialty contractors regularly engage in repairs and maintenance.

Security

Access control at the Estate is managed by a combination of fences, walls and security guards. Upgrades in the form of video surveillance are needed throughout the property, especially in and around historic buildings and grounds for visitor safety and protection of valuable artifacts.

Management Goal Descriptions

The management goals and objectives for the Deering Estate at Cutler are in alignment with those of its managing agency, the Miami-Dade County Parks, Recreation and Open Space Department. The agency's mission is:

We create outstanding Recreational, Natural and Cultural experiences to enrich you and enhance the quality of life for our community for this and future generations.

The Miami-Dade County Parks, Recreation and Open Spaces Department's Vision Statement is:

We will build a model park, recreation and open space system to create a healthy, livable, sustainable community and enhance the quality of life for residents and visitors.

MDPROS completed a countywide Parks and Open Space System Master Plan in 2007. Guiding principles within that master plan include:

Open Space Master Plan (OSMP) Guiding Principles:

Seamlessness - Every element of the county including neighborhoods, parks, natural area, streets, civic centers and commercial areas, should be connected without regard to jurisdiction.

Beauty - Every public space, including streets, parks, plazas and civic buildings, should be designed to be as aesthetically pleasing as possible and to complement the natural and cultural landscape.

Access - Every resident should be able to safely and comfortably walk, bicycle, drive and/or ride transit from their home to work, school, parks, shopping and community facilities.

Equity - Every resident should be able to enjoy the same quality of public facilities and services regardless of income, age, race, ability or geographic location.

Sustainability - Every action and improvement of the park system, including facilities, programs, operations and management, should contribute to the economic, social and environmental prosperity of the county.

Multiple Benefits - Every single public action should generate multiple public benefits to maximize taxpayer dollars.

Consistent with these principles, the Mission Statement for the Deering Estate at Cutler is to:

"Preserve and protect the natural, archaeological, architectural and historic legacy of the Estate by using wise stewardship in the management and utilization of its sensitive resources while educating and enhancing public appreciation of the unique characteristics of the site through compatible uses."

The following is a detailed description of: each short-term and long-term land management goal; the associated measurable objectives; the related activities that would assist in meeting the land management objectives subject to budget availability and fiscal capabilities of the county; and estimates of relative priority and cost for each activity.

Goal 1:

Preserve, restore and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective A: Continue restoration, enhancement, maintenance and monitoring of natural areas.

Activity	Priority	Estimated Costs
1. Utilize and continue to work with professionals in the field of natural areas management and, where appropriate, archaeology, to develop and follow restoration, maintenance and monitoring strategies for the natural areas.	NO	Staff
2. Maintain a Preserve Manager for the Estate that will coordinate with environmental, historical and archaeological professionals.	NO	Staff
3. Develop and utilize strategies for restoration, enhancement, creation, maintenance and monitoring based on historical documentation, current scientific knowledge, and on-going monitoring and research.	NO	Staff
4. Continue to develop and follow long-term restoration, maintenance and ecological monitoring.	NO	Staff
5. Continue implementation of the Cutler Slough Rehydration Project.	NO	Staff and Direct Costs = $290k
6. Continue volunteer recruitment and training to educate participants and assist with natural resources management while ensuring the proper protection of cultural resources.	NO	Staff
7. Offer community and scholastic educational service opportunities in conjunction with the management and restoration of the Estate's natural resources.	NO	Staff

Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.

Activity	Priority	Estimated Costs
1. Continue to survey, identify and map listed plant and animal species and habitats.	YES	Staff and Direct Costs = $3k per year
2. Continue to define and implement specific objectives for identified listed species.	NO	Staff
3. Continue the long-term monitoring programs for listed plant and animal species.	NO	Staff
4. Evaluate additional long-term monitoring programs for listed plant and animal species.	NO	Staff
5. Practice adaptive management. Evaluate information gained through monitoring to modify and improve successful management actions.	NO	Staff
6. Continue to evaluate and implement proposals for introduction and / or re-introduction of listed plant or animal populations to the property for their potential impact on both existing native plant and animal communities.	NO	Staff

Objective C: Identify and appropriately control threats to native habitats and species such as invasive (exotic) plants and animals to improve the health and balance of native biological communities.

Activity	Priority	Estimated Costs
1. Continue to survey and map non-native invasive pest plant and animal infestations on the Estate.	YES	Staff
2. Continue to develop and implement prioritized plans for control and eradication of non-native invasive species.	YES	Staff
3. Continue the removal of landscape plants known to invade natural areas.	NO	Staff
4. Continue to develop and implement prioritized plans for control of 'nuisance' animals pursuant to departmental policies.	NO	Staff

Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.

Activity	Priority	Estimated Costs
1. Implement a Prescribed Burn Plan per Miami-Dade County Natural Areas Management Plan.	YES	Staff
2. Coordinate with Florida Forest Service and Miami-Dade Fire Rescue to ensure that wildfire response is sensitive to the perpetuation of pine rockland, rockland hammock and salt marsh habitats.	YES	Staff
3. Continue dialogue with the local community to provide informational and educational materials on and notices of upcoming prescribed burns.	NO	Staff

Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORV s), paintball and other inappropriate games, and other unauthorized uses.

Activity	Priority	Estimated Costs
1. Ensure that existing rules and regulations concerning the protection of natural resources are enforced. Project managers, staff, and security are responsible for identifying situations where illegal public use is occurring.	YES	Staff
2. Maintain signs to identify environmentally protected areas, designate areas for public access, and to discourage inappropriate public use.	NO	Staff and Direct Costs = $1k per year
3. Continue coordinating with Miami-Dade Police Department and park officers to enforce regulations within natural areas.	NO	Staff

Goal 2:

Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.

Objective A: Assess cultural and historical resources at the Deering Estate at Cutler.

Activity	Priority	Estimated Costs
1. Conduct a comprehensive archaeological survey to properly record, map, and determine the boundaries of known and unknown archaeological and historical sites.	YES	Phase 1 = $25k Detailed Assessment = $200k
2. Provide ongoing training for staff and volunteers on the management, protection, and interpretation of archaeological and historical resources.	YES, In-House	In-House = Staff Professional Development = $5k per yr.
3. Control public access to and foot traffic in sensitive areas, particularly the Cutler Midden, Cutler Fossil Site, Cutler Mound and other archaeological resources located as a result of future archaeological surveys.	YES, In-House	Staff
4. Prepare maintenance and monitoring plan and continue monitoring the integrity of cultural, natural and archaeological resources, as needed.	YES, In-House	Plan Development Staff/ Direct Costs = $25-50k Monitoring = Staff
5. Establish a research access point with all pertinent site files, local literature, archaeological reports and all state and county archaeological research permits, compliance reviews, and correspondence.	NO	Staff and Direct Costs = $25k
6. Complete historic buildings condition assessment reports.	NO	Staff

Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.

Action	Priority	Estimated Costs
1. Create collections, preservation and conservation policies and procedures for cultural and historical collections at the Deering Estate at Cutler.	YES, In-House	Policies and Procedures = Staff Achive Maint. Plan = $250k
2. Collect and research pertinent cultural and historical materials.	NO	Staff
3. Expand the description of interpretive themes based on significant human activity relevant to the Deering Estate at Cutler.	NO	Staff
4. Develop and implement key interpretive thematic exhibits and displays within the Deering Estate at Cutler.	NO	Short-Term = Staff/ Direct Costs = $50k Long-Term = $250-500k

Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.

Activity	Priority	Estimated Costs
1. Prepare detailed and specific regular use and maintenance plans for architectural and historic landscape features to guide staff in the proper maintenance and care of the Deering Estate at Cutler. Implement use and maintenance plans on an ongoing basis and train staff regularly.	YES, In-House	Short-Term = Staff Long-Term Detailed Maintenance Plan = $200k
2. Develop a landscape master plan to guide in the introduction and/or re-introduction of historic landscapes from the Deering era that includes no planting or propagation of prohibited species (defined as Category I and II exotics on the Florida Exotic Pest Plant Council's (FLEPPC) List of Invasive Plants, those specified in the Miami-Dade County Code, any species listed in the Miami-Dade County Comprehensive Development Master Plan (CDMP), and any species listed in the Miami-Dade County Landscape Manual).	NO	$50k

Goal 3:

Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.

Objective A: Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.

Activity	Priority	Estimated Costs
1. Improve park wayfinding and circulation within Main Estate grounds related to visitor orientation and control.	YES, Develop Plan	Short-Term Develop Plan = $25k Long-Term Implem. = $200k
2. Improve public access to the Deering Estate at Cutler through architectural or programmatic modifications in accordance with applicable federal, state and local laws.	YES	Short-Term Pathways = $50k; Long-Term Chairlift/ Bathroom Upgrades = $75k
3. Provide and improve main park arrival sequence utilizing existing roads to control vehicular and pedestrian trails to introduce visitors to the Deering Estate at Cutler, while maintaining the historic entrance.	NO	$2.5 millon
4. Create additional visitor parking areas of appropriate size and location that minimizes impact to sensitive resources.	NO	Included in Action 1 (Main Park Arrival Sequence)
5. Improve visitor arrival to the Deering Estate at Cutler at the Visitor / Orientation Center.	NO	Included in Action 1 (Main Park Arrival Sequence)
6. Improve night lighting within Main Estate Grounds as required to meet public safety code requirements and aid pedestrian circulation patterns.	NO	$15k per year
7. Enhance and maintain visual connection and interpretation opportunities to Biscayne Bay Aquatic Preserve and other adjacent significant sites.	NO	$15k

Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.

Activity	Priority	Estimated Costs
1. Regularly train staff and volunteers to provide guided interpretive tours of the property.	YES	$5k per year
2. Maintain and improve the Deering Estate at Cutler's trail system using existing hard surface roads, soft surface trails and paths, canals, firebreaks, and boardwalks.	NO	$10k per year
3. Provide and improve appropriate interpretive signage to educate visitors regarding the historic and archaeological elements of the Deering Estate at Cutler.	NO	Included in Action 4 (Wayfinding Implementation)

Objective C: Provide controlled public access to environmentally and historically sensitive areas.

Activity	Priority	Estimated Costs
1. Improve, control and monitor public access to all natural and culturally sensitive areas.	YES	$50k
2. Notify the public of controlled access into historically sensitive areas by appropriately posting the perimeter of the Deering Estate at Cutler and elsewhere, including Chicken Key, with regulatory signs.	YES	Included in Action 4 (Wayfinding Implementation)
3. Provide security maintenance and monitoring plan to prevent dumping, vandalism, and other unauthorized uses.	YES	$25k
4. Secure the entire Deering Estate at Cutler perimeter, including out-parcels, to eliminate dumping, vandalism and damage.	NO	$1 million

Goal 4:

Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, on-site and outreach educational, cultural, research and recreational opportunities.

Objective A: Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.

Activity	Priority	Estimated Costs
1. Establish a park programming committee consisting of appropriate Estate supervisory staff, representatives from the Deering Estate Foundation, the Miami-Dade Parks, Recreation, and Open Spaces Department, the Preserve Manager, E.E.L. Program, and other interested parties to create a five-year strategic plan.	NO	Staff
2. Develop a five-year strategic plan.	NO	Staff and Direct Costs = $100k
3. Establish an in-house team to annually assess the progress on achieving the goals and objectives of the five-year strategic plan, adapting as necessary to better align with the mission of the Deering Estate at Cutler and available opportunities and resources.	NO	Staff

Objective B: Promote education and awareness of the Estate's natural and cultural resources.

Activity	Priority	Estimated Costs
1. Assess existing interpretive programs and activities that provide a broad, interdisciplinary and integrated view of the natural, historical and archaeological attributes of the site.	NO	Staff
2. Fund, develop and enhance kiosks, interpretive displays and exhibits, technology, print materials and web content to promote education and awareness of the Estate's natural and cultural resources.	NO	Staff
3. Enhance and implement experiential learning programs for K-12 students.	NO	Staff and Direct Costs = $100k
4. Pursue collaborations with universities, researchers, and conservation organizations to improve research and data collection that engenders public support for preserving and protecting the Estate's natural and cultural resources.	NO	Staff and Direct Costs = $500k
5. Provide and enhance information for Deering Estate at Cutler, Miami-Dade County Parks, Recreation and Open Spaces Department and Miami-Dade County communications department that will increase public support for preserving and protecting the Estate's natural and cultural resources, including multi-media presentations, interpretive signs, and other interpretive material (i.e. QR codes).	NO	Staff

Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resource areas and build support for stewardship.

Activity	Priority	Estimated Costs
1. Gather data/research on changes in topography, canopy cover, plant, animal and human interactions with natural environments, and to research available historical documentation, photographs and ephemera.	YES	Staff
2. Assess effectiveness of existing indoor and outdoor experiential opportunities and events.	YES	Staff
3. Develop monitoring thresholds and indicators for visitor use, public programs and special events impacts.	YES	$10k
4. Develop monitoring plan for visitor use, public programs and special events impacts.	YES	$10k
5. Monitor impacts of visitors, programs and special events.	YES	Staff
6. Continue to promote non-consumptive rental and private use that does not adversely affect sensitive resources to partially offset the cost of operating, maintaining and managing the Deering Estate at Cutler.	NO	Staff
7. Continue to develop, enhance and promote use of the site as a center for research to better understand site resources and improve site management practices through adaptive management techniques.	NO	Staff
8. Continue and expand efforts to educate the public and bring new audiences to the Estate through mission-driven special events and service learning opportunities such as Baynanza, Biscayne Coastal Clean Up, Adopt a Trail, and Scout programs.	NO	Staff

Goal 5:

Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.

Objective A: Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.

Activity	Priority	Estimated Costs
1. Assess and develop an up-to-date table of organization for the Estate that clearly elucidates staffing needs to meet current and future needs of the property and to successfully carry out this management plan and the mission of the Deering Estate at Cutler.	NO	Staff

Objective B: Seek out appropriate, alternate and additional sources of funding.

Activity	Priority	Estimated Costs
1. Work closely with the Grants Section in the Park, Recreation and Open Spaces Department to investigate, apply for, and acquire potential alternate funding sources for Deering Estate at Cutler activities.	YES	Staff
2. Assess, develop and implement potential compatible revenue-generating activities, including those in collaboration with the Deering Foundation.	YES	Staff
3. Work within the framework of the five-year strategic plan to determine projects for which external funding is necessary.	NO	Staff

Goal 6:

Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.

Objective A: Establish partnerships with historical, archaeological, architectural and scientific professionals.

Activity	Priority	Estimated Costs
1. Contact and encourage cooperative efforts among professionals, agencies, organizations, their members and the Deering Estate at Cutler.	NO	Staff

Objective B: Establish working relationships with related professional organizations.

Activity	Priority	Estimated Costs
1. Contact and encourage cooperative efforts between members and the Deering Estate at Cutler.	NO	Staff
2. Join appropriate professional organizations.	NO	$500 per year
3. Ensure that appropriate staff members attend local, regional and national meetings and training sessions.	NO	$2k per year

Objective C: Network with appropriate sakeholder groups.

Activity	Priority	Estimated Costs
1. Contact and encourage cooperative efforts between collaborators and partners and the Deering Estate at Cutler.	NO	Staff
2. Speak to local interest groups about on-going activities at the Deering Estate at Cutler.	NO	Staff

Management Goals Cost Estimates

A summary budget for the scheduled land management activities of the land management plan is below. Priority activities are identified on the top line, while non-priority activities are included on the second line. Short-term is defined as five (5) years or less, and long-term is more than five (5) years.

	Short-Term	Long-Term	Total
Priority Activities	$315,000	$995,000	$1,310,000
Non-Priority Activities	$597,500	$4,817,500	$5,415,000
Total	$912,500	$5,812,500	

Incompatible Uses

Incompatible uses for the Deering Estate at Cutler include trespassing; dumping of trash; timber or plant harvests (except for those conducted for habitat management or authorized research); unauthorized use of motorized vehicles; excavating or removing any type of artifact, object, plant or animal; hunting or harassing wildlife; mountain biking (except on approved roadways); and any activity or use that has an adverse impact on the natural, historic or archaeological resources on site.

Alternative Uses

The property is being managed for multiple uses including resource conservation and protection for habitats, threatened and endangered species, water resources, and archaeological and cultural resources, environmental education, passive recreation, and public access and enjoyment. Alternative uses were evaluated during initial planning stages for each parcel. The following provides an overview of alternatives evaluated and why such uses were not adopted.

Main Estate

Potential property uses were considered for the Estate before site utilization was implemented based on a mix of historical and environmental interpretation programming. Alternatives ranged from a conference center, period museum, garden center and administrative offices, to an environmental education retreat house. Each was ultimately eliminated due to the following reasons: the mix of environmental, recreational, social, or financial factors did not meet public demand; improvements or

adaptive use would adversely impact sensitive resources; or incompatibility of the use with adjacent areas.

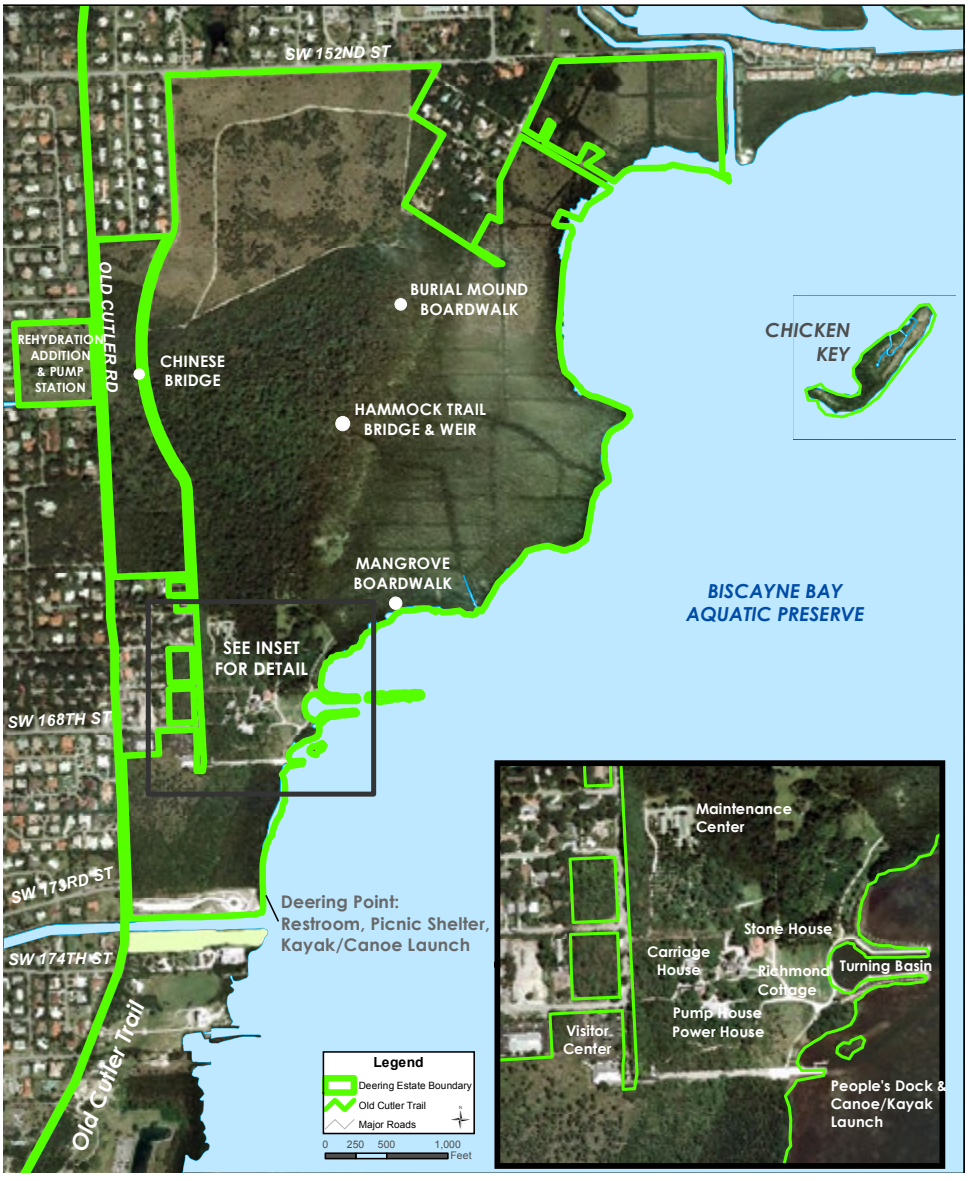
North Addition, South Addition and Rehydration Addition (Powers Property)

Few alternative uses have been considered for these parcels given the constraints imposed by sensitive coastal resources, facilities constructed as part of restoration efforts, and the proximity of activities available in the adjacent Estate. A number of uses were unacceptable because they may adversely impact the property or be inconsistent with Chapter 24-50 of the EEL Program that protects natural areas from incompatible uses. Specific unacceptable alternatives include: 1) locating any building or impacting activity within resource sensitive areas; 2) managing any parcel as a separate entity from the Estate; 3) providing for types of boating activity that would impact resources or alter the historic nature of the Estate, and 4) providing for types of vehicular activity that would impact existing or planned rehydration resources.

Out-Parcels

Alternative uses have been considered for the two small Out-Parcels located immediately north of the existing Visitor Center, but given the needs and constraints of the adjacent Estate, utilizing impacted portions to accommodate overflow parking needs in an environmentally friendly manner is the highest priority.

Map 1: Location of Structures and Improvements to Property



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GENERAL INFORMATION
(REQUIREMENTS 2-9)

Photo courtesy of Brian F. Call

Management Plans. Plans submitted to the division for ARC review under the requirements of Section 253.034 F.S. should be in a form and manner prescribed by rule by the board and in accordance with the provisions of S. 259.032.

General information for the property is included in **Section One** of the management plan and consists of the name, location, boundaries, legal description, acreage, degree of title, acquisition history, designated land use, and proximity to other significant resources.

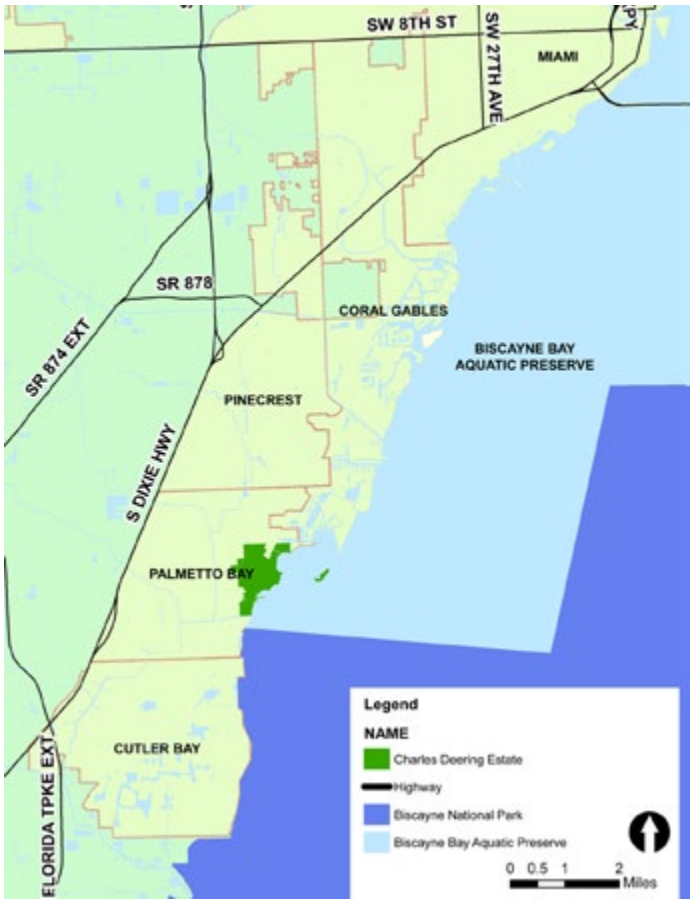
Deering Estate at Cutler is comprised of forty parcels acquired by the State of Florida and Miami-Dade County over the last 27 years. The Main Estate (**see Map 2**) was acquired in 1985 by the State of Florida and totals approximately 346.28 acres. Subsequent acquisitions have increased the total acreage of the Estate to 454.67, including public right-of-way.

The property is designed as a multiple-use site and includes the following activities present within the Estate: resource management, research, education and resource-based (passive) recreation. The property abuts the Biscayne Bay Aquatic Preserve and is located within five miles of several additional significant county parks and preserves. Detailed evaluation of management requirements include the following information.

2 Common Name of the Property

Deering Estate at Cutler. **Map 3** shows the location of the property.

Map 3: Location Map



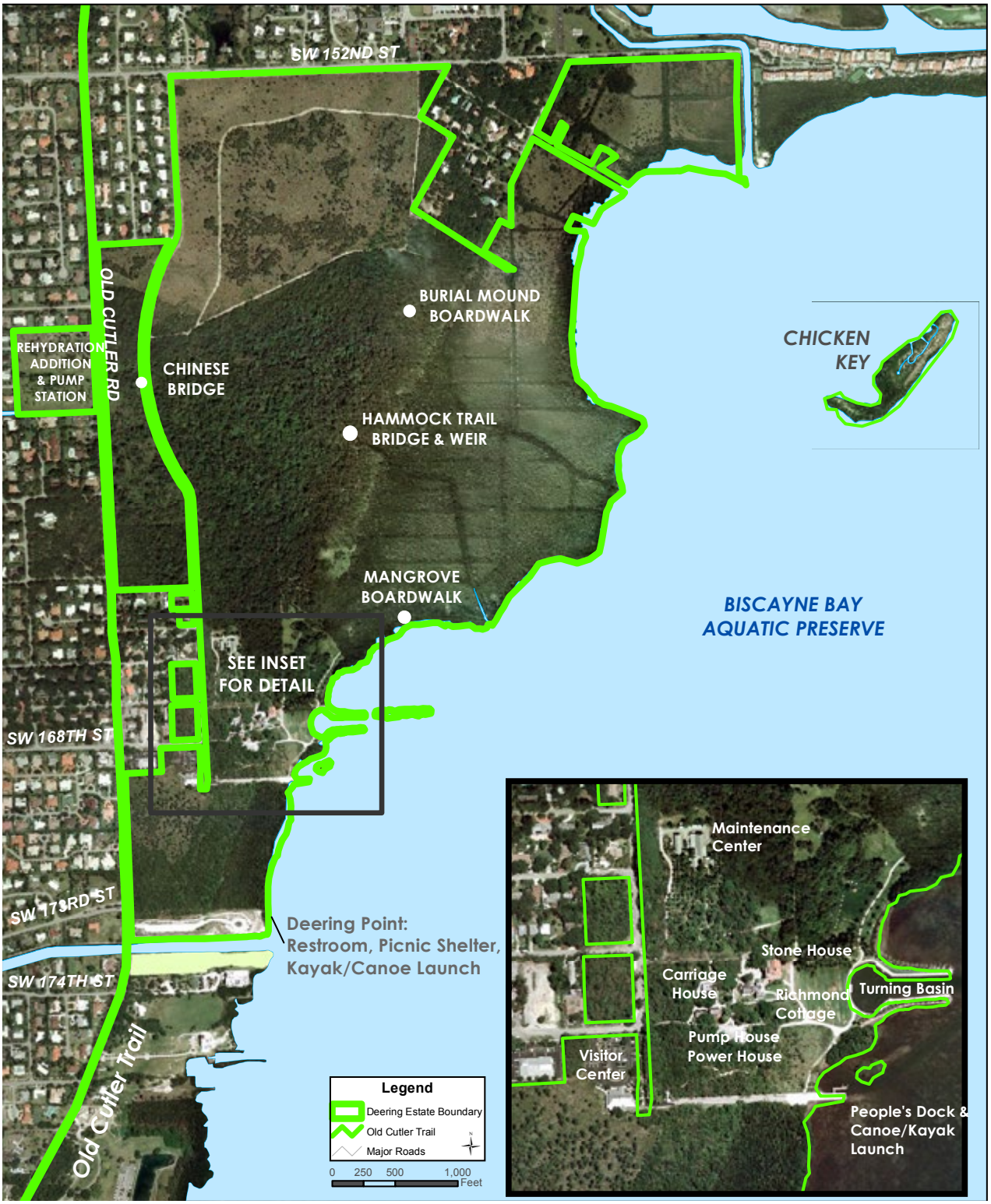
Main Estate historic buildings at Deering Estate at Cutler

3 Map Showing the Location and Boundaries of the Property Plus any Structures or Improvements to the Property

The property is comprised of multiple parcels reflecting the acquisition history, including: Main Estate, North Addition, South Addition, Rehydration Addition (Powers Property), and Outparcels (7200 SW 164th Terrace and 16480 SW 72nd Avenue, see **Map 2**). For management purposes, the South Addition is comprised of two components: the C-100 Canal/Deering Point Kayak and Canoe Launch and the South Addition Natural Area. **Map 1** shows the location of structures and improvements to the property.

Map 2: Site Boundaries

Map 1: Location of Structures and Improvements to Property



4 Legal Description and Acreage of the Property

The total acreage of the Deering Estate at Cutler is approximately 454.67 acres, including 10.36 acres of public right-of-way, located in Sections 25, 26, and 35, Township 55 South, Range 40 East. Table 1 shows the breakdown of acreage by parcel.

Legal descriptions of the 40 parcels that comprise the Deering Estate at Cutler are included in **Appendix 2**, and a Recommendation of Boundaries is included as follows:

Starting at C-100 Canal and Old Cutler Road, north on Old Cutler Road to S.W. 168 Street (with the exception of the lot located at 7290 S.W. 168 ST [Folio No. 33-5025-004-0032]);

East on S.W. 168 Street to S.W. 72 Avenue; north on S.W. 72 Avenue including properties on the west side of the street between S.W. 168 Street and S.W. 166 Street [Folio No. 33-5025-004-0010] to S.W. 164 Terrace, to include properties located at 7200 S.W. 164 Terrace [Folio No.33-5026-003-0200] and 16480 S.W. 72 Avenue [Folio No. 33-5026-003-0320];

West on S.W. 164 Terrace to Old Cutler Road; north on Old Cutler Road to S.W. 156 Street to include property located on west side of road at 15850 Old Cutler Road [Folio No. 33-5026-000-0040];

East on S.W. 156 Street to S.W. 72 Avenue; north on S.W. 72 Avenue to S.W. 152 Street; east on S.W. 152 Street to S.W. 68 Avenue; south on S.W. 68 Avenue to S.W. 154 Street; east on S.W. 154 Street to S.W. 67 Place; south on S.W. 67 Place to S.W. 156 Street; east on S.W. 156 Street to West Drive (to include property at S.W. 156 Street and West Drive [Folio No. 33-5026-005-0050]);

North on West Drive to Old County Road; north on Old Country Road to S.W. 152 Avenue; east on S.W. 152 Avenue to Spruce Street; south on Spruce Street to the coast; coastline from Spruce Street south to C-100 Canal;

Table 1: Acreage by Parcel

Location	Uplands	Wetlands/ submerged	Total
Main Estate	250.78 Ac.	95.50 Ac.	346.28 Ac.
Shoreline adjustment	----------	12.86 Ac.	12.86 Ac.
North Addition	2.00 Ac.	38.74 Ac.	40.74 Ac.
North Addition PW R.O.W.*	0.50 Ac.	9.86 Ac.	10.36 Ac.
South Addition	27.50 Ac.	6.50 Ac.	34.00 Ac.
Rehydration Addition	9.66 Ac.	----------	9.66 Ac.
7200 SW 164th Terrace	0.47 Ac.	----------	0.47 Ac.
16480 SW 72nd Avenue	0.30 Ac.	----------	0.30 Ac.
ESTATE ACREAGE:			**454.67**

**Plus ROWs in North Addition and an adjusted shoreline based on current aerial photos / mangroves of entire Estate since 1993.*

Notes: Management of Deering Estate at Cutler extends to the High Mean Water Line. Main Estate acreage includes Chicken Key.

5 Degree of Title Interest Held by the Board

The Board of Trustees of the Internal Improvement Trust Fund of the State of Florida holds fee simple title interest for the Estate as specified by the deed. Restrictions, reservations, and easements are contained within the Legal Description. The Board of Trustees of the Internal Improvement Trust Fund also holds title interest for the South Addition. The property was leased to the Department of Environmental Protection, Division of State Lands (DSL) in April 1987 and sub-leased to the county in December 1987 and will revert back to the management of DSL in December 2035 unless the lease is extended or renewed (**Appendix 3**). Title Interests for the North Addition (EEL), Rehydration Addition (Powers Property) (MDPROS) and Out-Parcels (MDPROS) at 16480 SW 72nd Avenue and SW 164th Terrace and SW 72nd are held by the county as shown on **Map 2 - Site Boundaries**.

6 Land Acquisition Program under which Property Was Acquired

In August 1985, the State and County purchased the 346.28-acre Main Estate including Chicken Key, which is located in the Biscayne Bay Aquatic Preserve (BBAP), from Cutler Development Corporation for $22.5 million using Conservation and Recreational Lands (CARL) funds ($19.2 million) and a $3.3 million contribution from the county. This initial acquisition consisted of the grounds within the stone wall containing the Stone House; Richmond Cottage; the Power, Pump and Carriage Houses; the boat turning basin; coastal wetland, hardwood hammock, and pine rockland habitats; and two out parcels west of SW 72nd Avenue.

In subsequent years, the state and county acquired the Deering Coastal Wetland Addition (North Addition), South Addition, Cutler Slough / Glade Rehydration Addition (Rehydration Parcel - Powers Property) and two small parcels abutting SW 72nd Avenue, all of which were part of the original Estate. These additional acquisitions have increased the acreage of the Estate to 444.31 acres, plus an additional 10.36 acres of managed public right-of-way.

The following describes these additional acquisitions:

- The 34-acre South Addition was purchased in 1991 through the State's CARL program and the County's Environmentally Endangered Lands (EEL) program for $3.4 million.
- The 40.74-acre North Addition was acquired in 1992 by the Environmentally Endangered Lands (EEL) Program, using EEL program funding and a matching grant from Florida Communities Trust (FCT). Both additions are contiguous to the Main Estate.
- In March 1999, the County purchased a 0.47-acre parcel located at 16480 SW 72nd Avenue. A second 0.30-acre parcel located at SW 164th Terrace and SW 72nd Avenue was acquired in 2000.
- The 9.66-acre Rehydration Addition also was acquired in 2000. This purchase was facilitated through the Trust for Public Lands (TPL) with funding from Safe Neighborhood Parks Bond (SNP), EEL, and the County's Wetland Enhancement Trust Fund (SAMP) for $1.4 million. In 2002-2003 Miami-Dade County received funding from FCT's Florida Forever Program for reimbursement of 40 percent of the allowable acquisition costs.

7 Designated Single Use or Multiple Use Management for the Property

The Estate is designated as a multiple use property, including resource management, research, education and resource-based (passive) recreation.

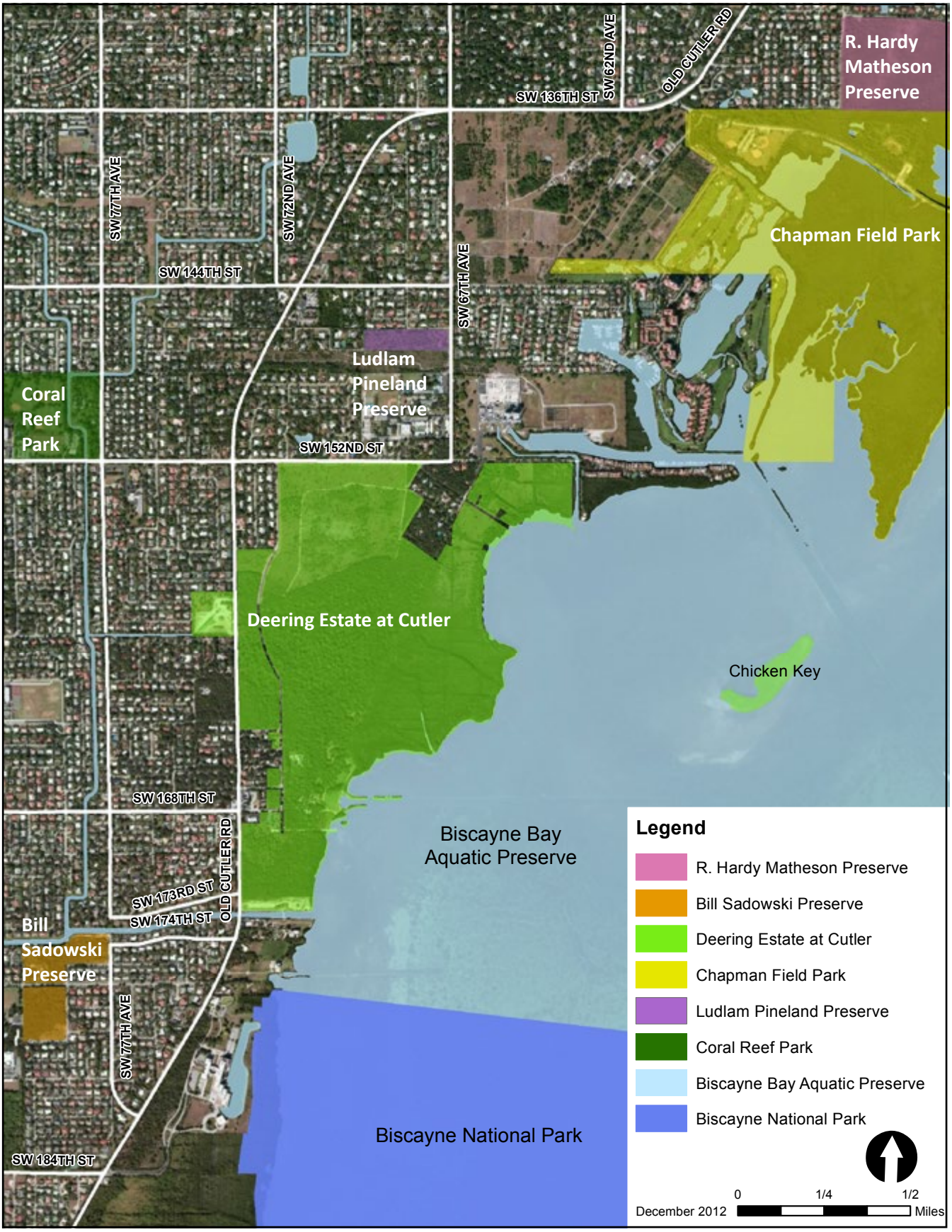
8 Proximity of Property to Other Significant State/ Local/ Federal Land or Water Resources

Deering Estate at Cutler directly abuts the BBAP, with Chicken Key surrounded by the BBAP, and occurs immediately northwest of Biscayne National Park (**Map 4**). The Deering Estate at Cutler is also within five miles of other significant county parks and preserves, including: Chapman Field Park, R. Hardy Matheson Preserve, Matheson Hammock Park, Bill Sadowski Preserve, and Ludlam Pineland Preserve and Coral Reef Park (**Map 4**).

9 A Statement as to Whether the Property is Within an Aquatic Preserve or a Designated Area of Critical State Concern

Deering Estate directly abuts Biscayne Bay Aquatic Preserve, but is not located in an Aquatic Preserve or Designated Area of Critical State Concern. Chicken Key is surrounded by the BBAP; however, all land above mean high water level is not within the BBAP.

Map 4: Significant Parks and Preserves in the Vicinity of Deering Estate at Cutler



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LOCATION AND DESCRIPTION OF RESOURCES
(REQUIREMENTS 10-12)

Photo courtesy of Brian F. Call

3

Section Three of the management plan documents the wealth of natural and cultural resources occurring in the Estate, including soils, archaeological and historical resources, water resources, fish and wildlife and their associated habitats, unique features, and outstanding native landscapes.

Deering Estate at Cutler has archaeological resources representing a comprehensive record of human habitation in South Florida including the Cutler Midden, Cutler Burial Mound, Cutler Fossil Site, Cutler Well, and Addison Homestead. The Estate also provides a valuable record of early settlers in South Florida, including a section of Ingraham Highway, the Main Estate landscape, five historic buildings, keyhole boat turning basin, the Stone Wall, the People's Dock, and the Chinese Bridge.

Water resources within or adjacent to the Estate include Cutler Creek, Cutler Slough, C-100 Canal and C-100A Spur Canal, freshwater upwellings (springs) stormwater and groundwater infiltration, and Biscayne Bay. The Estate includes the Cutler Slough Rehydration Project, which is a multi-agency regional project to improve quantity, quality, timing, and distribution of freshwater into Biscayne Bay.

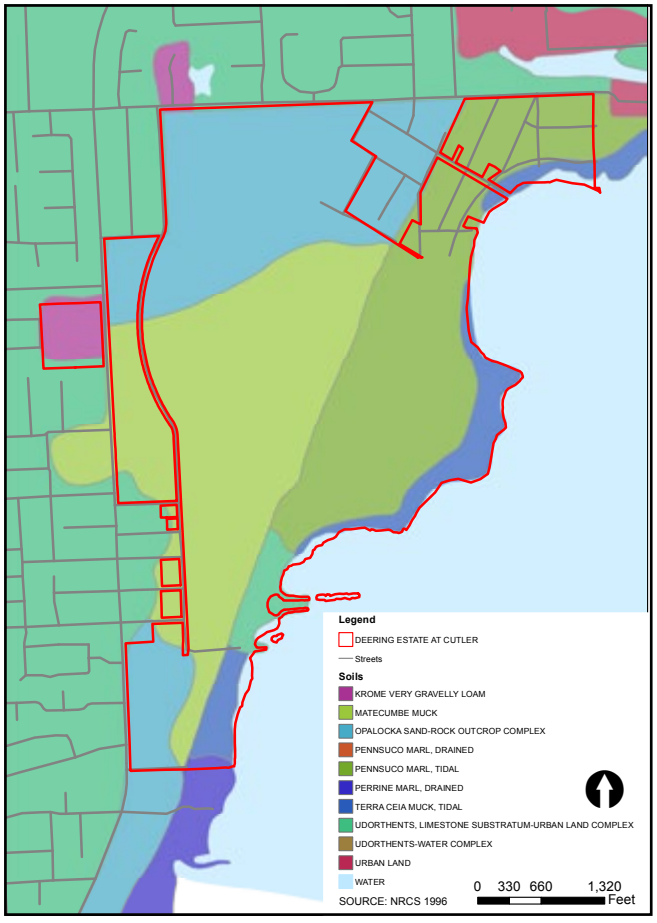
The Estate contains significant natural resources and habitats that are unique and include portions of the Miami Rock Ridge, imperilled pine rockland, rockland hammock, Cutler Creek, tidal marshes, mangroves, Chicken Key, and the Main Estate grounds. Four federally-listed pine rockland plant species have been reported on the property. A wide variety of wildlife use habitats on the Estate. Unique natural features include a beach dune on Chicken Key, solution holes and sinkholes, exposed portions of the Miami Rock Ridge, Cutler Creek, aquatic and terrestrial caves, and scenic vistas of Biscayne Bay.

10 The Location and Description of Known and Reasonably Identifiable Renewable and Non-renewable Resources of the Property

A. Soil Types

The predominant soil types for the Estate are Matecumbe muck; Pennsuco marl, tidal; and Opalocka sand-rock outcrop complex according to the Dade County Soil Survey (USDA 1996) (**Map 5**). Other soil types for the Estate include Udorthents, limestone substratum-Urban land complex; Krome very gravelly loam; Perrine marl, drained; and Terra Ceia muck, tidal. Pennsuco marl, tidal, and Terra Ceia muck, tidal, underlie the salt marsh and mangrove habitats, while Matecumbe muck underlies Cutler Creek and associated rockland hammock areas. The Opalocka sand-rock outcrop complex primarily underlies the pine rocklands. The Krome very gravelly loam underlies the Rehydration Addition. Generally, upland portions of the Estate consist of level, well-drained, eroded limestone with large, spotty, sandy deposits. Soil development is generally poor with small accumulations of marl and other organic materials in depressions and crevices in the limestone surface.

Map 5: Soils



B. Archaeological and Historical Resources

The history of the Estate encompasses many cultures inhabiting the land over ten thousand years, including Paleo-Indians, Tequestas, Seminoles, Afro- Caribbeans, and Anglo-Americans. Archaeological resources found at the Estate represent a comprehensive record of human habitation in south Florida and are a central component of the Estate's significance. Cultural significance of the site is derived also from the unique constructed features, which with the Estate's floral and faunal resources, provide a library of natural and human history in South Florida. A bibliography of references used in the descriptions below is included as **Appendix 4**.

Cutler Burial Mound

1. Archaeological Resources

Archaeological resources of the Deering Estate at Cutler include: the Cutler Midden, which is a prehistoric black dirt midden (8DA7) representing extensive Tequesta subsistence and habitation activities; the Cutler Burial Mound, which is a Tequesta burial mound (8DA8); the Cutler Fossil Site (8DA2001); Cutler Well (8DA2139); and Addison Homestead.

- *Cutler Midden* - The midden extends along a section of the Miami Rock Ridge adjacent to a mangrove forest and a fresh water spring located at least 30(m) inland from the mangrove shore. The midden is situated along the upland/coastal wetland interface for approximately 50(m). Excavated test holes conducted prior to 2003 indicated cultural material in the deepest areas of the midden to a depth of at least 50-60 cm. A survey of the midden deposit was conducted in 2003. The midden is characterized by well-preserved faunal bones, shell refuse, artifacts of shell and bone, pottery sherds, and charcoal in densely concentrated amounts mixed within rich organic loamy soil. Pottery sherds from the midden indicate an age of the site dating from ca. 500 through 1600 A.D. The site is generally in good condition, although some clearing and disturbances have occurred along the most southerly portion of the midden. Farming and gardening by early settlers and later Estate activities also have disturbed the midden, but overall, this is among the best preserved prehistoric coastal sites remaining in Miami-Dade County.

- *Cutler Burial Mound* - This resource is a small conical mound situated in a hardwood hammock in the comprised of a pile of rough oolitic rocks and sand. This differs from a description of the mound made in 1949 that noted the mound was made of yellow quartz sand 75 feet in diameter and rising 6.5 feet towards the middle. Excavations by Henry Perrine, Jr. in the 1880's revealed human remains of both adults and children. Perrine offered the following description, one of the few accounts of pre-historic mortuary practices of South Florida's Native Americans that archaeologists possess, which states that "… the skulls in nearly every instance showed that they had been buried with their face downwards, and with the tops toward the center of the mound. It seems as though the heads only have been placed in position for they were near the outer rim of the mound and none of the larger bones of the limbs beyond…"

  Unauthorized excavations by collectors, some as recent as 1964, have been described by various informants, but apparently their efforts have done little to alter the integrity of the mound. In no case were any artifacts found in the mound, reinforcing the probability that the mound was used exclusively for human interments. Since none of the human bones recovered from the site has ever been subject to analysis by a physical anthropologist or to Carbon 14 dating, the physical biology of the Native Americans and the exact chronology of the mound are not known. Generally, such mounds in Miami-Dade County date from the later Glades II-III Periods, or ca. 1000 A.D. – 1500 A.D.

- *Cutler Fossil Site* - This resource is located in an area of solution features within a high rocky hammock. Between 1985 and 1986, a 13-month long archaeological dig was conducted within the largest

solution hole. The dig resulted in the recovery of fossil animal bones as well as late Paleo-Indian, early Archaic period fossils. Radiocarbon analysis dated this cultural horizon to 9760 +/- B.P. The Cutler Fossil Site is a nationally significant site according to National Historic Landmark (NHL) Criterion 6 and National Register of Historic Places (NRHP) Criterion D because of its demonstrated and potential archaeological significance. The Cutler Fossil Site is the only site containing evidence of human occupation of the Miami area during the Early Archaic era.

Cutler Fossil Site

- *Cutler Well* – This resource is characterized a square well cut into the limestone near the mangrove shoreline. Undoubtedly, the well is part of a pioneer homestead, probably dating from the late 19th century through the early 20th century, when this area was part of the Town of Cutler. No archaeological testing has been conducted for this site except for one test pit within the well.

- *Addison Homestead* - In 1991, an archaeological survey of a part of the Deering Estate at Cutler north of the Stone House was conducted, resulting in the discovery of the Addison Homestead. The home-site is situated in a clearing adjacent to the intersection of two ungraded roads. Although no structural elements were uncovered, numerous historic artifacts including glass sherds and iron fasteners were found. Associated with the home-site were at least two trash dumps, one with materials dating back to ca. 1860s, and a second trash dump located in an abandoned well with cultural materials dating from ca. 1900 – 1910. Another feature of interest was a berm of midden soil (presumably relocated from the Cutler midden) that formed a horseshoe ridge around the clearing, suggesting a garden terrace.

2. Historical Resources

From the time of the historic settlements of the Town of Cutler in the 1880's to the property's designation as a park in 1985, the Estate has been called home by numerous significant groups and figures, including the Richmond, Addison, and Deering families. The Deering Estate at Cutler is a valuable record of early settlers of Florida and how their actions and those of other key figures like Henry Flagler reshaped the land. An extensive review of historic documentation was provided by Matthews (1992). A summary of the historical significance of the property is given as follows:

- *Pioneer Settlements and the Town of Cutler* - On July 7, 1838, Congress awarded Dr. Henry Perrine a land grant of a full township of 36 square miles of bay front property below the 26th parallel in south Dade County. At that time, this area extended down Florida's east coast from Palm Beach to the Florida Keys. A provision of the land grant was to place a settler on each section of the township. However, Dr. Perrine was killed in 1840 in an attack during the Second Seminole War.

- *Other Settlers* - Dr. Perrine never settled his 1838 claim. Other pioneers established their homesteads in the vicinity of today's Deering Estate at Cutler, primarily because of easy access by water to fresh water and fertile hunting grounds. One of these settlers was John Addison, who in 1861 settled on the Perrine Land Grant as a squatter. In an attempt to solidify his father's claim, Henry Perrine Jr. arrived in 1876 with eight settlers at the Addison homestead determined to establish "Perrineville." However, this plan was short-lived due to extreme weather, fear of wild animals and Seminoles and the site was quickly abandoned. By 1886, many families had settled illegally and built farms on land within the Perrine Grant. They formed a "Squatter's Union" which was overseen by Dr. William

Clark Cutler, who had acquired some 600 acres of the Perrine Land Grant. He petitioned Congress to recognize the rights of the squatters, which was finally granted on January 28, 1897 by the Senate Committee on Public Lands.

- *Samuel Richmond* - By 1896, Henry Flagler's Florida East Coast Railway had reached Miami and the city was incorporated. Dr. Samuel H. Richmond, a graduate from Massachusetts Agricultural College, established his family in the Cutler area. He built his two-story balloon frame Florida-vernacular house, part of which still stands today at the Estate. Dr. Richmond, who worked as a land surveyor on Flagler's railroad, saw what the railroad represented for the area. In 1900, he modified his two-story home and built what was to become the first lodging facility in south Dade County, the Richmond Cottage. It opened on April 7, 1900, to guests like Henry M. Flagler, J. E. Ingraham, and other prominent Florida businessmen, visitors and pioneers.

- *Town of Cutler Decline* - In 1903, Flagler's railroad bypassed the town of Cutler in favor of lands further inland. Many farmers and settlers subsequently left the Cutler area to be closer to the railroad. Slowly the town began to decline. In 1905, the post office was moved to the Brown & Moody General Store until it closed in 1906, and by 1908, the school at Cutler had closed. On August 12, 1915, the Richmond Cottage closed and few residents remained.

- *Charles Deering Era* - Charles Deering, a wealthy industrialist and Chairman of the Board of International Harvester Company, decided to locate his winter home in South Florida in 1913. Between 1913 and 1925, he began buying land from speculators, corporations, real Estate firms, banks and from the remaining settlers of Cutler. By 1917, the majority of the Deering Estate at Cutler had been purchased and all buildings razed except for the Richmond Cottage. The Cutler era had come to an end and Charles Deering's Estate at Cutler was created.

- *Deering Era Improvements* - In 1916, Deering began an aesthetic transformation of the Richmond Cottage and the construction of the boat turning basin. By 1918, the boat turning basin and the one-mile long channel extending into Biscayne Bay were completed. In addition, the Coach/Carriage House, Power House, and Pump House were constructed west of the Richmond Cottage, and a large plant with supply tanks, generators and a powerful gasoline pump had been installed. To secure the property, Charles Deering built an oolitic limestone wall at its western edge. Old Cutler Road, which had been enclosed inside the property, was relocated along what is now SW 72nd Avenue. During this time, Deering also built the Chinese Bridge over the Cutler Creek, a massive reinforced concrete wall to delineate the southern portion of the Estate, and the People's Dock, to facilitate public access to Biscayne Bay.

The Deering Estate at Cutler in 1938

- *Permanent Residence* - In 1922, Charles Deering established his permanent residence in South Florida. With Architect Phineas E. Paist of Philadelphia, he began the construction of the Mediterranean Revival Style Stone House, which together with the Richmond Cottage would house himself, his family, and his extensive art collection.

- *End of the Deering Era* - Charles Deering enjoyed the peace and quiet of his Florida retreat for a relatively short period. On February 5, 1927, at the age of 75, Charles Deering died at Cutler. In his will, he stipulated that the Deering Estate at Cutler would be kept intact as long as the last of his direct heirs remained alive. The Deering Estate at Cutler remained the winter home of the family until the youngest of the Deering children, Barbara Deering Danielson, died in 1982 at the age of 94.

- *Park Era* - In the early 1980s, the Deering Estate at Cutler was put up for sale and targeted for development. Public outcry and pressure from environmental and historic preservation groups brought attention to the significance of the property and helped spearhead efforts by the State of Florida and Metro-Dade County for its public acquisition. On August 9, 1985, the State of Florida, through its Conservation and Recreational Lands (CARL) Program, and Miami-Dade County purchased the Deering Estate at Cutler for $22.5 million. For the first time, one of the most significant, unique, and private sites of South Florida opened to the public. After the initial purchase from the Deering Family, additional land purchases were made to include what are known as the North Addition, the South Addition and the Rehydration Addition, extending Park boundaries as far north as S.W. 152 Street and as far south as the C-100 Canal.

- On March 16, 1986, seven months after its purchase, the Charles Deering Estate at Cutler was listed on the National Register of Historic Places and thereby recognized as a significant part of this county's heritage. Four years later, the Miami-Dade County Historic Preservation Board amended its local historic designation of the Deering Estate at Cutler to include all interiors of the Richmond Cottage and the Stone House. In 2006, the historic designations were amended to include all properties and structures within the Deering Estate at Cutler boundaries.

Existing Historic Resources

The Deering Estate at Cutler contains many historic resources, including a portion of an original section of the 19th century Ingraham Highway (Old Cutler Road); the historic landscape of the Main Grounds; five historic buildings (i.e. Richmond Cottage, Stone House, Carriage House, Power House, and Pump House), and associated art and antique collections; the keyhole boat turning basin; the Stone Wall; the People's Dock; and the Chinese Bridge.

Ingraham Highway

A segment of the original Cutler Road, otherwise known as Ingraham Highway, that connected the town of Cutler with Coconut Grove in the 1880s and early 1900s still exists on the Deering Estate at Cutler and is used as a walking path to the Estate's natural areas. Initially, the road was a trail blazed by William Fuzzard, a Cutler pioneer, who settled the area in 1882. Records indicate that Ingraham Highway initially was relocated to what is now SW 72nd Avenue and moved a second time in 1930 to its current location where it was renamed Old Cutler Road.

Historic Landscape of the Main Grounds

The historic Main Entrance Drive and the Royal Palm Grove are unique features of the Deering Estate at Cutler. Large poinciana trees lining the historic Main Entrance Drive have characterized the entry for more than 80 years. Continuing past live oak trees, the two main historic buildings and the National Champion black olive tree, the drive opens onto the expansive front lawn that leads to the water's edge. The original Royal Palm Grove planted by Deering to the north of the Main Drive had more than 100 Royal Palms. Following Hurricane Andrew, only 31 survived with seven still lining the Main Entrance Drive. From 1995 to 1997, other large royal palms were relocated to the historic grove to recreate its original character. Today, more than 50 Royal Palms (60-80 feet tall) characterize the grove.

Deering Estate at Cutler (1985)

Richmond Cottage

The 11,500 square foot Richmond Cottage, the oldest building on the property, is among the few remaining examples of early frame vernacular architecture in south Florida. The original section, built by S.H. Richmond in 1896 as his home, is a two-story balloon framed house faced with vertical board and batten siding. In 1900, he modified his two-story home and built what was to become the first lodging facility in south Dade County, the Richmond Cottage. He added a three-story section to the original home creating an elegant building overlooking Biscayne Bay. It became the best rooming facility south of Miami and north of Key West and opened on April 7, 1900 to guests like Henry M. Flagler, J. E. Ingraham, Julia Tuttle, and other prominent Florida businessmen, visitors and pioneers. It closed its doors on August 12, 1915.

Although its basic structure was not seriously modified, Charles Deering began to remodel the Richmond Cottage in 1916 to suit his use of the wood house (as it is still referred to by the Deering Family) as his winter home. Deering replaced the east gable dormers with one continuous dormer. The wooden posts supporting the first and second floor verandahs were replaced and their numbers reduced from eight to six on the east façade and from five to four on the north and south facades. The simple woodwork that had characterized the structure was replaced with elaborate balustrades and decorative elements, thus enhancing the architectural expression of the building. The interior spaces were enriched with decorative base and crown moldings, picture moldings, tongue and groove wood floors (and in the dining room with tongue and groove walls and ceiling), new exterior French doors, double hung and casement windows, and interior wood paneled doors.

In 1992, all sections of the Richmond Cottage were either partially destroyed or leveled by the combined force of the wind and the 16.6 foot storm surge of Hurricane Andrew. The basement and three main floors of the 1900 addition to the Richmond Cottage suffered the most damage - approximately 74% of the total structure (7,585 square feet) collapsed - while the original 1896 two-story section of the building remained standing, although severely damaged. During restoration and rehabilitation, reconstructed portions of the Richmond Cottage were constructed in reinforced concrete and reinforced with steel columns. Every detail of the building was studied in order to guarantee the exact reconstruction of its 1922 appearance. Wherever possible, all existing original architectural and structural elements were kept in place and later restored. Richmond Cottage re-opened to the public after its complete restoration in March of 1997.

Richmond Cottage

Stone House

In 1922, Charles Deering decided to establish his permanent residence in South Florida. He began the construction of the Stone House, a 13,900 square foot Mediterranean Revival Mansion built by Sandquist and Snow, Inc. at a cost of $66,216.48 and conceived by architect Phineas Paist, who had served as superintendent under Paul Chalfin for James Deering's Villa Vizcaya and later became supervising architect.

The Stone House

Constructed in the Mediterranean Revival style, the Stone House features: massive, reinforced concrete walls with an oolitic limestone veneer; a Cuban barrel tile roof; Romanesque arcades (with capitals that were hand-carved in place); imported Spanish oak doors with medieval cast iron medallions at the house's main east and west entrances; exterior bronze doors and window frames; interior doors fully clad in copper; pointed Gothic and Moorish arches accenting tripartite windows on the west façade; coffered, groined and beamed ceilings of reinforced concrete and plaster stained to imitate wood and wrought iron window and balcony grilles; a small, north-facing Juliet balcony; a third-floor observation or sun deck; an Otis, push-button elevator; a roof-top cupola capping the elevator shaft; shell mosaic on the ceiling of the south walkway overhang; and a magnificent drawing room and library on the first floor; 5½ bathrooms; a pantry; a prohibition era wine cellar; spacious third-floor storage; and servants rooms.

Plans for the Stone House did not include a kitchen or dining areas. The Richmond Cottage, so oddly juxtaposed to its neighbor, remained the focus of food preparation and dining at the Estate. First and second floor walkways connected the two buildings. Most of the major construction was completed just 11 months after it started. With minimal ornamentation, the house

was still architecturally unfinished when Deering moved in. He covered the plain floors and walls with costly rugs, antiques, paintings and tapestries. This fire-resistant fortress would serve to house not only the Deering family, but also one of the most impressive private art collections in the United States.

Carriage House, Power House, and Pump House

Additional buildings and structures were constructed west of the main buildings by Deering between 1916 and 1918 and used as the support facilities for the Estate. The most prominent of these is the Carriage House with its foremost feature being the gambrel roof pierced by a large shed dormer. It housed automobiles on the ground floor and Estate maintenance staff on the second level. The building had a three-car garage with three sets of double wooden doors. The Power House, directly to the west of the Carriage House, is a one-story stucco-covered building. Originally it housed the Deering generators, oil tanks, and maintenance shop. The Pump House, to the north of the Power House, is a one-story, stucco-covered building with a flat roof. It housed the water tanks that fed the buildings and irrigation system that Deering had trenched throughout the property. Today these three buildings house educational facilities, art studios, and staff offices. The Pump House is a classroom and computer lab used for educational activities.

Carriage House

Collections

The Deering Estate at Cutler once housed one of the most extensive and valuable art and antique collections in South Florida. Several historic inventories document the content of the houses between 1916 and shortly after Charles Deering's death in 1927. The vast collection included paintings by Goya, Murillo, El Greco, Zuluaga, Sorolla, Padilla, Tiepolo, Degas, Boldini, Winslow, Whistler, Gainsborough, Fortuny, Zorn, John S. Sargent and Ramon Casas. The artwork also included one of the largest and most valuable collections of carpets and tapestries from Spain and the Orient found in the United States at that time.

Collection at Deering Estate at Cutler

In 1985, when the Deering Estate at Cutler was purchased by the State of Florida and Metro-Dade County, the remaining items of the art collection were not included. Subsequently, the Deering Family, through the Deering Estate Foundation, has made numerous donations. Many of these valuable antiques and works of art have returned to the property. In 1999, the family donated approximately 340 historic books important to Charles Deering, including a 1699 edition of *John Dunton's The Dunlin Scuffle*; a 1716 edition of *The Constitution of the Catholic Church* and the *Nature and Consequences of Schism* set forth in a Collection of Papers; a four-volume 1792 edition of *The History and Adventures of the Renowned Don Quixote*; and the 1924 limited edition (20 copies only) of the *Charles Deering Collection: A Catalogue of Carpets of Spain and the Orient*.

The 1866 Ramon Casas Carbo oil-on-canvas painting "Procesión de Miércoles de Cenizas en Barcelona" and his 1908 oil-on-canvas painting of Richard Flint Howe and William Deering Howe are among the collection. In addition, the early 20th century Hispanic Gothic Revival twelve-light bronze chandelier that originally hung in the Stone House Library is again in place.

Other elements that once graced the rooms at the Deering Estate at Cutler have been donated for exhibit, including a valuable collection of early 20th century wicker furniture original to the Richmond Cottage; 18 original pieces of Charles Deering's 17th and 18th century collection of

cast iron and hammered steel collection; a 15th century Portuguese/Spanish coverlet; and approximately 5,075 wine and spirit bottles from the Stone House Wine Cellar. As of 2003, a total of 822 items have been accessioned into the Deering Estate at Cutler collection.

Boat Turning Basin

In 1918, to provide access via water to his new winter home, Deering built the keyhole shaped boat turning basin and its one-mile long channel dredged into Biscayne Bay. With the dredged material, he in-filled approximately 200 linear feet of land eastward in front of the Richmond Cottage. The boat turning basin was seriously damaged by the surge of Hurricane Andrew and was totally restored to its original appearance in the mid 1990s. Its interior walls were reinforced to withstand the effects of future major storms. The boat basin is one of the most unique features of the Deering Estate at Cutler and a characteristic common to other Deering properties owned by Charles' brother and father.

Boat Turning Basin

Perimeter Stone Wall

Charles Deering enclosed large sections of the western boundaries of his Estate with an oolitic stone wall and highlighted his main and service entrances with elegant rustic oolitic stone features between 1916 and 1918. The wall was constructed by master mason Sidney Lamar Kendrick of Homestead.

People's Dock

With Deering's acquisition of the Estate's waterfront property came public outcry demanding access to Biscayne Bay. As a goodwill gesture to the community, Charles Deering purchased the adjoining parcel to the south and purposely left the addition outside the main Estate walls. He enhanced public access by building a roadway to the water's edge (now SW 169th Street) and a pier extending into the bay, now known as the People's Dock. For decades, this area has been utilized for fishing, boating, and bay wildlife viewing.

Chinese Bridge

When Charles Deering purchased the property, he enclosed the old Ingraham Highway inside the Estate and relocated the road right-of-way to what is now SW 72nd Avenue. He built the Chinese Bridge over Cutler Creek as part of the new roadway.

C. Water Resources

Water resources in and adjacent to the Deering Estate at Cutler include Cutler Creek/Slough, the C-100A Spur Canal, the C-100 Canal, stormwater and groundwater infiltration, and Biscayne Bay.

Cutler Creek / Slough

Historically, a seasonal freshwater transverse glade wetland known as the Cutler Slough flowed through the Deering Estate and into Biscayne Bay (see Map 3). Western portions of the slough were primarily sawgrass prairie, but the remainder was mostly forested wetland habitat. Historical documents indicate that extensive drainage modifications to the historic Cutler Slough in what is now the Estate occurred during the late 1800s and first decades of the 1900s. The slough was channelized by the towns people of Cutler in 1899 to create Cutler Creek. During the 1950s and 1960s, freshwater was diverted largely by the development of the C-100, C-100A and C-100C Canals. These canals drained Cutler Creek, leaving it a tidally influenced system. The drained bottom of Cutler Creek consists of marl soil colonized by hammock plants to the extent that the slough now appears to be continuous with the adjacent higher hammock in many places. Numerous royal palms, introduced to the property by Charles Deering, are growing in the creek bottom.

As the creek bed broadens and approaches the edge of the Miami Rock Ridge near the bay, large salt-tolerant buttonwoods and mangroves are found.

The rehydration of the Cutler Slough is a designated component of the Comprehensive Everglades Restoration Plan (CERP), a regional effort to improve the quantity, quality, timing and distribution of freshwater. The Cutler Slough Rehydration Project will reduce point source freshwater discharges exiting to Biscayne Bay through the C-100 Canal located on the southern end of the Estate and partially restore a more natural disbursement and seasonally appropriate hydrology to the estuarine ecosystem. The project is anticipated to directly benefit at a minimum the 1.6 miles of coastline and surrounding Bay habitats that are part of or adjacent to the Deering Estate at Cutler. The purchase of the 10-acre Rehydration Addition (Powers Property) completed in 2000, provided a parcel to re-divert water from the C-100A Spur Canal into Cutler Creek. In September 2002, the county received grants from U. S. Fish and Wildlife Service, the Wetland Trust Fund, and the Special Area Management Program (SAMP) to construct the Cutler Creek weir at the east end of the creek immediately west of the main hammock rock bridge, which was constructed in 2009. The South Florida Water Management District (SFWMD) completed additional elements of the Cutler Slough Rehydration Project in 2012, including a spur canal extension, restored wetland, pump feature, and discharge area. Future enhancements by the County include an additional triangular 2-acre wetland restoration, upland habitat restoration, and educational facilities.

Structure S700 (Pump Station) of the Cutler Slough Rehydration Project April, 2012

C-100A Spur Canal

A spur canal of the C-100, known as the C-100A, terminates at the southwest corner of the Rehydration Addition. Constructed in the 1960s, it was historically planned to extend eastward directly through the Estate to the bay, but the property owners of the Rehydration Addition at that time would not authorize construction through their land. As part of the Cutler Slough Rehydration Project, the spur canal was extended onto the Rehydration Addition (Powers Property) and a wetland system was created at its terminus in 2012. This canal extension and associated pump structure facilitate movement of freshwater from the C-100 into culverts draining into the historical Cutler Creek channel.

C-100 Canal

The C-100 Canal discharges into Biscayne Bay adjacent to the southern boundary of the Deering Point Recreation Area on the South Addition of the Estate. This canal was constructed in the 1960s as part of regional water control and saltwater intrusion protection measures and drains a large urbanized watershed into Biscayne Bay. The Cutler Slough Rehydration Project is designed to relocate freshwater from the C-100 system into the Cutler Creek system to release freshwater into Biscayne Bay in a more historically natural way.

Stormwater and Groundwater Infiltration

The Estate provides more than 400 acres of pervious ground, including grassy lawn, forested uplands, and coastal wetlands, that allow for percolation and absorption of rainwater. Impervious and less pervious areas on limited portions of the Deering Estate at Cutler, including building footprints, rooftops, parking areas, and courtyard, have been designed with storm drains, underground pipes and basins that drain stormwater. Three storm drains are located around the historic structures and the parking lot at the Visitor / Orientation Center. All roofs of buildings have adequate drain systems that collect rainwater and channel it to appropriate areas. Stormwater from historical roadways inside of the Estate drain into adjacent lawns and natural areas.

Biscayne Bay

All waters of the State of Florida fall into one of five surface water classifications with specific criteria applicable to

each class of water (62-302.400 Florida Administrative Code, [F.A.C.]). Biscayne Bay has a Class 3 State of Florida surface water classification (general recreation and fishing).

In addition to its surface water classification, the section of Biscayne Bay surrounding the Estate is designated by Florida Department of Environmental Protection as an Outstanding Florida Water (62-302.700 F.A.C.), and as such is subject to some of the most stringent water quality and submerged lands regulations in the State of Florida. The boundaries of the Biscayne Bay Aquatic Preserve occur immediately adjacent to and at the mean high water line on the eastern side of the Deering Estate at Cutler (**Map 3**). The health of southern Biscayne Bay continues to be good at least in part due to the rate of exchange and flushing of bay waters with oceanic waters. Water samples taken at monitoring stations offshore from the Estate by Miami-Dade County since 1979 indicate that water quality is "excellent" in this section of the bay.

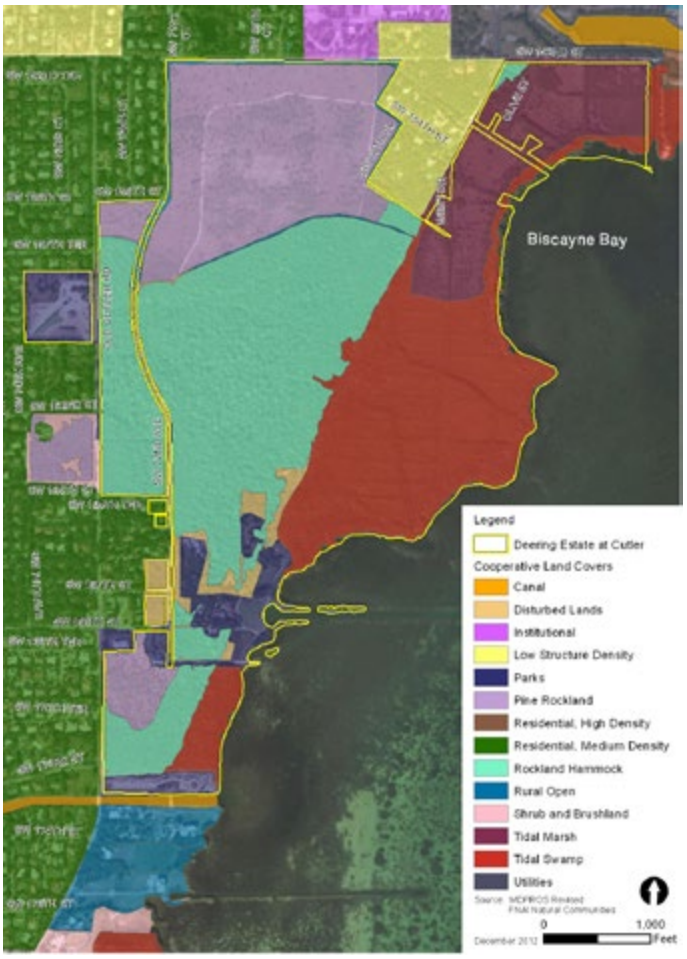
D. Fish and Wildlife and Their Habitat

The Estate contains a wealth of biological, historical, archaeological, and architectural resources, unequaled in Miami-Dade County. Along the sloping edge of the Miami Rock Ridge, rockland hammock and pine rockland give way to coastal wetlands, typically comprised of salt marsh fringed by mangrove forests. These habitats represent a unique combination that span coastal southeastern Florida ecosystems.

Eight biotic communities at the Estate include pine rockland, rockland hammock, bottomland forest / remnant slough, freshwater wetlands, coastal wetlands comprised of tidal marshes and tidal swamps, a barrier island with beach dune, and disturbed lands (see **Map 6**). The Estate supports a wide diversity of plant and wildlife species. **Appendix 5** includes the common and scientific names of plant and wildlife species referenced in the text of this management plan. The Institute for Regional Conservation (IRC) maintains lists of plant taxa documented for conservation areas in south Florida, including the Deering Estate at Cutler, that are available at:

http://regionalconservation.org/ircs/database/plants/ByConsArea.asp?SiteID=194&SN=Deering Estate at Cutler.

Map 6: Florida Natural Areas Inventory (FNAI) Natural Communities Map



As of April 25, 2012, the IRC had documented 796 plant taxa occurring within the Deering Estate at Cutler. Over 160 species of resident and migratory birds have been identified at the Deering Estate at Cutler.

On August 24, 1992, Hurricane Andrew came ashore across the southern portion of the Estate. This hurricane significantly impacted all habitats by wind-throw, canopy loss, saltwater damage, and/or widespread distribution of non-native invasive plant seeds. The result was the loss of many of the native hammock and pineland trees, the deposition of a nearly 10-foot tall wrack line of storm debris, and the establishment and accelerated spread and growth of non-native invasive vegetation. The character and composition of many vegetative communities within the property changed significantly following this hurricane, but 20 years of intensive management efforts by highly trained and skilled crews have restored most habitats to better than pre-hurricane conditions.

Pine Rockland

Pine rockland habitat at the Estate is the largest block of this habitat that remains on the shore of Biscayne Bay today. The 108 acres of pine rockland at the Deering Estate at Cutler occur on Opalocka sand-rock outcrop complex soils, which include limestone with karst outcrops and pockets of sandy soil. Pine rocklands at the Estate consist of a moderately dense stands of South Florida slash pine with an understory mosaic of saw palmetto and cabbage palm, mixed with open areas of graminoid and other herbaceous plant species. Federal and state-listed imperiled species present in the pinelands at the Estate include deltoid spurge, Small's milkwort, and Garber's spurge. A dense hardwood sub-canopy, that had developed in the pine rockland because of exclusion of natural fires, has been reduced by a combination of wildfires and prescribed burns over the last 12 years. Locations of pine rockland at the Estate are depicted on **Map 6**.

Pine Rockland at Deering Estate at Cutler
Photo courtesy of Brian F. Call

Many of the slash pines at the Deering Estate at Cutler were twisted and knocked down during Hurricane Andrew in 1992. Of those that survived the storm's damage, most were severely stressed and attacked subsequently by pine bark beetles. The loss of mature canopy trees during the 12 months following was approximately 95 percent. Natural recruitment two years later remained near zero percent. In 1995, 21,195 pine seedlings were replanted in the Deering Estate at Cutler's northern pine rockland. Planted pine seedling survival rates are estimated to be near 90 percent after 17 years. Pine seedlings and saplings on the South Addition, however, were relatively undamaged by Hurricane Andrew and did not require supplemental planting. Overall, the Deering Estate at Cutler's pine rocklands are healthy and recuperating with regular maintenance by experienced and skilled natural area crews.

Following Hurricane Andrew, pine rocklands were invaded by many non-native invasive grasses, including Burma reed and natal grass, which formed extensive colonies in sand pockets. Intensive management efforts through 2001 reduced these species to below maintenance level control in the South Addition (<5% areal cover), which has been maintained for the past 10 years.

Rockland Hammock (also known as Tropical Hardwood Hammock)

Throughout the Miami Rock Ridge, rockland hammock developed along the edges of transverse glades or around upwellings of freshwater at solution holes where high moisture levels limited the penetration or occurrence of fires. Cutler Creek's seasonal flow of freshwater protected hardwood hammock vegetation along its sharply eroded limestone edges from fires that regularly burned though the adjacent pine rocklands. Charles Deering was very interested in the preservation of the hammock and maintained firebreaks between the hammock and pine rockland in an attempt to ensure that fire did not damage the habitat.

Rockland hammock covers approximately 111 acres at the Deering Estate at Cutler. The largest hammock occurs adjacent to Cutler Creek and was known as "Cutler Hammock" by early settlers and tree-snail collectors and as "Addison's Hammock" by others. The wide marl-bottomed channel of Cutler Creek extends through the middle of the largest aggregation of rockland hammock and has been colonized by hardwood hammock species since its drainage.

A small rockland hammock surrounds solution hole formations and the Cutler fossil site in the southern portion of the South Addition and continues north along the edge of the Miami Rock Ridge in a transition zone between the pine rocklands and tidal swamp. Prior to Hurricane Andrew, this transition zone had an oak dominated canopy and a low, scrubby sub-canopy of buttonwood, cabbage palm and poisonwood. Mechanical removal of selective native hardwood saplings has limited the expansion of rockland hammock vegetation into surrounding pine rockland. The eastern portion of this hammock contains unique rock outcroppings, which probably mark a historic border between upland and coastal prairie.
The Estate's rockland hammock native canopy consists

primarily of tropical tree species including pigeon plum, gumbo limbo, red bay, strangler fig, West Indian cherry, mastic, and black ironwood. Large live oaks also occur in the hammock along with royal palms. Eight species of native bromeliad (*Tillandsia* spp.) are found in the upper canopy and at least six orchid species, including green-spurred orchid, also occur in the hammock. Large vines of leafy vanilla clamber up canopy trees in at least two areas of the hammock. Native rockland hammock understory includes bitterbush, spicewood, marlberry, white stopper and Spanish stopper. Extensive solution holes, formed by movement of freshwater through the limestone, are prevalent throughout the hammock.

Although some non-native invasive plant control in the Estate's tropical hardwood hammock had begun prior to 1992, non-native invasive control efforts were intensified after Hurricane Andrew. Prior to receiving restoration treatment, the natural areas of the Deering Estate at Cutler were overrun with non-native invasive species such as air potato, jasmine vines, Brazilian pepper, Burma reed, seaside mahoe, Australian pine, and latherleaf. The majority of the natural areas, including rockland hammocks, on the Deering Estate at Cutler are now considered to be in maintenance condition (<5% areal cover).

Chicken Key

The island of Chicken Key, located approximately one mile offshore from the Main Estate in Biscayne Bay, was formed by the deposition of quartz and limestone sands by ocean currents. This habitat can be classified as beach dune, characterized a wind-deposited foredune and wave-deposited upper beach that is variably inhabited by pioneer species, especially sea oats. Historically, the island had a sand beach and low dune system on the east, but dumping of dredge debris in the 1940's destroyed most of the dune. An 1899 survey by S. H. Richmond recorded a maximum elevation of three feet above sea level. Dredge spoil deposits increased elevations up to 10 feet on the northern two-thirds of the island. In 1996-1997, the County implemented the restoration of Chicken Key Bird Rookery, the goal of which was to restore a tidally connected mangrove forest and dune system, to remove dredged materials, and to re-create the island's original topography. Mangroves on Chicken Key were an important roosting area and rookery for a variety of bird species. The mangroves on the southwest portion of Chicken Key were a major bird roosting area and rookery prior to Hurricane Andrew. In August 1992, Hurricane Andrew swept across the island, significantly affecting mangrove populations and bird rookery. Since 1992 and following restoration completed in 1997, the mangrove canopy has been re-established, and waterbirds have begun to use the island again.

Chicken Key

Cutler Midden

The Cutler Midden is approximately five acres in size and is characterized as a slightly elevated area of black dirt midden consisting of shells, bones, and pottery sherds, on which a sparse shrubby community has developed. The climax community type on the midden is a maritime hardwood, closed-canopy forest. Plants include gumbo limbo, cabbage palm, mastic, and marlberry. The coastal location of the midden subjects it to maritime influences including high winds, salt spray, high insolation, and storm surge. The midden at the Deering Estate at Cutler site is associated with and grades into the rockland hammock.

Tidal Marsh (also known as salt marsh, brackish marsh, coastal wetlands, coastal marsh, tidal wetlands)

Tidal marshes on the Estate consist of expanses of grasses, rushes and sedges with scattered shrubs and mangroves along coastlines of low wave-energy. Tidal Marsh soils, including Matecumbe muck and Terra Ceia muck, tidal, generally are very poorly drained muck or sandy clay loams with organic components and often high sulfur content. Vegetation occupies the intertidal and supratidal zones growing under conditions that would stress most plants, including high soil salt content, poor soil aeration, frequent submersion, and exposure to intense sunlight and occasional fires. Tidal marsh is the dominant community present on the North Addition and the northern wetland edge of the Main Estate, covering approximately 41 acres. This habitat exhibits

some degree of topographic variation both from natural formations and human manipulation. A demonstration salt marsh was recreated on a one-acre site immediately south of the boat turning basin in 1996. Tidal marshes are dominated by saltmarsh cordgrass, sea ox-eye daisy, and other coastal forbs.

Tidal Swamp (also known as mangrove forest, mangrove swamp, coastal wetlands, mangrove island).

Tidal swamps are dense, low forests occurring along relatively flat, intertidal and supratidal shorelines of low wave energy. Dominant plants of tidal swamps are red mangrove, black mangrove, white mangrove, and buttonwood, often occurring in zones defined by varying water levels, respectively. The soils of these flat coastal areas generally are saturated with brackish water at all times, and at high tides these same soils are usually inundated with standing water. All the tidal swamp areas at the Estate have drainage ditches installed in the 1950s for mosquito control that are still visible today, and tidal flow into these wetlands is altered by the remnants of drainage ditches. Besides the mangrove forest on the mainland portions of the Deering Estate at Cutler, Chicken Key contains an overwash swamp that is frequently inundated by tides.

Cutler Creek

In addition to the water resource described previously, the steep edges of eroded rock in Cutler Creek support several rare North American ferns and fern-relatives. These include the slender spleenwort, Florida tree fern, brown-hair comb fern, gridscale maiden fern, least halberd fern and creeping star-hair fern.

E. State and Federally Listed Endangered or Threatened Species and Their Habitat

Florida Natural Areas Inventory (FNAI) has records of 46 taxa that are known to occur, or are likely to occur, on or immediately adjacent to Deering Estate at Cutler. These include: one fish, two butterflies, one marine mammal, one bird, one snake, and 40 plant species (**Appendix 6**). The IRC list for the Deering Estate at Cutler includes 89 plant species listed by state or federal agencies as threatened, endangered, or commercially exploited that occur or historically occurred on the site (11 have been extirpated). The IRC plant list is included as **Appendix 7**.

Because the Deering Estate at Cutler preserves unique and fragile native environments, it provides a home for various state and federally endangered or threatened species. The majority of the species occur within the pine rocklands and/or rockland hammocks. Four federally listed pine rockland endangered species have been reported on the property: the Pineland deltoid spurge, crenulate lead plant, Garber's spurge, and Small's milkwort. Researchers from Fairchild Tropical Botanic Garden reintroduced cultivated seedlings of the endangered crenulate lead plant to the northern parts of the property in 1993 (**Appendix 8**) and the population continues to thrive. A small population of endangered Small's milkwort was rediscovered in the pinelands in 2003.

A wide variety of wildlife have been known to occur in the natural habitats of the Estate. This includes avifauna, especially following the restoration of Chicken Key Bird Rookery. Some of these are: limpkin, snowy egret, little blue and tricolored heron, white ibis, burrowing owl, American kestrel and peregrine falcon. Numerous resident and migratory wildlife utilize habitat at the Estate. Among these are a variety of threatened or endangered species including the West Indian manatee, American crocodile, green sea turtle, white-crowned pigeon, roseate spoonbill, wood stork, and possibly the eastern indigo snake and the Schaus swallowtail butterfly.

F. Beaches and Dunes

A beach dune system historically occurred on Chicken Key, but much of this was destroyed by deposition of dredged spoil material in the 1940s. The county implemented restoration activities on Chicken Key in 1996, which included the restoration of the island's original topography and beach dune. No other beaches or dunes occur on the property.

G. Swamps, Marshes and Other Wetlands

The Deering Estate at Cutler historically included freshwater and tidal wetland communities. Tidal wetlands include tidal salt marshes and tidal swamps dominated by mangroves, which are described above in Section 10.D. Freshwater wetland communities are associated with the Cutler Slough transverse glade, channelized into the landscape feature of Cutler Creek. The channelization

of this glade and later regional canal construction effectively drained this system and removed freshwater wetlands from the site. The Cutler Slough Rehydration Project includes a freshwater wetland creation area on the Rehydration Addition, which was completed in 2012 and now facilitates the movement of freshwater into Cutler Creek. This partially restores the freshwater wetland hydrology to the creek and reintroduces and re-establishes freshwater wetlands as viable habitat at the Estate.

H. Mineral Resources, such as Oil, Gas and Phosphate.

There are no mineral resources of commercial value known at this property.

I. Unique Natural Features, such as Coral Reefs, Natural Springs, Caverns, Large Sinkholes, Virgin Timber Stands, Scenic Vistas, and Natural Rivers and Streams.

Unique natural features for the Deering Estate at Cutler include exposed portions of the Miami Rock Ridge, Cutler Creek, solution holes and sinkholes, aquatic and terrestrial caves, a freshwater spring, and scenic vistas of Biscayne Bay.

The Deering Estate at Cutler features the geological formation known as the Miami Rock Ridge, which traverses most of Miami's Atlantic coast. It is most prominent and visible in southern Miami-Dade County, particularly at the Estate. The ridge forms a barrier between Biscayne Bay and the interior of the southern Florida peninsula, establishing a geological basin that facilitated the development of the Everglades by helping to retain water and direct its flow from Lake Okeechobee. Cutler Creek, and the pre-channelization Cutler Slough, located on the Estate are examples of only a few naturally occurring historical wetlands/waterways that cut across the ridge thereby allowing water to move directly into Biscayne Bay. The Miami Rock Ridge is an important foundation for the Miami area, and its visible outcrops at the Estate present a rare opportunity for up-close experiences with large-scale geologic and hydrologic elements.

The Miami Rock Ridge in the Deering Estate at Cutler also features excellent examples of karst topography, which is characterized by solution holes and caves created by historical movement of freshwater through limestone. These features are common on parts of the Estate and represent a unique component of Florida geology. These features typically drain quickly and only hold standing water for short periods of time following heavy rains. Vegetative structure of solution features often is that of a mature forest around its exterior. The steep rock walls generally are covered by mosses, liverworts, and ferns with occasional herbs and shrubs in crevices, and can include such rare and threatened species as Venus'-hair fern and least halberd fern. Solution features at the Estate include a large open sinkhole with three carved steps. One of the largest solution holes on the Estate houses the Cutler Fossil Site. In addition, regional lowering of the freshwater table over the past century has drained and exposed numerous interconnected shallow aquatic and terrestrial caverns.

Aquatic and Terrestrial Caves are characterized as cavities below the surface of the ground in karst areas. A cave system may contain portions classified as terrestrial caves and portions classified as aquatic caves. The Estate has six (6) known subterranean terrestrial and aquatic caves, none of which are deeper than eight feet underground.

The Deering Estate at Cutler provides unique scenic vistas of Biscayne Bay, including views over the boat turning basin and views of unaltered shoreline from the bay.

J. Outstanding Native Landscapes Containing Relatively Unaltered Flora, Fauna, and Geological Conditions.

Pine rockland and rockland hammock habitats are listed as critically imperiled both globally and statewide. The Deering Estate at Cutler contains 225 acres of combined pine rockland and rockland hammock, more than 5% of these globally endangered subtropical forests remaining in urban Miami-Dade County. The pine rockland and rockland hammock landscapes are home to a diverse array of plants and wildlife native to South Florida, and they are excellent representations of Miami Rock Ridge karst topography.

Topography

Topography in much of south Florida is characterized by the low-elevation wetland system of the Everglades. Water from this system typically flows slowly west and south within the Everglades, except on the eastern and southern margins where it encounters the Miami Rock Ridge that separates the Everglades basin from Biscayne Bay. The entire Estate straddles the eastern edge of the Rock Ridge. Prior to the construction of regional flood control canals in the 1950s and 1960s, a transverse glade known as Cutler Creek bisected the limestone ridge on the Estate, and via gravity continued eastward down grade before slowly fanning out in a delta fashion to reach Biscayne Bay.

Elevation at the Estate ranges from 19 feet above sea level on the rock ridge portion of the South Addition to sea level within the mouth of Cutler Creek. Notable features such as the Tequesta burial mound (17 feet), the Estate buildings (14 feet), tidal swamp two feet above sea level), and Cutler Creek (channel bottom from five feet above sea level to zero at Biscayne Bay) span this range (**Map 7**). Chicken Key was formed by the deposition of quartz and limestone sands by longshore currents, but much of the original topography of the island was severely altered by spoil material deposited in the early 1900s from dredging operations in the Chapman Field area that raised elevations up to 10 feet on the northern two-thirds of the island. Topography on the Rehydration Addition can be best described as Miami Rock Ridge uplands on the northern half separated from what historically were wetlands of the Cutler transverse glade by a rocky outcropped dividing edge that runs the length of the parcel from west to east. Elevations average 10.5 feet above sea level on the northern five acres of this parcel, while elevations on the lowland half average 5.5 feet above sea level.

11 Description of Actions to Locate and Identify Unknown Resources

Proposed actions to locate and identify additional unknown resources include:

- While prominent archaeological features have been identified, it is recommended that a comprehensive archaeological survey be conducted to properly record, map, and determine the boundaries of known and unknown archaeological and historical sites.
- Researchers from colleges, universities, and non-governmental organizations and government agencies should be encouraged to share their research results with the Estate.
- Facilitate and conduct scientific research and monitoring to optimally manage and protect cultural resources, natural communities, and native plant and animal species of the preserve. These research results should be kept on file and shared with appropriate management and education and interpretive staff to create greater awareness of the site and its resources.
- Establish a research center with all pertinent resource files, literature, archaeological and natural areas research reports, datasets and publications.
- Establish a filing system of all state and county cultural (primarily archaeological) and natural areas research, compliance reviews, special designations, and correspondence.
- Establish a monitoring protocol and schedule for ground disturbing activities and known archaeological sites.
- Provide ongoing training for staff and volunteers on the management, protection, and interpretation of archaeological, historical, and natural resources.
- Obtain funding to complete pending archaeological reports and publish scientific articles in scholarly journals.

12 Identification of Resources on the Property That Are Listed in the Florida Natural Areas Inventory

The Florida Natural Areas Inventory (FNAI) lists the pine rockland and rockland hammocks as priority natural communities. The extent of the Deering Estate at Cutler, except for the People's Dock, is listed as a conservation area by FNAI. FNAI also tracks 46 taxa that are known to occur or are likely to occur on or immediately adjacent to Deering Estate at Cutler. These include: one fish, two butterflies, one marine mammal, one bird, one snake, and 40 plant species. A copy of the element occurrence record for the four grids containing the Deering Estate at Cutler is included as **Appendix 5**.

Map 7: Topography

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MANAGEMENT PLAN: **USES AND MANAGEMENT** (REQUIREMENTS 13-24)

Photo courtesy of Brian F. Call

Section Four of the management plan documents the past, current, and planned land uses of the Estate and describes the management needs facing the Estate, including assessments of whether portions of the Estate should be declared surplus as well as pending or targeted acquisitions required for management. This section also addresses adjacent land uses that conflict with planned uses, regulations affecting the planned uses of the Estate, management responsibilities, and public and local government involvement with the plan development.

Historic land use of the Estate provides a record of human habitation in south Florida and is a central component for the protection and interpretation of the Estate. The Estate is a major center for educational and passive recreational activities which it provides environmental education programs for school-age kids and adults, serves as a research center, provides rental facilities for social functions, hosts special public events, and provides trails and open spaces for passive recreational uses. Planned uses for the Estate consist of overflow parking areas on sites previously used for residential houses and expansion of the constructed wetlands on the Rehydration Addition (Powers Property).

The Estate is managed for multiple uses, including resource conservation, environmental education, passive recreation, and public access. The County maintains a Conservation Maintenance Plan for structures on the Estate and an Archaeological Resource Monitoring Plan and Natural Areas Management Plan for countywide management of cultural and natural resources, including those on the Estate. Management needs for the Estate primarily relate to restoration and management of natural systems and protection of cultural resources. No portion of the Estate should be declared surplus, and there are four sets of parcels that have been identified for potential long-term acquisition to meet management needs.

13 Description of Past Uses, Including any Unauthorized Uses of the Property.

A detailed description of historical uses is included in Section 10. B - Archaeological and Historical Resources, and a summary of these uses is included as follows.

Portions of the Estate include the initial settlement of the town of Cutler. Between 1913 and 1922, Charles Deering purchased the major portion of the land now known as the Deering Estate at Cutler. Between 1916 and 1922, he razed the town structures along the waterfront and kept the Richmond Cottage with subsequent renovations, thereby establishing the Estate as we know it today. Around 1920, while Charles Deering consolidated his land purchases, his neighbors requested continued access to Biscayne Bay. Deering agreed and provided this access on the South Addition property. He further assisted public use by constructing the South Road along the northern boundary of the South Addition (SW 169th Street), a concrete dock and extended wooden pier (People's Dock). He also dredged the bay bottom for boat access. The property's primary function was to house the Deering family and friends during this period, and facilities and grounds were designed and maintained to support a level of use and impacts resulting from residential use. Therefore, accommodations for parking, restrooms, vehicular and pedestrian circulation were designed and built for residential use rather than for public use.

Until the mid-1990s the North Addition remained in private ownership, and was platted for residential development. The county's EEL program acquired the parcels comprising the North Addition from willing sellers from January 1994 - July 1996. Three undeveloped parcels within its boundaries are still in private hands today. Although closed to traffic, public rights-of-way are maintained within the North Addition that enable these owners to access their parcels. The Outparcels and Rehydration Addition were similarly owned and utilized as residential facilities.

After its purchase in 1985 by the state and county, the Deering Estate at Cutler opened to the public for house tours, archaeological demonstrations, nature tours, canoeing and special events. Following Hurricane Andrew in 1992, it was forced to close to the public while restoration work was completed. The Deering Estate at

Cutler reopened to the public in 1999. Unauthorized uses have consisted primarily of illegal dumping, vandalism, poaching, theft, and trespassing.

14 Detailed Description of Existing and Planned Use(s) of the Property.

Today the Deering Estate at Cutler is a major center for educational and passive recreational activities in south Florida. It not only offers the visitor guided tours of the historic buildings, main grounds, natural areas and Chicken Key, but also showcases special site-specific programs for school children and adults, serves as a research center for environmental studies with dozens of scientific projects completed and ongoing on a variety of relevant topics, and provides rental facilities for social functions. The Deering Estate at Cutler hosts special public events throughout the year that highlight its unique characteristics and resources. For the general public, the Deering Estate at Cutler is a recreational haven where one can enjoy acres of coastal tropical rockland hammock, globally endangered pine rockland forests, coastal wetlands, rare and endangered plants and animals, archaeological sites, historic architecture and spectacular vistas on the shore of Biscayne Bay.

A. Existing Uses

Access

The Deering Estate at Cutler is open daily from 10 am to 5 pm, except Christmas and Thanksgiving. General admission is charged for guests, which includes self-guided programs and naturalist-led tours of the historic and natural resources. Additional programming such as featured events, classes, tours and programs are available for a small additional fee. Visitors access the Main Estate grounds via the main gate and ticket booth on SW 72nd Avenue. The Visitor / Orientation Center on SW 168th Street provides additional access. With prior arrangement the Main Estate also may be accessed by water from Biscayne Bay via the existing channel (restricted access). Service and staff access is controlled through an electric gate located on the east side of SW 72nd Avenue at SW 168th Street. Special event access is through the electric gate (staffed) on the east side of SW 72nd Avenue at SW 167th Street. Access to sensitive resources and restricted areas throughout the Estate are arranged through supervised educational programs and tours.

Public access is also allowed from sunrise to sunset along SW 72nd Avenue between SW 158th Street and SW 164th Terrace. This portion of the public right-of-way has been closed to vehicular traffic and regularly is used by bicycles and pedestrians. It bisects pineland and hammock habitat and crosses Cutler Creek by way of the historic Chinese Bridge.

Sections of the South Addition are open from sunrise to sunset providing additional bay access to the public. This includes access to the People's Dock east of the Visitor Center at SW 169th Street. Pedestrian and vehicular parking is permitted at Deering Point at the southern end of the South Addition (sunrise to sunset).

Access to Biscayne Bay also is publicly available through the North Addition via two unimproved trails that are open during Estate operational hours. One trail runs west to east through the center of the addition within the Royal Palm Drive right-of-way. The second access trail runs south from SW 152nd Street along the western bank of the Florida Power and Light (FPL) outflow canal.

Access to Chicken Key is from Biscayne Bay or from the Main Estate through existing waterways from either the Boat Basin or the People's Dock via regularly scheduled Estate public programs.

Facilities and Educational Programming

The Estate fosters relationships with public and private partners alike, including but not limited to universities, colleges, community and national organizations, and government agencies to expand successful environmental awareness and cultural programs for the community. The synergy that results from joining organizational efforts offers all organizations involved a way to reach out to new audiences, bring awareness of the county's rich natural and cultural resources and engage the public and partners in inventive, exciting, and cooperative ways.

Public use has increased significantly over the 13 years since the site reopened for public use, in part due to the variety of educational and recreational uses provided. The visitor center fosters local understanding of the importance, processes, and implications of larger restoration efforts through permanent and rotating exhibits. The development of new citizen science programs deepen this level of engagement and provide hands-on opportunities for understanding water quality

assessment and reporting techniques. These projects will facilitate increased collaboration between the Estate, schools and the SFWMD. The Deering Estate at Cutler has a long history of award winning educational programming in Miami-Dade County, both through the public, private, and home school systems. Programming efforts can be divided into four main categories: (1) Living Classroom programs, (2) Artist Village programs, (3) nature-based recreation and tourism, and (4) research opportunities.

Living Classroom

The Estate's Living Classroom represents all that can be seen, heard, smelled, felt and experienced within the Estate's boundaries. The Estate is a multi-disciplinary learning laboratory where educational theory meets practice. The over-arching goal of the Estate's Living Classroom is to create awareness of the past in context of the present to look to the future and educate community members, particularly youth, about providing solutions to critical urban problems.

Soon after the Deering Estate at Cutler reopened to the public from Hurricane Andrew renovations in 1999, the staff embarked on a unique curriculum development program in partnership with the Elizabeth Ordway Dunn Foundation. The Estate launched its first set of experiential lesson plans and activities utilizing the natural and cultural resources found at the Estate in a series of core learning modules (ecology, biology, marine biology, archaeology, anthropology, eco-art, conservation management, global heritage and stewardship, environmental studies, architecture, art, history) that are correlated with FCAT and Sunshine State standards, thereby making them applicable to public, private and home school requirements.

Community Classes at Deering Estate at Cutler

This curriculum is the cornerstone of the hands-on and experiential learning environment of our Living Classroom. On-site programs include:

- Deering Discovery Camps offered in the summer, winter, and spring and as one-day programs on teacher workdays when public school is not in session;
- a 30-week on-site EcoAcademy, Wildlife Conservation Program and Marine Conservation Science and Policy Program for home school youth and their parent educators;
- a two-hour outreach program offered for one day, over each of five weeks or as a 30-week after-school program as part of our School Yard Science Program;
- as an in-school and field study trip program offered twice weekly for 30 weeks throughout the year through our NESTT (Nurturing Environmental Stewards of Today and Tomorrow) or Global Studies Programs for K-12 schools;
- once monthly Book Nooks by The Bay open the classroom resources to visitors to the Estate in partnership with the Miami-Dade County Library Systems;
- Field Study Trips for youth and scout groups;
- Teacher education workshops, and;
- as part of our new Citizen Science Program reaching all ages and abilities.

Artist Village

The Deering Estate at Cutler has emerged as a thriving cultural art center. Fulfilling an enduring dream of the late industrialist Charles Deering, who was an avid art collector, philanthropist, and amateur artist. He sought to support artists and create a cultural haven where artists created, collaborated and exhibited their work. Cultural programming that includes fine art and historic exhibits, visual, literary, and performance artists-in-residence, workshops, lectures, and master classes, as well as special events and collaborative performance, are primarily housed in a unique collection of buildings that are listed on the National Register of Historic Places. The Artist Village has become a cultural hub for exciting collaborative cultural arts programs that include:

- *Fine Art & Historic Exhibitions*: The Deering Estate at Cutler's Art on Loan Program has been successful in attracting art and artifacts for public display or exhibition.

This has included all forms of historical documents and artifacts, fine art created for aesthetic purposes and fine craft created for functional purposes.

- *Artist in Residence Program*: A prestigious daily residential program for emerging literary, visual and performing artists to seek inspiration from the Estate and each other.

- *Living Artist Concert Series*: For music enthusiasts, the Deering Estate Chamber Ensemble presents intimate concerts in the historic Stone House Ballroom. Internationally acclaimed musicians collaborate with world-renowned guest composers, artists, and talented youth performers.

- *Theatre Lab*: The Theatre Lab is a monthly performance art series and residency opportunity developed in partnership with the Theatre League of South Florida that includes site specific theater performances, workshops and lectures.

- *Playwright Development Program*: The PDP is a series of two-day workshops conducted by nationally renowned playwrights and Miami-Dade County's Department of Cultural Affairs, providing intensive support for developing new work from Miami-Dade County's growing and diverse community of playwrights.

- *Visiting Artist Outreach Programs*: Utilizing current Artists-in-Residence and alumni of the program, artists are partnered with local elementary, middle and high school arts, social studies and sciences classes to speak, interact, present their work and reflect on how their experiences at the Deering Estate at Cutler or as an artist have shaped their lives.

- *Art Take Away & Artist Village Tours*: The Artist Village Open Studio Tour & Workshop led by one of our current Artist-in-Residence is held on the third Saturday of each month and is free with Estate admission.

- *Master Classes, Youth & Adult Programs, Workshops & Lectures*: Artists, writers, playwrights, composers, musicians, and dancers are invited each year to participate in the visual, literary or performance art programs on the Estate. As part of their participation, these talented and world-renowned individuals lead master classes or participant-in-preparatory programs, lectures and workshops held at the Deering Estate at Cutler or in collaboration with program partners.

Nature Based Recreation and Tourism

The Deering Estate at Cutler offers an exciting line-up of self-guided, naturalist-guided, and eco-adventures tours on the Estate, highlighting south Florida's sub-tropical beauty, unique wilderness areas, and historic sites.

Self-guided tours feature the Estate's historic and natural resources such as the historic homes, Chinese Bridge, Mangrove Boardwalk, Hammock Trails, and main grounds. These areas are open to the general public seven days a week. Guests visiting Chicken Key, entering the natural areas and/or visiting the Tequesta Burial Mound must be accompanied by an Estate staff member or trained volunteer. Self-guided tour brochures include: Stone House, Richmond Cottage, Mangrove Boardwalk, Reclamation Project, Artist Village and Birds of Deering.

Regular guided tours of the natural areas and historic buildings are offered daily by our Education and Interpretive staff and are free with general Estate admission. These include the historic house tour and a natural areas tour. Each weekend of the month, a special focus on natural areas tour is offered, including:

- Pine Rockland Trail Hike - first weekend of the month;

- Tequesta Trail Tour - second weekend of the month;

- Ethnobotany Tour - third weekend of the month;

- Butterfly Walk - fourth weekend of the month.

A Bird Walk is also offered seasonally the second Saturday of the month, October through May. A night hike is offered seasonally the third Thursday of each month from October through May. Ghost story tours are offered the third Thursday of each month.

Eco-Adventure tours are more physically demanding guided tours offered to the general public. These include:

- an eco-bike tour offered seasonally the fourth Saturday of the month (October through May);

- Sunrise canoe tours offered seasonally the second Sunday of the month (October through May);

- A moonlight canoe tour offered seasonally on two nights a month during the full moon cycle each month (October through May) and;

- a bay cruise on a pontoon boat on some Sundays throughout the year.

Research Opportunities

Research plays a significant role in the Estate's operations and is strongly encouraged. Different kinds of research projects contribute to the better understanding of the Estate's resources and allow managers to take a more holistic and adaptive approach to resource management.

All individuals and organizations interested in conducting formal research on the Estate must complete a Research Worker Approval Form and Research Permit Application that is reviewed by a multi-disciplinary team. A site orientation is required for each approved research project by Natural Areas Management staff or Estate staff.

In 2012, with the opening of the Cutler Slough Rehydration Project, the Estate began to implement a site-specific Citizen Science project to help assess if conservation monitoring goals can be attained by incorporating data collection by non-scientists. In general, the citizen science model engages a diverse network of non-scientist volunteers in data collection for scientific investigations using protocols developed by or in collaboration with professional researchers. These projects promote public engagement with research, and science in general, by employing volunteer monitoring for the benefit of enhanced natural resource management. Citizen science projects are an additional form of environmental education, awareness, and outreach to promote public understanding of the science of human-environment interactions. The goal of the Citizen Science project, deepens public involvement in field science through involvement of laypeople in the collection of data usually through observation, identification, and monitoring.

Signature Special Events and Rentals

In partnership with many community groups, including the Deering Estate Foundation, the Estate produces a variety of signature events and programs such as: SoBay Festival of the Arts; "Moonlight & Music" Valentine's Day Concert; Deering Seafood Festival; Archaeology Day; Affair En Plen Air; Living Artist Concert Series; Cabaret Concert Series; Theatre Lab; Mother's Day Brunch; Fee Free Play Days; Wine on Harvest Moon; Ghost Story Tours; Deering Goes to the Birds; and Holiday Events. These events bring in new audiences to the Estate and help foster awareness of its rich cultural and natural resources.

The Estate has become one of the premier rental facilities for an array of social and special events. With the view of the Historic Houses – the grand Stone House and picturesque Richmond Cottage – along with the beautiful manicured lawn overlooking the tranquil waters of Biscayne Bay, the Deering Estate at Cutler is the ideal location to host a wedding or special public corporate event in Miami.

The Deering Estate at Cutler & Miami-Dade Parks EcoAdventures also offer winter, spring and summer camps for youth and teens. Mini-camps are also available on teacher planning days throughout the school year. Sumer camps typically include 10 five-day sessions from June through August.

Community Classes and Lectures

The tranquil setting of the Deering Estate at Cutler is conducive to a variety of life-enriching community education classes including yoga, meditation, fencing, pilates and music. Free lectures also are offered on the second Thursday of the month from September – June in partnership with the Archaeological Society of Southern Florida, which is a non-profit, volunteer organization that acts as a support mechanism for the office of the Miami-Dade County Archaeologist (MDCRER). These lectures are opportunities to bring together local archaeology enthusiasts and professionals in the field, and help to promote knowledge and appreciation of native archaeological and historical sites in the south Florida area.

Cultural Event at Deering Estate at Cutler

Intangible Heritage

According to UNESCO, intangible cultural heritage is defined as "...the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts, and cultural spaces associated therewith – that communities, groups, and in some cases, individuals recognize as part of their cultural heritage." A defining feature of this heritage is continuity. It is "...transmitted from generation to generation, is constantly recreated by communities and groups" through the contexts of their interactions with nature and history. Intangible cultural heritage promotes a respect for cultural diversity and creativity by fostering a sense of historical continuity and identity among those who participate in it.

The Deering Estate at Cutler is a major center for the proliferation of intangible cultural heritage in South Florida. Interpretive and educational programs convey values to visitors of the environmental stewardship and conservation Charles Deering implemented on the Estate. In addition, many art programs hosted at the Estate today contribute to the cultural landscape of South Florida by cultivating a respect for the arts and human creativity. Many of the values inherent in the stewardship of Charles Deering are passed from generation to generation through the programs of the Estate. The traditional and the contemporary, the historical and the modern, the rural and the urban are represented, and visitors as well as the community at large keep alive this cultural and environmental legacy.

The Deering Estate at Cutler's Artist in Residence Program was established in September 2006 in keeping with Charles Deering's own vision of supporting emerging artists. The Artist in Residence Program offers professional visual, performing and literary artists the opportunity to pursue their artistic discipline, create a body of work, connect with other artists and engage the public, while experiencing the historic, archaeological and natural elements of the Estate's inspiring environment.

B. Planned Uses

The master plan for the Deering Estate at Cutler is included as **Map 8**.

In 2004, a strategic, long-range plan for the Estate was developed which primarily addressed programming.

Book Nook by the Bay at Deering Estate at Cutler

Additional planned uses on the site include the following:

- *North Addition* - Public enhancements for this area are in the planning stages and include limited parking, interpretive signage and tours and canoe stopover on disturbed areas.

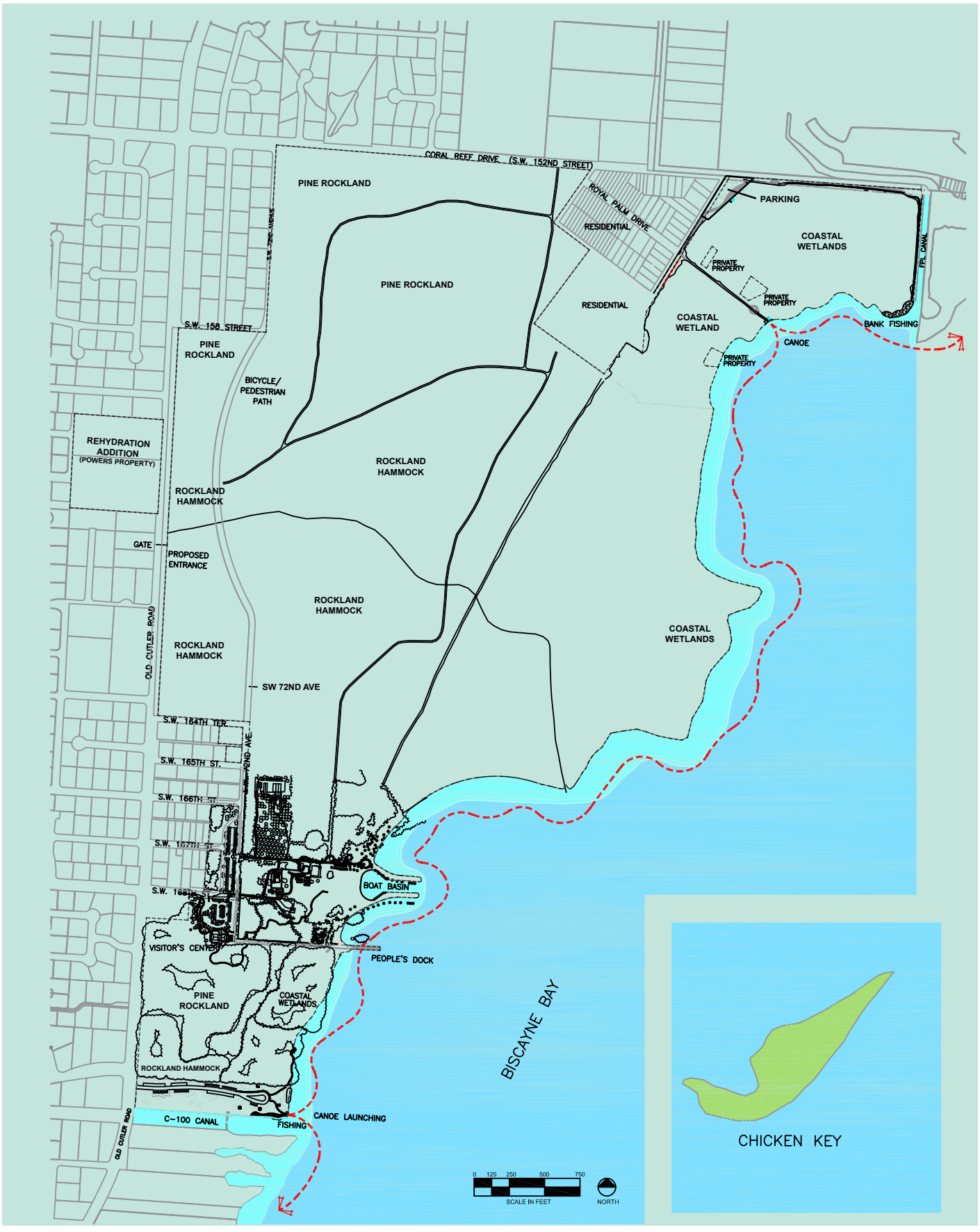
- *Rehydration Addition (Powers Property)* - The completed SFWMD improvements for the Cutler Slough Rehydration Project include a freshwater wetland. This wetland is planned to be expanded by the County in the future. In addition, education facilities, kiosks, walking trails, restoration of hammock community and limited parking are being evaluated for implementation. The conceptual site plan for the Rehydration Addition is included as **Map 9.**

- *Out-Parcels* - Currently the Out-Parcels are utilized for overflow parking along their right-of-way edges with SW 72nd Avenue, SW 168th SW 167th, and SW 166th Streets. They also contain small pockets of natural habitat, but primarily serve as an example and training materials for workshops in non-native invasive species recognition and removal. The planned improvements for these parcels consists of future additional parking spaces among restored pockets of natural landscape.

Environmental Education

In addition to the potential for scientific research and archaeological investigations at the Estate, possibilities for additional interpretation and education are being evaluated. The Addison Clearing, within the public areas of the Estate, provides an excellent opportunity for increased environmental, historic and natural history

Map 8: Master Plan



interpretation. Through virtual tours that incorporate historical documentation, film and imagery, oral histories, and GIS, visitors are transported back to an earlier time. The coastal wetlands and other natural areas of the North Addition and South Addition provide new potential teaching areas for Estate educational programs. Additional limited access designed to interpret both natural features and the historic significance of these areas may be implemented in the future in a manner consistent with preserving the ecological integrity of the site. The Visitor Center has opportunities to host film series, additional lectures and expanded visual exhibit space to tell the Estate's natural history story. Planned educational opportunities include educational materials at Deering Point. The Rehydration Addition will showcase special site-specific programs for school children and adults and serve as an additional site for environmental studies and research. Educational programming will only occur in a manner that is consistent with preserving the ecological integrity of the site.

15 Description of Alternative or Multiple Uses of the Property

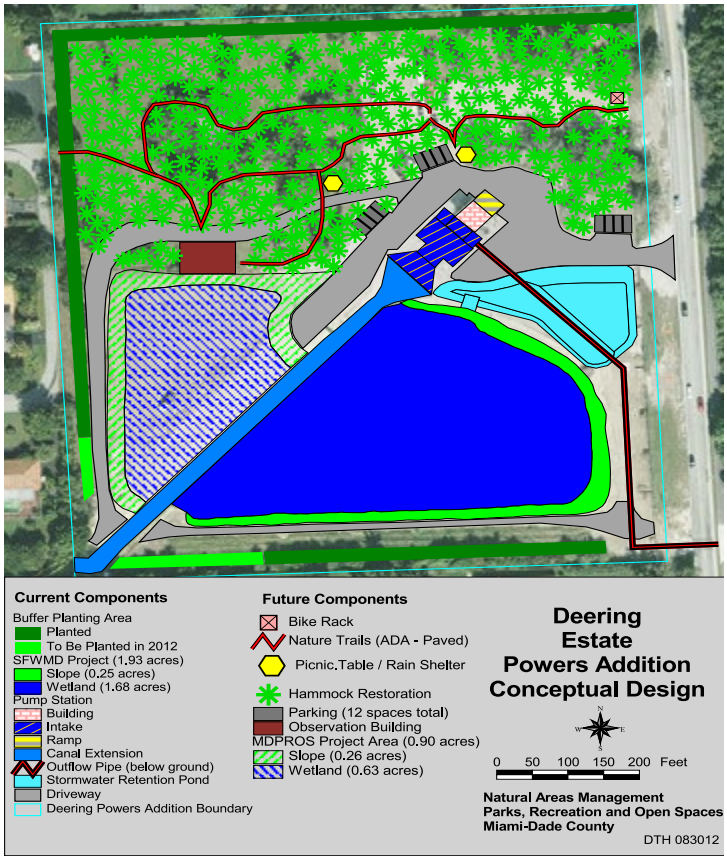
The property is being managed for multiple uses including resource conservation and protection for habitats, threatened and endangered species, water resources, archaeological and cultural resources, environmental education, passive recreation, and compatible public access and enjoyment.

Alternative uses were evaluated during initial planning stages for each parcel. The following provides an overview of alternatives evaluated and why such uses were not adopted.

Main Estate

Many different potential property uses were considered for the Estate before the current mix of historical and environmental interpretation programming was implemented. Alternatives ranged from a conference center, period museum, garden center and administrative offices, to an environmental education retreat house. Each was ultimately eliminated because of the following reasons: the mix of environmental, recreational, social, or financial factors did not meet public demand; improvements or adaptive use would adversely impact sensitive resources; or incompatibility of the use with adjacent areas.

Map 9: Rehydration Addition (Powers Property) Conceptual Site Plan



North Addition

Few alternative uses have been considered for the North Addition given the constraints imposed by sensitive coastal resources and the proximity of activities available in the adjacent Estate. A number of uses were unacceptable because they may adversely impact the property or be inconsistent with Chapter 24-50 of the EEL Program, which protects natural areas from incompatible uses. Specific unacceptable alternatives include: 1) locating any building or impacting activity within resource sensitive areas; 2) managing the North Addition as a separate entity from the Estate; and 3) providing for types of boating activity that would impact resources or alter the historic nature of the Estate.

South Addition

Few alternative uses have been considered for the South Addition given the constraints imposed by sensitive resources and the proximity of activities available in the adjacent Estate. A number of uses were unacceptable because they may adversely impact the property or

be inconsistent with Chapter 24-50 of the EEL Program which protects natural areas from incompatible uses. Specific unacceptable alternatives include: 1) locating the Visitor Center or any building or impacting activity, within resource sensitive areas; 2) managing the South Addition as a separate entity from the Estate; 3) providing for types of boating activity that would impact resources or alter the historic nature of the Estate.

Rehydration Addition (Powers Property)

Few alternative uses have been considered for the Rehydration Addition given the constraints imposed by the Florida Communities Trust management agreement and the Cutler Slough Rehydration Project, which was the purpose for the acquisition of that parcel to enhance and restore sensitive resources in the adjacent Estate. A number of uses were unacceptable because they may adversely impact the property. Specific unacceptable alternatives include: 1) locating any building or impacting activity within resource sensitive areas; and 2) managing the Rehydration Addition as a separate entity from the Estate.

Out-Parcels

Alternative uses have been considered for the two small Out-Parcels located north of the existing Visitor Center but outside of the Main Estate grounds and the perimeter Stone Wall. Given the needs and constraints of the adjacent Estate, utilizing impacted portions to accommodate overflow parking needs in an environmentally friendly manner is the highest priority. A number of uses were unacceptable because they may adversely impact the property. Specific unacceptable alternatives include: 1) locating any building or impacting activity within resource sensitive areas; 2) managing the Out-Parcels as a separate entity from the Estate; and 3) providing for types of vehicular activity that would impact sensitive resources.

16 Detailed Assessment of the Impact of Planned Uses on the Renewable and Non-Renewable Resources of the Property (and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to mitigate damage caused by such uses).

Planned uses are anticipated to have minimal effects on renewable and non-renewable resources of the property. Planned improvements such as parking areas are targeted for sites previously used as residences that exhibit a history of disturbance and non-native invasive species infestations. The planned parking areas in the Outparcels and North Addition would assist in eliminating non-native invasive species from the property. The planned treatment wetland expansion and recreational/ education facility improvements within the Rehydration Addition will occur in previously disturbed areas. Wetland creation will increase and re-introduce desirable wetland species to the property and planned plantings in the uplands will increase habitat diversity. County staff currently monitor natural areas and archaeological sites for non-native invasive species occurrences, rare species population dynamics, and effects of existing uses on natural and archaeological resources. Trail closures, non-native invasive species control activities, and/or targeted management actions for rare species can be identified from these monitoring efforts to address potential negative effects of existing uses.

Miami-Dade County maintains a Conservation Maintenance Plan (See **Appendix 9**) for the historic structures on the site for three types of maintenance; scheduled maintenance; corrective maintenance; and emergency corrective maintenance.

The Deering Estate at Cutler maintains an Archaeological Resource Monitoring Plan adapted from the State of Florida's "Best Management Practices" and the Archaeological Resource Management Training conducted annually by the Bureau of Archaeological Research in conjunction with the Florida Park Service.

The Miami Dade County Natural Areas Management Plan (see **Appendix 10**) was produced in 2005 through a series of meetings of the Miami-Dade County Natural Areas Management Working Group, composed of staff from various organizations concerned with habitat management in Miami-Dade County.

17 Description of Management Needs and Problems for the Property.

Most management needs and problems relate to either restoration and/or management of natural systems or protection of cultural resources.

A. Natural Systems

Public Access

The Deering Estate Management Plan and State legislation require that all environmentally sensitive natural areas be preserved, protected, maintained, and restored in perpetuity, ensuring long-term viability of native populations and imperiled species considered rare, threatened, endangered or of special concern. Furthermore, all coastal wetlands and upland forest communities of the Estate are characterized as having valuable environmental resources and are designated as Environmentally Protected Park in the Miami-Dade County CDMP and are designated as natural forest community (NFC) by the County. This directs management to be in a manner consistent with the goals, objectives and policies for proper use of environmental resources. Compatible activities that allow public use and access within these areas are those that do not compromise natural resource values. Interpretive nature trails and programming may improve the public's understanding and appreciation of these sensitive areas.

Public access to Estate natural areas must be considered in the management of the Estate. Certain ecosystems benefit from periods of little to no disturbance as part of management to restore vital ecological functions or to protect breeding areas for native species. Parks and preserves abroad have successfully implemented management programs allowing for access to units on a rotational basis. Other methods employed include seasonal or periodic closures of portions of natural areas that are ecologically relevant to target species. These restrictions protect jurisdictional areas from degradation and development that would adversely affect the quality of the natural area.

Prescribed Burns and Wildfires

The long-term viability of Miami-Dade County's and the Estate's fire-dependent wildlands (including pine rocklands and tidal marsh communities) depends upon internal and public support of fire management programs. Prescribed burns are used at the Estate to enhance ecosystem functions and maintain existing defensible space around all buildings to protect them. Prescribed fire operations in urban areas are very time and resource intensive. Miami-Dade County and Florida Fire Service jointly conduct prescribed burns on the Estate. Particular attention is given to smoke management and contingency planning, mop-up, and public education and notification. The Office of Safety, Miami-Dade County Risk Management, is involved in assessment and planning of prescribed fire needs, and all personnel are required to be adequately trained and equipped to participate in prescribed fire activities. Appropriate management of risk associated with fire management is vital to the future of prescribed fire. Additional information about the prescribed fire program is provided in Requirement 50 in this document.

Prescribed Burn

It is critical that individuals within county government and the public at large understand the role of fire in maintaining wildlands and as a tool to reduce wildfire hazards. As part of Estate educational efforts, information on the value of prescribed burning is incorporated into school and adult programs to increase the awareness of its benefits and the acceptance of cost, risk and inconvenience of prescribed fires compared to the devastation of wildfires.

Monitoring and Resource Identification

Monitoring for non-native invasive species populations, rare plant species populations, and hydrological resources and vegetation conditions within Cutler Creek have been ongoing since 2003 (see **Appendix 8** for a summary). These monitoring efforts provide both base data on existing natural resources as well as updates relevant to implementing adaptive management techniques. Resource monitoring will continue to focus on the status of native and non-native invasive populations and progress of non-native invasive removal programs and their effects on natural communities. Monitoring measures that may be used either by staff or contracting with qualified professionals subject to funding availability could include permanent photo-points, semi-permanent line transects or plots for community evaluations, evaluation of effects of human activities on natural communities, and rare species population dynamic assessments.

Non-Native Invasive Species Management

Although many of the non-native invasive species included in the historic landscapes of the Deering Estate at Cutler have minor or unknown impacts on natural areas, some became extremely disruptive. The Estate strives to protect and preserve all species of native flora and fauna within all management areas. Non-native plants and animals will not be introduced into natural areas except under specific conditions determined by a knowledgeable research review panel and approved by permit. Non-native plants included in the landscape master plan for the historic landscapes around structures will not include prohibited species as defined as Category I and II non-native invasive species on the Florida Exotic Pest Plan Council's (FLEPPC) List of Invasive Plants and those specified in the Miami-Dade County Code, listed in the Comprehensive Development Master Plan (CDMP) or listed in the Miami-Dade County Landscape Manual.

Non-native invasive plant species are a significant management challenge for the property. Over the past 20 plus years, significant management efforts have been targeted to eliminate non-native invasive species from natural areas, which have been very successful. As a result, the vast majority of the property is in the control phase with many areas exhibiting less than 5% areal cover of non-native invasive species. Ongoing control strategies include regular evaluations of non-native invasive species occurrences and a treatment schedule that varies according to natural area type and target non-native invasive organism, and may differ between natural areas and developed areas of the Estate. Currently, non-native invasive plant control efforts are targeted to the natural areas on the property with limited to no non-native invasive species control on the Outparcels due to their separation from the main portion of the Estate and planned future uses. Non-native invasive species control in the Outparcels will be evaluated based on staff and funding availability and based upon future uses for the properties.

Currently there are dozens of known non-native invasive plant populations and several populations of non-native animals at the Estate including boa constrictors, feral cats, and iguanas. Management efforts over the past 10 years have extirpated feral pigs from the property. Non-native invasive animal species are removed opportunistically when encountered by staff. More aggressive feral animal removal will require additional staff, equipment, supplies, and/or funding for contractors.

Stormwater Runoff and Treatment

The Estate provides more than 400 acres of "open ground" for percolation and absorption of rainwater that includes grassy lawn, forest uplands, and coastal wetlands to help drain stormwater quickly and reduce flooding impacts to the site and surrounding properties. Stormwater systems including storm drains, underground pipes, and stormwater basins capture and treat stormwater generated from impervious areas on site. Security and all Estate and County staff keep watch for illegal dumping on bordering roadway rights-of-way, onto Estate grounds, and into storm drains to minimize direct groundwater pollution problems. In addition, Estate staff keep use of pesticides and fertilizers to a minimum to prevent on-site non-target contamination where ever possible. Future improvements may require evaluation of stormwater treatment and retention capacity prior to installation.

Water Quality, Quantity and Flow

Improving the quantity, distribution and timing of clean surface and ground water flows and circulation characteristics of Biscayne Bay is needed to protect and restore natural ecosystems. A primary factor that determines ecosystem structure, distribution and species composition in Biscayne Bay is the volume, distribution and timing of freshwater inflow. Availability of water in upland areas is also necessary to protect freshwater-dependent ecosystems in the watershed. This water must be provided, as nearly as possible, in a manner consistent with natural timing, distribution, and flow patterns.

The Cutler Slough Rehydration Project elements that were recently constructed will assist in providing freshwater in a more natural distribution and timing. The Cutler Slough Rehydration Project will reduce point source freshwater discharges exiting to Biscayne Bay through the C-100 Canal located on the southern end of the Deering Estate at Cutler. Such discharges can be physiologically stressful to fish and benthic organisms. Rehydration of a portion of the Cutler Creek Slough will partially restore a more natural distribution and seasonally appropriate hydrology to the estuarine ecosystem and is anticipated to directly or indirectly benefit at a minimum the 1.6 miles of coastline and surrounding Bay habitats that are part of the Estate.

Natural Area Research

The size and diversity of the Estate's natural areas within the context of urban Miami, an international hub easily accessed via air, sea and land, makes them ideal for a variety of local, national and international research projects. Numerous environmental, historical and cultural investigations are possible within the park's tropical hardwood rockland hammock, pine rockland, and freshwater and coastal wetlands found on the Main Estate, North Addition, South Addition and Rehydration Addition as well as the adjacent marine and benthic communities. While projects must comply with established site research, county, state and federal codes, Estate and MDPROS staff guide the development and implementation of such research, and with study findings and data in turn, complete an adaptive management process by incorporating better management practices into regular maintenance and management activities.

Mosquito Control

Damage to and the loss of native insect fauna, including butterflies, may be partially related to insecticidal sprays used in attempts to control mosquito populations surrounding the Estate. County staff will continue to monitor impacts to the natural areas and associated insect fauna as a result of County Mosquito Control (MC) operations. Alternative control methods are being explored as part of the Arthropod Control Plan (**Appendix 11**).

B. Cultural Resources

The intent of archaeological resource management of the Estate and its cultural resources includes preserving and protecting all sites against vandals, looters, and collectors as well as erosion of sites; providing interpretation and public access of some or all these resources in a manner that does not conflict with the preservation of the resource's integrity; and continual documentation and monitoring of the resources to identify stabilization issues and new resources. Several areas of archaeological significance have been identified in the Protected Natural Areas and South Addition. Further investigations are needed in all areas of the Estate. Interpretation of known archaeological areas follows best management practices developed by the State of Florida, Bureau of Archaeological Resources. Any new archaeological interpretation developed on the North and South Additions would be the result of future archaeological investigations. The probability of discovering additional archaeological sites on the Estate in future surveys is high. A maintenance and monitoring plan for existing resources or resources discovered during future cultural resource surveys will be prepared and implemented as needed to evaluate and protect the integrity of cultural resources.

The existence of significant pre-historic, historic and environmental features imposes rigid developmental constraints that include: known and unknown archaeological sites; unique historic landscape plantings; significant historical buildings and features; and impact to the overall historic character of the Estate. Because the Main Estate, including the archaeological and architectural resources as well as the grounds, is listed on the National Register of Historic Places and the entire property is designated as a Historic District by the Miami-Dade Historic Preservation Board, alterations to the Estate are subject to several regulatory and review processes by federal, state and county agencies.

Actions that may adversely affect archaeological or historical resources must receive prior approval from the State Division of Historical Resources and the County Office of Historic Preservation. Modifications to existing structures or site features, or new construction in the vicinity of historic buildings, historic landscape areas or historic groves will follow the recommended approaches to rehabilitation or new construction contained in the Secretary for the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. The commitment of MDPROS to identify, protect, and interpret the cultural resources of the Estate, combined with existing preservation ordinances and review processes, mandate that proper measures continue to be taken to avoid or limit adverse impacts to these resources. These measures will include control of public access to and foot traffic in sensitive areas, particularly Cutler Midden, Cutler Mound, Cutler Fossil Site and other archaeological resources located as a result of future archaeological surveys. The existing historic buildings provide an excellent opportunity for varied public use, exhibits, interpretive programming and limited staff space.

Infrastructure

1. **Facility Hurricane Preparations:**
   Because it is a coastal property subject to direct storm impacts, tropical storms and hurricanes present the Estate with extreme management constraints. Since stewardship and preservation are paramount, thorough securing efforts are undertaken in the case of hurricane watches and warnings. The Estate follows preparation and follow-up guidelines set by the county for historic properties with additional requirements specifically formulated for the Estate. The historic buildings and their contents are secured to protect from wind, water, and tidal surge. Vehicles are removed to pre-determined, protected locations. Communication chain-of-command arrangements are solidified for the duration of the emergency. Following an emergency alert, staff members assess damages and begin repairs, as well as demobilize and return the Estate to operational status.

2. **Waste Removal Facilities:**
   Since re-opening to the public in 1999, the Estate has experienced a steady regular use with a concomitant stream waste. Custodial staff spends considerable amounts of time cleaning following rental and special events, while landscape crew members make regular efforts to properly dispose litter and illegally dumped materials. The Estate maintains two large dumpsters in its service lot where County Solid Waste can easily access and regularly empty them. The Estate also has one Pump (Lift) Station that is used to raise and discharge wastewater from the property into a force main which then conveys to a treatment plant. Estate staff are evaluating the implementation of a comprehensive recycling program as a waste management option.

3. **Infrastructure Needs:**
   State acquisition of the Main Estate in 1985 brought about tremendous interest in the property, resulting in high initial public demand to visit and use the property. Every effort was made to ensure that buildings and grounds provided adequate public health and safety regardless of the type and level of public use. Facility and infrastructure expansion to convert the property from a private residence to a public facility has increased the ability of MDPROS to provide public access to the Estate.

Following are specific infrastructure needs and proposed projects to address these needs include:

1. *Need:* Additional visitor and staff parking.
   Proposal: New parking within Out-Parcels north of Visitor Center and in disturbed northwestern portion of North Addition.

2. *Need*: Improved access to restroom facilities for visitors.
   Proposal: Appropriate restroom facilities at Deering Point and Rehydration Addition.

3. *Need*: Improved lighting for security and visitor safety.
   Proposal: Improve night time lighting of the Main Entrance Drive and entry and exits for the property. Add additional power outlets to accommodate temporary lighting and other electrical needs for special events.

4. *Need*: Consistent and cohesive fencing around unsecured areas of the Estate to prevent vandals, dumping and relic hunters from gaining access into less supervised resource areas.
   Proposal: Install appropriate fencing along Old Cutler Road across from Rehydration Addition, SW 164th Terrace and SW 156th Street and update existing fencing when needed to provide consistent form and structure compatible with maintenance of ecological corridors and prescribed fire capabilities for the entire property.

Maintenance Responsibility and Needs

The county has sole maintenance responsibility for the Estate. Although restoration was completed in 1999, historic structures require regular repairs as well as general upkeep. Proximity to Biscayne Bay accelerates the deterioration of the buildings, equipment and materials. Maintenance staff include park attendants, a landscape supervisor to maintain the Main Estate grounds, and custodians for the buildings. Additional staff not based at the property from the MDPROS Maintenance Section performs general repairs on the buildings as needed and specialty contracts must be engaged for historically oriented maintenance and repair. Preserve Managers from the Natural Areas Management (NAM) Division direct land management activities within natural lands and a NAM crew is dedicated year-round to non-native invasive species removal in Estate natural areas.

C. Security

Security issues for the Deering Estate at Cutler include site and visitor safety and protection needs, building security, and resource protection. These functions are required 24 hours a day, seven days a week.

Site and Visitor Protection and Needs

Access control at the Estate includes chain-link fences, gates and stonewalls. A rope with buoys stretched across the boat turning basin channel entrance is part of access control efforts for the Main Estate from Biscayne Bay. The Main Estate has four pedestrian and vehicular access points: the main original gate off SW 72nd Avenue, service gate off SW 72nd Avenue, People's Dock gate off South Road (SW 169th Street), and the visitor pedestrian entrance gate located east of the Visitor Orientation Center.

The Estate is additionally secured by Estate security guards with canine units present 24 hours a day, seven days a week, 365 days a year. During the day there are no fewer than three guards, and at night a minimum of two who secure the park with hourly rounds through the various parcels outside of the Main Estate. During special events, additional outside security is utilized to complement Estate security staff.

Building Security - Needs and Problems

The buildings are armed with burglar alarms that are activated after operating hours. The buildings are equipped with fire alarms and sprinklers that are monitored 24 hours a day. However, the security systems in the buildings are inadequate and already outdated. The Stone House and the Richmond Cottage along with other support buildings have several security problems, leaving the buildings vulnerable. Video surveillance and monitoring are needed throughout the property, especially in and around the historic buildings and grounds to enhance visitor safety and protect valuable artistic pieces and historic artifacts.

Map 10: Adjacent Land Uses

18 Identification of Adjacent Land Uses that Conflict with the Planned Use of the Property, (if any).

Adjacent lands around the Deering Estate at Cutler are almost completely developed, making the property a landlocked natural area. Residential, commercial and roadway land uses in the vicinity of the project affect the implementation of prescribed fire as a management tool for natural resource conservation, a planned use, on the property (see **Map 10**). A commercial shopping center occurs on private land immediately adjacent to the northwest corner of the South Addition. The portions of this center adjacent to the Deering Estate at Cutler have been fenced. Cooperation with the owners and operators of these facilities are important to minimize illegal dumping or other uses of the adjacent portions

of the South Addition. The adjacency of residential and commercial uses also affect arthropod control as mosquito control spraying occurs that can affect invertebrate and avian populations on the Estate.

19 Description of Legislative or Executive Directives that Constrain the Use of Such Property.

The Miami-Dade County Park, Recreation and Open Spaces Department manages the Deering Estate at Cutler, with management and operational authority derived from government mandates. Operations and improvements to the property are accomplished in accordance with federal, state and local legislation including:

Federal Government

- 36Code of Federal Regulations (CFR), Department of Justice, Part 800, Protection of Historic Properties.
- 14CFR, Federal Aviation Administration (FAA), Department Of Transportation (DOT). Aeronautics and Space, and FAA Order 9700.M.
- 16CFR 1531-1544 Endangered Species Act of 1973 and Migratory Bird Treaty Act. US Fish & Wildlife Service (USFWS).
- 28CFR, Part 36, Americans with Disabilities Act (ADA).
- Section 404, Clean Water Act, Environmental Protection Agency (EPA).
- Marine Mammal Protection Act of 1972, National Oceanic & Atmospheric Administration, Office of Protected Species, National Marine Fisheries Service.

State of Florida

- Florida Statutes (FS) 253.03. Public Lands and Property, State Lands and Rule 9K-4.013 Preservation 2000 FAC Department of Community Affairs.; Rules 9K-5.008; and 9K-5.015, Areas of Critical Concern, Florida Communities Trust; Rules 9K-7.011 and 9K-7.013 Florida Forever Program, Florida Communities Trust.
- FS 258.397. Public Lands and Property, State Parks and Preserves; and 18-21 FAC, Sovereignty Submerged Lands Management. Internal Improvements Trust Fund, South Florida Water Management District, Department of Environmental Protection.
- FS 267.061(2) and 872.05. Public Lands and Property, Historical Resources; Crimes. Offenses Concerning Dead Bodies and Graves, Unmarked Burials; and Rule 1A-32 and 1A-40 Florida Administrative Code. Department of State, Division of Historical Resources.
- FS 311, 373.414, and 403.802, -.811, -.9321-.9333 and 62-312 Florida Administrative Code (FAC), Natural Resources, Water Resources; Public Health, Environmental Control. Florida Department of Environmental Protection. (Florida Environmental Reorganization Act of 1975, and the Warren S. Henderson Wetlands Protection Act of 1984).
- FS 386. Public Health, Conditions Affecting. Indoor Air: Tobacco Smoke. Florida Department of Health; and Chapter 64D-1, 64E-25 Florida Administrative Code (FAC) Department of Health.
- FS 590. Agriculture, Horticulture and Animal Industry, Forest Protection. Division of Forestry.
- Rule 18-4 FAC, Land Management Advisory Committee. Chapter 68-27.002, -.003 FAC and Article IV, Section 9, Florida Constitution. Wildlife Rules and Chapter 68A, 62-11 FAC and FS 379, Fish and Wildlife Conservation.
- Chapter 62-321; -330; -340; -343; -344 FAC Environmental Protection. Department of Environmental Protection.

Miami-Dade County, Code of Ordinances (Board of County Commissioners)

- Resolution 5911-53, Chapter 2, Administration; Article X Park & Recreation Department; Section 2-86 Functions, Powers and Duties; and Chapter 23A Planning Generally Section 23A-1 Comprehensive Development Master Plan (CDMP), III. ENVIRONMENTAL PROTECTION.
- Chapter 7 Boats, Docks and Waterways; Article I In General; Section 7-5 Biscayne Bay Aquatic Park and Conservation Area and Article II Motorboats; Sections 7-24 Declaration of legislative intent and 7-27 Power and Authority of County Manager.
- Chapters 8C Building Security Measures and 19 Responsible Property Owner.
- Chapter 14 Fire Prevention; Article I In General; Sections 14-1, 14-2, 14-3, 14-21, 14-27, Setting fires without permit prohibited; Duties and responsibilities of occupants of land; Setting fires in forest protection district; Procedure to lawfully burn land. and Sections 14-44 and 14-58 Uniform Fire Safety Standards (pursuant to Chapter 633, Section 633.15 Florida Statutes).
- Chapter 16A Historic Preservation Ordinance;

Sections 16A-13, 16A-13.1, 16A-14 Maintenance of designated properties and Demolition by Neglect Prohibited.

- Chapter 21 Offenses and Miscellaneous Provisions; ARTICLE IX WELLS (OPEN IRRIGATION HOLES); Sections 21-27.2. Selling, serving, vending in public rights-of-way near public parks; Section 21-28.1 Open-air concerts, musical broadcasts, etc.; Section 21-30 Offenses against public and private property; Section 21-118 Thefts of plants and fruits and trespass; Section 21-276 Burglar alarms.
- Chapter 24 Environmental Protection; Article IV, Division 1. Work in Canal Rights-of-Way, Tidal Waters, Submerged Bay-Bottom Lands, and Wetlands; Dewatering; Construction of Drainage Systems; Section 24-48 Permits; Work standards; Compliance (Coastal Wetlands) and Chapter 33D BISCAYNE BAY MANAGEMENT.
- Chapter 24 Environmental Protection; ARTICLE IV, Division 2. TREE PRESERVATION AND PROTECTION; Section 24-49 Permits for tree removal and relocation (NFC) pursuant to Resolution No. R-1764-84 and Chapters 11D Diseased Palm Trees and 18A Miami-Dade County Landscape Ordinance.
- Chapter 24 Environmental Protection; Article IV, Division 3. ENVIRONMENTALLY ENDANGERED LANDS PROGRAM (EEL).
- Chapter 25B PARKS AND RECREATION GENERALLY; Article III Safe Neighborhood Parks Ordinance; and Chapter 26 PARK AND RECREATION DEPARTMENT RULES AND REGULATIONS; Article I Rules and II Programming Partners Ordinance.
- Chapter 26A SANITARY NUISANCE; Section 26A-2.1 Mosquito Control Division and Chapter 32 Water and Sewer and Chapter 33 Zoning.

Village of Palmetto Bay

In September 2002 the Miami-Dade County Board of County Commissioners adopted the Municipal Charter of the Village of Palmetto Bay creating the local municipality by the same name pursuant to the Constitution of the State of Florida and the Home Rule Charter of Miami-Dade County. This new municipality was established as a "Council-Manager" form of government, and includes the state-owned, county-managed Deering Estate at Cutler within its designated boundaries. Currently the Estate remains a countywide park and will continue to be managed, operated and funded by the County and the State.

20 Finding Regarding Whether each Planned Use Complies with the State Lands Management Plan Adopted by the Trustees on March 17, 1981, and Incorporated Herein by Reference, (particularly whether such uses represent "balanced public utilization", specific agency statutory authority, and other legislative or executive constraints).

All planned uses comply with the State Lands Management Plan, and Miami-Dade County manages the Estate in accordance with federal, state and local legislation having regulatory or statutory interests.

21 Assessment as to Whether the Property, or any Portion, Should be Declared Surplus.

No portion of the property should be declared surplus.

22 Identification of Other Parcels of Land Within or Immediately Adjacent to the Property That Should be Purchased Because They Are Essential to Management of the Property. (Clearly defined map of parcels can be used.)

There are no pending or targeted acquisitions which are essential to the management of the Estate.

Three parcels have been identified for potential long-term acquisition within the North Addition. These parcels are the remaining privately held parcels within the interior of the Deering Estate at Cutler. The location of these parcels is included as **Map 2**. These parcels are not essential to the management of the Estate.

A fourth property has been identified for potential long-term acquisition near the Main Estate entrance. Located at 7241 SW 168th Street (**Map 2**), this parcel consists of an office building and parking that are immediately adjacent to one of the Out-Parcels designated for future parking facilities. This property would allow for the relocation of the administrative offices of the Estate and Deering Estate Foundation out of the historic buildings of the Estate. These parcels are not essential to the management of the Estate.

23 Description of the Management Responsibilities of Each Agency and How Such responsibilities Will be Coordinated, (including a provision that requires that the managing agency consult with the Division of Archives, History and Records Management before taking actions that may adversely affect archaeological or historic resources).

The Deering Estate at Cutler is managed by the Miami Dade County's Park, Recreation and Open Spaces Department through a sub-lease agreement with the State of Florida. The county will consult with the Division of Archives, History and Records Management before taking actions that may adversely affect archaeological or historic resources.

24 A Statement Concerning the Extent of Public Involvement and Local Government Participation in the Development of the Plan, (if any, including a summary of comments and concerns expressed).

Multiple opportunities for public involvement and local government participation were included in the development of the Management Plan. Specific meetings and workshops included:

- March 20, 2012 – Stakeholders Meeting
- April 11, 2012 – Staff Review Meeting
- April 13, 2012 – Interim Submittal
- May 30, 2012 - Steering Committee Meeting
- August 9, 2012 - Advisory Group Meeting
- January 15, 2013 - Public Hearing
- February 15, 2013 - Final Management Plan Submittal

The March 20, 2012 stakeholders meeting included representatives from the Estate, NAM and the Environmentally Endangered Lands (EEL) Program Department. The purpose of the meeting was to review and refine the management goals and objectives.

The August 9, 2012 Advisory Group included representatives from the Estate, NAM, EEL, MDRER, MDPROS, South Florida Water Management District, Biscayne National Park, Biscayne Bay Aquatic Preserve, and the Deering Estate Foundation, Inc. The purpose of the meeting was to review the Draft Management Plan. Comments and concerns included:

- Review and finalization of the goals, objectives, and actions for the Estate.
- Need to recognize and add references to Biscayne Bay Aquatic Preserve and its associated management plan.
- Discussion on additional educational opportunities.
- Requests to clarify the timeframe associated with the goals.
- The need to develop performance measures for goals for annual reviews.

Approximately (TBD) people attended the Public Meeting. Comments and concerns included: To be added after the January 15, 2013 Public Hearing.

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MANAGEMENT PLAN: **ADDITIONAL REQUIREMENTS PER TRUSTEES**
(REQUIREMENT 25)

5

The Miami-Dade County Comprehensive Development Master Plan (CDMP) expresses the county's general objectives and policies addressing where and how it intends development or conservation of land and natural resources will occur during the next 10 to 20 years, and the delivery of county services to accomplish the plan's objectives. This section addresses the compliance of the Estate management plan with the CDMP.

25 Additional Requirement – Per Trustees. Letter of Compliance of the management plan with the Local Government Comprehensive Plan. Letter from local government saying that the plan is in compliance with local government's comprehensive plan.

The CDMP of Miami-Dade County is the comprehensive plan that regulates future land uses on the Deering Estate at Cutler. The future land use for the Estate is designated as Environmentally Protected Park and Parks and Recreation. The current and proposed uses within the Estate are consistent with these future land use designations. A letter from the County is attached documenting compliance with the comprehensive plan.

Letter of Compliance
To be completed by MDPROS

To be added after January 15, 2013
Public Hearing

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253.034 STATE-OWNED LANDS; USES
(REQUIREMENTS 26-37)

6

MIAMI-DADE COUNTY DEERING ESTATE AT CUTLER

253.034 State-Owned Lands; Uses. – Each entity managing conservation lands shall submit to the Division of State Lands a land management plan at least every 10 years in a form and manner prescribed by rule by the Board.

Section 6 of the plan documents the goals for park management, including a description of the multiple uses identified for the site, the management of soil and water resources, a quantitative data description of the resources, and short and long-term goals for the property. Six goals with multiple objectives were identified for the management activities in the Estate. Activities were developed that would assist in meeting the identified objectives. This section also documents the prioritization of each of the activities and provides a summary budget for the scheduled activities.

26 **All management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing entity plans to identify, locate, protect and preserve, or otherwise use fragile nonrenewable resources, such as archaeological and historic sites, as well as other fragile resources, including endangered plant and animal species.**

Identification, location, protection, and preservation of archaeological and historic sites on the Estate will occur as described in Sections 11 and 16. Monitoring and survey efforts have been undertaken to evaluate endangered plant and animal species use of the site as described in Sections 10 and 12 and in **Appendix 8**. Additional monitoring efforts are ongoing for rare and endangered plant and animal species within the Estate.

27 **The management plan shall provide for the conservation of soil and water resources and for the control and prevention of soil erosion.**

Conservation measures for soil and water resources are focused on the protection of the natural systems and cultural landscapes on the Deering Estate at Cutler. Management efforts including prescribed fire, trail impact monitoring and management, and non-native invasive species control will assist in maintaining appropriate ground cover to limit soil erosion within the majority of the property. Where construction activities are required to disturb the soil, additional measures such as silt fences or containment facilities will be used to limit soil erosion and runoff into adjacent water resources.

28 **Land Management plans submitted by an entity shall include reference to appropriate statutory authority for such use or uses and shall conform to the appropriate polices and guidelines of the state land management plan.**

The Deering Estate at Cutler is managed in accordance with the sub-lease agreement between the State of Florida and Miami-Dade County, dated June 30, 1987, and Chapter 253, Section 259 of the 2010 Florida Statutes.

29 **All land management plans for parcels larger than 1,000 acres shall contain an analysis of the multiple-use potential of the parcel, which analysis shall include the potential of the parcel to generate revenues to enhance the management of the parcel.**

Not applicable.

30 **Additionally, the land management plan shall contain an analysis of the potential use of private managers to facilitate the restoration or management of these lands.**

The use of private managers was evaluated to facilitate the restoration or management of the Estate. MDPROS contracts with the Fairchild Tropical Botanic Garden to monitor rare and endangered plant species within the Estate. Due to the significant investment in restoration of the property following Hurricane Andrew, the county has gained significant skills and expertise in management of the property. In addition, management crews from the county are uniquely qualified to balance the needs of rare species and habitats with the removal of non-native invasive species and the protection of historical landscapes within the Estate due to the long-term management and

restoration efforts within these habitats. As such, use of private managers for the restoration and management of the land is not applicable to the Estate and not advisable.

31 A physical description of the land.

A physical description of the land is included in Section 10.

32 A desired outcome.

Consistent with these objectives and goals, the mission statement for the Deering Estate is to:

> *"Preserve and protect the natural, archaeological, architectural and historic legacy of the Estate by using wise stewardship in the management and utilization of its sensitive resources while educating and enhancing public appreciation of the unique characteristics of the site through compatible uses."*

33 A quantitative data description of the land that includes an inventory of forest and other natural resources; exotic and invasive plants; hydrological features; infrastructure, including recreational facilities; and other significant land, cultural, or historical features.

Section 10 documents the forest and natural features, hydrological features, and recreation facilities and historical/cultural features of the site. The Estate is comprised of 291.21 acres of uplands and 163.46 acres of wetlands. The upland acreage includes approximately 108 acres of the pine rockland and 111 acres of rockland hammock habitats, both of which are forested upland habitats that are globally rare. Non-native and invasive species are currently at maintenance levels (< 5 % areal coverage) for most of the property.

34 **A detailed description of each short-term and long-term land management goal, the associated measurable objectives, and the related activities that are to be performed to meet the land management objectives. Each land management objective must be addressed by the land management plan, and where practicable, no land management objective shall be performed to the detriment of the other land management activities.**

A. General Principles, Goals and Objectives

The management goals and objectives for the Deering Estate at Cutler are in alignment with those of its managing agency, the Miami-Dade County Parks, Recreation and Open Space Department. The agency's mission is:

> *"We create outstanding Recreational, Natural and Cultural experiences to enrich you and enhance the quality of life for our community for this and future generations."*

The Vision Statement of MDPROS is:

> *"We will build a model park, recreation and open space system to create a healthy, livable, sustainable community and enhance the quality of life for residents and visitors."*

The Goals and Objectives of MDPROS include:

Recreation and Culture:
RC1.1 – Ensure parks, libraries and cultural facilities are accessible to residents and visitors.
RC1.2 – Acquire new and conserve existing open lands and natural areas.

RC2.1 – Increase attendance at recreational and cultural venues.
RC2.2 – Ensure facilities are safe, clean and well-run.
RC2.3 – Keep parks and green spaces beautiful.

RC3.1 – Provide vibrant and diverse programming opportunities and services that reflect community's interests.
RC3.2 – Strengthen and conserve local historic and cultural resources and collections.

Neighborhood and Infrastructure:
NI3.4 – Achieve a healthy tree canopy.
NI3.5 – Maintain and restore waterways and beaches.
NI3.6 – Preserve and enhance natural areas.

Miami-Dade County also prepared a countywide Parks and Open Space System Master Plan (OSMP) in 2007. Guiding principles and goals within the master plan include:

OSMP Guiding Principles:

Seamlessness - Every element of the county including neighborhoods, parks, natural area, streets, civic centers and commercial area, should be connected without regard to jurisdiction.

Beauty - Every public space, including streets, parks, plazas and civic buildings, should be designed to be as aesthetically pleasing as possible, and to complement the natural and cultural landscape.

Access - Every resident should be able to safely and comfortably walk, bicycle, drive and/or ride transit from their home to work, school, parks, shopping and community facilities.

Equity - Every resident should be able to enjoy the same quality of public facilities and services regardless of income, age, race, ability or geographic location.

Sustainability - Every action and improvement of the Park System, including facilities, programs, operations and management, should contribute to the economic, social and environmental prosperity of the county.

Multiple Benefits - Every single public action should generate multiple public benefits to maximize taxpayer dollars.

Open Space Master Plan (OSMP) Goals

- Every resident in the county can walk (within five minutes) to a neighborhood park or civic space for picnics, special events, informal play and socialization.
- Every resident can safely and comfortably walk, bicycle, or take transit to community parks, recreation centers and special use/sports facilities.
- A balance of active and passive recreation opportunities are available to all residents.

- The MDPROS works with state and federal agencies, municipalities in the county and the school district to provide public access to schools, parks, and recreation.
- Public access is provided to lakes, beaches, forests and other natural areas.
- The county's significant cultural and historical sites are protected, and maintained.
- Conservation areas and critical habitats are protected from overuse and negative impacts.
- An interconnected network of shaded and safe bikeways and trails connect to parks, neighborhoods, schools, employment centers, civic buildings, and other community destinations.
- Existing streets are transformed into tree-lined boulevards and parkways that define the county's urban from.
- Transit is provided to parks and civic sites.
- Public art, signage and cultural/historical exhibits are integrated into park and public realm infrastructure projects to "tell the county's story" and to create a sense of pride and place.
- Park improvements are used to create a sense of place for neighborhood stabilization and/or redevelopment.
- Parks are designed to reduce energy and water consumption, and to serve as models for sustainable development countywide.
- Parks are designed to be flexible in order to accommodate ever-changing recreation trends and demographics.
- Residents of surrounding neighborhoods are engaged in the planning, design and stewardship of each park.

Consistent with these objectives and goals, the mission statement for the Deering Estate at Cutler is to:

> *"Preserve and protect the natural, archaeological, architectural and historic legacy of the Estate by using wise stewardship in the management and utilization of its sensitive resources while educating and enhancing public appreciation of the unique characteristics of the site through compatible uses."*

B. Natural and Cultural Resources Goals, Objectives and Activities

Goal 1:

Preserve, restore, and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective A: Continue restoration, enhancement, maintenance and monitoring of natural areas.

Proposed Activities:

1) Utilize and continue to work with professionals in the field of natural areas management, and where appropriate archaeology, to develop and follow restoration, maintenance and monitoring strategies for the natural areas.
2) Maintain a Preserve Manager for the Estate that will coordinate with the environmental, historical and archeological professionals.
3) Develop and utilize strategies for restoration, enhancement, creation, maintenance and monitoring based on historical documentation, current scientific knowledge, and on-going monitoring and research.
4) Continue to develop and follow long-term restoration, maintenance and ecological monitoring.
5) Continue implementation of the Cutler Slough Rehydration Project.
6) Continue volunteer recruitment and training to educate participants and assist with natural resources management while ensuring the proper protection of cultural resources.
7) Offer community and scholastic educational service opportunities in conjunction with the management and restoration of the Estate's natural resources.

Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.

Proposed Activities:

1) Continue to survey, identify and map listed plant and animal species and habitats.
2) Continue to define and implement specific objectives for identified listed species.
3) Continue the long-term monitoring programs for listed plant and animal species.
4) Evaluate additional long-term monitoring programs for listed plant and animal species.

5) Practice adaptive management. Evaluate information gained through monitoring to modify and improve successful management actions.
6) Continue to evaluate and implement proposals for introduction and / or re-introduction of listed plant or animal populations to the property for their potential impact on both existing native plant and animal communities.

Objective C: Identify and appropriately control threats to native habitats and species such as invasive (exotic) plants and animals to improve the health and balance of native biological communities.

Proposed Activities:
1) Continue to survey and map non-native invasive pest plant and animal infestations on the Estate.
2) Continue to develop and implement prioritized plans for control and eradication of non-native invasive species.
3) Continue the removal of landscape plants known to invade natural areas.
4) Continue to develop and implement prioritized plans for control of 'nuisance' animals pursuant to departmental policies.

Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.

Proposed Activities:
1) Implement a Prescribed Burn Plan per Miami-Dade County Natural Areas Management Plan.
2) Coordinate with Florida Forest Service and Miami-Dade Fire Rescue to ensure that wildfire response is sensitive to the perpetuation of pine rockland, rockland hammock and salt marsh habitats.
3) Continue dialogue with the local community to provide informational and educational materials on and notices of upcoming prescribed burns.

Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORV s), paintball and other inappropriate games, and other unauthorized and inappropriate uses.

Proposed Activities:
1) Ensure that existing rules and regulations concerning the protection of natural resources are enforced. Project managers, staff and security are responsible for identifying situations where illegal public use is occurring.
2) Maintain signs to identify environmentally protected areas, designate areas for public access, and to discourage inappropriate public use.
3) Continue coordinating with Miami-Dade Police Department and park officers to enforce regulations within natural areas.

Goal 2:

Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.

Objective A: Assess cultural and historical resources at the Deering Estate at Cutler.

Proposed Activities:
1) Conduct a comprehensive archaeological survey to properly record, map, and determine the boundaries of known and unknown archaeological and historical sites.
2) Provide ongoing training for staff and volunteers on the management, protection, and interpretation of archaeological and historical resources.
3) Control public access to and foot traffic in sensitive areas, particularly the Cutler Midden, Cutler Fossil Site, Cutler Mound and other archaeological resources located as a result of future archaeological surveys.
4) Prepare maintenance and monitoring plan and continue monitoring the integrity of cultural, natural and archaeological resources, as needed.
5) Establish a research access point with all pertinent site files, local literature, archaeological reports and all state and county archaeological research permits, compliance reviews, and correspondence.
6) Complete historic buildings condition assessment reports.

Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.

Proposed Activities:

1) Create collections, preservation and conservation policies and procedures for cultural and historical collections at the Deering Estate at Cutler.
2) Collect and research pertinent cultural and historical materials.
3) Expand the description of interpretive themes based on significant human activity relevant to the Deering Estate at Cutler.
4) Develop and implement key interpretive thematic exhibits and displays within the Deering Estate at Cutler.

Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.

Proposed Activities:

1) Prepare detailed and specific regular use and maintenance plans for architectural and historic landscape features to guide staff in the proper maintenance and care of the Deering Estate at Cutler. Implement use and maintenance plans on an ongoing basis and train staff regularly.
2) Develop a landscape master plan to guide in the introduction and/or re-introduction of historic landscapes from the Deering era that includes no planting or propagation of prohibited species (defined as Category I and II exotics on the Florida Exotic Pest Plant Council's (FLEPPC) List of Invasive Plants, those specified in the Miami-Dade County Code, any species listed in the Miami-Dade County Comprehensive Development Master Plan (CDMP), and any species listed in the Miami-Dade County Landscape Manual).

Goal 3:

Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.

Objective A: Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.

Proposed Activities:

1) Improve park wayfinding and circulation within Main Estate grounds related to visitor orientation and control.
2) Improve public access to the Deering Estate at Cutler through architectural or programmatic modifications in accordance with applicable federal, state and local laws.
3) Provide and improve main park arrival sequence utilizing existing roads to control vehicular and pedestrian trails to introduce visitors to the Deering Estate at Cutler, while maintaining the historic entrance.
4) Create additional visitor parking areas of appropriate size and location that minimizes impacts to sensitive resources.
5) Improve visitor arrival to the Deering Estate at Cutler at the Visitor / Orientation Center.
6) Improve night lighting within Main Estate grounds as required to meet public safety code requirements and aid pedestrian circulation patterns.
7) Enhance and maintain visual connection and interpretation opportunities to Biscayne Bay Aquatic Preserve and other adjacent significant sites.

Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.

Proposed Activities:

1) Regularly train staff and volunteers to provide guided interpretive tours of the property.
2) Maintain and improve the Deering Estate at Cutler's trail system using existing hard surface roads, soft surface trails and paths, canals, firebreaks, and boardwalks.
3) Provide and improve appropriate interpretive signage to educate visitors regarding the historic and archeological elements of the Deering Estate at Cutler.

Objective C: Provide controlled public access to environmentally and historically sensitive areas.

Proposed Activities:

1) Improve, control and monitor public access to all natural and culturally sensitive areas.
2) Notify the public of controlled access into historically sensitive areas by appropriately posting the perimeter of the Deering Estate at Cutler and elsewhere, including Chicken Key, with regulatory signs.

3) Provide security maintenance and monitoring plan to prevent dumping, vandalism, and other unauthorized uses.
4) Secure the entire Deering Estate at Cutler perimeter, including out-parcels, to eliminate dumping, vandalism and damage.

Goal 4:

Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.

Objective A: Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.

Proposed Activities:

1) Establish a park planning committee consisting of appropriate Estate supervisory staff, representatives from the Deering Estate Foundation, Miami-Dade County Parks, Recreation, and Open Spaces Department, the Preserve Manager, E.E.L. Program, and other interested parties to create a five-year strategic plan.
2) Develop a five-year strategic plan.
3) Establish an in-house team to annually assess the progress on achieving the goals and objectives of the five-year strategic plan, adapting as necessary to better align with the mission of the Deering Estate at Cutler and available opportunities and resources.

Objective B: Promote education and awareness of the Estate's natural and cultural resources.

Proposed Activities:

1) Assess existing interpretive programs and activities that provide a broad, interdisciplinary and integrated view of the natural, historical and archaeological attributes of the site.
2) Fund, develop and enhance kiosks, interpretive displays and exhibits, technology, print materials and web content to promote education and awareness of the Estate's natural and cultural resources.
3) Enhance and implement educational programs for K-12 students.
4) Pursue collaborations with universities, researchers, and conservation organizations to improve research and data collection that engenders public support for preserving and protecting the Estate's natural and cultural resources.
5) Provide and enhance information for Deering Estate at Cutler, Miami-Dade Parks, Recreation, and Open Spaces Department, and Miami-Dade County communications department that will increase public support for preserving and protecting the Estate's natural and cultural resources, including multi-media presentations, interpretive signs, and other interpretive material (i.e. QR codes).

Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.

Proposed Activities:

1) Gather data/research on changes in topography, canopy cover, plant, animal and human interactions with natural environments, and to research available historical documentation, photographs and ephemera.
2) Assess effectiveness of existing indoor and outdoor experiential opportunities and events.
3) Develop monitoring standards and thresholds for visitor use, public programs and special events impacts.
4) Develop monitoring plan for visitor use, public programs and special events impacts.
5) Monitor impacts of visitors, programs and special events.
6) Continue to promote non-consumptive rental and private use that does not adversely affect sensitive resources to partially offset the cost of operating, maintaining and managing the Deering Estate at Cutler.
7) Continue to develop, enhance and promote use of the site as a center for research to better understand site resources and improve site management practices through adaptive management techniques.
8) Continue and expand efforts to educate the public and bring new audiences to the Estate through mission driven special events and service learning opportunities such as Baynanza, Biscayne Coastal Clean Up, Adopt a Trail, and scout programs.

Goal 5:

Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.

Objective A: Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.

Proposed Activities:

1) Assess and develop an up-to-date table of organization for the Estate that clearly elucidates staffing needs to meet current and future needs of the property and to successfully carry out this management plan and the mission of the Deering Estate at Cutler.

Objective B: Seek out appropriate, alternate and additional sources of funding.

Proposed Activities:

1) Work closely with the Grants Section in the Park, Recreation and Open Spaces Department to investigate, apply for, and acquire potential alternate funding sources for Deering Estate at Cutler activities.
2) Assess, develop and implement potential compatible revenue generating activities, including those in collaboration with the Deering Foundation.
3) Work within the framework of the five-year strategic plan to determine projects for which external funding is necessary.

Goal 6:

Coordinate with local, regional and national professionals to fulfill the goals of the Deering at Cutler.

Objective A: Establish partnerships with historical, archaeological, architectural and scientific professionals.

Proposed Activities:

1) Contact and encourage cooperative efforts between professionals, agencies, organizations, their members and the Deering Estate at Cutler.

Objective B: Establish working relationships with related professional organizations.

Proposed Activities:

1) Contact and encourage cooperative efforts between members and the Deering Estate at Cutler.
2) Join appropriate professional organizations.
3) Ensure that appropriate staff members attend local, regional and national meetings and training sessions.

Objective C: Network with appropriate stakeholder groups.

Proposed Activities:

1) Contact and encourage cooperative efforts between collaborators and partners and the Deering Estate at Cutler.
2) Speak to local interest groups about on-going activities at the Deering Estate at Cutler.

Summary of Management Plan goals:

The Deering Estate at Cutler Management Plan goals are aligned with those of the Miami-Dade County Parks, Recreation and Open Spaces Department Vision and Mission along with six specific natural and cultural goals, which are as follows:

1. Preserve, restore and manage native plant and wildlife communities and the natural processes that historically influenced these communities.
2. Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.
3. Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.
4. Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.
5. Provide appropriate, efficient, effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.
6. Coordinate with local, regional and national professionals to fulfill the goals of the Deering at Cutler.

35 **A schedule of land management activities that contains short-term and long-term land management goals and the related measurable objectives and activities. The schedule shall include for each activity a timeline for completion, quantitative measures, and detailed expense and manpower budgets. The schedule shall provide a management tool that facilitates development of performance measures.**

How to use: Goals and objectives are identified above each corresponding table of activities. Priority activities are highlighted in **green**.

Short-term is defined as less than five (5) years. Long-term is five (5) or more years.

Table 2: Schedule of Land Management Activities

Goal 1: Preserve, restore, and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective A: Continue restoration, enhancement, maintenance and monitoring of natural areas.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Utilize and continue to work with professionals in the field of natural areas management and, where appropriate, archaeology, to develop and follow restoration, maintenance and monitoring strategies for the natural areas.	YES	YES		On-Going	Miami-Dade County	Staff
2. Maintain a Preserve Manager for the Estate that will coordinate with environmental, historical and archaeological professionals.		YES		> 5 yrs.	Miami-Dade County	Staff
3. Develop and utilize strategies for restoration, enhancement, creation, maintenance and monitoring based on historical documentation, current scientific knowledge, and on-going monitoring and research.	YES			On-Going	Miami-Dade County	Staff
4. Continue to develop and follow long-term restoration, maintenance and ecological monitoring.	YES			On-Going	Miami-Dade County	Staff
5. Continue implementation of the Cutler Slough Rehydration Project.	YES			On-Going	Miami-Dade County	Staff and Direct Costs = $290k
6. Continue volunteer recruitment and training to educate participants and assist with natural resources management while ensuring the proper protection of cultural resources.	YES	YES		On-Going	Miami-Dade County	Staff
7. Offer community and scholastic educational service opportunities in conjunction with the management and restoration of the Estate's natural resources.	YES	YES		On-Going	Miami-Dade County	Staff

Goal 1: Preserve, restore and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Continue to survey, identify and map listed plant and animal species and habitats.	YES		YES	On-Going	Miami-Dade County	Staff and Direct Costs = $3k per year
2. Continue to define and implement specific objectives for identified listed species.	YES			On-Going	Miami-Dade County	Staff
3. Continue the long-term monitoring programs for listed plant and animal species.	YES			On-Going	Miami-Dade County	Staff
4. Evaluate additional long-term monitoring programs for listed plant and animal species.	YES			On-Going	Miami-Dade County	Staff
5. Practice adaptive management. Evaluate information gained through monitoring to modify and improve successful management actions.	YES			On-Going	Miami-Dade County	Staff
6. Continue to evaluate and implement proposals for introduction and / or re-introduction of listed plant or animal populations to the property for their potential impact on both existing native plant and animal communities.	YES	YES		On-Going	Miami-Dade County	Staff

Goal 1: Preserve, restore, and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective C: Identify and appropriately control threats to native habitats and species such as non-native invasive plants and animals to improve the health and balance of native biological communities.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Continue to survey and map non-native invasive pest plant and animal infestations on the Estate.	YES		YES	On-Going	Miami-Dade County	Staff
2. Continue to develop and implement prioritized plans for control and eradication of non-native invasive species.	YES		YES	On-Going	Miami-Dade County	Staff
3. Continue the removal of landscape plants known to invade natural areas.	YES			On-Going	Miami-Dade County	Staff
4. Continue to develop and implement prioritized plans for control of 'nuisance' animals pursuant to departmental policies.	YES			On-Going	Miami-Dade County	Staff

Goal 1: Preserve, restore, and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Implement a Prescribed Burn Plan per Miami-Dade County Natural Areas Management Plan.	YES		YES	On-Going	Miami-Dade County and Florida Forest Service	Staff
2. Coordinate with Florida Forest Service and Miami-Dade Fire Rescue to ensure that wildfire response is sensitive to the perpetuation of pine rockland, rockland hammock and salt marsh habitats.	YES		YES	On-Going	Miami-Dade County	Staff
3. Continue dialogue with the local community to provide informational and educational materials on and notices of upcoming prescribed burns.	YES			On-Going	Miami-Dade County	Staff

Goal 1: Preserve, restore, and manage native plant and wildlife communities and the natural processes that historically influenced these communities.

Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORV s), paintball and other inappropriate games, and other unauthorized uses.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Ensure that existing rules and regulations concerning the protection of natural resources are enforced. Project managers, staff, and security are responsible for identifying situations where illegal public use is occurring.	YES		YES	On-Going	Miami-Dade County	Staff
2. Maintain signs to identify environmentally protected areas, designate areas for public access, and to discourage inappropriate public use.	YES			On-Going	Miami-Dade County	Staff and Direct Costs = $1k per year
3. Continue coordinating with Miami-Dade Police Department and park officers to enforce regulations within natural areas.	YES			On-Going	Miami-Dade County	Staff

Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties, which are mandatory for all properties listed on the National Register of Historic Places.

Objective A: Assess cultural and historical resources at the Deering Estate at Cutler.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Conduct a comprehensive archaeological survey to properly record, map, and determine the boundaries of known and unknown archaeological and historical sites.	Phase 1: Assessment Overview	Detailed Assessment	YES	Phase 1 = < 5 yrs.	Miami-Dade County for Phase 1. Consultant for Detailed Assessment	Phase 1 = $25k Detailed Assessment = $200k
2. Provide ongoing training for staff and volunteers on the management, protection, and interpretation of archaeological and historical resources.	YES: In-House	Professional Development	YES, In-House	Annually	Miami-Dade County for In-House. Providers for Professional Development	In-House = Staff Professional Development = $5k per yr.
3. Control public access to and foot traffic in sensitive areas, particularly the Cutler Midden, Cutler Fossil Site, Cutler Mound and other archaeological resources located as a result of future archaeological surveys.	YES: In-House		YES, In-House	Annually	Miami-Dade County	Staff
4. Prepare maintenance and monitoring plan and continue monitoring the integrity of cultural, natural and archaeological resources, as needed.	YES: In-House		YES, In-House	Plan = < 5 yrs. Monitoring = Annually	Miami-Dade County	Plan Development Staff/ Direct Costs = $25-50k Montioring = Staff
5. Establish a research access point with all pertinent site files, local literature, archaeological reports and all state and county archaeological research permits, compliance reviews, and correspondence.		YES		> than 10 yrs.	Miami-Dade County	Staff and Direct Costs = $25k
6. Complete historic buildings condition assessment reports.	YES: In-House			> than 5 yrs.	Miami-Dade County	Staff

Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties, which are mandatory for all properties listed on the National Register of Historic Places.

Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.

Action	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Create collections, preservation and conservation policies and procedures for cultural and historical collections at the Deering Estate at Cutler.	YES: Develop Policies and Procedures In-House	YES: Archive Maintenance Plan	YES: In-House	Policies and Procedures = < 5 yrs. Archive Maint. Plan = > 5 yrs.	Miami-Dade County for Policies and Procedures. Consultant for Archive Maint. Plan	Policies and Procedures = Staff Achive Maint. Plan = $250k
2. Collect and research pertinent cultural and historical materials.	YES: In-House			Annually	Miami-Dade County	Staff
3. Expand the description of interpretive themes based on significant human activity relevant to the Deering Estate at Cutler.	YES: In-House			Annually	Miami-Dade County	Staff
4. Develop and implement key interpretive thematic exhibits and displays within the Deering Estate at Cutler.	YES: In-House	YES		In-House = < 5 yrs. Exhibit Designer = > 5 yrs.	Miami-Dade County Short-Term. Consultant for Exhibit Designer	Short-Term = Staff/ Direct Costs = $50k Long-Term = $250-500k

Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties, which are mandatory for all properties listed on the National Register of Historic Places.

Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Prepare detailed and specific regular use and maintenance plans for architectural and historic landscape features to guide staff in the proper maintenance and care of the Deering Estate at Cutler. Implement use and maintenance plans on an ongoing basis and train staff regularly.	YES: In-House	YES	YES: In-House	Internal Maint. Plan = < 5 yrs. Detailed Maint. Plan = > 5 yrs.	Miami-Dade County Short-Term. Consultant for Exhbit Designer	Short-Term = Staff Long-Term Detailed Maintenance Plan = $200k
2. Develop a landscape master plan to guide in the introduction and/or re-introduction of historic landscapes from the Deering era that includes no planting or propagation of prohibited species (defined as Category I and II exotics on the Florida Exotic Pest Plant Council's (FLEPPC) List of Invasive Plants, those specified in the Miami-Dade County Code, any species listed in the Miami-Dade County Comprehensive Development Master Plan (CDMP), and any species listed in the Miami-Dade County Landscape Manual).		YES		> 5 yrs.	Consultant	$50k

Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.

Objective A: Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Improve park wayfinding and circulation within Main Estate grounds related to visitor orientation and control.	Develop Plan	Implementation	YES: Develop Plan	Develop Plan = < 5 yrs., Implementation = > 5 yrs.	Miami-Dade County	Short-Term Develop Plan = $25k Long-Term Implem. = $200k
2. Improve public access to the Deering Estate at Cutler through architectural or programmatic modifications in accordance with applicable federal, state and local laws.	Pathways	Chairlift, bathroom upgrades	YES: Pathways	Short-Term = < 5 yrs., Long-Term = > 5 yrs.	Miami-Dade County	Short-Term Pathways = $50k; Long-Term Chairlift/ Bathroom Upgrades = $75k
3. Provide and improve main park arrival sequence utilizing existing roads to control vehicular and pedestrian trails to introduce visitors to the Deering Estate at Cutler, while maintaining the historic entrance.		YES		> than 5 yrs.	Miami-Dade County	$2.5 millon
4. Create additional visitor parking areas of appropriate size and location that minimizes impact to sensitive resources.		YES		> than 5 yrs.	Miami-Dade County	Included in Action 1 (Main Park Arrival Sequence)

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
5. Improve visitor arrival to the Deering Estate at Cutler at the Visitor / Orientation Center.		YES		> than 5 yrs.	Miami-Dade County	Included in Action 1 (Main Park Arrival Sequence)
6. Improve night lighting within Main Estate Grounds as required to meet public safety code requirements and aid pedestrian circulation patterns.	YES	YES		Annually	Miami-Dade County	$15k per year
7. Enhance and maintain visual connection and interpretation opportunities to Biscayne Bay Aquatic Preserve and other adjacent significant sites.	YES			< 5 yrs.	Miami-Dade County	$15k

Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.

Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Regularly train staff and volunteers to provide guided interpretive tours of the property.	YES		YES	Annually	Miami-Dade County	$5k per year
2. Maintain and improve the Deering Estate at Cutler's trail system using existing hard surface roads, soft surface trails and paths, canals, firebreaks, and boardwalks.	YES	YES		Annually	Miami-Dade County	$10k per year
3. Provide and improve appropriate interpretive signage to educate visitors regarding the historic and archaeological elements of the Deering Estate at Cutler.		YES		> than 5 yrs.	Miami-Dade County	Included in Action 4 (Wayfinding Implementation)

Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.

Objective C: Provide controlled public access to environmentally and historically sensitive areas.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Improve, control and monitor public access to all natural and culturally sensitive areas.	YES		YES	< 5 yrs.	Miami-Dade County	$50k
2. Notify the public of controlled access into historically sensitive areas by appropriately posting the perimeter of the Deering Estate at Cutler and elsewhere, including Chicken Key, with regulatory signs.	YES		YES	< 5 yrs.	Miami-Dade County	Included in Action 4 (Wayfinding Implementation)
3. Provide security maintenance and monitoring plan to prevent dumping, vandalism, and other unauthorized uses.	YES		YES	< 5 yrs.	Miami-Dade County	$25k
4. Secure the entire Deering Estate at Cutler perimeter, including out-parcels, to eliminate dumping, vandalism and damage.		YES		> 5 yrs.	Miami-Dade County	$1 million

Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.

Objective A: Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Establish a park programming committee consisting of appropriate Estate supervisory staff, representatives from the Deering Estate Foundation, the Miami-Dade Parks, Recreation, and Open Spaces Department, the Preserve Manager, E.E.L. Program, and other interested parties to create a five-year strategic plan.	YES			< 5 yrs.	Miami-Dade County	Staff
2. Develop a five-year strategic plan.	YES			< 5 yrs.	Miami-Dade County	Staff and Direct Costs = $100k
3. Establish an in-house team to annually assess the progress on achieving the goals and objectives of the five-year strategic plan, adapting as necessary to better align with the mission of the Deering Estate at Cutler and available opportunities and resources.	YES			< 5 yrs.	Miami-Dade County	Staff

Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.

Objective B: Promote education and awareness of the Estate's natural and cultural resources.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Assess existing interpretive programs and activities that provide a broad, interdisciplinary and integrated view of the natural, historical and archaeological attributes of the site.	YES: On-going			< 5 yrs.	Miami-Dade County	Staff
2. Fund, develop and enhance kiosks, interpretive displays and exhibits, technology, print materials and web content to promote education and awareness of the Estate's natural and cultural resources.	YES			< 5 yrs.	Miami-Dade County	Staff
3. Enhance and implement experiential learning programs for K-12 students.		YES		> 5 yrs.	Miami-Dade County	Staff and Direct Costs = $100k
4. Pursue collaborations with universities, researchers, and conservation organizations to improve research and data collection that engenders public support for preserving and protecting the Estate's natural and cultural resources.		YES		> 5 yrs.	Miami-Dade County	Staff and Direct Costs = $500k

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
5. Provide and enhance information for Deering Estate at Cutler, Miami-Dade County Parks, Recreation and Open Spaces Department and Miami-Dade County communications department that will increase public support for preserving and protecting the Estate's natural and cultural resources, including multi-media presentations, interpretive signs, and other interpretive material (i.e. QR codes).		YES		> 5 yrs.	Miami-Dade County	Staff

Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.

Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Gather data/research on changes in topography, canopy cover, plant, animal and human interactions with natural environments, and to research available historical documentation, photographs and ephemera.	YES		YES	< 5 yrs.	Miami-Dade County	Staff
2. Assess effectiveness of existing indoor and outdoor experiential opportunities and events.	YES: Continue Visitor Surveys		YES	< 5 yrs.	Miami-Dade County	Staff
3. Develop monitoring thresholds and indicators for visitor use, public programs and special events impacts.	YES		YES	< 5 yrs.	Consultant	$10k
4. Develop monitoring plan for visitor use, public programs and special events impacts.	YES		YES	< 5 yrs.	Consultant	$10k
5. Monitor impacts of visitors, programs and special events.	YES		YES	< 5 yrs.	Miami-Dade County	Staff
6. Continue to promote non-consumptive rental and private use that does not adversely affect sensitive resources to partially offset the cost of operating, maintaining and managing the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff
7. Continue to develop, enhance and promote use of the site as a center for research to better understand site resources and improve site management practices through adaptive management techniques.	YES			< 5 yrs.	Miami-Dade County	Staff
8. Continue and expand efforts to educate the public and bring new audiences to the Estate through mission-driven special events and service learning opportunities such as Baynanza, Biscayne Coastal Clean Up, Adopt a Trail, and Scout programs.	YES			< 5 yrs.	Miami-Dade County	Staff

Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.

Objective A: Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Assess and develop an up-to-date table of organization for the Estate that clearly elucidates staffing needs to meet current and future needs of the property and to successfully carry out this management plan and the mission of the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff

Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.

Objective B: Seek out appropriate, alternate and additional sources of funding.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Work closely with the Grants Section in the Park, Recreation and Open Spaces Department to investigate, apply for, and acquire potential alternate funding sources for Deering Estate at Cutler activities.	YES		YES	< 5 yrs.	Miami-Dade County	Staff
2. Assess, develop and implement potential compatible revenue-generating activities, including those in collaboration with the Deering Foundation.	YES		YES	< 5 yrs.	Miami-Dade County	Staff
3. Work within the framework of the five-year strategic plan to determine projects for which external funding is necessary.	YES			< 5 yrs.	Miami-Dade County	Staff

Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering at Cutler.

Objective A: Establish partnerships with historical, archaeological, architectural and scientific professionals.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Contact and encourage cooperative efforts among professionals, agencies, organizations, their members and the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff

Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.

Objective B: Establish working relationships with related professional organizations.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Contact and encourage cooperative efforts between members and the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff
2. Join appropriate professional organizations.	YES			Annually	Miami-Dade County	$500 per year
3. Ensure that appropriate staff members attend local, regional and national meetings and training sessions.	YES			< 5 yrs.	Miami-Dade County	$2k per year

Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.

Objective C: Network with appropriate stakeholder groups.

Activity	Short-term	Long-term	Priority	Year/ Frequency	Responsible Entity (ies)	Estimated Costs
1. Contact and encourage cooperative efforts between collaborators and partners and the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff
2. Speak to local interest groups about on-going activities at the Deering Estate at Cutler.	YES			< 5 yrs.	Miami-Dade County	Staff

36 **A summary budget for the scheduled land management activities of the land management plan. For state lands containing or anticipated to contain imperiled species habitat, the summary budget shall include any fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitats, which fees shall be used solely to restore, manage, enhance, repopulate, or acquire imperiled species habitat. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3).**

Table 3: Summary Budget for Land Management Activities

Goal	Objective	Actions	Short-term	Long-term
Goal 1: Preserve, restore, and manage native plant and animal communities and the natural processes that historically influenced these communities.	**Objective A:** Continue restoration, enhancement, maintenance and monitoring of natural areas.	1		
		2		
		3		
		4		
		5	$290,000	
		6		
		7		
	Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.	1	$15,000	$15,000
		2		
		3		
		4		
		5		
		6		
	Objective C: Identify and appropriately control threats to native habitats and species such as non-native invasive plants and animals to improve the health and balance of native biological communities.	1		
		2		
		3		
		4		
	Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.	1		
		2		
		3		
	Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORVs), paintball and other inappropriate games, and other unauthorized uses.	1	$5,000	$5,000
		2		
		3		
Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.	**Objective A:** Assess cultural and historical resources at the Deering Estate at Cutler.	1	$25,000	$200,000
		2		$25,000
		3		$5,000
		4	$5,000	$25,000
		5		
		6	$50,000	
		7		
	Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.	1		$250,000
		2		
		3		
		4	$50,000	$500,000
	Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.	1		$200,000
		2		$50,000

Goal	Objective	Actions	Short-term	Long-term
Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.	**Objective A**: Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.	1		$2,500,000
		2		See Goal 2.A.1
		3		See Goal 2.A.1
		4	$25,000	$200,000
		5	$50,000	$75,000
		6	$75,000	$75,000
		7	$15,000	
	Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.	1	$25,000	
		2	$50,000	$50,000
		3	$25,000	$25,000
	Objective C: Provide controlled public access to environmentally and historically sensitive areas.	1	$50,000	
		2	See Goal 4.B.2	
		3	$25,000	
		4		$1,000,000
Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.	**Objective A:** Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.	1		
		2	$100,000	
		3		
	Objective B: Promote education and awareness of the Estate's natural and cultural resources.	1		
		2		
		3		$100,000
		4		$500,000
		5		
	Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.	1		
		2		
		3	$10,000	
		4	$10,000	
		5		
		6		
		7		
		8		
Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.	**Objective A:** Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.	1		
	Objective B: Seek out appropriate, alternate and additional sources of funding.	1		
		2		
		3		
Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.	**Objective A:** Establish partnerships with historical, archaeological, architectural and scientific professionals.	1		
	Objective B: Establish working relationships with related professional organizations.	1		
		2	$2,500	$2,500
		3	$10,000	$10,000
	Objective C: Network with appropriate stakeholder groups.	1		
		2		
		Total Cost Estimates	$912,500	$5,812,500

37 Each management plan shall describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. Short-term and long-term management goals shall include measurable objectives for the following, as appropriate:

Short-term and long-term management goals and associated objectives are documented in Section 34. The majority of the management goals and objectives include ongoing activities that are done periodically and do not have specific measurable objectives other than the completion of the activities. Additional objectives will be developed as monitoring protocols and other plans are finalized.

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MANAGEMENT PLAN: **253.036 FOREST MANAGEMENT** (REQUIREMENT 38)

Photo courtesy of Jon S. Photography

7

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38 **For all land management plans for parcels larger than 1,000 acres, the lead agency shall prepare the analysis, which shall contain a component or section prepared by a qualified professional forester that assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel.**

Not applicable. Deering Estate at Cutler is smaller than 1,000 acres.

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MANAGEMENT PLAN:
259.032 CONSERVATION AND RECREATION LANDS TRUST FUND: PURPOSE
(REQUIREMENTS 39-45)

Photo courtesy of Jon S. Photography

Section Eight of the management plan documents the public and stakeholder coordination for the plan development. It also documents consistency with the state land management plan and schedules and cost estimates for management activities.

The management plan process provided multiple opportunities for stakeholders, advisory committee members, and the public to provide input on the plan, including: a stakeholder meeting, a staff review meeting, steering committee meeting, advisory group meeting, and a public meeting. The priority management activities and associated costs and schedule were developed during these meetings. Similarly, the consistency of the plan activities with the state land management plan and purposes for which the lands were acquired were confirmed during these meetings.

39 **Individual management plans required by s. 259.032(10)(b), for parcels over 160 acres shall be developed with input from an advisory group. Management plan should list advisory group members and affiliations.**

An advisory group comprised of the following members and affiliations has provided input on this plan:

1. Christiana Admiral - Biscayne National Park; National Park Service
2. Pamela Sweeney - State of Florida Department of Environmental Protection; Biscayne Bay Aquatic Preserve
3. Jorge A. Jaramillo - South Florida Water Management District
4. Eric Haas - President, Deering Estate Foundation, Inc.
5. Mary Pettit - Executive Director; Deering Estate Foundation, Inc.
6. Laura Lagomasino - Development Director; Deering Estate Foundation, Inc..
7. Buff March-Bye - Secretary; Deering Foundation, Inc. Dan Yglesias - Director, Deering Estate Foundation, Inc.
8. Jennifer Tisthammer - Assistant Director; Deering Estate at Cutler
9. Maria Nardi - Chief, Planning and Research Division; Miami-Dade County Parks, Recreation and Open Spaces Department
10. Joe Webb - Planning Section Supervisor; Miami-Dade County Parks, Recreation and Open Spaces Department
11. Gisel Prado - Miami-Dade County Parks, Recreation and Open Spaces Department
12. Dallas Hazelton - Preserve Manager
13. Cynthia Guerra - Program Director, Environmentally Endangered Lands Program; Miami-Dade County
14. Jeff Ransom - Archaeologist; Miami-Dade County
15. Alissa Turtletaub - Park Planner / Project Manager; Miami-Dade County Parks, Recreation and Open Spaces Department
16. Sonya Thompson - Preserve Manager
17. Alice Warren - Preserve Manager
18. Joe Maguire - Natural Areas Manager

40 **The advisory group shall conduct at least one public hearing in each county in which the parcel or project is located. Managing agency should provide DSL/OES with documentation showing date and location of public hearing.**

MIAMI-DADE COUNTY **Public Meeting**

As a part of Miami-Dade County's continuing commitment to public participation in local government, Commissioner Lynda Bell and the Parks, Recreation and Open Spaces Department invite area residents to attend a public meeting for:

Deering Estate at Cutler

The purpose of this public meeting is to receive public comments regarding the proposed revisions to the management plan for Deering Estate at Cutler. Residents and interested parties are encouraged to attend and participate in the public meeting. The meeting will take place at:

Deering Estate at Cutler
16701 S. W. 72nd Avenue, Miami, FL 33157
January 15, 2013
7:00 – 9:00 PM

For more information please contact:

Alissa Turtletaub
Parks, Recreation and Open Spaces
305-755-7860
To view the Plan please go to:
www.miamidade.gov/parks/deering-management-plan

To request material in an accessible format, information on access for persons with disabilities, or sign interpreter services (7 days in advance), call 305-365-6706. Public participation is solicited without regard to race, color, religion, sex, age, national origin, disability or family status.

For legal ads online, go to http://legalads.miamidade.gov

41 **Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation and announced at a scheduled meeting of the local governing body before the actual public hearing. Managing agency should provide DSL/OES with copy of notice.**

The newspaper advertisement was included under Section 40. The sign language placed on the site is shown below.

PUBLIC MEETING

REGARDING AN UPDATE TO THE MANAGEMENT PLAN FOR THE DEERING ESTATE AT CUTLER

Jan. 15, 2013, 7:00-9:00pm

Deering Estate at Cutler -Visitor Center

16701 S.W. 72nd Avenue

All members of the public and area residents are invited to attend. For more information or to view a copy of the Plan, please go to:

www.miamidade.gov/parks/deering-management-plan

42 **The management prospectus required pursuant to 259.032 (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.**

The management prospectus was available on December 14, 2012, which was 31 days prior to the public hearing. The management prospectus was made available to the public for viewing on the County's website at http://www.miami.dade.gov/deering-management-plan.

43 **Summary of Advisory Group Meeting should be provided to DSL/OES.**

To be inserted after January 15, 2013 public hearing

44

Individual management plans shall conform to the appropriate policies and guidelines of the state land management plan and shall include, but not be limited to:

A. A statement of the purpose for which the lands were acquired, the projected use or uses as defined in s. 253.034, and the statutory authority for such use or uses.

The lands were acquired for the purpose of conservation of significant natural, historical, and archaeological resources, environmental education, and passive recreation. A description of projected uses is included in Sections 14 – 17.

B. Key management activities necessary to achieve the desired outcomes, including, but not limited to, providing public access, preserving and protecting natural resources, protecting cultural and historical resources, restoring habitat, protecting threatened and endangered species, controlling the spread of nonnative plants and animals, performing prescribed fire activities, and other appropriate resource management activities.

These activities are described in Sections 10-17, 50, and 53.

C. A specific description of how the managing agency plans to identify, locate, protect, and preserve, or otherwise use fragile, nonrenewable natural and cultural resources.

These activities are described in Sections 10-17, 50, and 53.

D. A priority schedule for conducting management activities, based on the purposes for which the lands were acquired. The schedule must include a goal, an objective, and a time frame for completion.

The tables on the next two pages provide the priority schedule for conducting management activities.

Table 4: Schedule of Priority Management Activities

Goal	Objective	Actions	Priority	Year/ Frequency
Goal 1: Preserve, restore, and manage native plant and animal communities and the natural processes that historically influenced these communities.	**Objective A:** Continue restoration, enhancement, maintenance and monitoring of natural areas.	1		On-going
		2		> 5 yrs.
		3		On-going
		4		On-going
		5		On-going
		6		On-going
		7		On-going
	Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.	1	YES	On-going
		2		On-going
		3		On-going
		4		On-going
		5		On-going
		6		On-going
	Objective C: Identify and appropriately control threats to native habitats and species such as non-native invasive plants and animals to improve the health and balance of native biological communities.	1	YES	On-going
		2	YES	On-going
		3		On-going
		4		On-going
	Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.	1	YES	On-going
		2	YES	On-going
		3		On-going
	Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORVs), paintball and other inappropriate games, and other unauthorized uses.	1		On-going
		2	YES	On-going
		3		On-going
Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.	**Objective A:** Assess cultural and historical resources at the Deering Estate at Cutler.	1	YES	Phase 1 = < 5 yrs.
		2		> than 10 yrs.
		3	YES, In-House	Annually
		4	YES, In-House	Annually
		5	YES, In-House	Annually
		6	YES, In-House	Plan = < 5 yrs. Monitoring = Annually
		7		> than 5 yrs.
	Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.	1	YES, In-House	Policies and Procedures = < 5 yrs. Archive Maint. Plan = > 5 yrs.
		2		Annually
		3		Annually
		4		In-House = < 5 yrs. Exhibit Designer = > 5 yrs.
	Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.	1	YES, In-House	Internal Maint. Plan = < 5 yrs. Detailed Maint. Plan = > 5 yrs.
		2		> 5 yrs.

Table 4: Schedule of Priority Management Activities (continued)

Goal	Objective	Actions	Priority	Year/ Frequency
Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.	**Objective A:** Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.	1		> than 5 yrs.
		2		> than 5 yrs.
		3		> than 5 yrs.
		4	YES, Develop Plan	Develop Plan = < 5 yrs., Implementation = > 5 yrs.
		5	YES, Pathways	Short-Term = < 5 yrs., Long-Term = > 5 yrs.
		6		Annually
		7		Annually
	Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.	1	Yes	Annually
		2		> than 5 yrs.
		3	YES	Annually
	Objective C: Provide controlled public access to environmentally and historically sensitive areas.	1	YES	< 5 yrs.
		2	YES	> 5 yrs.
		3	YES	< 5 yrs.
		4		< 5 yrs.
Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.	**Objective A:** Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.	1		< 5 yrs.
		2		< 5 yrs.
		3		< 5 yrs.
	Objective B: Promote education and awareness of the Estate's natural and cultural resources.	1		< 5 yrs.
		2		< 5 yrs.
		3		> 5 yrs.
		4		> 5 yrs.
		5		> 5 yrs.
	Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.	1	YES	< 5 yrs.
		2	YES	< 5 yrs.
		3	YES	< 5 yrs.
		4	YES	< 5 yrs.
		5		<5 yrs.
		6		<5 yrs.
		7		< 5 yrs.
		8		< 5 yrs.
Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.	**Objective A:** Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.	1		< 5 yrs.
	Objective B: Seek out appropriate, alternate and additional sources of funding.	1		< 5 yrs.
		2	YES	< 5 yrs.
		3	YES	< 5 yrs.
Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.	**Objective A:** Establish partnerships with historical, archaeological, architectural and scientific professionals.	1		< 5 yrs.
	Objective B: Establish working relationships with related professional organizations.	1		< 5 yrs.
		2		Annually
		3		< 5 yrs.
	Objective C: Network with appropriate stakeholder groups.	1		< 5 yrs.
		2		< 5 yrs.

E. A cost estimate for conducting priority management activities, including recommendations for cost-effective methods of accomplishing those activities. Using categories as adopted pursuant to 259.037, F.S. is suggested. These are: (1) resource management; (2) administration; (3) support; (4) capital improvements; (5) visitor services/ recreation; and (6) law enforcement.

Table 5: Cost Estimate for Priority Management Activities

Goal	Objective	Actions	Short-term	Long-term	Category
Goal 1: Preserve, restore, and manage native plant and animal communities and the natural processes that historically influenced these communities.	**Objective A:** Continue restoration, enhancement, maintenance and monitoring of natural areas.	1			Resource Management
		2			Resource Management
		3			Resource Management
		4			Resource Management
		5	$290,000		Resource Management
		6			
		7			
	Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.	1	$15,000	$15,000	
		2			Resource Management
		3			Resource Management
		4			Resource Management
		5			Resource Management
		6			Resource Management
	Objective C: Identify and appropriately control threats to native habitats and species such as non-native invasive plants and animals to improve the health and balance of native biological communities.	1			
		2			
		3			Resource Management
		4			Resource Management
	Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.	1			
		2			Resource Management
		3			Administration
	Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORVs), paintball and other inappropriate games, and other unauthorized uses.	1	$5,000	$5,000	Law Enforcement
		2			
		3			Law Enforcement
Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.	**Objective A:** Assess cultural and historical resources at the Deering Estate at Cutler.	1	$25,000	$200,000	
		2		$25,000	Resource Management
		3		$5,000	
		4	$5,000	$25,000	
		5			
		6	$50,000		
		7			Administration
	Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.	1		$250,000	
		2			Resource Management
		3			Resource Management
		4	$50,000	$500,000	Resource Management
	Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.	1		$200,000	
		2		$50,000	Resource Management

Table 5: Cost Estimate for Priority Management Activities (continued)

Goal	Objective	Actions	Short-term	Long-term	Category
Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.	**Objective A:** Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.	1		$2,500,000	Capital Improvement
		2		See Goal 2.A.1	Capital Improvement
		3		See Goal 2.A.1	Capital Improvement
		4	$25,000	$200,000	
		5	$50,000	$75,000	
		6	$75,000	$75,000	Capital Improvement & Law Enforcement
		7	$15,000		Resource Management
	Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.	1	$25,000		Visitor Services / Recreation
		2	$50,000	$50,000	Visitor Services / Recreation
		3	$25,000	$25,000	
	Objective C: Provide controlled public access to environmentally and historically sensitive areas.	1	$50,000		
		2	See Goal 4.B.2		
		3	$25,000		
		4		$1,000,000	Capital Improvement & Law Enforcement
Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.	**Objective A:** Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.	1			Administration
		2	$100,000		Administration
		3			Administration
	Objective B: Promote education and awareness of the Estate's natural and cultural resources.	1			Administration
		2			Administration & Support
		3		$100,000	Visitor Services / Recreation
		4		$500,000	Visitor Services / Recreation
		5			Visitor Services / Recreation
	Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.	1			
		2	$10,000		
		3	$10,000		
		4			
		5			
		6			
		7			Visitor Services / Recreation
		8			Visitor Services / Recreation
Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.	**Objective A:** Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.	1			Administration & Support
	Objective B: Seek out appropriate, alternate and additional sources of funding.	1			Administration
		2			
		3			
Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.	**Objective A:** Establish partnerships with historical, archaeological, architectural and scientific professionals.	1			Visitor Services / Recreation
	Objective B: Establish working relationships with related professional organizations.	1			
		2	$2,500	$2,500	Administration
		3	$10,000	$10,000	Administration
	Objective C: Network with appropriate stakeholder groups.	1			Visitor Services / Recreation
		2			Visitor Services / Recreation
Total Cost Estimates for Priority Management Activites			$315,000	$995,000	

F. A cost estimate for conducting other management activities that would enhance the natural resource value or public recreation value for which the lands were acquired. The cost estimate shall include recommendations for cost-effective methods of accomplishing those activities. Using categories as adopted pursuant to 259.037, F.S., is suggested. These are: (1) resource management; (2) administration; (3) support; (4) capital improvements; (5) visitor services/recreation; and (6) law enforcement.

Table 6: Cost Estimate for Other Management Activities

Goal	Objective	Actions	Short-term	Long-term	Category
Goal 1: Preserve, restore, and manage native plant and animal communities and the natural processes that historically influenced these communities.	**Objective A:** Continue restoration, enhancement, maintenance and monitoring of natural areas.	1			Resource Management
		2			Resource Management
		3			Resource Management
		4			Resource Management
		5	$290,000		Resource Management
		6			
		7			
	Objective B: Ensure the long-term viability of native habitats and native species considered rare, threatened, endangered or of special concern.	1	$15,000	$15,000	
		2			Resource Management
		3			Resource Management
		4			Resource Management
		5			Resource Management
		6			Resource Management
	Objective C: Identify and appropriately control threats to native habitats and species such as non-native invasive plants and animals to improve the health and balance of native biological communities.	1			
		2			
		3			Resource Management
		4			Resource Management
	Objective D: Institute a fire management program under the direction of Florida Forest Service (FFS) including prescribed burns to restore and maintain fire-dependent communities and their historic ecotones.	1			
		2			Resource Management
		3			Administration
	Objective E: Protect natural areas from inappropriate public use such as dumping, release of non-native plant and animal species (including unwanted pets and other domesticated species), poaching of native plant and animal species, off-road vehicles (ORVs), paintball and other inappropriate games, and other unauthorized uses.	1	$5,000	$5,000	Law Enforcement
		2			
		3			Law Enforcement
Goal 2: Preserve, restore and manage the Deering Estate at Cutler's cultural resources in a manner compatible with the Secretary of Interior Standards for Treatment of Historic Properties that are mandatory for all properties listed on the National Register of Historic Places.	**Objective A:** Assess cultural and historical resources at the Deering Estate at Cutler.	1	$25,000	$200,000	
		2		$25,000	Resource Management
		3		$5,000	
		4	$5,000	$25,000	
		5			
		6	$50,000		
		7			Administration
	Objective B: Research, document and interpret the historical periods of significant human activity at the Estate.	1		$250,000	
		2			Resource Management
		3			Resource Management
		4	$50,000	$500,000	Resource Management
	Objective C: Establish a long-term preservation plan for the cultural and historical structures and landscapes defined on the Estate.	1		$200,000	
		2		$50,000	Resource Management

Table 6: Cost Estimate for Other Management Activities (continued)

Goal	Objective	Actions	Short-term	Long-term	Category
Goal 3: Increase, improve and manage public access to the Deering Estate at Cutler in ways that do not adversely impact natural and cultural resources.	**Objective A:** Improve the general infrastructure of the Deering Estate at Cutler to better control the ways in which visitors utilize and access the Deering Estate at Cutler in a manner sensitive to the requirements of visitors, resource protection, and codes.	1		$2,500,000	Capital Improvement
		2		See Goal 2.A.1	Capital Improvement
		3		See Goal 2.A.1	Capital Improvement
		4	$25,000	$200,000	
		5	$50,000	$75,000	
		6	$75,000	$75,000	Capital Improvement & Law Enforcement
		7	$15,000		Resource Management
	Objective B: Maintain a comprehensive trail system using existing access routes in a manner that least impacts natural and cultural areas.	1	$25,000		Visitor Services / Recreation
		2	$50,000	$50,000	Visitor Services / Recreation
		3	$25,000	$25,000	
	Objective C: Provide controlled public access to environmentally and historically sensitive areas.	1	$50,000		
		2	See Goal 4.B.2		
		3	$25,000		
		4		$1,000,000	Capital Improvement & Law Enforcement
Goal 4: Provide and improve awareness, understanding and appreciation of the Deering Estate at Cutler through compatible uses, onsite and outreach educational, cultural, research and recreational opportunities.	**Objective A:** Develop, follow, and annually review a five-year strategic plan for all public programming for the Deering Estate at Cutler.	1			Administration
		2	$100,000		Administration
		3			Administration
	Objective B: Promote education and awareness of the Estate's natural and cultural resources.	1			Administration
		2			Administration & Support
		3		$100,000	Visitor Services / Recreation
		4		$500,000	Visitor Services / Recreation
		5			Visitor Services / Recreation
	Objective C: Encourage broad public use by providing compatible educational, interpretive and recreational opportunities and special events that minimize impacts to natural and cultural resources areas and build support for stewardship.	1			
		2	$10,000		
		3	$10,000		
		4			
		5			
		6			
		7			Visitor Services / Recreation
		8			Visitor Services / Recreation
Goal 5: Provide appropriate, efficient, and effective staff, facilities, resources, materials and supplies required to provide all services needed to fulfill the Deering Estate at Cutler's mission.	**Objective A:** Develop a staffing plan and table of organization based upon projected activities and programs at the Deering Estate at Cutler.	1			Administration & Support
	Objective B: Seek out appropriate, alternate and additional sources of funding.	1			Administration
		2			
		3			
Goal 6: Coordinate with local, regional and national professionals to fulfill the goals of the Deering Estate at Cutler.	**Objective A:** Establish partnerships with historical, archaeological, architectural and scientific professionals.	1			Visitor Services / Recreation
	Objective B: Establish working relationships with related professional organizations.	1			
		2	$2,500	$2,500	Administration
		3	$10,000	$10,000	Administration
	Objective C: Network with appropriate stakeholder groups.	1			Visitor Services / Recreation
		2			Visitor Services / Recreation
Total Cost Estimates for Other Management Activites			**$597,500**	**$4,817,500**	

45 A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.

Sections 13 and 14 document the past, current, and proposed public uses and public access that are consistent with the purposes for which the land was acquired.

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MANAGEMENT PLAN:
259.036 MANAGEMENT REVIEW TEAMS
(REQUIREMENT 46)

Photo courtesy of Jon S. Photography

46 **The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. Can be addressed in the body of the plan or addressed in an appendix. If not in agreement, the managing agency should reply in a statement in the appendix.**

Section 259.036, Florida Statutes, established land management review teams to determine whether conservation, preservation and recreation lands titled in the name of the Board of Trustees are being managed for the purposes for which they were acquired and in accordance with their approved land management plans. A land management review was conducted for the Estate in 1998. The review team made the following determinations:

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

The land management review team report, including the MDPROS response to that report, is contained in **Appendix 12**.

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MANAGEMENT PLAN: **OTHER REQUIREMENTS**
(REQUIREMENTS 47-53)

10

Section 10 documents accomplishments since the 1994 plan, fire management plans, incompatible uses, and the arthropod control plan for the Estate. A number of activities identified in the 1994 plan have been completed in the intervening years. Fire management is an important tool for management of the natural resources, especially pine rockland areas. Constraints on burning, including smoke management and adjacent land uses, limit conditions when prescribed fires may be applied. Managers on the Estate work with the Florida Forest Service and Miami-Dade Fire Department to apply prescribed fire and address appropriate wildfire response. An arthropod control plan has been prepared for the Estate.

47 This [DEP] checklist table at front of plan (pursuant to request of ARC and consensus agreement of managing agencies.)

The checklist table is included as **Appendix 1**.

48 Accomplishments (implementation) from last plan (format variable by agency)

In 1992, Hurricane Andrew caused substantial damage to the Estate and grounds. On March 27, 1999, MDPROS completed the rehabilitation and restoration of the historic buildings and main grounds of the Estate and re-opened the Estate to the public. Since re-opening, continuing restoration and management of the Estate has included the following projects:

- **2000** - Completion of South Road, the new south public entrance gate, and entrance trail.
- **2000** - Restoration of the south wall of the Estate to access the People's Dock.
- **2001 -** Prescribed burn of South Addition pineland.
- **2002** - Conservation of the Chinese Bridge.
- **2002** - Completion of the Mangrove Boardwalk, which followed historic coastal trail pre-dating Deering's ownership.
- **2004** - Attainment of less than 10% invasive non-native invasive plant cover goal for 95% of natural areas.
- **2004** - Restoration and reopening of the People's Dock to the public (October).
- **2004** - Completion of the South Addition's C-100 fillpad, Phase I, public use enhancements.
- **2004** - Completion of lighting project of the historic main entrance drive, courtyard and main grounds.
- **2006** - Re-introduced crenulate lead plant to the property near the visitor center.
- **2006** - Designation of entire Deering Estate at Cutler as a Historic District.
- **2006-2007** - Reestablishment of trails around hammocks by historical/archaeological features.
- **2009** - Installed weir in Cutler Creek as first phase of Cutler Slough Rehydration Project.
- **2009** - Fencing completed around Visitor's Center. **2010** - Install pavers in C-100/Deering Point parking lot and re-vegetate remainder of Deering Point.
- **2011** - Picnic shelter and water/sewer/electrical provided to Deering Point Recreation Area.
- **2012** - Maintenance of less than 10% non-native invasive cover goal for 95% of natural areas.
- **2012** - SFWMD portion of Cutler Slough Rehydration Project completed.
- **2003 – 2012** - Rare plant species and Cutler Creek vegetation monitoring conducted annually by Fairchild Tropical Botanic Garden biologists (**Appendix 8**).
- **2004-2012** - Completion of 8 prescribed burns.

49 FNAI-based natural community maps (may differ from FNAI in some cases)

The natural community map for the site based on FNAI designations is included as Map 6.

50 Fire management plans (either by inclusion or reference)(259.032)

Fire management within the Deering Estate at Cutler is implemented consistent with the Miami-Dade County Natural Areas Management Plan (**Appendix 10**), which provides guidelines for the restoration and management, including prescribed fire, of natural conservation areas within the County. Florida Forest Service (FFS) is responsible for implementing prescribed burns on the property in coordination with the Miami-Dade Fire Rescue and other county agencies. The following provides additional information relative to fire management for the Deering Estate at Cutler.

The presence and/or absence of fire plays a significant role in the shaping, maintenance of, and determination of habitat types within the rockland areas of Miami-Dade County. Frequent fires within the pine rocklands limited the spread of hammock vegetation, while areas protected from fire typically reverted to or only occurred as rockland hammock. Similarly, fire within tidal marshes can limit the growth of shrubs and trees. Fire management within the Deering Estate at Cutler is intended to maintain the existing pine rocklands and tidal marsh, exclude fire from rockland hammocks, and mitigate smoke management issues for nearby residences.

The frequency to which fire returns to a community type under natural conditions is termed a fire return interval. Frequent fires maintain pine rocklands and tidal marshes keeping them healthy and diverse. Rockland hammocks are not fire-adapted communities. Fire return interval targets for the Deering Estate at Cutler are based on the general habitat process requirements noted in the FNAI Guide to the Natural Communities of Florida and are intended to be every 3 to 7 years in pine rockland and tidal marsh habitats. In areas with heavy fuels that have not burned in many years, fire frequency can vary from these return intervals and additional efforts may be required. It is desired that prescribed fire will be applied as necessary to achieve restoration and management goals, but this is greatly limited by the availability of state and county resources available to conduct prescribed fire activities.

Historically, fire seasons in Florida correspond with times of the year when lightning was prevalent, typically ranging from May until October. However, prescribed burning has also been done in other months as temperature, fuel moisture and humidity levels, and wind conditions are more favorable for prescribed fire implementation. Because of the urbanized nature of communities surrounding the Deering Estate at Cutler, no seasonality requirements will affect implementation of prescribed fire other than those required to meet the prescription.

Firebreaks will be maintained in their existing locations to delineate management units for prescribed fire application. Where appropriate and under conditions that limit fire from moving into the interior of rockland hammocks, fires may be allowed to burn into ecotones where firebreaks have not been installed. Temporary firebreaks resulting from mowing or wet lines may be used to minimize the number and width of permanent bare ground firebreaks.

In the event of wildfire, if conditions permit, existing fuel breaks (firebreaks, roads, and previously burned areas) will be utilized to contain the spread of wildfire subject to agreement with the Miami-Dade Fire Department and FFS. This is only possible when fuels have been managed, extreme weather conditions are not present or expected, other wildfires do not require action, sufficient resources are available to contain the fire, and smoke/fire will not impact neighbors and smoke sensitive areas. The County will work with the Miami-Dade Fire Rescue and FFS to identify existing burn units and develop goals for management of the fire-adapted communities on the site. A fireline rehabilitation plan will be implemented for temporary firelines required to suppress wildfires.

The County will document the extent of area burned by prescribed fires and wildfires. Additional data (acreage, natural communities affected, and implementation requirements, i.e. staff and equipment hours, conditions of burns, etc.) may also be collected if required for specific parcel reporting requirements. A record of prescribed fires and wildfires in recent years within the Deering Estate at Cutler is included as **Map 10**.

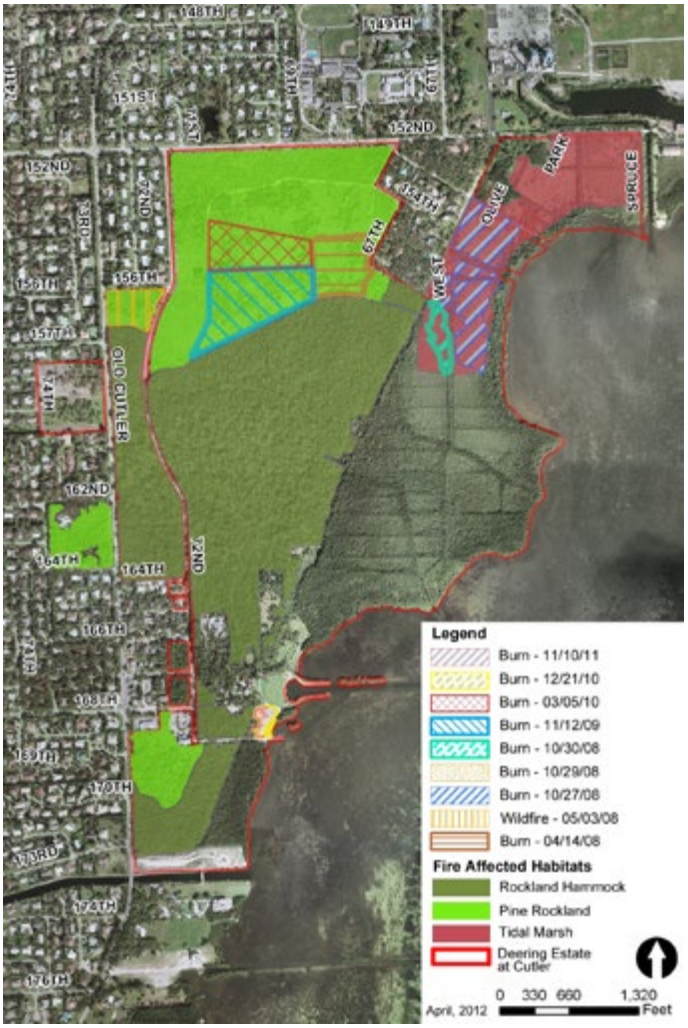
Smoke management is a significant challenge for a fire program and a limiting factor for application of prescribed fire on the Deering Estate at Cutler due to the presence of residential units and roadway infrastructure around the site. Prescriptions that identify conditions intended to direct the smoke plume away from adjacent smoke sensitive areas will be pursued as part of the authorization process with the FFS. However, the presence or smell of smoke may affect adjacent or nearby smoke sensitive areas based on conditions during a prescribed fire and/

or wildfire. Measures specified by the FFS related to dispersion indices, mixing heights, transport winds, and/or other elements affecting smoke transport will be identified in the burn prescription. Typically, these measures will be limited to days of the year following the arrival of a weak to moderate cold front when winds are out of the northwest but not in excess of 20 mph. Prescribed fires will be implemented consistent with Certified Prescribed Burning regulations (FS 590.125(3)) or other applicable regulations.

Weather conditions and urban interface issues may preclude the use of fire and require that natural systems be managed mechanically. A variety of methods ranging from mowing, chopping, bushhogging, or spot treatment with herbicide may be incorporated as alternatives to, or in preparation for, prescribed fire. Mechanical methods will be implemented consistent with the NAMP objectives and actions to maintain appropriate structure and deleterious off-target effects on desirable species.

Fire management units will be defined periodically based on prescribed fire needs and fuel conditions. Where possible, boundaries for fire management units will use existing roads, trails, or firebreaks and/or wetlands.

Map 11: Fire Management Plan



51 A statement regarding incompatible uses [ref. Ch. 253.034 (9)]

Incompatible uses for the Deering Estate at Cutler include timber harvests as a multiple use activity, hunting, horseback riding, recreational off-road vehicle use, and mountain biking (except on approved roadways).

52 Cultural resources, including maps of all sites except Native American sites*

Cultural resources found on the site are described in Section 10.

53 Arthropod control plan

The Deering Estate at Cutler is considered an environmentally sensitive and biologically highly productive public land for the purposes of arthropod control. An arthropod control plan is attached as **Appendix 11**.

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MANAGEMENT PLAN: **APPENDICES**

Appendix 1. Management Plan Compliance Checklist.

Management Plan Compliance Checklist - Natural Resource Lands	
Requirements	**Page Numbers**
18-2.021 Acquisition and Restoration Council.	
1. Executive Summary	16
Management Plans. Plans submitted to the division for ARC review under the requirements of Section 253.034 F.S.should be in a form and manner prescribed by rule by the board and in accordance with the provisions of S. 259.032 and should contain where applicable to the management of resources the following:	
2. The common name of the property.	28
3. A map showing the location and boundaries of the property plus any structures or improvements to the property.	28
4. The legal description and acreage of the property.	31
5. The degree of title interest held by the Board, including reservations and encumbrances such as leases.	32
6. The land acquisition program, if any, under which the property was acquired.	32
7. The designated single use or multiple use management for the property, including other managing agencies.	32
8. Proximity of property to other significant State/local/federal land or water resources.	32
9. A statement as to whether the property is within an Aquatic Preserve or a designated Area of Critical State Concern or an area under study for such designation. If yes, make sure appropriate managing agencies are notified of the plan.	32
10. The location and description of known and reasonably identifiable renewable and non-renewable resources of the property including, but not limited to, the following:	
A. Brief description of soil types, using U. S. D. A. maps when available;	36
B. Archaeological and historical resources*;	37
C. Water resources including the water quality classification for each water body and the identification of any such water body that is designated as an Outstanding Florida Waters;	43
D. Fish and wildlife and their habitat;	45
E. State and federally listed endangered or threatened species and their habitat;	48
F. Beaches and dunes;	48
G. Swamps, marshes and other wetlands;	48
H. Mineral resources, such as oil, gas and phosphate;	49
I. Unique natural features, such as coral reefs, natural springs, caverns, large sinkholes, virgin timber stands, scenic vistas, and natural rivers and streams; and	49
J. Outstanding native landscapes containing relatively unaltered flora, fauna, and geological conditions.	49
11. A description of actions the agency plans , to locate and identify unknown resources such as surveys of unkhnown archeological and historical resources.	50

12. The identification of resources on the property that are listed in the Florida Natural Areas Inventory.	50
13. A description of past uses, including any unauthorized uses of the property. (Example #4)	54
14. A detailed description of existing and planned use(s) of the property. (Example #5)	55
15. A description of alternative or multiple uses of the property considered by the managing agency and an explanation of why such uses were not adopted.	61
16. A detailed assessment of the impact of planned uses on the renewable and non-renewable resources of the property and a detailed description of the specific actions that will be taken to protect, enhance and conserve these resources and to mitigate damage caused by such uses.	62
17. A description of management needs and problems for the property.	62
18. Identification of adjacent land uses that conflict with the planned use of the property, if any.	67
19. A description of legislative or executive directives that constrain the use of such property.	68
20. A finding regarding whether each planned use complies with the State Lands Management Plan adopted by the Trustees on March 17, 1981, and incorporated herein by reference, particularly whether such uses represent "balanced public utilization", specific agency statutory authority, and other legislative or executive constraints.	69
21. An assessment as to whether the property, or any portion, should be declared surplus.	69
22. Identification of other parcels of land within or immediately adjacent to the property that should be purchased because they are essential to management of the property. Clearly defined map of parcels can be used.	69
23. A description of the management responsibilities of each agency and how such responsibilities will be coordinated, including a provision that requires that the managing agency consult with the Division of Archives, History and Records Management before taking actions that may adversely affect archaeological or historic resources. (Example #6)	70
24. A statement concerning the extent of public involvement and local government participation in the development of the plan, if any, including a summary of comments and concerns expressed. (Example #7)	70
Additional Requirements—Per Trustees	
25. Letter of Compliance of the management plan with the Local Government Comprehensive Plan. Letter from local government saying that the plan is in compliance with local government's comprehensive plan.	74
253.034 State-Owned Lands; Uses. —Each entity managing conservation lands shall submit to the Division of State Lands a land management plan at least every 10 years in a form and manner prescribed by rule by the Board.	
26. All management plans, whether for single-use or multiple-use properties, shall specifically describe how the managing entity plans to identify, locate, protect and preserve, or otherwise use fragile nonrenewable resources, such as archaeological and historic sites, as well as other fragile resources, including endangered plant and animal species.	78
27. The management plan shall provide for the conservation of soil and water resources and for the control and prevention of soil erosion.	78
28. Land management plans submitted by an entity shall include reference to appropriate statutory authority for such use or uses and shall conform to the appropriate polices and guidelines of the state land management plan.	78
29. All land management plans for parcels larger than 1,000 acres shall contain an analysis of the multiple-use potential of the parcel, which analysis shall include the potential of the parcel to generate revenues to enhance the management of the parcel.	78
30. Additionally, the land management plan shall contain an analysis of the potential use of private managers to facilitate the restoration or management of these lands.	78
31. A physical description of the land.	79
32. A desired outcome	79

33. A quantitative data description of the land which includes an inventory of forest and other natural resources; exotic and invasive plants; hydrological features; infrastructure, including recreational facilities; and other significant land, cultural, or historical features.	79
34. A detailed description of each short-term and long-term land management goal, the associated measurable objectives, and the related activities that are to be performed to meet the land management objectives. Each land management objective must be addressed by the land management plan, and where practicable, no land management objective shall be performed to the detriment of the other land management activities.	80
35. A schedule of land management activities which contains short-term and long-term land management goals and the related measurable objectives and activities. The schedule shall include for each activity a timeline for completion, quantitative measures, and detailed expense and manpower budgets. The schedule shall provide a management tool that facilitates development of performance measures.	86
36. A summary budget for the scheduled land management activities of the land management plan. For state lands containing or anticipated to contain imperiled species habitat, the summary budget shall include any fees anticipated from public or private entities for projects to offset adverse impacts to imperiled species or such habitats, which fees shall be used solely to restore, manage, enhance, repopulate, or acquire imperiled species habitat. The summary budget shall be prepared in such a manner that it facilitates computing an aggregate of land management costs for all state-managed lands using the categories described in s. 259.037(3).	96
37. Each management plan shall describe both short-term and long-term management goals, and include measurable objectives to achieve those goals. *Short-term and long-term management goals shall include measurable objectives for the following, as appropriate:* ***(A)** Habitat restoration and improvement;*	97
(B) Public access and recreational opportunities;	97
(C) Hydrological preservation and restoration;	97
(D) Sustainable forest management;	97
(E) Exotic and invasive species maintenance and control;	97
(F) Capital facilities and infrastructure;	97
(G) Cultural and historical resources;	97
(H) Imperiled species habitat maintenance, enhancement, restoration, or population restoration	97
253.036 Forest Management. —	
38. For all land management plans for parcels larger than 1,000 acres, the lead agency shall prepare the analysis, which shall contain a component or section prepared by a qualified professional forester which assesses the feasibility of managing timber resources on the parcel for resource conservation and revenue generation purposes through a stewardship ethic that embraces sustainable forest management practices if the lead management agency determines that the timber resource management is not in conflict with the primary management objectives of the parcel. (Example #8)	101
259.032 Conservation And Recreation Lands Trust Fund; Purpose. —	
(10)(a) State, regional or local governmental agencies or private entities designated to manage lands under this section shall develop and adopt, with the approval of the Board of Trustees, an individual management plan for each project designed to conserve and protect such lands and their associated natural resources. Private sector involvement in management plan development may be used to expedite the planning process.	
39. Individual management plans required by s. 259.032(10)(b), for parcels over 160 acres, shall be developed with input from an advisory group - Management plan should list advisory group members and affiliations.	104
40. The advisory group shall conduct at least one public hearing in each county in which the parcel or project is located. Managing agency should provide DSL/OES with documentation showing date and location of public hearing.	104

41. Notice of such public hearing shall be posted on the parcel or project designated for management, advertised in a paper of general circulation, and announced at a scheduled meeting of the local governing body before the actual public hearing. Managing agency should provide DSL/OES with copy of notice.	105
42. The management prospectus required pursuant to 259.032 (9)(d) shall be available to the public for a period of 30 days prior to the public hearing.	105
43. Summary of Advisory Group Meeting should be provided to DSL/OES.	105
44. Individual management plans shall conform to the appropriate policies and guidelines of the state land management plan and shall include, but not be limited to:	106
A. A statement of the purpose for which the lands were acquired, the projected use or uses as defined in s. 253.034, and the statutory authority for such use or uses.	106
B. Key management activities necessary to achieve the desired outcomes, including, but not limited to, providing public access, preserving and protecting natural resources, protecting cultural and historical resources, restoring habitat, protecting threatened and endangered species, controlling the spread of nonnative plants and animals, performing prescribed fire activities, and other appropriate resource management activities.	106
C. A specific description of how the managing agency plans to identify, locate, protect, and preserve, or otherwise use fragile, nonrenewable natural and cultural resources.	106
D. A priority schedule for conducting management activities, based on the purposes for which the lands were acquired. (Example #10) The schedule must include a goal, an objective, and a time frame for completion.	107
E. A cost estimate for conducting priority management activities, to include recommendations for cost-effective methods of accomplishing those activities. *Using categories as adopted pursuant to 259.037, F.S., is suggested. These are: (1) Resource Management; (2) Administration; (3) Support; (4) Capital Improvements; (5) Visitor Services/Recreation; and (6) Law Enforcement.*	109
F. A cost estimate for conducting other management activities which would enhance the natural resource value or public recreation value for which the lands were acquired. The cost estimate shall include recommendations for cost-effective methods of accomplishing those activities. *Using categories as adopted pursuant to 259.037, F.S., is suggested. These are: (1) Resource Management; (2) Administration; (3) Support; (4) Capital Improvements; (5) Visitor Services/Recreation; and (6) Law Enforcement.(Example #10) Include approximate monetary cost and cost effective methods. Can be placed in the appendix.*	111
45. A determination of the public uses and public access that would be consistent with the purposes for which the lands were acquired.	113
259.036 Management Review Teams.—	
46. The managing agency shall consider the findings and recommendations of the land management review team in finalizing the required 10-year update of its management plan. *Can be addressed in the body of the plan or addressed in an appendix. If not in agreement, the managing agency should reply in a statement in the appendix.*	116
Other Requirements	
47. This checklist table at front of plan (pursuant to request of ARC and consensus agreement of managing agencies.)	120
48. Accomplishments (implementation) from last plan (format variable by agency)	120
49. FNAI-based natural community maps (may differ from FNAI in some cases)	120
50. Fire management plans (either by inclusion or reference)(259.032)	121
51. A statement regarding incompatible uses [ref. Ch. 253.034 (9)]	123
52. Cultural resources, including maps of all sites except Native American sites*	123
53. Arthropod control plan	123

Following are the legal descriptions of each of the parcels that comprise the Deering Estate at Cutler:

Appendix 2. Individual Parcel Legal Descriptions.

Tax Folio Number	Owner	Size	Legal Description
Initial Acquisition			
33-5025-004-0010	**TRS II FUND STATE OF FL C/O MIAMI DADE COUNTY/PK & REC**	**342.61 ACRES**	25-26-35-55-40 342.61 AC M/L CHARLES DEERING EST PB 34-30 ALL LAND PER PB 34-40 LESS NW1/4 OF SE1/4 OF SW1/4 OF SEC 26 & LESS BEG 35FTE & 30FTS OF N1/4 COR OF SEC 35 E599.62FT S301.41
30-5025-002-0010	**INTERNAL IMP FUND ST OF FLA TRS**	**9.92 ACRES**	25 55 40 9.92 AC CHICKEN KEY GOVT LOT 1
South Addition			
33-5025-004-0031	**TRS II FUND% FL DEPT OF NATURAL RESOURCES**	**13.76 ACRES**	CHARLES DEERING ESTATE PB 34-30 PORT OF E1/2 OF NE1/4 OF NW1/4 OF SEC 35 BEG SE COR OF E1/2 OF NE1/4 OF NW1/4 TH W625.06FT TO E/R/W/L OF OLD CUTLER RD
33-5035-001-0090	**TRS OF I I FUND % FLA DEPT OF NATURAL RESOURCES**	**1.89 ACRES**	35 55 40 1.893 AC M/L RICHMONDS SURVEY PB B-17 BLK 98 OR 15141-605 0891 3 F/A/U 30-5035-001-0090 OR 13367-4163 0887 00
33-5025-004-0020	**TRS OF I I FUND % FLA DEPT OF NATURAL RESOURCES**	**11.54 ACRES**	25-26 35 55 40 11.54 AC CHAS DEERING EST PB 34-30 BEG SW COR N1/2 SW1/4 NW1/4 NE1/4 SEC 35 W230FT N662.92FT E205FT S25FT E672FT TO BISC BAY SWLY ALG SHORE 670FT W450FT TO POB
33-5035-001-0100	**TRS OF I I FUND % FLA DEPT OF NATURAL RESOURCES**	**4.74 ACRES**	35 55 40 4.74 AC M/L RICHMONDS SURVEY PB B-17 BLKS 99 & 100 & S1/2 OF ST LYG N & ADJ & N1/2 OF ST LYG S & ADJ & ST LYG BET BLKS 99 & 100 & ST LYG E & ADJ TO BLK 99 BOTH
North Addition			
33-5026-005-0050	**MIAMI-DADE COUNTY/DERM-EEL**	**47,916 SQ FT**	25-26 55 40 1.1 AC RICHMOND SURVEY OF CUTLER PB B-17 BLK 26 LESS W270FT & LESS N35FT LOT SIZE IRREGULAR OR 16552-2805 1094 3 (7) F/A/U 30-5026-005-0050
33-5025-003-0420	**MIAMI-DADE COUNTY/DERM-EEL**	**74,488 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 1 TO 10 INC BLK 5 LOT SIZE IRREGULAR OR 16552-2805 1094 3 F/A/U 30-5025-003-0420
33-5025-003-0440	**MIAMI-DADE COUNTY/DERM-EEL**	**1.11 ACRES**	25 & 26 55 40 1.113 AC M/L CUTLER ESTATES PB 5/5 LOTS 1 TO 5 INC BLK 8 OR 16552-2805 1094 3 F/A/U 30-5025-003-0440
33-5025-003-0350	**MIAMI-DADE COUNTY/DERM-EEL**	**4.51 ACRES**	25 & 26 55 40 CUTLER ESTS PB 5/5 LOTS 1 TO 26 INC BLK 4 LOT SIZE 4.507 AC M/L OR 16552-2805 1094 3 F/A/U 30-5025-003-0350
33-5025-003-0460	**DADE COUNTY/D D F M - USE EEL**	**1.49 ACRES**	25 & 26 55 40 1.491 AC M/L LOTS 1 & 6 TO 11 BLK 9 OR 16552-2805 1094 3 F/A/U 30-5025-003-0460

33-5025-003-0470	**MIAMI-DADE COUNTY/DERM-EEL**	**12,197 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 2 & 3 BLK 9 LOT SIZE IRREGULAR OR 16552-2805 1094 3 F/A/U 30-5025-003-0470
33-5025-003-0480	**DADE COUNTY/D D F M-USER EEL**	**12,066 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 4 & 5 BLK 9 LOT SIZE IRREGULAR OR 16552-2805 1094 3 F/A/U 30-5025-003-0480
33-5025-003-0520	**MIAMI-DADE COUNTY/DERM-EEL**	**43,560 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOT 3 BLK 10 LOT SIZE SITE VALUE OR 16552-2805 1094 3 F/A/U 30-5025-003-0520
33-5025-003-0530	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	CUTLER ESTATES PB 5-5 LOTS 4 & 5 & S1/2 LOT 6 BLK 10 LOT SIZE SITE VALUE OR 16552-2805 1094 3 F/A/U 30-5025-003-0530
33-5025-003-0540	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	25 & 26 55 40 CUTLER ESTATES PB 5-5 N1/2 LOT 6 BLK 10 LOT SIZE SITE VALUE OR 16552-2805 1094 3 F/A/U 30-5025-003-0540
33-5025-003-0550	**MIAMI-DADE COUNTY / DERM-EEL**	**43,560 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOT 7 BLK 10 LOT SIZE SITE VALUE OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0550
33-5025-003-0560	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 8 & 9 BLK 10 LOT SIZE SITE VALUE OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0560
33-5025-003-0020	**MIAMI-DADE COUNTY / DERM-EEL**	**609.84 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOT B LOT SIZE IRREGULAR OR 16552-2805 1094 3 F/A/U 30-5025-003-0020
33-5025-003-0630	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 1 2 3 & W1/2 LOT 4 BLK 13 LOT SIZE SITE VALUE OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0630
33-5025-003-0640	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	25 & 26 55 40 CUTLER ESTATES PB 5-5 E1/2 LOT 4 BLK 13 LOT SIZE SITE VALUE OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0640
33-5025-003-0650	**MIAMI-DADE COUNTY / DERM-EEL**	**ACREAGE UNAVAILABLE**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOT 5 BLK 13 OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0650
33-5025-003-0660	**MIAMI-DADE COUNTY / DERM-EEL**	**0.49 ACRES**	25 & 26 55 40 .488 AC M/L CUTLER ESTS PB 5/5 LOTS 6 & 7 BLK 13 OR 16552-2805 1094 3 (7) F/A/U 30-5025-003-0660
33-5025-003-0720	**MIAMI-DADE COUNTY PARKS AND RECREATION**	**7,710.12 SQ FT**	CUTLER ESTATES PB 5-5 TWO AREAS MARKED PARK LOT SIZE IRREGULAR F/A/U 30-5025-003-0720
33-5025-003-0620	**MIAMI-DADE COUNTY DERM-EEL**	**53,579 SQ FT**	25 & 26 55 40 CUTLER ESTATES PB 5-5 LOTS 1 TO 7 INC BLK 12 LOT SIZE IRREGULAR OR 17299-4785 0796 3 F/A/U 30-5025-003-0620
33-5025-003-0570	**MIAMI-DADE COUNTY DERM-EEL**	**5.64 ACRES**	25 & 26 55 40 5.637 AC PB 5-5 CUTLER ESTS LOTS 1 TO 17 INC & UNNUMBERED TRIANGULAR PARCEL NE OF LOT 19 & LOTS 19 THRU 33 INC BLK 11 OR 16420-1230 0694 3

33-5025-003-0340	**MIAMI-DADE COUNTY DERM-EEL**	**14,810 SQ FT**	CUTLER ESTATES PB 5-5 LOTS 27 & 28 BLK 3 OR 16420-1230 0694 3 F/A/U 30-5025-003-0340 OR 00000-0000 0892 01
33-5025-003-0300	**MIAMI-DADE COUNTY DERM-EEL**	**60,113 SQ FT**	CUTLER ESTATES PB 5-5 LOTS 1 TO 8 INC BLK 3 OR 16420-1230 0694 3 F/A/U 30-5025-003-0300 OR 00000-0000 0392 01
33-5025-003-0320	**MIAMI-DADE COUNTY DERM-EEL**	**1.82 ACRES**	CUTLER ESTATES PB 5-5 LOT 14 & LOTS 16 THRU 25 BLK 3 LOT SIZE 1.82 AC OR 16420-1230 0694 3 F/A/U 30-5025-003-0320 OR 00000-0000 0892 01
33-5025-003-0325	**MIAMI-DADE COUNTY DERM-EEL**	**0.28 ACRE**	CUTLER ESTATES PB 5-5 LOT 13 & 15 BLK 3 LOT SIZE .28 AC F/A/W 30-5025-003-0320 OR 16420-1230 0694 3
33-5025-003-0310	**MIAMI-DADE COUNTY DERM-EEL**	**30,056 SQ FT**	CUTLER ESTATES PB 5-5 LOTS 9 TO 12 BLK 3 OR 16420-1230 0694 3 F/A/U 30-5025-003-0310 OR 00000-0000 0392 01
33-5025-003-0680	**MIAMI-DADE COUNTY DERM-EEL**	**3.18 ACRES**	CUTLER ESTATES PB 5-5 LOTS 1 TO 12 INC BLK 14 OR 16966-4175 1095 3 (4) F/A/U 30-5025-003-0680 OR 00000-0000 0192 01
33-5025-003-0700	**MIAMI-DADE COUNTY DERM-EEL**	**48,352 SQ FT**	CUTLER ESTATES PB 5-5 LOTS 18 TO 24 INC BLK 15 OR 16966-4175 1095 3 (4) F/A/U 30-5025-003-0700 OR 00000-0000 0192 01
33-5025-003-0690	**MIAMI-DADE COUNTY DERM-EEL**	**2.82 ACRES**	CUTLER ESTATES PB 5-5 LOTS 1 TO 17 INC BLK 15 OR 16966-4175 1095 3 (4) F/A/U 30-5025-003-0690 OR 00000-0000 0192 01
33-5025-003-0710	**MIAMI-DADE COUNTY DERM-EEL**	**4.13 ACRES**	CUTLER ESTATES PB 5-5 LOTS 1 TO 24 INC BLK 16 OR 16966-4175 1095 3 (4) F/A/U 30-5025-003-0710 OR 00000-0000 0192 01
33-5025-003-0040	**MIAMI-DADE COUNTY DERM-EEL**	**0.02 ACRE**	CUTLER ESTATES PB 5-5 LOT D LOT SIZE IRREGULAR F/A/U 30-5025-003-0040
33-5025-003-0030	**MIAMI-DADE COUNTY DERM-EEL**	**0.01 ACRE**	CUTLER ESTATES PB 5-5 LOT C LOT SIZE IRREGULAR F/A/U 30-5025-003-0030
Powers Property			
33-5026-000-0040	**MIAMI-DADE COUNTY PARKS AND RECREATION**	**9.66 ACRES**	26 55 40 9.66 AC SW1/4 OF SE1/4 OF NW1/4 LESS E35FT LOT SIZE IRREGULAR OR 19127-2225 0500 3 F/A/U 30-5026-000-0040
Mauri Residence			
33-5026-003-0320	**MIAMI-DADE COUNTY PARKS AND RECREATION**	**13,200 SQ FT**	26 55 40 ROBERTS SUB PB 1-129 LOTS 23-24 BLK C LOT SIZE 120.000 X 110 OR 18544-3535 0399 3 F/A/U 30-5026-003-0320
7200 S.W. 164 Terrace			
33-5026-003-0200	**MIAMI-DADE COUNTY PARKS AND RECREATION**	**20,400 SQ FT**	26 55 40 ROBERTS SUB PB 1-129 LOTS 1 TO 3 INC BLK C LOT SIZE IRREGULAR OR 19274-2675 0900 3 F/A/U 30-5026-003-0200

Appendix 3. Lease and Sub-Lease

DEERING ESTATE AT CUTLER
Miami-Dade Park & Recreation Department

LEASE AGREEMENT

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA
&
DEPARTMENT OF NATURAL RESOURCES OF THE STATE OF FLORIDA

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

LEASE AGREEMENT

DEERING HAMMOCK

Lease No. 3418

WHEREAS, the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida holds title to certain lands and property for use by the State of Florida for public purposes, and

WHEREAS, the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida may enter into leases for the use, benefit and possession of public lands for the benefit of the State;

NOW THEREFORE, this agreement made between the BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA, as LESSOR, and the DEPARTMENT OF NATURAL RESOURCES OF THE STATE OF FLORIDA, as LESSEE, to provide for the Division of Recreation and Parks to sublease the lands to local government for environmental protection and compatible outdoor recreation and related purposes and to represent the State in matters requiring coordination of local management of the lands.

W I T N E S S E T H

The parties, for and in consideration of mutual covenants and agreements hereinafter contained, hereby covenant and agree as follows:

1. The Lessor does hereby lease to the Lessee the following described lands in the County of Dade, State of Florida, together with the improvements thereon (if applicable), viz:

(Exhibit A - attached)

TO HAVE AND TO HOLD the above described lands for a period of fifty (50) years, for the purposes of subleasing to local government and representing the State in coordination of local management for environmental protection and compatible public outdoor recreation and related purposes or until termination of the sublease agreement with local government, whichever occurs first.

2. The Lessee shall have the right to enter upon said lands for all purposes necessary to the full enjoyment of the rights

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

LEASE AGREEMENT

DEERING HAMMOCK

Lease No. 3418

WHEREAS, the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida holds title to certain lands and property for use by the State of Florida for public purposes, and

WHEREAS, the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida may enter into leases for the use, benefit and possession of public lands for the benefit of the State;

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W I T N E S S E T H

The parties, for and in consideration of mutual covenants and agreements hereinafter contained, hereby covenant and agree as follows:

1. The Lessor does hereby lease to the Lessee the following described lands in the County of Dade, State of Florida, together with the improvements thereon (if applicable), viz:

(Exhibit A - attached)

TO HAVE AND TO HOLD the above described lands for a period of fifty (50) years, for the purposes of subleasing to local government and representing the State in coordination of local management for environmental protection and compatible public outdoor recreation and related purposes or until termination of the sublease agreement with local government, whichever occurs first.

2. The Lessee shall have the right to enter upon said lands for all purposes necessary to the full enjoyment of the rights

Lease No. 3418

herein conveyed to it, and shall take reasonable steps to prevent the unauthorized use of said lands.

3. The Lessee shall require the Sublessee to assume all responsibility for liabilities that accrue to the subject property or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and any and all mechanic's or materialman's liens which may be hereafter lawfully assessed and levied against the subject property during the effective period of the sublease, except as otherwise specified herewith.

4. The Lessee hereby agrees to require the Sublessee to submit annual evidence of insurance to the following: Bureau of State Lands Management, 3900 Commonwealth Boulevard, Tallahassee, Florida 32303.

5. This lease agreement may be terminated by mutual agreement of the parties hereto; however, the lease agreement shall be terminated at the sole option of the Lessor when and if the said premises including land and improvements shall cease to be used for environmental protection and compatible public outdoor recreation and related purposes.

6. The Lessee hereby agrees to require that, in the event no further use of this parcel or any part thereof is needed, the Sublessee shall give notification to the Bureau of State Lands Management, 3900 Commonwealth Boulevard, Tallahassee, Florida 32303 at least six (6) months prior to the release of any or all of the premises. Notification will include a legal description, the lease number, and an explanation of the release.

7. Upon termination or expiration of the sublease agreement with local government as provided for herein, this Lease Agreement shall terminate and the Lessee shall surrender up the premises to the Lessor, Furthermore, the Lessee herein shall require the sublessee to leave all fixed improvements for the use of the Lessor and to put no claim upon said improvements; or at the option of the Lessor, the Lessee shall require the Sublessee to remove any and all improvements on the property at the Sublessee's expense.

Lease No. 3418

The Lessee shall assure that the Sublessee meets the following conditions upon termination of the Sublease.

(a) The premises shall meet applicable county and municipal building and safety codes.

(b) The Sublessee shall properly dispose of utility fees, including having the utilities turned off.

(c) The Sublessee shall not commit waste; ordinary wear and tear is acceptable.

(d) Prior to formal release a representative of the Bureau of State Lands Management shall perform an on-site inspection and the keys to any buildings on the premises shall be turned over to the Bureau.

(e) If the premises does not meet all conditions agreed upon, the Sublessee shall reimburse the Board for any resulting expenses.

8. In the sublease of the property, the Lessee herein shall require the Sublessee to agree to investigate all claims of every nature at its own expense and to indemnify, protect, defend, hold and save harmless the State of Florida from any and all claims, actions, lawsuits and demands of any kind or nature arising out of the agreement allowing for its use of the lands, to the extent allowable by law.

9. The Lessor warrants that it has the right to lease the hereinafter described lands and property; however, this Lease Agreement does not convey fee simple title.

10. The Lessor or its duly authorized agents shall have the right at any time to inspect the said land and the works and operations thereon of the Sublessee in any matter pertaining to this agreement, following coordination with the Lessee herein.

11. The Lessee herein and its Sublessee are hereby authorized to grant utility easements which will be necessary to service authorized facilities located within the leased premises. Copies of any such easements granted should be filed timely with the Lessor.

Lease No. 3418

12. This agreement is for the purposes specified herein and subleases of any nature excepting utility easements incident to authorized facilities (Provision 11) are prohibited, unless previously authorized by the Lessor. It is provided, however, that the Lessee is authorized to sublease the lands to an appropriate body or local government or public agency to develop and manage primarily for environmental protection and compatible public outdoor recreation and related purposes.

13. The Lessee shall require the Sublessee to prepare a management plan in accordance with Section 253.034, Florida Statutes, within twelve (12) months of the execution date of this agreement and it shall be submitted, through the Lessee, to the Lessor for approval by the Land Management Advisory Committee and the Board. The approved Management Plan shall provide the basic guidance for all management activities and shall be reviewed jointly by the Lessee and the Board at least every five years. The Sublessee may use the property while the management plan is being developed provided such use is consistent with the management statement at purchase and approved by the Lessee.

14. Execution of this agreement in no way affects any of the lessees or sublessee's obligations pursuant to Chapter 267, Florida Statutes. The collection of artifacts or the disturbance of archaeological and historical sites, including scientific archaeological excavations, on state-owned lands is prohibited unless prior authorization has been obtained from the Division of Archives, History and Records Management. Plans and specifications for the restoration, renovation or other alteration of any historically or architecturally significant structures shall be reviewed by the Division of Archives, History and Records Management and the Metropolitan Dade County Historic Preservation Division prior to proceeding with any such activities. The land management plan prepared pursuant to Section 253.034, Florida Statutes, shall be reviewed by the Division of Archives, History and Records Management to insure that adequate measures have been planned to

Lease No. 3418

locate, identify, protect and preserve the archaeological and historical sites and properties on the tract. And, to assist the State of Florida in providing maximum protection of historically significant properties on the tract, the Sublessee shall make application for and actively seek designation and protection of such sites and properties under the Metropolitan Dade County Historic Preservation Ordinance.

15. The introduction of feral hogs on the subject property is specifically prohibited and the Lessee shall require the sublessee to adopt measures to control said hogs, if present, with the objective of elimination, if possible.

IN TESTIMONY WHEREOF, the lawfully designated agent of the Board of Trustees of the Internal Improvement Trust Fund has hereunto subscribed his name and has caused the official seal of said Board to be hereunto affixed, in the City of Tallahassee, Florida, on the 19TH day of DECEMBER, A.D., 1985, and the Department of Natural Resources, Division of Recreation and Parks, has duly executed same this 19TH day of DECEMBER, A.D., 1985.

(SEAL)
BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

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

By: _____
DIRECTOR, DIVISION OF STATE LANDS, AGENT FOR THE BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA

(SEAL)
STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES

FLORIDA DEPARTMENT OF NATURAL RESOURCES

By: _____
ELTON J. GISSENDANNER
EXECUTIVE DIRECTOR

Approved for compliance with Section 253.03, Florida Statutes

By: _____

Approved as to form and legality:

By: _____ 12/18/85

DEERING ESTATE AT CUTLER
Miami-Dade Park & Recreation Department

SUB-LEASE AGREEMENT

STATE OF FLORIDA NATURAL RESOURCES DIVISION OF RECREATION AND PARKS
&
DADE COUNTY

RESOLUTION NO. R-594-87

RESOLUTION AUTHORIZING EXECUTION OF SUBLEASE AGREEMENT WITH STATE OF FLORIDA DEPARTMENT OF NATURAL RESOURCES DIVISION OF RECREATION AND PARKS PROVIDING FOR COUNTY USE OF THE CHARLES DEERING ESTATE

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF DADE COUNTY, FLORIDA, that this Board approves the Sublease Agreement between Dade County and the State of Florida, Department of Natural Resources - Division of Recreation and Parks, by which Dade County will occupy, improve and use the Charles Deering Estate property, in substantially the form attached hereto and made a part hereof; and authorizes the County Manager to execute same, for and on behalf of Dade County, Florida.

The foregoing resolution was offered by Commissioner Beverly B. Phillips, who moved its adoption. The motion was seconded by Commissioner Barbara M. Carey, and upon being put to a vote, the vote was as follows:

Barbara M. Carey	Aye
Clara Oesterle	Aye
Beverly B. Phillips	Aye
James F. Redford, Jr.	Aye
Harvey Ruvin	Absent
Barry D. Schreiber	Aye
Jorge E. Valdes	Absent
Sherman S. Winn	Aye
Stephen P. Clark	Aye

The Mayor thereupon declared the resolution duly passed and adopted this 5th day of May, 1987.

DADE COUNTY, FLORIDA
BY IT BOARD OF
COUNTY COMMISSIONERS

RICHARD P. BRINKER, CLERK

By: [illegible] EBED
Deputy Clerk

Approved by County Attorney as to form and legal sufficiency. JSW

SUBLEASE AGREEMENT
CHARLES DEERING ESTATE
(DEERING HAMMOCK)

This Sublease Agreement is made between the Department of Natural Resources of the State of Florida on behalf of the Division of Recreation and Parks, as Sublessor, and Metropolitan Dade County as Sublessee. The parties, for and in consideration of mutual covenants and agreements covenant and agree as follows:

1. The parties acknowledge that:

A. The Board of Trustees of the Internal Improvement Trust Fund (hereinafter referred to as the "Board") holds title to certain property identified as the Charles Deering Estate (Deering Hammock) for public outdoor recreation purposes: and

B. The Department of Natural Resources of the State of Florida is the Lessee of the property in order to provide for the Division of Recreation and Parks to sublease the property to local government for outdoor recreation and related purposes and to represent the State in coordination with local management.

2. Description of Premises: The property, subject to this Sublease, is situated in Dade County, and described in Exhibit "A", attached hereto and made a part hereof.

3. Term and Purpose: This Sublease shall be for a period coterminous with the time remaining on Trustees Lease Agreement No. 3418, dated November 19, 1985, attached hereto as Exhibit "B", for environmental protection and compatible public outdoor recreation and related purposes, unless otherwise terminated pursuant to the provisions of this Sublease.

4. Conformity: This Sublease shall be subject to all the terms and conditions of the Trustees Lease Agreement No. 3418. The Sublessee shall not permit any unauthorized use of the property or any use not in conformance with Trustees Lease Agreement No. 3418, which is attached hereto as Exhibit "B" and this Sublease.

5. Right of Use: The Sublessee shall have the right to enter upon the property for all purposes necessary to the full enjoyment of the rights herein granted.

6. Assignment: This Sublease and any rights and privileges conferred herein shall not be assigned or transferred by the Sublessee

without the prior written approval of the Sublessor.

7. Management Plan: The Sublessee shall be responsible for preparation of a final management plan in compliance with the provisions of paragraph 13 of Exhibit "B", and shall implement all management projects pursuant to the management plan as necessary to carry out the purpose stated in paragraph 3 herein.

8. Development Time Frame: The Sublessee shall at its sole cost and expense make available to the public, within five years from the effective date of this Sublease, site improvements on the property for public recreational use and for protection of the natural resources. This provision shall be in accordance with the final management plan. All site improvements shall be constructed in a good workmanlike manner in accordance with sound construction practices. The Sublessee shall keep the premises and the site improvements free and clear of all liens for labor and material and shall hold the Sublessor and the Board harmless from any liability with respect to Sublessee's work. In the event a lien for labor or materials is filed, the Sublessee shall immediately either satisfy same or transfer such lien to a bond.

9. Site Plan: The Sublessee shall submit a final site plan to the Sublessor for review prior to construction of any new facilities. A site plan of existing and proposed facilities shall be included in the final management plan.

10. Incurred Costs: All costs of construction, operation, maintenance, use and restoration of the property, shall be the responsibility of the Sublessee. The Sublessee shall be responsible for any and all assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the property during the effective period of the Sublease.

11. Ownership of Improvements: All improvements provided by the Sublessee shall be and remain the property of the Sublessee during the effective period of this Sublease.

12. Security and Maintenance: The Sublessee shall provide security and protection as necessary and keep the property clean, maintained and in a good state of repair at all times.

13. User Fees: All user fees which the Sublessee may wish to impose shall be uniformly imposed among users regardless of the political jurisdiction in which the user may reside. A copy of user fees shall be

submitted to the Sublessor.

14. Right of Inspection: The Sublessor and its duly authorized agents shall have the right at any reasonable time to inspect the property and the works and operations thereon of the Sublessee in any matter pertaining to this Sublease. Should the Sublessee violate any covenant(s) of this Sublease or Trustees Lease Agreement No. 3418, Sublessor must notify Sublessee in writing that it requires Sublessee's correction of that violation to its satisfaction. Sublessee must cure the violation within 90 days following the date of notice. Upon Sublessee's failure to cure the violation within the time prescribed, Sublessor may terminate this Sublease upon 30 days prior written notice.

15. Right of Audit: The Sublessee shall make available to the Sublessor all financial records relating to this Sublease, and the Sublessor shall have the right to audit such records at any reasonable time. This right shall be continuous until such audit is completed and exercised without unreasonably interfering with the operation of Sublessee's facilities. This Sublease may be terminated by the Sublessor should the Sublessee fail to allow public access to all documents, papers, letters or other materials made or received in conjunction with this Sublease, pursuant to the provisions of Chapter 119, Florida Statutes.

16. Signs: The Sublessee shall erect a permanent information sign on the site. The sign shall identify the park name and state that funds for acquisition were provided by the Conservation and Recreation Lands Program administered through the State of Florida, Department of Natural Resources.

17. Liability: The Sublessee shall investigate all claims of every nature at its expense and indemnify, protect, defend, hold and save harmless the Sublessor, the Board and the State of Florida from any and all claims, actions, lawsuits and demands of any kind or nature arising out of the Sublessee's use and management of the property to the extent of the limitations included within Section 768.28, Florida Statutes. The Sublessee will provide, during the term of this Sublease, fire and extended coverage insurance, including the improvements located on the premises for their full insurable value, or, in the alternative, will provide evidence of self-insurance sufficient to cover the loss of such improvements. Any policies of insurance shall name Sublessor, Sublessee

3.

and the Board as insureds. The Sublessee will also provide public liability coverages in the form of insurance policies or self-insurance for any and all claims against the Sublessee, Sublessor, the Board and the State of Florida. The Sublessee shall submit annually, written evidence of insurance to the Bureau of State Lands Management (hereinafter referred to as the "Bureau"), 3900 Commonwealth Boulevard, Tallahassee, Florida 32399. Any insurance policies purchased by Sublessee pursuant to this paragraph shall be purchased from a financially responsible insurer duly authorized to do business in the State of Florida. Sublessee shall immediately notify the Sublessor, the Board and the insurance agent (if applicable) of any erection or removal of any building or other improvement on the premises and any changes affecting the value of any improvements and shall request the insurance agent (if applicable) to make adequate changes in the coverage to reflect the changes in value. Sublessee shall be financially responsible for any loss due to failure to obtain or maintain adequate insurance coverage. If an action is commenced against the Sublessor or the Board based on any claim arising out of the use or ownership of the leased premises during the term of the Sublease (including without limitation an action seeking damages for loss of life, personal injury or damage to property occurring in or about the leased premises), Sublessee will pay the expense of Sublessor's and the Board's defense, including costs and reasonable attorneys fees for any defense in that action. If a judgment is entered in such action against both Sublessor and/or Board and Sublessee or if they agree that a settlement of the claim or lawsuit should be made, Sublessee shall be responsible for payment of such judgment or settlement. Nothing contained herein shall be deemed to constitute a waiver of sovereign immunity on the part of Sublessor or to affect, limit or reduce the protection afforded Sublessor under provisions of Section 375.251, Florida Statutes, or to protect Sublessee from liability for any deliberate willful or malicious act of Sublessee. In connection with any dispute arising out of this Sublease, including without limitation litigation and appeals, the Sublessor and the Board will be able to recover from the Sublessee attorney's fees and costs.

18. Termination: Upon termination or expiration of this Sublease, the Sublessee shall surrender the premises to the Sublessor. In the event no further use of this parcel or any part thereof is needed, the

4.

Sublessee shall give notification to the Sublessor and the Bureau of State Lands Management, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399 at least six (6) months prior to the release of any or all of the premises. Notification will include a legal description, the lease number, and an explanation of the release. Upon termination of this Sublease, all improvements shall automatically become the property of the Board, unless the Board, at its option, should require immediate removal at the Sublessee's expense of any and all such improvements upon written notice to the Sublessee. Any improvements to remain on the property upon termination of this Sublease shall be at the Board's discretion. The Sublessee shall meet the following conditions upon termination of this Sublease:

(a) The construction of any new facilities, improvements or alterations of the premises shall meet applicable county and municipal building and safety codes.

(b) The Sublessee shall properly dispose of utility fees, including having all the utilities turned off.

(c) The Sublessee shall not commit waste; reasonable wear and tear is acceptable.

(d) Prior to formal release, a representative of the Bureau of State Lands Management shall perform an on-site inspection and the keys to any buildings on the premises shall be turned over to the Bureau.

(e) If the premises do not meet all conditions agreed upon, the Sublessee shall reimburse the Board for any expenses incurred in meeting the prescribed conditions.

IN WITNESS WHEREOF, The lawfully designated agent of the Department of Natural Resources of the State of Florida has hereunto subscribed his name and caused his official seal to be hereunto affixed on the 30th day of June, 1987, and the lawfully designated agent of Dade County, Florida has hereunto subscribed his name and caused his official seal to be hereunto affixed on the 21st day of April, 1987.

5.

EXECUTIVE BOARD OF THE
DEPARTMENT OF NATURAL RESOURCES

Witnesses:

Attest:

Approved

By: _____
Bob Dudeh, Acting Chairman
Executive Director
Its Agent for this Purpose

SEAL

_____
Project Sponsor

METROPOLITAN DADE COUNTY, FLORIDA
BY ITS BOARD OF COUNTY COMMISSIONERS

Witnesses:

_____

_____

Attest:

By: _____
DEPUTY CLERK

By: _____
Its Agent for this Purpose
for SERGIO PEREIRA
COUNTY MANAGER

COUNTY COMMISSIONERS
DADE COUNTY
Florida
SEAL

_____
DNR Attorney

Effective Date: _____

Approved as to Form and Legality

6.

Appendix 4. Bibliography

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Appendix 5. Common and Scientific Names of Plant and Animal Species Referenced in the Deering Estate at Cutler Management Plan:

Common Name	Scientific Name	Common Name	Scientific Name
air potato	*Dioscorea bulbifera*	natal grass	*Melinis repens*
American crocodile	*Crocodylus acutus*	peregrine falcon	*Falco peregrinus*
American kestrel	*Falco sparverius*	pigeon plum	*Coccoloba diversifolia*
Australian pine	*Casuarina sp.*	Poinciana trees	*Delonix regia*
bitterbush	*Picramnia pentandra*	poisonwood	*Metopium toxiferum*
black ironwood	*Krugiodendron ferreum*	red bay	*Persea borbonia*
black mangrove	*Avicennia germinans*	red mangrove	*Rhizophora mangle*
black olive	*Bucida bucera*	roseate spoonbill	*Ajaja ajaja*
Brazilian pepper	*Schinus terebinthifolius*	royal palm	*Roystonea regia*
brown-hair comb fern	*Ctenitis submarginalis*	saltmarsh cordgrass	*Spartina patens*
Burma reed	*Neyraudia reynaudiana*	saw palmetto	*Serenoa repens*
burrowing owl	*Athene cunicularia*	sawgrass	*Cladium jamaicense*
buttonwood	*Conocarpus erectus*	Schaus swallowtail butterfly	*Heraclides aristodemus ponceanus*
cabbage palm	*Sabal palmetto*	sea oats	*Uniola paniculata*
creeping star-hair fern	*Thelypteris reptans*	sea ox-eye daisy	*Borrichia fructescens*
deltoid spurge	*Chamaesyce deltoidea*	seaside mahoe	*Thespesia populnea*
eastern indigo snake	*Drymarchon corais couperi*	slender spleenwort	*Asplenium trichomanes-dentatum*
Florida tree fern	*Ctenitis sloanei*	smalltooth sawfish	*Pristis pectinata*
Garber's spurge	*Chamaesyce garberi*	snowy egret	*Egretta thula*
green sea turtle	*Chelonia mydas*	south Florida slash pine	*Pinus elliottii var. densa*
green-spurred orchid	*Habenaria odontopetala*	Spanish stopper	*Eugenia foetida*
gridscale maiden fern	*Thelypteris patens*	spicewood	*Calyptranthes pallens var. pallens*
gumbo limbo	*Bursera simaruba*	strangler fig	*Ficus aurea*
jasmine vine	*Jasminum fluminense*	Small's milkwort	*Polygala smallii*
jasmine vine	*Jasminum dichotomum*	tricolored heron	*Egretta tricolor*
Johnson's seagrass	*Halophila johnsonii*	Venus'-hair fern	*Adiantum capillus-veneris*
latherleaf	*Colubrina asiatica*	West Indian cherry	*Prunus myrtifolia*
leafy vanilla	*Vanilla planifolia*	West Indian manatee	*Trichechus manatus*
least halberd fern	*Tectaria fimbriata*	white-crowned pigeon	*Patagionenas leucocephala*
limpkin	*Aramus guarauna*	white ibis	*Eudocimus albus*
little blue heron	*Egretta caerulea*	white mangrove	*Laguncularia racemosa*
live oak	*Quercus virginiana*	white stopper	*Eugenia axillaris*
marlberry	*Ardisia escallonioides*	wood stork	*Mycteria americana*
mastic	*Mastichodendron foetidissimum*		

Appendix 6. FNAI Standard Data Report for the Estate.

FLORIDA Natural Areas INVENTORY

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

September 18, 2012

Alissa Turtletaub
Miami Dade County Parks, Recreation and Open Spaces
275 NW 2nd Street, 4th Floor
Miami, FL 33128

Dear Ms. Turtletaub,

Thank you for requesting information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project: Deering Estate at Cutler Management Plan

Date Received: 09/17/2012

Location: Miami-Dade County

Based on the information available, this site appears to be located in a significant region of natural areas and habitat for several rare species. Special consideration should be taken to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

Based on the information available, this site appears to contain pine rockland, a natural community in decline that provides important habitat for several rare species within a small area. Additional consideration should be given to avoid and/or mitigate impacts to these natural resources, and to design land uses that are compatible with these resources.

Element Occurrences

A search of our maps and database indicates that we currently have several element occurrences mapped in the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

Federally Listed Species

Our data indicate federally listed species are present on or very near this site (see enclosed map and tables for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The element occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, element occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

Tracking Florida's Biodiversity

*Several of the species and natural communities tracked by the Inventory are considered **data sensitive**. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Likely and Potential Rare Species

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

The Inventory always recommends that professionals familiar with Florida's flora and fauna conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

This report is made available at no charge due to funding from the Florida Department of Environmental Protection, Division of State Lands.

Thank you for your use of FNAI services. If I can be of further assistance, please contact me at (850) 224-8207 or at mobrien@fnai.org.

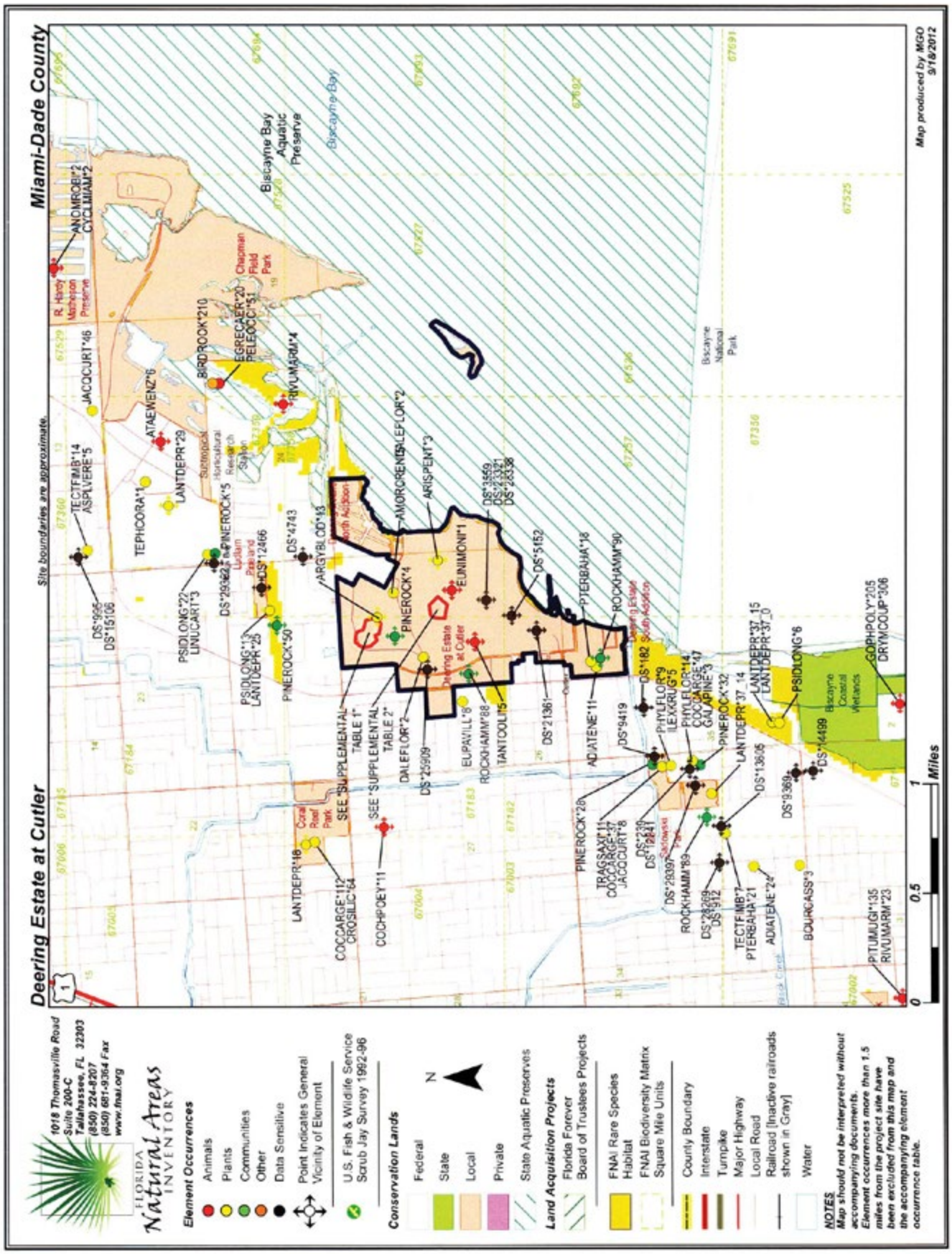
Sincerely,

Michael O'Brien

Michael O'Brien
GIS / Data Services

Encl

Tracking Florida's Biodiversity


Deering Estate at Cutler
Miami-Dade County
Site boundaries are approximate.
Map produced by MGO 9/18/2012
Biscayne Bay Aquatic Preserve
Biscayne Bay
Biscayne National Park
Deering Estate at Cutler
Coral Reef Park
R. Hardy Matheson Preserve
Chapman Field Park
Deering Estate
South Addition
SEE SUPPLEMENTAL TABLE 1
SEE SUPPLEMENTAL TABLE 2
Biscayne Coastal Wetlands
Miles
0
0.5
1
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FLORIDA Natural Areas INVENTORY
Element Occurrences
Animals
Plants
Communities
Other
Data Sensitive
Point Indicates General Vicinity of Element
U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96
Conservation Lands
Federal
State
Local
Private
State Aquatic Preserves
Land Acquisition Projects
Florida Forever
Board of Trustees Projects
FNAI Rare Species Habitat
FNAI Biodiversity Matrix Square Mile Units
County Boundary
Interstate
Turnpike
Major Highway
Local Road
Railroad [Inactive railroads shown in Gray]
Water
NOTES
Map should not be interpreted without accompanying documents.
Element occurrences more than 1.5 miles from the project site have been excluded from this map and the accompanying element occurrence table.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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ADIATENE*11	*Adiantum tenerum*	Brittle Maidenhair Fern	G5	S3	N	LE	1990-05-26	1990-05-26: A TYPICAL, ALBEIT SMALL, TROPICAL HARDWOOD (ROCKLAND) HAMMOCK CONTAINING AT LEAST 12 SPECIES OF FERNS (U91CRE01FLUS).	1990-05-26: SPECIES IS PRESENT IN THE HAMMOCK (U91CRE01FLUS).
ADIATENE*24	*Adiantum tenerum*	Brittle Maidenhair Fern	G5	S3	N	LE	1988-10-26	[Rockland Hammock.] 1988-10-26: This hammock is a remnant of the Cutler Ridge Hammock; 82nd Ave. divides it; both sides are being developed, the west side already with several houses, the east side will have four houses (U91CRE01FLUS).	1988-10-26: One small bit of A. tenerum on the west side in the only protected area (U91CRE01FLUS).
AMORCREN*5	*Amorpha herbacea var. crenulata*	Crenulate Lead-plant	G4T1	S1	LE	LE	2007	2007: Pine rockland in relatively large natural area with high quality pine rockland (urban surrounding) (U08FTG01FLUS).	2007: This is an introduced population. 201 plants observed (U08FTG01FLUS).
ANOMROBI*2	*Anomala robinsoni*	Robinson's Anomala Scarab Beetle	G1?	S1?	N	N	1994-PRE	1994-Pre: No description given (B94DEY01FLUS).	1994-Pre: This species was collected (B94DEY01FLUS).
ARGYBLOD*13	*Argythamnia blodgettii*	Blodgett's Wild-mercury	G2	S2	C	LE	1991-08-14	GRASSY EDGE OF PINELANDS ALONG ROADWAY.	SHRUB ABOUT 1M TALL, FLOWER & FRUIT ON 27 MAY 1978. NOT REPORTED IN 1983 DURING FIELD SURVEY OF DEERING ESTATE. 1991: PRESENT ON SITE.
ARISPENT*3	*Aristolochia pentandra*	Marsh's Dutchman's Pipe	G4G5	S1	N	LE	1926-05-17	1926-05-17: Deering Hammock (S26SMAUFFLUS).	1926-05-17: Specimen taken (S26SMASFFLUS).
ASPLVERE*5	*Asplenium verecundum*	Modest Spleenwort	G1	S1	N	LE	1999	1999: Distrubed rockland hammock. Plants occur on north side of lot. A. dentatum and A. x biscayneanum also occur here (PNDGAN03FLUS).	1999: 11-1000 plants (PNDGAN03FLUS).
ATAEWENZ*6	*Ataenius wenzelii*	An Ataenius Beetle	G3G5	S2S3	N	N	1961-04-10	1961-04-10: No description given (B73WOO01FLUS).	1961-04-10: One specimen collected by P. E. Briggs using a blacklight trap (B73WOO01FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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BIRDROOK*210	Bird Rookery		GNR	SNR	N	N	1988-03-16	SMALL ESTUARINE ISLAND IN BISCAYNE BAY; NEST IN MANGROVES.	MULTI-SPECIES ROOKERY, 3 SPECIES. 370 NESTING PAIRS 7/76; 11-100 BIRDS 3/16/88. LITTLE BLUE HERON (PRESENT 7/76); BROWN PELICAN (PRESENT 3/88); DOUBLE-CRESTED CORMORANT (350 NESTING PAIRS 7/76, ALSO PRESENT 3/88).
BOURCASS*3	*Bourreria cassinifolia*	Smooth Strongbark	G3?	S1	N	LE	1982-11-12	DADE PINE ROCKLAND SURROUNDED BY CLEARED, UNDEVELOPED LAND & BY HOUSES. BURNED LESS THAN 5 YEARS AGO.	9 PLANTS SEEN IN A 20 MIN SEARCH. TO 1M HIGH. FLOWERING.
BYRSLUCI*2	*Byrsonima lucida*	Locustberry	G4G5	S3	N	LT	1991-08-14	PINE ROCKLAND.	1991: LISTED AT SITE.
CHAMGARB*16	*Chamaesyce garberi*	Garber's Spurge	G1	S1	LT	LE	2002-12-03	1991-08-14: Pine Rockland (U92LIP06FLUS).	2007-06-26: 30-40 flowering plants (U07GRE01FLUS). 2002-12-03: 10-100 plants observed (U03FTG01FLUS). 1991-08-14: listed at site (U92LIP06FLUS). 1948-07-20: flowering.
COCCARGE*112	*Coccothrinax argentata*	Silver Palm	G4	S3	N	LT	2010-01-21	2010-01-21: Remnant pine rockland, measuring about 5 acres, in urban park setting and surrounded by residential area of south Miami. Other rare species include Crossopetalum ilicifolium and Lantana depress var. depressa. Associated species include Quercu	2010-01-21: Observed 2-10 plants in fruit in remnant pine rockland. Quick/incomplete survey. Other rare species include Crossopetalum ilicifolium and Lantana depress var. depressa (PNDDIA02FLUS).
COCCARGE*20	*Coccothrinax argentata*	Silver Palm	G4	S3	N	LT	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	SCATTERED, ALL SMALL - LESS THAN 3' HIGH. 1991: PRESENT ON SITE.
COCCARGE*37	*Coccothrinax argentata*	Silver Palm	G4	S3	N	LT	2005-08-11	2005-08-11: Pine rockland of younger Pinus elliottii, Serenoa repens, Metopium toxiferum, Cocothrinax argentata; exposed limestone throughout rockland (PNDTAN01FLUS). 1982: SLASH PINELAND AND HAMMOCK (U82AVE02FLUS).	2005-08-11: Plants scattered throughout pine rockland (F05TAN02FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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COCCARGE*47	*Coccothrinax argentata*	Silver Palm	G4	S3	N	LT	1985-12-02	REMNANT PINE POCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO AND HARDWOOD UNDERSTORY,ON PINACLE ROCK. NORTH DADE VARIANT - HAS SAND IN BETWEEN ROCK OUTCROPS.	85-12-02; NONE GIVEN
COCHPOEY*11	*Cochlodinella poeyana*	Truncate Urocoptid	G1G2	S1S2	N	N	1961-09-14	1961-09-14: No description given (WNDFLO01FLUS).	1961-09-14: This species was collected by F. G. Thompson (WNDFLO01FLUS). 1941-11-30: This species was collected (WNDFLO01FLUS).
CROSILIC*36	*Crossopetalum ilicifolium*	Christmas Berry	G3	S3	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSEOF LACK OF FIRE.	1991: PRESENT ON SITE.
CROSILIC*6	*Crossopetalum ilicifolium*	Christmas Berry	G3	S3	N	LT	2005-08-11	2005-08-11: Pine rockland of younger Pinus elliottii, Serenoa repens, Metopium toxiferum, Cocothrinax argentata; exposed limestone throughout rockland (PNDTAN01FLUS). 1985-12-02: REMNANT PINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO	2005-08-11: Three clumps observed in fruit on exposed limestone (F05TAN02FLUS). 1973-09-15: PLANTS PROSTRATE FROM WOODY ROOT-STOCK. FRUITING ON 15 SEPT 1973 (S73CORFGFLUS).
CROSILIC*64	*Crossopetalum ilicifolium*	Christmas Berry	G3	S3	N	LT	2010-01-21	2010-01-21: Occurrence extends to northeast from point but additional plants likely are present throughout this remnant community. Other rare species include Coccothrinax argentata and Lantana depressa var. depressa. Associated species include Pinus elli	2010-01-21: Observed range of from 11-50 vegetative plants in pine rockland. Occurrence extends to northeast from point but additional plants likely are present throughout this remnant community (PNDDIA02FLUS).
CYCLMIAM*2	*Cyclocephala miamiensis*	Miami Chafer Beetle	G1?	S1?	N	N	1994-PRE	1994-Pre: No description given (B94DEY01FLUS).	1994-Pre: This species was collected at this site (B94DEY01FLUS).
DALEFLOR*2	*Dalea carthagenensis var. floridana*	Florida Prairie Clover	G5T1	S1	C	LE	2008-07-18	2008-01: Pine rockland and pine rockland/hammock ecotone, in both north and south pine rockland parcels (U08FTG01FLUS). 2003-09-10: none given (PNDTAN01FLUS).	2008-07-18: 46 adult plants, plus ~499 seeldings observed (PNDPOS03FLUS). 2008-01: 246 plants, mostly seedlings, around 45 adult plants (U08FTG01FLUS). 2003-09-10: 46 individuals observed (U03FTG01FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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DRYMCOUP*306	*Drymarchon couperi*	Eastern Indigo Snake	G3	S3	LT	FT	1957-05-12	No general description given	MUSEUM SPECIMEN: (LACM 59104) D. PAULSON, 12 MAY 1957. ALSO SUMMER 1953, W. HAAST (CHARLESTON MUS 1953.168).
DS*12102	*Data Sensitive Element*	Data Sensitive	G5?	S1	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*12241	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1985-12-02	Data Sensitive	Data Sensitive
DS*12466	*Data Sensitive Element*	Data Sensitive	G1	S1	LE	LE	1979-10-30	Data Sensitive	Data Sensitive
DS*13605	*Data Sensitive Element*	Data Sensitive	G5	S1S2	N	LE	1982-12-04	Data Sensitive	Data Sensitive
DS*13796	*Data Sensitive Element*	Data Sensitive	G5	S1S2	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*14499	*Data Sensitive Element*	Data Sensitive	G1	S1	LE	LE	1982	Data Sensitive	Data Sensitive
DS*14652	*Data Sensitive Element*	Data Sensitive	G4G5T1	S1	C	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*15106	*Data Sensitive Element*	Data Sensitive	GNA	S1	N	N	1997-07-09	Data Sensitive	Data Sensitive
DS*15217	*Data Sensitive Element*	Data Sensitive	G1	S1	LE	LE	2004-02-10	Data Sensitive	Data Sensitive
DS*17087	*Data Sensitive Element*	Data Sensitive	G3?	S1	N	LE	2004-10-05	Data Sensitive	Data Sensitive
DS*182	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1973-09-15	Data Sensitive	Data Sensitive
DS*20685	*Data Sensitive Element*	Data Sensitive	G5	S2	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*21361	*Data Sensitive Element*	Data Sensitive	G5?	S1	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*22607	*Data Sensitive Element*	Data Sensitive	G1Q	S1	LE	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*23321	*Data Sensitive Element*	Data Sensitive	G5	S3	N	LT	1991-08-14	Data Sensitive	Data Sensitive
DS*239	*Data Sensitive Element*	Data Sensitive	G4	S2	N	N	1985-12-02	Data Sensitive	Data Sensitive
DS*25909	*Data Sensitive Element*	Data Sensitive	G1G3	S1	N	LE	2004-10-08	Data Sensitive	Data Sensitive
DS*25974	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*28269	*Data Sensitive Element*	Data Sensitive	GNA	S1	N	N	1974-02-09	Data Sensitive	Data Sensitive
DS*28338	*Data Sensitive Element*	Data Sensitive	G5	S3	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*29392	*Data Sensitive Element*	Data Sensitive	G3?	S1	N	LE	2005-01-13	Data Sensitive	Data Sensitive

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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DS*29397	*Data Sensitive Element*	Data Sensitive	G1G3	S1	N	LE	2004-10-05	Data Sensitive	Data Sensitive
DS*3559	Data Sensitive Element	Data Sensitive	G2	S2	N	N	1999	Data Sensitive	Data Sensitive
DS*4574	*Data Sensitive Element*	Data Sensitive	G4	S2	N	N	2010-10-09	Data Sensitive	Data Sensitive
DS*4743	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1980-06-21	Data Sensitive	Data Sensitive
DS*5152	*Data Sensitive Element*	Data Sensitive	G5	S3	N	LT	1991-08-14	Data Sensitive	Data Sensitive
DS*6176	*Data Sensitive Element*	Data Sensitive	GNA	S1	N	N	1991-08-14	Data Sensitive	Data Sensitive
DS*7228	*Data Sensitive Element*	Data Sensitive	G4?T4?Q	S1	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*912	*Data Sensitive Element*	Data Sensitive	G5	S2	N	LE	1976-11-05	Data Sensitive	Data Sensitive
DS*9369	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1981-05-31	Data Sensitive	Data Sensitive
DS*9419	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	2003	Data Sensitive	Data Sensitive
DS*995	*Data Sensitive Element*	Data Sensitive	G5	S1S2	N	LE	1997-07-09	Data Sensitive	Data Sensitive
EGRECAER*20	*Egretta caerulea*	Little Blue Heron	G5	S4	N	SSC	1988-03-16	SMALL ESTUARINE ISLAND IN BISCAYNE BAY; NEST IN MANGROVES.	1976-07-17: FLEDGED/FLYING YG, POP EST=20 NESTS. SPECIES ABSENT 3/16/88.
EUGECONF*6	*Eugenia confusa*	Tropical Ironwood	G4G5	S2S3	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
EUNIMONI*1	*Eunica monima*	Dingy Purplewing	G5	S1	N	N	2005-06-03	2005-06-03: this park encompasses tropical hardwood hammocks, which is the preferred habitat for this species of butterfly (B00GLA01FLUS).	2005-06-03: one individual photographed (I09FRI01FLUS).
EUPAVILL*8	*Eupatorium villosum*	Villose Fennel	G4G5	S2	N	LE	1996-12-06	Pine rockland and tropical hardwood hammock.	Common in pine rockland and the edge of the tropical hardwood hammock. Several hundred plants exist here.
GALAPINE*3	*Galactia pinetorum*	Pineland Milkpea	G2Q	S2	N	N	1985-12-02	REMNANT PINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO & HARDWOOD UNDERSTORY, ON PINACLE ROCK. NORTH DADE VARIANT-HAS SAND IN BETWEEN ROCK OUTCROPS.	85-12-02,NONE GIVEN

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Florida Natural Areas Inventory

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GALAPINE*7	*Galactia pinetorum*	Pineland Milkpea	G2Q	S2	N	N	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	REPORTED BUT NOT CONFIRMED. 1991: PRESENT ON SITE.
GOPHPOLY*205	*Gopherus polyphemus*	Gopher Tortoise	G3	S3	N	ST	1987-PRE	No general description given	1987-pre: Species occurrence noted here in Diemer's unpublished map set (U86DIE01FLUS).
ILEXKRUG*17	*Ilex krugiana*	Krug's Holly	G4	S3	N	LT	1991-08-14	ROCKLAND HAMMOCK	1991: PRESENT ON SITE.
ILEXKRUG*5	*Ilex krugiana*	Krug's Holly	G4	S3	N	LT	1982	HAMMOCK.	NONE GIVEN.
JACQCURT*3	*Jacquemontia curtissii*	Pineland Jacquemontia	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	NOT SEEN ON 1983-06-20, BUT PRESENT IN 1978. MAY STILL OCCUR IN OPENINGS AND SHOULD RETURN IF THE COMMUNITY IS BURNED. SEED SOURCE NEARBY. 1991: PRESENT ON SITE.
JACQCURT*46	*Jacquemontia curtissii*	Pineland Jacquemontia	G2	S2	N	LT	1969-06-08	No general description given	Flowers very pale pink, prostrate flowering and fruiting specimen collected (Gillis).
JACQCURT*8	*Jacquemontia curtissii*	Pineland Jacquemontia	G2	S2	N	LT	2005-08-11	2005-08-11: Pine rockland of younger Pinus elliottii, Serenoa repens, Metopium toxiferum, Cocothrinax argentata; exposed limestone throughout rockland (PNDTAN01FLUS). 1985-12-02: REMNANT PINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO	2005-08-11: One to five plants observed in flower (PNDTAN01FLUS).
LANTDEPR*18	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1997	2010-01-21: No plants seen during survey for exotic plants. Dense vegetation and exotic species within area of original sighting. Pine rockland, measuring about five acres, in urban park setting and surrounded by residential area of south Miami. Rare spe	2010-01-21: Plants not observed in area of original EO sighting (PNDDIA02FLUS). 1997: 101-1000 plants. Plants common in pine rockland (PNDBRA04FLUS).
LANTDEPR*2	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1999	PINE ROCKLAND.	1999: COMMON AT THIS SITE, 1000-10,000 PLANTS (PNDIRC01FLUS). 1991: LISTED AT SITE.

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LANTDEPR*25	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1999	2005-02-17: Area surrounded by development according to the 1999 DOQQ (PNDJEN04FLUS). 1999: Common in pine rockland, both in county owned parcel and beneath powerline easement owned by Florida Power and Light. (PNDBRA04FLUS).	1993: Common in pine rockland, both in county owned parcel, and beneath powerline easement owned by Florida Power and Light. 101-1000 plants (PNDBRA04FLUS).
LANTDEPR*29	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1996	1995: Found in fragments of pine rockland throughout property, but most abundant in pine rockland at southwest corner of property (PNDBRA04FLUS).	1995: 101-1000 plants. Found in fragments of pine rockland throughout property, but most abundant in pine rockland at southwest corner of property (PNDBRA04FLUS).
LANTDEPR*37_0	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1996	This is a parent EO. Refer to individual sub-EOs for detailed information.	This is a parent EO for 2 sub-Eos (sub-EO #'s 14 and 15). Refer to individual sub-EOs for detailed information.
LANTDEPR*37_14	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1996	2005-02-05: Surrounded by developement (PNDJEN04FLUS).1999-08-16: Pine rockland in northeast corner and southern boundary of Bill Sadowsky Park. Occurence threatened by hybridization with L. camara (PNDBRA04FLUS).	1996: Common in both pine rockland areas on this site, in the northeast corner of the park and along the south edge of the park. 101-1000 plants. Occurence threatened by hybridization with L. camara (PNDBRA04FLUS).
LANTDEPR*37_15	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1990	2005-02-15: Area surrounded by housing developments (PNDJEN04FLUS). 1990: Common throughout preserve in pine rockland (PNDBRA04FLUS).	1990: Common throughout preserve in pine rockland. 101-1000 plants (PNDBRA04FLUS).
LINUCART*3	*Linum carteri var. carteri*	Carter's Small-flowered Flax	G2T1	S1	C	LE	2001	DISTURBED PINE ROCKLAND COMMUNITY BUT STILL CONTAINING GOOD SPECIES DIVERSITY AND COMPOSITION.	2001: Present on site (B02GAN01FLUS). 1990-04: OVER 1,000 PLANTS NOTED PARTICULARLY ALONG FIREBREAKS; PLANTS IN FLOWER AND IN FRUIT. PROBABLY LARGEST KNOWN EXTANT POPULATION.
LINUCART*4	*Linum carteri var. carteri*	Carter's Small-flowered Flax	G2T1	S1	C	LE	1991-08-14	AREA OF PINE ROCKLAND WITH HIGH SPECIES DIVERSITY AND ENDEMISM. EXCELLENT SITE FOR SOUTH FLORIDA ENDEMICS.	2008-08-12: According to the IRC database, this populationis presumed extirpated (PNDJEN03FLUS). ONLY 12 PLANTS OR FEWER, FLOWERING BUT NO FRUIT APPARENT. PLANTS SCATTERED ALONG A FIRE BREAK. 1991-08-14: PRESENT ON SITE.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
OPHIPALM*27	*Ophioglossum palmatum*	Hand Fern	G4	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
PELEOCCI*51	*Pelecanus occidentalis*	Brown Pelican	G4	S3	N	SSC	1988-03-16	SMALL ESTUARINE ISLAND IN BISCAYNE BAY; NEST IN MANGROVES.	SPECIES ABSENT 7/76; PRESENT 3/16/88 BUT NO POPULATION DATA GIVEN.
PEPEOBTU*8	*Peperomia obtusifolia*	Blunt-leaved Peperomia	G5	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK	1991: PRESENT ON SITE.
PHYLFLOR*14	*Phyllanthus pentaphyllus var. floridanus*	Florida Five-petaled Leaf-flower	G4T2	S2	N	N	1985-12-02	REMNANT PINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO & HARDWOOD UNDERSTORY, ON PINACLE ROCK. NORTH DADE VARIANT-HAS SAND IN BETWEEN ROCK OUTCROPS.	85-12-2; NONE GIVEN.
PHYLFLOR*4	*Phyllanthus pentaphyllus var. floridanus*	Florida Five-petaled Leaf-flower	G4T2	S2	N	N	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	A FEW PLANTS, ONLY ON MARGIN OF DIRT ROAD IN NE PART OF PINELAND. SITE WOULD BE EXCELLENT FOR THIS SPECIES IF BURNED. FLOWERING AND FRUITING. 1991: PRESENT ON SITE.
PHYLFLOR*9	*Phyllanthus pentaphyllus var. floridanus*	Florida Five-petaled Leaf-flower	G4T2	S2	N	N	1982	SLASH PINELAND.	NONE GIVEN.
PICRPENT*1	*Picramnia pentandra*	Bitter Bush	G4G5	S1	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE. THIS POPULATION SEEMS TO HAVE BEEN INTRODUCED HERE EARLY IN THIS CENTURY BY JOHN KUNKEL SMALL. A SMALL HAMMOCK WAS APPARENTLY PLANTED INSIDE WHAT IS NOW THE SERVICE ENTRANCE TO THE PARK. PLANTS HAVE SPREAD INTO THE NEARBY ADDISON HA
PINEROCK*28	Pine rockland		G1	S1	N	N	2005-08-11	2005-08-11: Pine rockland of younger Pinus elliottii, Serenoa repens, Metopium toxiferum, Cocothrinax argentata; exposed limestone throughout rockland (PNDTAN01FLUS).	2005-08-11: Occurrence on site (PNDTAN01FLUS). U82AVE02 GIVES PLANT LIST, BUT DOESN'T INDICATE RELATIVE ABUNDANCE. 85-12-2; NW CORNER OF INTERSECTIONOF SW 77 AVE AND W 176 ST. EXTIRPATED BY HOUSES. SEE EO#32 FOR PINE ROCKLAND AT SW CORNER (MARG #57). 132

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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PINEROCK*32	Pine rockland		G1	S1	N	N	1985-12-02	REMNANT RINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO AND HARDWOOD UNDERSTORY, ON PINACLE ROCK. NORTH DADE VARIANT - HAS SAND IN BETWEEN ROCK OUTCROPS. PRIOR TO SUBDIVIDING AND HOME CONSTRUCTION THIS SITE WAS THE SECOND BEST MIAMI P	RECORDED 29 PLANT TAXA ON 2/12/91 DURING A BRIEF VISIT OF VACANT LOTS. SITE ONCE HARBORED POLYGALA SMALLII. NEEDS TO BE VERIFIED IN REMAINING LOTS.
PINEROCK*4	Pine rockland		G1	S1	N	N	1999	WAS VERY DIVERSE HIGH PINELAND IN 1920'S, BUT HAS GONE UNBURNED FOR MANY YRS. & BEEN HEAVILY INVADED BY HAMMOCK SPP. VIRGIN SLASH PINE.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-02-12) (U05FNA02FLUS). QUERCUS VIRGINIANA, METOPIUM TOXIFERUM, BUMELIA SALICIFOLIA, AND PINUS ELLIOTTII VAR. DENSA OVERSTORY ABOUT 20% CANOPY COVER.
PINEROCK*5	Pine rockland		G1	S1	N	N	1999	BURNED OCCASIONALLY, ACCIDENTLY. LIMESTONE EXPOSED, 50%. PINES UP TO 30 CM DBH. MANY YOUNG PINES.	OVERSTORY OF PINUS ELLIOTTII VAR DENSA: UNDERSTORY OF SERENOA REPENS, LANTANA INVOLUCRATA. LOW PLANTS OF METOPIUM TOXIFERUM, BYRSOUIMA LUCIDA, PSIDIUM LONGIPES, B79LOO01 GIVES LONG PLANT LIST W/ DENSITY, FREQUENCY, & PRESENCE DATA BY SPP.
PINEROCK*50	Pine rockland		G1	S1	N	N	1999	PINE ROCKLAND BORDERING FLORIDA POWER & LIGHT EASEMENT FOR HIGH VOLTAGE TRANSMISSION LINES.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-02-31) (U05FNA02FLUS). PINUS ELLIOTTII VAR. DENSA UP TO 40 FT. TALL WITH GOOD REPRODUCTION. COCCOTHRINAX ARGENTATA, SERENOA REPENS, AND METOPIUM TOXI
PITUMUGI*135	*Pituophis melanoleucus mugitus*	Florida Pine Snake	G4T3	S3	N	SSC	1980-03	DISTURBED PINELAND WITH SCHINUS AND CASUARINA.	SPEC. COLL. EARY MARCH 1980 BY TODD STEINER (UF-45970).
PRUNMYRT*3	*Prunus myrtifolia*	West Indian Cherry	G4	S2	N	LT	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
PSIDLONG*13	*Psidium longipes*	Mangrove Berry	G4	S2	N	LT	1993	1993: present in pine rockland (PNDBRA04FLUS).	1993: 101 - 1000 plants present (PNDBRA04FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
PSIDLONG*22	*Psidium longipes*	Mangrove Berry	G4	S2	N	LT	1996	1996: Uncommon in pine rockland, primarily in the southwest corner of the property (PNDBRA04FLUS).	1996: 101 - 1000 plants present (PNDBRA04FLUS).
PSIDLONG*6	*Psidium longipes*	Mangrove Berry	G4	S2	N	LT	1990	1990: Present in pine rockland (PNDGAN03FLUS).	1990: 11 - 100 plants (PNDGAN03FLUS).
PTERBAHA*18	*Pteris bahamensis*	Bahama Brake	G4	S3	N	LT	1987-08-29	A SMALL PINE ROCKLAND HAMMOCK ON HIGH GROUND, DOMINATED BY OAKS (QUERCUS VIRGINIANA) WITH A FEW TROPICAL HARDWOOD SPECIES. HAMMOCK CONTAINS SOME EXCELLENT KARST DEVELOPMENT (THE BEST CRESSLER HAS SEEN IN DADE CO.) AND MANY DEEP SOLUTION (I.E., SINK) HOLE	ONLY THAT IT IS PRESENT IN THIS HAMMOCK AND RETURNING AFTER AN EARLIER FIRE AT THE PERIMETER OF THE HAMMOCK.
PTERBAHA*21	*Pteris bahamensis*	Bahama Brake	G4	S3	N	LT	1982-12-04	[ROCKLAND HAMMOCK CONTAINING AT LEAST 18 SPECIES OF FERNS.]	[1982: LISTED AT SITE DURING A. CRESSLER'S VISIT TO OLD CUTLER HAMMOCK.]
PTERBAHA*7	*Pteris bahamensis*	Bahama Brake	G4	S3	N	LT	1991-08-14	[ROCKLAND HAMMOCK.]	[1991: LISTED AT SITE.]
RIVUMARM*23	*Rivulus marmoratus*	Mangrove Rivulus	G3	S3	SC	SSC	1961-00-00	No general description given	SPECIMEN(S) COLLECTED BY BELSHE IN DITCHES NEAR BLACK CREEK CANAL (C-1) IN 1961.
RIVUMARM*4	*Rivulus marmoratus*	Mangrove Rivulus	G3	S3	SC	SSC	1966-06-24	No general description given	One specimen in Florida Museum of Naturla History (UF-100028).
ROCKHAMM*64	Rockland hammock		G2	S2	N	N	1999	MATURE, DIVERSE TROPICAL HAMMOCK. PRESUMED PRISTINE(POSSIBLE HYDROLOGICAL IMPACTS?); ON EXTREMELY DISSECTED,UNUSUALLY PURE LIMESTONE;MANY TREES ON STILT ROOTS; EXPANDING INTO PINELAND. GRADES INTO MANGROVE SWAMP TO THE NE AND LIMESTONE OUTCROPS OCCUR ALO	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-02-12) (U05FNA02FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR
Deering Estate at Cutler

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ROCKHAMM*88	Rockland hammock		G2	S2	N	N	1999	No general description given	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1987-10-30) (U05FNA02FLUS).
ROCKHAMM*89	Rockland hammock		G2	S2	N	N	1999	No general description given	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1975) (U05FNA02FLUS). U82AVE02 GIVES PLANT LIST, BUT DOESN'T INDICATE RELATIVE ABUNDANCE.
ROCKHAMM*90	Rockland hammock		G2	S2	N	N	1999	HAMMOCK MIXED W/PINELAND. A TYPICAL, ALBEIT SMALL TROPICAL HARDWOOD (ROCKLAND) HAMMOCK CONTAINING AT LEAST 12 SPECIES OF FERNS (U91CRE01FL).	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1990-05-26) (U05FNA02FLUS).
ROYSELAT*4	*Roystonea elata*	Florida Royal Palm	G2G3	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK. HIGH CANOPY (35-45') OF BURSERA,LIVE OAK, PIGEON PLUM & STRANGLER FIG. OPEN MID- STORY AND VERY OPEN GROUND STORY. TREES GROWING OFTEN IN SOLUTION HOLES.	15 TO 20 LARGE TREES, CA 50 SEEDLINGS SEEN 5-10' HIGH.BELIEVED TO BE INTRODUCED FROM 10,000 ISLANDS. (FERGUSON MOUND?). MOSTLY ROOTED IN SOIL IN BOTTOM OF SOLUTION HOLES. REPRODUCING WELL, DESPITE SERIOUS INVASION BY EXOTICS, PARTICULARLY VINE. 1991: PRE
SWIEMAHA*11	*Swietenia mahagoni*	West Indies Mahogany	G3G4	S3	N	LT	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE (U92LIP06FLUS).
TANTOOLI*5	*Tantilla oolitica*	Rim Rock Crowned Snake	G1G2	S1S2	N	ST	1998	The Deering Estate at Cutler, as of Nov 2011, includes 136 acres of pineland, 118 acres of hammock, 5 acres of wetland, and 118 acres of coastal habitat (original purchase plus South Addition). Most of the surrounding private lands have been developed (	1983-1998: Former Deering Estate (DE) naturalist Glenn Fried observed species multiple times at DE during this time period, as well as at a formerly abandoned house and lot at Old Cutler Road and SW 176th Street (A11HIN01FLUS). 1982 -05: R. Line recorde
TECTFIMB*14	*Tectaria fimbriata*	Least Halberd Fern	G4	S2	N	LE	1988-01-26	[Rockland Hammock.] 1988-01-26: There is a rather large development of ca. 25 yrs. old in the hammock; some nice areas in [private] yards; [sinks also present](Cressler).	1988-01-26: A few plants of Tectaria lobata grow on the walls of a few of the small site [sink?] holes (Cressler).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

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Deering Estate at Cutler

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TECTFIMB*3	*Tectaria fimbriata*	Least Halberd Fern	G4	S2	N	LE	1991-08-14	[CRESSLER (U91CRE01FL) STATES THAT THIS IS BEST EXAMPLE OF A WEST INDIAN HARDWOOD HAMMOCK COMMUNITY.]	[1991: LISTED AT SITE.] 1984: ABUNDANT, BECOMING WELL ESTABLISHED IN THE SUNNIER AREAS (CRESSLER).
TECTFIMB*7	*Tectaria fimbriata*	Least Halberd Fern	G4	S2	N	LE	1982-12-04	[ROCKLAND HAMMOCK CONTAINING AT LEAST 18 SPECIES OF FERNS.]	1982-03-28: A FEW CLUMPS IN THE SOUTHERN KARST AND SINK AREA (CRESSLER). 1982-01-06: GROWING IN RESTRICTED DENSE COLONIES IN TWO SMALL SOLUTION HOLES IN THE MIDDLE OF THE HAMMOCK (CRESSLER).
TEPHCORA*1	*Tephrosia angustissima var. corallicola*	Rockland Hoary-pea	G1T1	S1	N	LE	1996-04-10	Mowed area with full sun.	1996: About 200 plants occur in plot W-2-3 in a grassy field at the station. The plants are low growing with woody bases. They are mowed periodically. No plants occur in the adjacent fire suppressed pine rockland fragment. 1978: Plants prostrate, thick r
THELREPT*2	*Thelypteris reptans*	Creeping Maiden Fern	G5	S2	N	LE	1991-08-14	PINE ROCKLAND.	1991: LISTED AT SITE (U92LIP06FLUS).
TRAGSAXI*11	*Tragia saxicola*	Pineland Noseburn	G2	S2	N	LT	2005-08-11	2005-08-11: Pine rockland of younger Pinus elliottii, Serenoa repens, Metopium toxiferum, Cocothrinax argentata; exposed limestone throughout rockland (PNDTAN01FLUS). 1985-12-02: REMNANT PINE ROCKLAND. RECENTLY BURNED S FL SLASH PINE FOREST, SAW PALMETTO	2005-08-11: Plants observed in flower/bud (PNDTAN01FLUS).
TRAGSAXI*28	*Tragia saxicola*	Pineland Noseburn	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	1991: PRESENT ON SITE.
TRIPFLOR*3	*Tripsacum floridanum*	Florida Gama Grass	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECUASE OF LACK OF FIRE.	ONE CLUMP (PLANT) SEEN. IN SMALL CLEARING NEAR W EDGE OF PINELAND. CLEARING POSSIBLY MADE BY BULLDOZER PUSHING COCONUT PALMS INTO PINELAND. BURNING WOULD HELP THIS SPECIES. 1991: PRESENT ON SITE.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

DOCUMENTED ELEMENT OCCURRENCES ON OR NEAR

Deering Estate at Cutler

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VANIPHAE*1	*Vanilla phaeantha*	Leafy Vanilla	G4	S1	N	LE	1988-11-12	IN TROPICAL HARDWOOD HAMMOCK AREA OF DEERING ESTATE. CRESSLER STATES THAT THIS IS BEST EXAMPLE OF A WEST INDIAN HARDWOOD HAMMOCK COMMUNITY HE HAS SEEN. NUMEROUS SPECIES OF HARDWOOD TREES AND AT LEAST 19 SPECIES OF FERNS.	COMMON IN HAMMOCK.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

SUPPLEMENTAL TABLE ONE FOR
Deering Estate at Cutler

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
BYRSLUCI*2	*Byrsonima lucida*	Locustberry	G4G5	S3	N	LT	1991-08-14	PINE ROCKLAND.	1991: LISTED AT SITE.
COCCARGE*20	*Coccothrinax argentata*	Silver Palm	G4	S3	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	SCATTERED, ALL SMALL - LESS THAN 3' HIGH. 1991: PRESENT ON SITE.
CROSILIC*36	*Crossopetalum ilicifolium*	Christmas Berry	G3	S3	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSEOF LACK OF FIRE.	1991: PRESENT ON SITE.
DS*14652	*Data Sensitive Element*	Data Sensitive	G4G5T1	S1	C	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*15217	*Data Sensitive Element*	Data Sensitive	G1	S1	LE	LE	2004-02-10	Data Sensitive	Data Sensitive
DS*22607	*Data Sensitive Element*	Data Sensitive	G1Q	S1	LE	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*25974	*Data Sensitive Element*	Data Sensitive	G2T1	S1	LE	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*4574	*Data Sensitive Element*	Data Sensitive	G4	S2	N	N	2010-10-09	Data Sensitive	Data Sensitive
DS*6176	*Data Sensitive Element*	Data Sensitive	GNA	S1	N	N	1991-08-14	Data Sensitive	Data Sensitive
GALAPINE*7	*Galactia pinetorum*	Pineland Milkpea	G2Q	S2	N	N	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	REPORTED BUT NOT CONFIRMED. 1991: PRESENT ON SITE.
JACQCURT*3	*Jacquemontia curtissii*	Pineland Jacquemontia	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	NOT SEEN ON 1983-06-20, BUT PRESENT IN 1978. MAY STILL OCCUR IN OPENINGS AND SHOULD RETURN IF THE COMMUNITY IS BURNED. SEED SOURCE NEARBY. 1991: PRESENT ON SITE.
LANTDEPR*2	*Lantana depressa var. depressa*	Florida Lantana	G2T1	S1	N	LE	1999	PINE ROCKLAND.	1999: COMMON AT THIS SITE. 1000-10,000 PLANTS (PNDIRC01FLUS). 1991: LISTED AT SITE.
LINUCART*4	*Linum carteri var. carteri*	Carter's Small-flowered Flax	G2T1	S1	C	LE	1991-08-14	AREA OF PINE ROCKLAND WITH HIGH SPECIES DIVERSITY AND ENDEMISM. EXCELLENT SITE FOR SOUTH FLORIDA ENDEMICS.	2008-08-12: According to the IRC database, this populationis presumed extirpated (PNDJEN03FLUS). ONLY 12 PLANTS OR FEWER. FLOWERING BUT NO FRUIT APPARENT. PLANTS SCATTERED ALONG A FIRE BREAK. 1991-08-14: PRESENT ON SITE.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

SUPPLEMENTAL TABLE ONE FOR
Deering Estate at Cutler

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
PHYLFLOR*4	*Phyllanthus pentaphyllus var. floridanus*	Florida Five-petaled Leaf-flower	G4T2	S2	N	N	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	A FEW PLANTS, ONLY ON MARGIN OF DIRT ROAD IN NE PART OF PINELAND. SITE WOULD BE EXCELLENT FOR THIS SPECIES IF BURNED. FLOWERING AND FRUITING. 1991: PRESENT ON SITE.
THELREPT*2	*Thelypteris reptans*	Creeping Maiden Fern	G5	S2	N	LE	1991-08-14	PINE ROCKLAND.	1991: LISTED AT SITE (U92LIP06FLUS)
TRAGSAXI*28	*Tragia saxicola*	Pineland Noseburn	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND. SUCCEEDING TO HAMMOCK BECAUSE OF LACK OF FIRE.	1991: PRESENT ON SITE.
TRIPFLOR*3	*Tripsacum floridanum*	Florida Gama Grass	G2	S2	N	LT	1991-08-14	DADE PINE ROCKLAND, SUCCEEDING TO HAMMOCK BECUASE OF LACK OF FIRE.	ONE CLUMP (PLANT) SEEN. IN SMALL CLEARING NEAR W EDGE OF PINELAND. CLEARING POSSIBLY MADE BY BULLDOZER PUSHING COCONUT PALMS INTO PINELAND. BURNING WOULD HELP THIS SPECIES. 1991: PRESENT ON SITE.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

SUPPLEMENTAL TABLE TWO FOR
Deering Estate at Cutler

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DS*12102	*Data Sensitive Element*	Data Sensitive	G5?	S1	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*13796	*Data Sensitive Element*	Data Sensitive	G5	S1S2	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*20685	*Data Sensitive Element*	Data Sensitive	G5	S2	N	LE	1991-08-14	Data Sensitive	Data Sensitive
DS*7228	*Data Sensitive Element*	Data Sensitive	G4?T4?Q	S1	N	LE	1991-08-14	Data Sensitive	Data Sensitive
EUGECONF*6	*Eugenia confusa*	Tropical Ironwood	G4G5	S2S3	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
ILEXKRUG*17	*Ilex krugiana*	Krug's Holly	G4	S3	N	LT	1991-08-14	ROCKLAND HAMMOCK	1991: PRESENT ON SITE.
OPHIPALM*27	*Ophioglossum palmatum*	Hand Fern	G4	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
PEPEOBTU*8	*Peperomia obtusifolia*	Blunt-leaved Peperomia	G5	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK	1991: PRESENT ON SITE.
PICRPENT*1	*Picramnia pentandra*	Bitter Bush	G4G5	S1	N	LE	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE. THIS POPULATION SEEMS TO HAVE BEEN INTRODUCED HERE EARLY IN THIS CENTURY BY JOHN KUNKEL SMALL. A SMALL HAMMOCK WAS APPARENTLY PLANTED INSIDE WHAT IS NOW THE SERVICE ENTRANCE TO THE PARK. PLANTS HAVE SPREAD INTO THE NEARBY ADDISON HA
PRUNMYRT*3	*Prunus myrtifolia*	West Indian Cherry	G4	S2	N	LT	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE.
PTERBAHA*7	*Pteris bahamensis*	Bahama Brake	G4	S3	N	LT	1991-08-14	[ROCKLAND HAMMOCK.]	[1991: LISTED AT SITE.]
ROCKHAMM*64	Rockland hammock		G2	S2	N	N	1999	MATURE, DIVERSE TROPICAL HAMMOCK. PRESUMED PRISTINE(POSSIBLE HYDROLOGICAL IMPACTS?); ON EXTREMELY DISSECTED,UNUSUALLY PURE LIMESTONE;MANY TREES ON STILT ROOTS; EXPANDING INTO PINELAND. GRADES INTO MANGROVE SWAMP TO THE NE AND LIMESTONE OUTCROPS OCCUR ALO	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-02-12) (U05FNA02FLUS).

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

SUPPLEMENTAL TABLE TWO FOR
Deering Estate at Cutler

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
ROYSELAT*4	*Roystonea elata*	Florida Royal Palm	G2G3	S2	N	LE	1991-08-14	ROCKLAND HAMMOCK. HIGH CANOPY (35-45') OF BURSERA,LIVE OAK, PIGEON PLUM & STRANGLER FIG. OPEN MID- STORY AND VERY OPEN GROUND STORY. TREES GROWING OFTEN IN SOLUTION HOLES.	15 TO 20 LARGE TREES, CA 50 SEEDLINGS SEEN 5-10' HIGH.BELIEVED TO BE INTRODUCED FROM 10,000 ISLANDS. (FERGUSON MOUND?). MOSTLY ROOTED IN SOIL IN BOTTOM OF SOLUTION HOLES. REPRODUCING WELL, DESPITE SERIOUS INVASION BY EXOTICS, PARTICULARLY VINE. 1991: PRE
SWIEMAHA*11	*Swietenia mahagoni*	West Indies Mahogany	G3G4	S3	N	LT	1991-08-14	ROCKLAND HAMMOCK.	1991: LISTED AT SITE (U92LIP06FLUS).
TECTFIMB*3	*Tectaria fimbriata*	Least Halberd Fern	G4	S2	N	LE	1991-08-14	[CRESSLER (U91CRE01FL) STATES THAT THIS IS BEST EXAMPLE OF A WEST INDIAN HARDWOOD HAMMOCK COMMUNITY.]	[1991: LISTED AT SITE.] 1984: ABUNDANT, BECOMING WELL ESTABLISHED IN THE SUNNIER AREAS (CRESSLER).
VANIPHAE*1	*Vanilla phaeantha*	Leafy Vanilla	G4	S1	N	LE	1988-11-12	IN TROPICAL HARDWOOD HAMMOCK AREA OF DEERING ESTATE. CRESSLER STATES THAT THIS IS BEST EXAMPLE OF A WEST INDIAN HARDWOOD HAMMOCK COMMUNITY HE HAS SEEN. NUMEROUS SPECIES OF HARDWOOD TREES AND AT LEAST 19 SPECIES OF FERNS.	COMMON IN HAMMOCK.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 67182					
Documented					
Adiantum tenerum	Brittle Maidenhair Fern	G5	S3	N	LE
Coccothrinax argentata	Silver Palm	G4	S3	N	LT
Crossopetalum ilicifolium	Christmas Berry	G3	S3	N	LT
Eunica monima	Dingy Purplewing	G5	S1	N	N
Jacquemontia curtissii	Pineland Jacquemontia	G2	S2	N	LT
Lantana depressa var. depressa	Florida Lantana	G2T1	S1	N	LE
Pine rockland		G1	S1	N	N
Rockland hammock		G2	S2	N	N
Tantilla oolitica	Rim Rock Crowned Snake	G1G2	S1S2	N	ST
Tragia saxicola	Pineland Noseburn	G2	S2	N	LT
Documented-Historic					
Eumaeus atala	Atala	G4	S2	N	N
Galactia pinetorum	Pineland Milkpea	G2Q	S2	N	N
Ilex krugiana	Krug's Holly	G4	S3	N	LT
Phyllanthus pentaphyllus var. floridanus	Florida Five-petaled Leaf-flower	G4T2	S2	N	N
Pteris bahamensis	Bahama Brake	G4	S3	N	LT
Likely					
Argythamnia blodgettii	Blodgett's Wild-mercury	G2	S2	C	LE
Chamaesyce garberi	Garber's Spurge	G1	S1	LT	LE
Cyrtopodium punctatum	Cowhorn Orchid	G5?	S1	N	LE
Linum carteri var. carteri	Carter's Small-flowered Flax	G2T1	S1	C	LE
Mycteria americana	Wood Stork	G4	S2	LE	FE
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	SSC
Tillandsia flexuosa	Banded Wild-pine	G5	S3	N	LT
Potential					
Anemia wrightii	Wright's Anemia	G2?	S1	N	LE
Ardea herodias occidentalis	Great White Heron	G5T2	S2	N	N
Aristolochia pentandra	Marsh's Dutchman's Pipe	G4G5	S1	N	LE
Asplenium dentatum	American Toothed Spleenwort	G5	S1S2	N	LE
Asplenium x biscaynianum	Eaton's Spleenwort	GNA	S1	N	N
Basiphyllaea corallicola	Rockland Orchid	G1G3	S1	N	LE
Bourreria cassinifolia	Smooth Strongbark	G3?	S1	N	LE
Brickellia mosieri	Florida Brickell-bush	G1	S1	C	LE
Caretta caretta	Loggerhead	G3	S3	LT	FT
Chamaesyce deltoidea ssp. adhaerens	Hairy Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce deltoidea ssp. deltoidea	Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce porteriana	Porter's Broad-leaved Spurge	G2	S2	N	LE
Chelonia mydas	Green Turtle	G3	S2	LE	FE
Cochlodinella poeyana	Truncate Urocoptid	G1G2	S1S2	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Crocodylus acutus	American Crocodile	G2	S2	LT	FT
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Dalea carthagenensis var. floridana	Florida Prairie Clover	G5T1	S1	C	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

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Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	FE
Eumops floridanus	Florida bonneted bat	G1	S1	C	ST
Euphorbia pinetorum	Rockland Painted-leaf	G2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Galactia smallii	Small's Milkpea	G1Q	S1	LE	LE
Galeandra bicarinata	Two-keeled Helmet Orchid	G1	S1	N	LE
Gambusia rhizophorae	Mangrove Gambusia	G3	S3	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Govenia floridana	Sheathing Govenia	G1Q	S1	N	LE
Guaiacum sanctum	Lignum-vitae	G2	S1	N	LE
Ipomoea microdactyla	Wild Potato Morning Glory	G2	S2	N	LE
Ipomoea tenuissima	Rocklands Morning Glory	G3	S1	N	LE
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Lomariopsis kunzeana	Holly Vine Fern	G2G4	S1	N	LE
Patagioenas leucocephala	White-crowned Pigeon	G3	S3	N	ST
Peperomia obtusifolia	Blunt-leaved Peperomia	G5	S2	N	LE
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	SSC
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sachsia polycephala	Bahama Sachsia	G2	S2	N	LT
Selaginella eatonii	Eaton's Spike Moss	G2G3	S2	N	LE
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Shell mound		G2	S2	N	N
Stylosanthes calcicola	Pineland Pencil Flower	G3G4	S2	N	LE
Swietenia mahagoni	West Indies Mahogany	G3G4	S3	N	LT
Tectaria fimbriata	Least Halberd Fern	G4	S2	N	LE
Tephrosia angustissima var. corallicola	Rockland Hoary-pea	G1T1	S1	N	LE
Trichechus manatus	Manatee	G2	S2	LE	FE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 67183

Documented

Asplenium x biscaynianum	Eaton's Spleenwort	GNA	S1	N	N
Byrsonima lucida	Locustberry	G4G5	S3	N	LT
Chamaesyce garberi	Garber's Spurge	G1	S1	LT	LE
Coccothrinax argentata	Silver Palm	G4	S3	N	LT
Crossopetalum ilicifolium	Christmas Berry	G3	S3	N	LT
Dalea carthagenensis var. floridana	Florida Prairie Clover	G5T1	S1	C	LE
Eumaeus atala	Atala	G4	S2	N	N
Eupatorium villosum	Villose Fennel	G4G5	S2	N	LE
Galactia pinetorum	Pineland Milkpea	G2Q	S2	N	N
Jacquemontia curtissii	Pineland Jacquemontia	G2	S2	N	LT
Lantana depressa var. depressa	Florida Lantana	G2T1	S1	N	LE
Linum carteri var. carteri	Carter's Small-flowered Flax	G2T1	S1	C	LE

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Florida Natural Areas Inventory

Biodiversity Matrix Report

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Phyllanthus pentaphyllus var. floridanus	Florida Five-petaled Leaf-flower	G4T2	S2	N	N
Rockland hammock		G2	S2	N	N
Thelypteris reptans	Creeping Maiden Fern	G5	S2	N	LE
Tragia saxicola	Pineland Noseburn	G2	S2	N	LT
Tripsacum floridanum	Florida Gama Grass	G2	S2	N	LT
Documented-Historic					
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE
Likely					
Argythamnia blodgettii	Blodgett's Wild-mercury	G2	S2	C	LE
Asplenium dentatum	American Toothed Spleenwort	G5	S1S2	N	LE
Cyrtopodium punctatum	Cowhorn Orchid	G5?	S1	N	LE
Encyclia boothiana var. erythronioides	Dollar Orchid	G4?T4?Q	S1	N	LE
Eunica monima	Dingy Purplewing	G5	S1	N	N
Ilex krugiana	Krug's Holly	G4	S3	N	LT
Mycteria americana	Wood Stork	G4	S2	LE	FE
Peperomia obtusifolia	Blunt-leaved Peperomia	G5	S2	N	LE
Pine rockland		G1	S1	N	N
Pteris bahamensis	Bahama Brake	G4	S3	N	LT
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Tantilla oolitica	Rim Rock Crowned Snake	G1G2	S1S2	N	ST
Tectaria fimbriata	Least Halberd Fern	G4	S2	N	LE
Tillandsia flexuosa	Banded Wild-pine	G5	S3	N	LT
Potential					
Anemia wrightii	Wright's Anemia	G2?	S1	N	LE
Ardea herodias occidentalis	Great White Heron	G5T2	S2	N	N
Aristolochia pentandra	Marsh's Dutchman's Pipe	G4G5	S1	N	LE
Asplenium verecundum	Modest Spleenwort	G1	S1	N	LE
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	SSC
Basiphyllaea corallicola	Rockland Orchid	G1G3	S1	N	LE
Bourreria cassinifolia	Smooth Strongbark	G3?	S1	N	LE
Brickellia mosieri	Florida Brickell-bush	G1	S1	C	LE
Chamaesyce deltoidea ssp. adhaerens	Hairy Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce deltoidea ssp. deltoidea	Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce porteriana	Porter's Broad-leaved Spurge	G2	S2	N	LE
Cochlodinella poeyana	Truncate Urocoptid	G1G2	S1S2	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	FE
Eumops floridanus	Florida bonneted bat	G1	S1	C	ST
Euphorbia pinetorum	Rockland Painted-leaf	G2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Galactia smallii	Small's Milkpea	G1Q	S1	LE	LE
Galeandra bicarinata	Two-keeled Helmet Orchid	G1	S1	N	LE
Gambusia rhizophorae	Mangrove Gambusia	G3	S3	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE

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Florida Natural Areas Inventory

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Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Govenia floridana	Sheathing Govenia	G1Q	S1	N	LE
Guaiacum sanctum	Lignum-vitae	G2	S1	N	LE
Ipomoea microdactyla	Wild Potato Morning Glory	G2	S2	N	LE
Ipomoea tenuissima	Rocklands Morning Glory	G3	S1	N	LE
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Lomariopsis kunzeana	Holly Vine Fern	G2G4	S1	N	LE
Patagioenas leucocephala	White-crowned Pigeon	G3	S3	N	ST
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Pteroglossaspis ecristata	Giant Orchid	G2G3	S2	N	LT
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	SSC
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	SSC
Sachsia polycephala	Bahama Sachsia	G2	S2	N	LT
Selaginella eatonii	Eaton's Spike Moss	G2G3	S2	N	LE
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Shell mound		G2	S2	N	N
Stylosanthes calcicola	Pineland Pencil Flower	G3G4	S2	N	LE
Swietenia mahagoni	West Indies Mahogany	G3G4	S3	N	LT
Zephyranthes simpsonii	Redmargin Zephyrlily	G2G3	S2S3	N	LT
Matrix Unit ID: 67357					
Likely					
Argythamnia blodgettii	Blodgett's Wild-mercury	G2	S2	C	LE
Basiphyllaea corallicola	Rockland Orchid	G1G3	S1	N	LE
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Cyrtopodium punctatum	Cowhorn Orchid	G5?	S1	N	LE
Eunica monima	Dingy Purplewing	G5	S1	N	N
Mycteria americana	Wood Stork	G4	S2	LE	FE
Rockland hammock		G2	S2	N	N
Tantilla oolitica	Rim Rock Crowned Snake	G1G2	S1S2	N	ST
Tillandsia flexuosa	Banded Wild-pine	G5	S3	N	LT
Potential					
Ardea herodias occidentalis	Great White Heron	G5T2	S2	N	N
Aristolochia pentandra	Marsh's Dutchman's Pipe	G4G5	S1	N	LE
Caretta caretta	Loggerhead	G3	S3	LT	FT
Chamaesyce deltoidea ssp. adhaerens	Hairy Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce deltoidea ssp. deltoidea	Deltoid Spurge	G2T1	S1	LE	LE
Chelonia mydas	Green Turtle	G3	S2	LE	FE
Cochlodinella poeyana	Truncate Urocoptid	G1G2	S1S2	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Crocodylus acutus	American Crocodile	G2	S2	LT	FT
Dalea carthagenensis var. floridana	Florida Prairie Clover	G5T1	S1	C	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	FE

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Eumops floridanus	Florida bonneted bat	G1	S1	C	ST
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Galactia pinetorum	Pineland Milkpea	G2Q	S2	N	N
Gambusia rhizophorae	Mangrove Gambusia	G3	S3	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Jacquemontia curtissii	Pineland Jacquemontia	G2	S2	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Patagioenas leucocephala	White-crowned Pigeon	G3	S3	N	ST
Phyllanthus pentaphyllus var. floridanus	Florida Five-petaled Leaf-flower	G4T2	S2	N	N
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	SSC
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	SSC
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sachsia polycephala	Bahama Sachsia	G2	S2	N	LT
Selaginella eatonii	Eaton's Spike Moss	G2G3	S2	N	LE
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Shell mound		G2	S2	N	N
Swietenia mahagoni	West Indies Mahogany	G3G4	S3	N	LT
Tragia saxicola	Pineland Noseburn	G2	S2	N	LT
Trichechus manatus	Manatee	G2	S2	LE	FE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 67358

Documented

Amorpha herbacea var. crenulata	Crenulate Lead-plant	G4T1	S1	LE	LE
Catopsis berteroniana	Powdery Catopsis	G5?	S1	N	LE
Chamaesyce garberi	Garber's Spurge	G1	S1	LT	LE
Ctenitis sloanei	Florida Tree Fern	G5	S2	N	LE
Eugenia confusa	Tropical Ironwood	G4G5	S2S3	N	LE
Ophioglossum palmatum	Hand Fern	G4	S2	N	LE
Picramnia pentandra	Bitter Bush	G4G5	S1	N	LE
Prunus myrtifolia	West Indian Cherry	G4	S2	N	LT
Rockland hammock		G2	S2	N	N
Swietenia mahagoni	West Indies Mahogany	G3G4	S3	N	LT
Vanilla phaeantha	Leafy Vanilla	G4	S1	N	LE

Likely

Argythamnia blodgettii	Blodgett's Wild-mercury	G2	S2	C	LE
Asplenium dentatum	American Toothed Spleenwort	G5	S1S2	N	LE
Basiphyllaea corallicola	Rockland Orchid	G1G3	S1	N	LE
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Cyrtopodium punctatum	Cowhorn Orchid	G5?	S1	N	LE
Encyclia boothiana var. erythronioides	Dollar Orchid	G4?T4?Q	S1	N	LE
Eunica monima	Dingy Purplewing	G5	S1	N	N
Galactia pinetorum	Pineland Milkpea	G2Q	S2	N	N
Ilex krugiana	Krug's Holly	G4	S3	N	LT
Lantana depressa var. depressa	Florida Lantana	G2T1	S1	N	LE

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Mycteria americana	Wood Stork	G4	S2	LE	FE
Peperomia obtusifolia	Blunt-leaved Peperomia	G5	S2	N	LE
Pine rockland		G1	S1	N	N
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Pteris bahamensis	Bahama Brake	G4	S3	N	LT
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Tantilla oolitica	Rim Rock Crowned Snake	G1G2	S1S2	N	ST
Tectaria fimbriata	Least Halberd Fern	G4	S2	N	LE
Tillandsia flexuosa	Banded Wild-pine	G5	S3	N	LT
Trichechus manatus	Manatee	G2	S2	LE	FE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE
Potential					
Acrostichum aureum	Golden Leather Fern	G5	S3	N	LT
Adiantum tenerum	Brittle Maidenhair Fern	G5	S3	N	LE
Anemia wrightii	Wright's Anemia	G2?	S1	N	LE
Ardea herodias occidentalis	Great White Heron	G5T2	S2	N	N
Aristolochia pentandra	Marsh's Dutchman's Pipe	G4G5	S1	N	LE
Bourreria cassinifolia	Smooth Strongbark	G3?	S1	N	LE
Brickellia mosieri	Florida Brickell-bush	G1	S1	C	LE
Caretta caretta	Loggerhead	G3	S3	LT	FT
Chamaesyce deltoidea ssp. adhaerens	Hairy Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce deltoidea ssp. deltoidea	Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce porteriana	Porter's Broad-leaved Spurge	G2	S2	N	LE
Chelonia mydas	Green Turtle	G3	S2	LE	FE
Cochlodinella poeyana	Truncate Urocoptid	G1G2	S1S2	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Crocodylus acutus	American Crocodile	G2	S2	LT	FT
Crossopetalum ilicifolium	Christmas Berry	G3	S3	N	LT
Dalea carthagenensis var. floridana	Florida Prairie Clover	G5T1	S1	C	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	FE
Eumops floridanus	Florida bonneted bat	G1	S1	C	ST
Euphorbia pinetorum	Rockland Painted-leaf	G2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Galactia smallii	Small's Milkpea	G1Q	S1	LE	LE
Galeandra bicarinata	Two-keeled Helmet Orchid	G1	S1	N	LE
Gambusia rhizophorae	Mangrove Gambusia	G3	S3	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Govenia floridana	Sheathing Govenia	G1Q	S1	N	LE
Guaiacum sanctum	Lignum-vitae	G2	S1	N	LE
Ipomoea microdactyla	Wild Potato Morning Glory	G2	S2	N	LE
Ipomoea tenuissima	Rocklands Morning Glory	G3	S1	N	LE
Jacquemontia curtissii	Pineland Jacquemontia	G2	S2	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Lomariopsis kunzeana	Holly Vine Fern	G2G4	S1	N	LE

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Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Patagioenas leucocephala	White-crowned Pigeon	G3	S3	N	ST
Phyllanthus pentaphyllus var. floridanus	Florida Five-petaled Leaf-flower	G4T2	S2	N	N
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	SSC
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	SSC
Sachsia polycephala	Bahama Sachsia	G2	S2	N	LT
Selaginella eatonii	Eaton's Spike Moss	G2G3	S2	N	LE
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Shell mound		G2	S2	N	N
Stylosanthes calcicola	Pineland Pencil Flower	G3G4	S2	N	LE
Tephrosia angustissima var. corallicola	Rockland Hoary-pea	G1T1	S1	N	LE
Tragia saxicola	Pineland Noseburn	G2	S2	N	LT
Matrix Unit ID: 67527					
Documented					
Eunica monima	Dingy Purplewing	G5	S1	N	N
Likely					
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Mycteria americana	Wood Stork	G4	S2	LE	FE
Trichechus manatus	Manatee	G2	S2	LE	FE
Potential					
Ardea herodias occidentalis	Great White Heron	G5T2	S2	N	N
Caretta caretta	Loggerhead	G3	S3	LT	FT
Chamaesyce deltoidea ssp. adhaerens	Hairy Deltoid Spurge	G2T1	S1	LE	LE
Chamaesyce deltoidea ssp. deltoidea	Deltoid Spurge	G2T1	S1	LE	LE
Chelonia mydas	Green Turtle	G3	S2	LE	FE
Cochlodinella poeyana	Truncate Urocoptid	G1G2	S1S2	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Crocodylus acutus	American Crocodile	G2	S2	LT	FT
Dalea carthagenensis var. floridana	Florida Prairie Clover	G5T1	S1	C	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	FT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	FE
Eumops floridanus	Florida bonneted bat	G1	S1	C	ST
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Galactia pinetorum	Pineland Milkpea	G2Q	S2	N	N
Gambusia rhizophorae	Mangrove Gambusia	G3	S3	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	C	ST
Jacquemontia curtissii	Pineland Jacquemontia	G2	S2	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Patagioenas leucocephala	White-crowned Pigeon	G3	S3	N	ST
Phyllanthus pentaphyllus var. floridanus	Florida Five-petaled Leaf-flower	G4T2	S2	N	N
Pituophis melanoleucus mugitus	Florida Pine Snake	G4T3	S3	N	SSC
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Rana capito	Gopher Frog	G3	S3	N	SSC
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	SSC
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sachsia polycephala	Bahama Sachsia	G2	S2	N	LT
Selaginella eatonii	Eaton's Spike Moss	G2G3	S2	N	LE
Setophaga discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Swietenia mahagoni	West Indies Mahogany	G3G4	S3	N	LT
Tephrosia angustissima var. corallicola	Rockland Hoary-pea	G1T1	S1	N	LE
Tragia saxicola	Pineland Noseburn	G2	S2	N	LT
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

Elements and Element Occurrences

An **element** is any exemplary or rare component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature.

An **element occurrence (EO)** is an area of land and/or water in which a species or natural community is, or was, present. An EO should have practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location.

Element Ranking and Legal Status

Using a ranking system developed by NatureServe and the Natural Heritage Program Network, the Florida Natural Areas Inventory assigns two ranks for each element. The global rank is based on an element's worldwide status; the state rank is based on the status of the element in Florida. Element ranks are based on many factors, the most important ones being estimated number of Element Occurrences (EOs), estimated abundance (number of individuals for species; area for natural communities), geographic range, estimated number of adequately protected EOs, relative threat of destruction, and ecological fragility.

FNAI GLOBAL ELEMENT RANK

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2 = Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3 = Either very rare and local throughout its range (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4 = Apparently secure globally (may be rare in parts of range).
G5 = Demonstrably secure globally.
GH = Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker).
GX = Believed to be extinct throughout range.
GXC = Extirpated from the wild but still known from captivity or cultivation.
G#? = Tentative rank (e.g., G2?).
G#G# = Range of rank; insufficient data to assign specific global rank (e.g., G2G3).
G#T# = Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1).
G#Q = Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q).
G#T#Q = Same as above, but validity as subspecies or variety is questioned.
GU = Unrankable; due to a lack of information no rank or range can be assigned (e.g., GUT2).
GNA = Ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
GNR = Element not yet ranked (temporary).
GNRTNR = Neither the element nor the taxonomic subgroup has yet been ranked.

FNAI STATE ELEMENT RANK

S1 = Critically imperiled in Florida because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
S2 = Imperiled in Florida because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
S3 = Either very rare and local in Florida (21-100 occurrences or less than 10,000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
S4 = Apparently secure in Florida (may be rare in parts of range).
S5 = Demonstrably secure in Florida.
SH = Of historical occurrence in Florida, possibly extirpated, but may be rediscovered (e.g., ivory-billed woodpecker).
SX = Believed to be extirpated throughout Florida.
SU = Unrankable; due to a lack of information no rank or range can be assigned.
SNA = State ranking is not applicable because the element is not a suitable target for conservation (e.g. a hybrid species).
SNR = Element not yet ranked (temporary).

FEDERAL LEGAL STATUS

Legal status information provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant federal agency.

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
LE, PDL = Species currently listed endangered but has been proposed for delisting.
LE, PT = Species currently listed endangered but has been proposed for listing as threatened.
LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
SC = Not currently listed, but considered a "species of concern" to USFWS.

STATE LEGAL STATUS

Provided by FNAI for information only. For official definitions and lists of protected species, consult the relevant state agency.

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission, 1 August 1997, and subsequent updates.

FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
F(XN) = Federal listed as an experimental population in Florida
FT(S/A) = Federal Threatened due to similarity of appearance
ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future. (ST* for Ursus americanus floridanus (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for Neovison vison pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)
SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
N = Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
N = Not currently listed, nor currently being considered for listing.

Element Occurrence Ranking

FNAI ranks of quality of the element occurrence in terms of its viability (EORANK). Viability is estimated using a combination of factors that contribute to continued survival of the element at the location. Among these are the size of the EO, general condition of the EO at the site, and the conditions of the landscape surrounding the EO (e.g. an immediate threat to an EO by local development pressure could lower an EO rank).

A = Excellent estimated viability
A? = Possibly excellent estimated viability
AB = Excellent or good estimated viability
AC = Excellent, good, or fair estimated viability
B = Good estimated viability
B? = Possibly good estimated viability
BC = Good or fair estimated viability
BD = Good, fair, or poor estimated viability
C = Fair estimated viability
C? = Possibly fair estimated viability
CD = Fair or poor estimated viability
D = Poor estimated viability
D? = Possibly poor estimated viability
E = Verified extant (viability not assessed)
F = Failed to find
H = Historical
NR = Not ranked, a placeholder when an EO is not (yet) ranked.
U = Unrankable
X = Extirpated

*For additional detail on the above ranks see: http://www.natureserve.org/explorer/eorankguide.htm

FNAI also uses the following EO ranks:

H? = Possibly historical
F? = Possibly failed to find
X? = Possibly extirpated

The following offers further explanation of the H and X ranks as they are used by FNAI:

The rank of H is used when there is a lack of recent field information verifying the continued existence of an EO, such as (a) when an EO is based only on historical collections data; or (b) when an EO was ranked A, B, C, D, or E at one time and is later, without field survey work, considered to be possibly extirpated due to general habitat loss or degradation of the environment in the area. This definition of the H rank is dependent on an interpretation of what constitutes "recent" field information. Generally, if there is no known survey of an EO within the last 20 to 40 years, it should be assigned an H rank. While these time frames represent suggested maximum limits, the actual time period for historical EOs may vary according to the biology of the element and the specific landscape context of each occurrence (including anthropogenic alteration of the environment). Thus, an H rank may be assigned to an EO before the maximum time frames have lapsed. Occurrences that have not been surveyed for periods exceeding these time frames should not be ranked A, B, C, or D. The higher maximum limit for plants and communities (i.e., ranging from 20 to 40 years) is based upon the assumption that occurrences of these elements generally have the potential to persist at a given location for longer periods of time. This greater potential is a reflection of plant biology and community dynamics. However, landscape factors must also be considered. Thus, areas with more anthropogenic impacts on the environment (e.g., development) will be at the lower end of the range, and less-impacted areas will be at the higher end.

The rank of X is assigned to EOs for which there is documented destruction of habitat or environment, or persuasive evidence of eradication based on adequate survey (i.e., thorough or repeated survey efforts by one or more experienced observers at times and under conditions appropriate for the Element at that location).

Appendix 7. Plants listed by State or Federal Agencies as Threatened, Endangered, or Commercially Exploited on the Plant List for the Deering Estate at Cutler maintained by the Institute for Regional Conservation (date April 4-25, 2012):

Scientific Name	Presence	State	Federal
Calyptranthes zuzygium	Doubtfully Present	E	
Psychotria ligustrifolia	Doubtfully Present	E	
Acacia choriophylla	Present	E	
Acoelorraphe wrightii	Present	T	
Acrostichum aureum	Present	T	
Adiantum tenerum	Present	E	
Amorpha herbacea var. crenulata	Present	E	E
Argusia gnaphalodes	Present	E	
Argythamnia blodgettii	Present	E	
Asplenium dentatum	Present	E	
Asplenium verecundum	Present	E	
Basiphyllaea corallicola	Present	E	
Byrsonima lucida	Present	T	
Chamaesyce deltoidea	Present	E	E
Chamaesyce garberi	Present	E	T
Chamaesyce pergamena	Present	T	
Chamaesyce porteriana	Present	E	
Chaptalia albicans	Present	T	
Chrysophyllum oliviforme	Present	T	
Coccothrinax argentata	Present	T	
Cordia globosa	Present	E	
Crossopetalum ilicifolium	Present	T	
Crossopetalum rhacoma	Present	T	
Ctenitis sloanei	Present	E	
Ctenitis submarginalis	Present	E	
Cynanchum blodgettii	Present	T	
Dalbergia brownii	Present	E	
Dalea carthagenensis var. floridana	Present	E	
Drypetes diversifolia	Present	E	
Drypetes lateriflora	Present	T	
Encyclia boothiana var. erythronioides	Present	E	
Encyclia tampensis	Present	C	
Erithalis fruticosa	Present	T	
Eugenia confusa	Present	E	
Ilex krugiana	Present	T	
Ipomoea microdactyla	Present	E	
Ipomoea tenuissima	Present	E	
Jacquemontia curtisii	Present	T	
Lantana depressa	Present	E	

Scientific Name	Presence	State	Federal
Picramnia pentandra	Present	E	
Pithecellobium keyense	Present	T	
Poinsettia pinetorum	Present	E	
Polygala smallii	Present	E	E
Polystachya concreta	Present	E	
Prunus myrtifolia	Present	T	
Psidium longipes	Present	T	
Pteris bahamensis	Present	T	
Rhynchosia parvifolia	Present	T	
Roystonea regia	Present	E	
Scleria lithosperma	Present	E	
Senna mexicana var. chapmanii	Present	T	
Smilax havanensis	Present	T	
Solanum donianum	Present	T	
Spermacoce terminalis	Present	T	
Swietenia mahagoni	Present	T	
Tectaria fimbriata	Present	E	
Tetrazygia bicolor	Present	T	
Thelypteris augescens	Present	T	
Thelypteris patens	Present	E	
Thelypteris reptans	Present	E	
Thrinax radiata	Present	E	
Tillandsia balbisiana	Present	T	
Tillandsia fasciculata var. densispica	Present	E	
Tillandsia flexuosa	Present	T	
Tillandsia utriculata	Present	E	
Tournefortia hirsutissima	Present	E	
Tragia saxicola	Present	T	
Trichomanes punctatum subsp. floridanum	Present	E	
Tripsacum floridanum	Present	T	
Zamia furfuracea	Present	C	
Zamia integrifolia	Present	C	
Aristolochia pentandra	Presumed Extirpated	E	
Cyrtopodium punctatum	Presumed Extirpated	E	
Encyclia cochleata	Presumed Extirpated	E	
Epidendrum floridense	Presumed Extirpated	E	
Epidendrum nocturnum	Presumed Extirpated	E	
Epidendrum rigidum	Presumed Extirpated	E	
Hippomane mancinella	Presumed Extirpated	E	
Linum carteri	Presumed Extirpated	E	
Ophioglossum palmatum	Presumed Extirpated	E	
Passiflora pallens	Presumed Extirpated	E	
Pavonia paludicola	Presumed Extirpated	E	
Reynosia septentrionalis	Reported	T	

Appendix 8. Summary of Research and Monitoring conducted by Fairchild Tropical Botanic Garden Biologists at The Deering Estate at Cutler from 10/1/02 to present:

Contracts R-841-02 and R-808-07
Summary by Jennifer Possley, 4/5/12

2003

- Subcontracted The Institute for Regional Conservation to meet Fairchild and County biologists on site, teach rare plant identification, show rare plant locations, and discuss management.
- Developed a vegetation monitoring program for the rehydration of Cutler Creek, conducted a pilot study, and completed data collection.
- Took long-term photopoints at several Cutler Creek locations.
- Installed temperature/RH monitoring loggers along Cutler Creek.

2004

- Monitored and/or mapped and/or counted rare plants *Asplenium dentatum, Dalea carthagenensis floridana, Basiphyllaea corallicola, Desmodium floridanum, Polygala smallii, Chamaesyce garberi, Thelypteris patens, Tridens flavus, Zornia bracteata.*
- Collected seed of *Tridens flavus* for propagation.
- Found and removed an incipient invasion of *Lygodium microphyllum*, a.k.a. Old World Climbing fern.

2005

- Donated *Tridens flavus* for planting outside the visitor center.
- Collected additional *Tridens flavus* seed.
- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Thelypteris patens, Zornia bracteata.*
- Installed ground-water level logging device and began collecting data.

2006

- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Polygala smallii, Amorpha herbacea* var*. crenulata, Zornia bracteata, Thelypteris patens.*
- Sampled vegetation along Cutler Creek over one week.
- Took long-term photopoints at several Cutler Creek locations.
- Collected 3 pods from very rare *Basiphyllaea corallicola*, sent to experts for propagation.
- Captured 2 red-tailed boa constrictors.
- Donated 50 *Tridens flavus* for planting along 72nd Avenue.
- Donated 54 *Amorpha herbacea* var. *crenulata* for planting outside the visitor center.

2007

- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Amorpha herbacea var. crenulata, Polygala smallii, Chamaesyce garberi, Thelypteris patens.*
- Vouchered a new critically imperiled plant for Deering: *Fimbristylis caroliniana.*
- Installed a new type of temperature and humidity logger along Cutler Creek.
- Took 360-degree photopoints before and after hardwood thinning.

2008

- Found endangered fern *Ctenitis submarginalis*, which had not been verified here since 1992.
- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Amorpha herbacea* var*. crenulata, Polygala smallii, Chamaesyce deltoidea.*

2009

- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Amorpha herbacea var. crenulata, Polygala smallii, Polystachya concreta.*
- Collected data on the light availability at each *Amorpha* outplant for a study of outplant survivorship.
- Sampled vegetation along Cutler Creek over one week.
- Took long-term photopoints at several Cutler Creek locations.

2010

- Helped to organize a morning for preserve managers to learn to identify and remove Asian sword fern from the hammock.
- Organized two additional mornings for volunteers and NAM crew to remove Asian sword fern, this time concentrating on an infestation in the pineland.
- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Amorpha herbacea var. crenulata, Polygala smallii.*

2011

- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Basiphyllaea corallicola, Amorpha herbacea* var*. crenulata, Thelypteris patens, Polygala smallii, Ctenitis submarginalis, Ipomoea microdactyla, Ipomoea tenuissima.*
- Nominated a Krug's holly to be a national champion tree.
- Set up 10 permanent transects and collected intensive data from pineland vegetation as part of a pine rockland monitoring study.
- Documented invasive orchid *Eulophia graminea* in the pineland.

2012

- Monitored and/or mapped and/or counted rare plants *Dalea carthagenensis floridana, Thelypteris patens, Polygala smallii.*
- Collected fertile fronds from the last remaining *Thelypteris patens* in the park, sent to experts for propagation and long-term storage.
- Removed ~20 *Eulophia graminea* from the pineland.

Note: For all of the above, we downloaded, entered and summarized data, updated GIS maps, wrote reports, and shared results with County biologists regularly through emails and through written annual reports.

Appendix 9. (excerpts from)The Deering Estate at Cutler Conservation Maintenance Plan, July-August 2011:

Deering Estate at Cutler

Deering Estate at Cutler

Maintenance Plan

Basic Information-

This maintenance plan is a holistic approach designed to incorporate all the elements involved in preserving and maintaining an invaluable historic resource. Each structure on the Estate should have a designated maintenance plan.

Maintenance is essential to historic properties; they require frequent oversight and monitoring to protect the historic fabric. When an historic structure is maintained properly, less historic fabric is lost when compared to large, arduous repairs. It is much less expensive to repair minor issues than larger issues that stem from minor issues.

There are three typical types of maintenance:

- Scheduled maintenance which is work that is predictable and must be accomplished to protect the structure.
- Corrective maintenance is work that is necessary to complete in order to preserve the structure.
- Emergency corrective maintenance is work that is introduced after an emergency and must be completed to keep the structure safe and secure.

There are three essential portions to a maintenance plan. The following three items are the most important, although additional information about the structure could be beneficial: maintenance log, scheduled maintenance list, and inspection sheets for each building element.

Having a maintenance log is vital to preserving an historic structure. A log contains information such as:

- All maintenance work (even the most minor repair) completed with a description;
- Date of the work;
- Cost;
- Contractor or person responsible;
- Warranties; and
- Specified products used in the restoration (paint samples, types of varnish and glass, amongst others).

Deering Estate at Cutler	2011

A list of scheduled maintenance informs maintenance personnel what building elements need to be inspected and when. Each building element has a separate life span and deterioration rate and should be inspected for functionality.

Each building element requires a separate inspection sheet to evaluate and record the status. These inspection sheets are vital and should be filled out properly and completely.

Long term records provide a history of a building, repairs, maintenance, and renovations speak to the unique characteristics of a building and help inform management decisions.

Building maintenance and repair logs should be labeled by month/year and archived indefinitely.

Glossary of Terms-

- Fascia Board- A horizontal board attached to the end of the rafters.
- Soffit- horizontal board that fills the gap between the exterior wall and the fascia board.
- Spalling- when stucco or concrete break into pieces or fragments.

* All work should adhere to the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Deering Estate at Cutler | 2011

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Appendix 10. Miami-Dade County Natural Areas Management Plan:

MIAMI-DADE COUNTY

NATURAL AREAS MANAGEMENT PLAN

Miami-Dade County Natural Areas Management Working Group

Department of Environmental Resources Management (DERM)
Technical Report Number 2004-1

The Institute for
Regional Conservation

MIAMI-DADE COUNTY
NATURAL AREAS MANAGEMENT PLAN

Miami-Dade County Natural Areas Management Working Group

Department of Environmental Resources Management (DERM),
Technical Report Number 2004-1

September 2004

Cite as: Miami-Dade County Natural Areas Management Working Group. 2004. Miami-Dade County Habitat Management Plan. Department of Environmental Resources Management (DERM) Technical Report No. 2004-1.

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Contents

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Formal reviews were conducted by land managers from neighboring agencies, including Roger Clark, Land Stewardship Manager for Lee County Parks and Recreation; Carol Morgenstern, Natural Areas Manager for Broward County Parks and Recreation; Frank Griffiths, Environmental Program Supervisor for Palm Beach County Environmental Resource Management, and members of the Pine Rockland Working Group.

Agency abbreviations:

DERM = Department of Environmental Resources Management, Miami-Dade County
EEL = Environmentally Endangered Lands program, Miami-Dade County (part of the Department of Environmental Resources Management)
FTBG = Fairchild Tropical Botanic Garden
IRC = The Institute for Regional Conservation
NAM = Natural Areas Management, Miami-Dade County (part of the Park and Recreation Department)

Introduction

The Miami-Dade County Natural Areas Management Working Group created the Miami-Dade County Natural Areas Management Plan in 2003 and 2004 to guide management and restoration practices in Miami-Dade County over the next decades.

We have created this document with the intention that it will be used in Miami-Dade County, but it has some applicability throughout southern Florida. Land management agencies, such as other county and local governments can use this document in planning management activities in natural areas. It is also a useful tool for private landowners who manage natural areas.

These guidelines are intended to be general enough for application to a wide range of habitats. In the section entitled "All Natural Areas," general goals, objectives and actions that apply to all of the subsequent habitat types are described. Specific goals, objectives and actions unique to a particular habitat follow in the separate habitat sections (described below). Actions listed in this plan will not always apply in the same way to all sites. Therefore, site managers should develop and implement actions recommended in this plan on a per-site basis.

In most cases, we used nomenclature for habitat (community) types described by the Florida Natural Areas Inventory (FNAI and FDNR 1990), with short descriptions taken from the 1999 tracking list (Marois 1999). Those habitats marked with asterisks are not recognized by FNAI. Habitats addressed here include:

- **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.
- **Scrubby Flatwoods** - Flatland with sand substrate; xeric-mesic; subtropical or temperate; occasional fire; longleaf pine or slash pine with scrub oaks and wiregrass understory.
- **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 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 tropical hardwoods and/or live oak.

- **Wetlands** - Includes communities from palustrine, lacustrine, and marine/estuarine subgroupings described by FNAI (FNAI and FDNR 1990).
    - **Bayhead*** - Wetland with peat substrate; usually saturated and occasionally inundated; subtropical; rare or no fire; bays and/or dahoon holly, cocoplum, wax myrtle, and other hardwoods (description from IRC 2001).
    - **Dome Swamp** - Rounded depression in sand/limestone substrate with peat accumulating toward center; seasonally inundated, still water; subtropical or temperate; occasional or rare fire; pond cypress, and/or blackgum, and bays, often tallest in center.
    - **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 (but see Historic Transverse Glades, below).
    - **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.
    - **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.
    - **Freshwater Tidal Swamp** - Rivermouth 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.

- **Historic Transverse Glades*** - We deviated from the FNAI classification of "Marl Prairie;" opting instead for the term "Historic Transverse Glades" as a subset of south Florida Marl Prairies that intersect uplands in Miami-Dade County. In doing so, we underscore that this community is extremely rare, and that hydrologic alterations have eliminated any undisturbed transverse glades outside of Everglades National Park -- a fact that restoration efforts must acknowledge.

- **Ecotones*** - We have added a separate section for ecotones, because their management creates unique problems, which we have tried to address.

As progress is made toward restoring and managing the seven habitat types, these plans will undoubtedly need to be modified. Therefore, this working document will be periodically revised.

All Natural Areas

GOAL 1: Restore and maintain habitat structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

ALL.1.1. Control and/or extirpate populations of invasive plants and exotic and nuisance animals.

- Eliminate, to the extent possible, invasive pest plants and exotic animals from natural areas, including outlying populations.
- Ensure that control measures are not deleterious to native species.
- Continue to review and update invasive species management techniques.
- Conduct routine surveys to detect new infestations and new species.
- Evaluate effectiveness of different treatment techniques and treatment intervals on invasive plants.
- Identify disproportionately large populations of native wildlife and eliminate human activities such as feeding that increase populations.
- Manage refuse in parks and neighboring areas so that it is not available for consumption by wildlife.

ALL.1.2. Maintain or restore the viability of rare and endemic species consistent with the preservation and restoration of the habitat.

- Prioritize and monitor existing rare plant and animal species.
- Maintain GIS records of all known rare plant locations and distribute to land managers to make crews aware of plants to protect.
- Conduct management activities such as invasive plant removal, fence construction, etc., away from rare plants when possible. When such actions cannot be prevented, consider alternatives to minimize the impacts to rare species.
- Reintroduce populations of extirpated species, and augment existing populations where appropriate.
- For federally listed species, use USFWS Recovery Plans as guides.

ALL 1.3. Assess the role of fire in natural areas and the use of prescribed fire for maintenance and restoration.

- Execute a Memorandum of Understanding with Everglades National Park for assistance with prescribed burning.

ALL.1.4. Protect habitats from point and non-point source pollution.

- Coordinate with Miami-Dade County Public Works, Mosquito Control District to reduce or eliminate spraying for mosquitoes on and adjacent to natural areas.

- Reduce or eliminate drifting pesticide spray and dust from agricultural and commercial operations.
- Buffer natural areas from adjacent pollution sources by retaining existing vegetation or planting native vegetation that is appropriate to the habitat.
- Prevent dumping of pollutants such as automotive oil, paint and pesticide containers, home chemicals, roofing and construction materials, landscape debris, automobile parts, trash, and contaminated stormwater.
- Encourage the use of non-toxic bullets in areas that allow hunting.

ALL.1.5. Increase size, connectivity, and diversity of natural areas.

- Complete acquisitions in Miami-Dade County under the Environmentally Endangered Lands Program.
- Remove roads that fragment natural areas, except as they are needed for firebreaks or maintenance access.
- Recreate natural areas where they have been destroyed by human activities.
- Restore to the most practical natural habitat those areas that have suffered such extreme degradation that re-creation of the original plant community is either impossible or impractical.
- Use disturbed areas to create additional habitats adjacent to or within intact natural areas.
- Promote site-appropriate native landscaping in developed areas around a site to increase habitat area.

ALL.1.6. Restore historic hydrological conditions by rehydrating areas with quality water, thereby increasing availability of water for species requiring more mesic or hydric conditions.

- Identify preserves that will be appropriate for hydrologic restoration.
- Pursue collaborations with researchers to address hydrological questions.
- Pump water in, dike, install wells, etc., to approximate historic, predrainage hydrology.
- Work with water agencies to maintain the water table as high as possible, and water quality as high as possible.
- Monitor soil moisture before and after hydrologic restoration.
- Reconnect natural areas with water sources where possible as an alternative to full-scale hydrologic restoration.

ALL.1.7. Develop plans to respond to disasters such as hurricanes, tornadoes, catastrophic fires, major pest outbreaks, etc.

- For natural disasters, coordinate with the Emergency Operations Center's command team through the assigned County staff members.
- For catastrophic fires, coordinate with the pre-determined incident command team (F-DOF, M-D Fire Rescue, ENP, Parks, DERM, etc.)
- For major pest outbreaks, coordinate with other concerned agencies and research facilities such as UF-IFAS.
- Develop disaster-response site plans and keep them in multiple, easily accessible locations. Plans should include maps (vegetation types, rare species, property surveys),

site inventories, emergency signage, and contact information for project managers.
- Prioritize recovery tasks on a per-site basis, including clearing of fire breaks, identifying and treating populations of invasive plants that are likely to spread quickly, and identifying areas where wildfire risk is heightened.
- Continue to monitor updates of the Miami-Dade County Emergency Operations Center disaster response plans to ensure that staging areas for recovery efforts are not located in environmentally sensitive sites.

ALL.1.8. Review and update knowledge about restoration and management.
- Review pertinent literature on historic information, recent scientific studies, and natural history.
- Use current techniques to gather new information on canopy cover, seed bank, pollen, appropriate times to treat invasive plants, plant/animal interactions (dispersal, pollination), etc.
- Coordinate restoration and management with site-specific management objectives.

GOAL 2: Increase public awareness and provide appropriate and compatible public access while protecting natural areas from adverse human impacts.

OBJECTIVES AND RECOMMENDED ACTIONS:

ALL.2.1. Increase public awareness and engender public support for protecting and preserving natural areas.
- Continue and expand efforts to educate the public through means such as Adopt-a-Natural Area Program, the Environmentally Endangered Lands Program, and the Natural Areas Management website.
- Create, display, and distribute promotional and educational materials about Miami-Dade County's natural areas, their plant and animal residents, and their invaluable community benefits.
- Update educational materials and websites periodically.
- Provide information to the communications department that will increase support for natural areas management and inspire public action.
- Promote incorporation of natural areas information into the curriculum of Miami-Dade Public Schools by providing links to science standards.
- Recommend new, compatible public education programs to focus on the natural history of natural areas.
- Coordinate natural areas management with public education and Eco-Tourism programs to encourage interaction, cross-training, and joint meetings.
- Publish promotional information about natural areas in the media.

ALL.2.2. Develop and implement public use plans for all natural areas.
- Identify site-specific opportunities for compatible public use and access.

- Determine public use capacity for individual parks or sites within parks.
- Develop a specific master site plan for each natural area.
- Develop a public use compatibility permit system.
- Develop standards for the type of facilities and materials to be used when developing public use facilities in preserves. Examples include composting toilets, use of recycled lumber for boardwalks, energy saving materials, water conserving fixtures, use of firewise construction and materials, and permeable asphalt.

ALL.2.3. Protect natural areas from inappropriate public use such as dumping, release of invasive plant and animal species (including feral and domesticated pets), poaching of native plant and animal species, off-road vehicles (ORVs), campfires, paintball games, and other unauthorized uses.

- Establish signs to identify environmentally protected areas, designate areas for public access, and to discourage inappropriate public use.
- Provide public access through a clearly identified trail system, where appropriate.
- Institute appropriate access control measures such as fences and gates, where appropriate; monitor and repair as needed.
- Ensure that existing rules and regulations concerning the protection of natural resources are enforced. Project managers are responsible for identifying situations where illegal public use is occurring.
- Continue coordinating with Miami-Dade Police Department's Environmental Crimes Unit to monitor natural areas.

GOAL 3: Increase effectiveness of natural areas management by periodically reviewing and revising/updating management plans, monitoring results, evaluating techniques, and training staff.

OBJECTIVES AND RECOMMENDED ACTIONS:

ALL.3.1. Develop and periodically revise site and habitat management plans.

- Develop management plans, fire management plans and monitoring plans for all natural areas.
- Establish a protocol and schedule for reviewing and updating site, habitat, and fire management plans.
- Review and update management plans every 5 years, at minimum.

ALL.3.2. Maintain a long-term biological monitoring program.

- Make regular site visits according to the monitoring plans.
- Develop a standard form for use in conducting site visits and recording observations.
- Biologists should regularly visit sites where crews are working to discuss management techniques, priorities, plant identification, rare species protection, etc.
- Conduct rare species surveys prior to implementation of management activities.
- Collect appropriate baseline data useful in detecting habitat changes over time,

including species inventories, vegetation mapping, etc.
- Develop appropriate monitoring protocols for individual projects.
- Monitor results of general management practices to detect positive response or off-target damage.
- Prioritize rare/indicator species and monitor at least annually by mapping, counting, sampling, conducting demographic studies, or a combination of these methods.
- Analyze monitoring data and summarize results in an annual report.
- Use results to evaluate and refine management methods.
- Encourage relationships with outside researchers for monitoring pests, insects, reptiles, amphibians, fishes, birds, and mammals, as an indicator of pollution and general ecosystem health.

ALL.3.3. Maximize efficiency and cost effectiveness of management activities on County natural areas.
- Establish quantifiable target objectives for management activities (e.g., set thresholds for invasive plant cover, target species priorities, and optimal timing of treatment).
- Develop scope-of-work and budgets for projects.
- Organize management actions to coordinate personnel, maximize biological effectiveness, account for seasonal/ecological factors, and meet budget and schedule requirements.
- Keep accurate records of management actions, labor, materials, equipment use, and costs.
- Monitor biological conditions and compare with target objectives, budgets, and schedules.
- Analyze and summarize the cost and ecological effectiveness of management activities.
- Utilize past records when planning new projects.

ALL.3.4. Improve effectiveness of natural areas management through staff training.
- Provide training and appropriate identification materials to staff for rare native plant and animal species, invasive plants, and exotic animals.
- Provide a mechanism for documenting and reporting on new populations of species of interest.
- Encourage staff participation in technical training, workshops, and conferences.
- Encourage certification or licensure of staff involved with prescribed burning (FDOF), arboriculture (ISA), and natural areas weed control (FDACS, Pesticide certification section).
- Require exotic plant control contractors to be licensed in the natural areas weed category by FDACS.
- Ensure that institutional knowledge is maintained through documentation and dissemination of key information.

ALL.3.5. Ensure that long-term interagency coordination is maintained, and encourage the sharing of maps, data, and literature (see **Appendix** for relevant agencies).

- Execute appropriate interagency agreements to solidify essential natural areas restoration components such as fire management, reforestation, invasive plant and animal control, and research.
- Maintain communication network with land managing agencies in adjacent counties.
- Publish technical information about natural areas management in journals.
- Give presentations at relevant conferences.
- Encourage staff participation in professional societies and interagency committees.

GOAL 4: Develop best management practices for habitats consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

ALL.4.1. Minimize habitat loss and damage from development and/or maintenance of trails, buildings, sewer lines, etc.

- Ensure that the construction of sewer lines, buildings, and roads minimizes impacts to natural areas, and that impacts are mitigated.
- Establish procedures for maintaining trails and firebreaks in natural areas that minimize impact.

ALL.4.2. Protect the integrity of natural areas in the layout, design, and management of development projects adjacent to natural areas.

- Minimize potential impacts at the interface between natural areas and developed landscapes, such as creeping sod grasses, polluted runoff, alterations in drainage and elevation, creation of fire hazards, dispersal of invasive plant propagules, litter and trash dumping.
- Revise zoning codes to protect natural areas from adverse impacts from development.
- Ensure that management practices on public property account for the protection of natural areas.
- Designate management zones around existing natural areas to identify potential management concerns, such as smoke dispersion, wild and domestic animals, invasive plants, dumping, and inappropriate use.
- Notify developers during the planning process when planned developments are in a management zone to ensure that management activities can continue once the area is developed.
- Develop procedures to address concerns within management zones in existing developed areas.

ALL.4.3. Ensure that restoration and monitoring practices in natural areas minimize deleterious off-target effects to native plant and animal species.

- Use herbicide application methods such as spot-treatment whenever possible to reduce non-target impacts.
- Limit herbicide application to known, identifiable targets.

- Select herbicides that are safe, effective, have minimal impacts to non-target species, have minimal soil persistence, and degrade rapidly.
- Provide maps of rare species locations to project managers and crew supervisors.
- Combine rare species monitoring with invasive species control to minimize impact on rare species.
- Conserve rare species microhabitats when conducting restoration activities in natural areas.
- Plan timing of restoration activities to avoid impact on rare species during critical life history phases.
- Develop procedures for staff use of ORVs to minimize impact to sensitive areas.

ALL.4.4. Avoid or remove invasive species propagules to prevent new infestations and the spread of existing invasive species.

- Inform outside agencies of protocols to prevent the spread of invasive species and require that outside agencies working in natural areas adhere to them.
- Coordinate with the Florida Department of Transportation, FPL, Public Works, SFWMD, etc., to eliminate dumping and maintain easements free of invasive plants.
- Minimize soil disturbance in natural areas when conducting restoration activities.
- Before ground-disturbing activities begin, inventory and prioritize treatment of invasive species.
- Expand invasive plant control activities to include areas outside of natural areas, including nature centers, administrative grounds, and parking lots.
- Plan staging areas and access routes to avoid heavy infestation areas, and begin invasive species control in lightly infested areas prior to heavily infested areas.
- Remove mud, dirt, and plant parts from equipment before moving it into a project area.
- Avoid driving and walking through sites infested with invasive species, most notably *Lygodium microphyllum* (Old World climbing fern, small-leaf climbing fern). If these activities must occur, then staff should wear appropriate work clothing.
- Keep equipment used on sites contaminated with *L. microphyllum* and other species with highly mobile propagules separate from "clean" equipment.
- Consider developing a wash station area at sites infested with *L. microphyllum.*
- Crews need to inspect, remove, and properly dispose of invasive plant seed and plant parts found on their clothing and equipment, after being trained to recognize the priority species in the area.
- Proper disposal of invasive species propagules should be assessed to prevent contamination.

ALL.4.5. Prevent the introduction and spread of invasive plants caused by moving infested mulch, sand, gravel, borrow, and fill material.

- Inspect and document in the first year after project completion the areas where materials are used to ensure that any invasive plants transported to the site are promptly detected and controlled.
- Maintain stockpiled material in an invasive plant-free condition, in a configuration conducive to mowing and maintenance.

ALL.4.6. Where project disturbance creates bare ground, develop restoration protocols for the appropriate plant community.

- Monitor and document all ground-disturbing operations for invasive plants. Incorporate disturbed areas into ongoing restoration.
- Develop guidelines and protocols for the establishment of native plants and influx of native plant propagules in areas to be restored.
- Treat disturbed soil in a manner that facilitates the establishment of the appropriate plant community.
- Use local native material where appropriate and feasible.

ALL.4.7. Protect geologic, pre-historic, archaeological, and historic sites within all management areas.

- Obtain a certificate of appropriateness when performing substrate disturbance, including digging.
- Maintain GIS records of all known geologic, pre-historic, archaeological, and historic sites, and distribute to land managers and crew leaders to ensure protection of these sites.
- Direct work crews to not disturb archaeological material.
- Evaluate public impact to geologic, pre-historic, archaeological, and historic sites, and modify public use, if appropriate.

Pine Rockland

GOAL 1: Restore and maintain pine rockland structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

PR.1.1. Establish the appropriate fire regime for pine rocklands, using prescribed fire in conjunction with other appropriate techniques.

- Conduct prescribed burning to approximate natural fire regimes, as closely as possible.
- Utilize site preparation and firing techniques that are safe and will reduce negative impacts to the public, staff, and property.
- Conduct pre- and post-burn monitoring to assess fire effects.
- Establish and utilize a procedure to evaluate the prescribed burn (e.g. fire behavior, smoke dispersion, safety, public response) and assess whether objectives set in the prescription were met.

PR.1.2. Establish or restore the appropriate canopy and understory structure in pine rocklands.

- Maintain a supply of genetically appropriate pine seed for use in restoration following a catastrophic event (e.g. hurricane, pest outbreak).
- Collect seed using methods that minimize damage to trees and pine rockland habitat.
- Use restoration strategies that will achieve uneven-aged forest structure with varying densities and age distributions of pine trees.
- When necessary, modify the understory (e.g., saw palmetto, native hardwoods, vines, etc.) to restore historic structure, to expand potential habitat for herbs and forbs, and/or to improve smoke management.

GOAL 2: Develop best management practices for pine rocklands consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

PR.2.1. Ensure that restoration and monitoring practices in pine rocklands minimize deleterious off-target effects to native plant and animal species.

- Schedule and conduct prescribed burns to avoid negative long-term impact on rare species during critical life history phases.
- Divide sites into multiple burn units to minimize impacts to native animals.
- Consider relocating rare species such as epiphytes and *Liguus* tree snails when critical populations may be harmed by fire.
- Prior to burns, reduce fuel through hardwood thinning and spot-treatment with

herbicides, followed by removal of such material from the site, to reduce fire intensity and smoke, and minimize mortality of rare species.

PR.2.2. Minimize habitat loss and damage from development of trails, buildings, sewer lines, etc.

- Ensure that construction of trails minimizes impacts to pine rocklands and that trails double as fire breaks.
- Manage trails and fire breaks as habitat for low, herbaceous species.

PR.2.3. Protect the integrity of natural areas in the layout, design, and implementation of development projects adjacent to pine rocklands.

- Ensure that projects account for fire management needs of pine rockland sites.
- Encourage the use of local native plant material in sites adjacent to natural areas. Use species beneficial to pine rocklands such as *Pinus elliottii* var. *densa* (seed source), appropriate wildlife attractors, ecotonal species, etc.

Rockland Hammock

GOAL 1: Restore and maintain rockland hammock structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

RH.1.1. Maintain hammocks free of critical invasive plant species to facilitate recovery from natural catastrophic events.

- Identify, categorize, and prioritize the critical invasive species that impact rockland hammocks.
- Cooperate with neighboring landowners to reduce critical invasive plants adjacent to rockland hammocks.
- Reduce critical invasive plants from hammock edges.
- Reduce disturbance at hammock edges.
- Reduce influx of propagules from invasive plants.

RH.1.2. Establish and restore the appropriate canopy, edge, and understory structure in rockland hammocks.

- Investigate vegetation management techniques that will mimic natural hammock ecotones and act to increase humidity, reduce wind, and provide habitat for edge and gap species.
- Facilitate the regeneration of appropriate native species in hammock gaps where natural revegetation is short-circuited by exotic vine invasion.
- Conduct staged removals of invasive plants in order to maintain shade and protect rare plant species that would be negatively affected by high intensity light (e.g., ferns).
- In areas dominated by invasive species with few or no native plants, conduct staged removals of invasive plants to reduce a flush of invasive species recruitment.

GOAL 2: Develop best management practices for rockland hammocks consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS

RH.2.1. Ensure that restoration and monitoring practices in rockland hammocks minimize deleterious off-target effects to native plant and animal species.

- Minimize use of herbicides containing triclopyr (e.g. Garlon) in the proximity of native *Ficus* species, as they may be severely impacted or killed.
- Avoid piling vegetative debris on top of native rockland hammock vegetation or in sinkholes when conducting invasive species control.

- Consider relocating rare species such as epiphytes, ferns, and *Liguus* tree snails when critical populations may be harmed by restoration activities.
- In areas where many species of plants grow together and overlap (e.g., vines), crews should take extra precautions to only treat known, identifiable targets.
- Restrict herbicide use within vicinity of sinkholes.
- Minimize trampling rare plants, surface roots, and rock formations when conducting restoration activities in rockland hammocks.

Pg. 15 - Rockland Hammocks

Historic Transverse Glade

GOAL 1: Restore and maintain to the extent practicable transverse glade structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

HTG.1.1. Establish the appropriate fire regime for historic transverse glades, using prescribed fire in conjunction with other appropriate techniques.

- Conduct prescribed burning to approximate natural fire regimes.
- Utilize site preparation and firing techniques that are safe and will reduce negative impacts to public, staff, and property.
- Conduct pre- and post-burn monitoring to assess fire effects.
- Establish and utilize a procedure to evaluate the prescribed burn (e.g. fire behavior, smoke dispersion, safety, public response) and assess whether objectives set in the prescription were met.
- Due to the extreme rarity of historic transverse glades, do not establish new firebreaks within them.

HTG.1.2. Rehydrate historic transverse glades to restore historic hydrology, increasing availability of water for species requiring more mesic or hydric conditions.

- Increase quality water availability.
- Implement physical improvements to increase water availability such as weir installation, canal plugging, and pumping.

HTG.1.3. Establish or restore the appropriate vegetative structure and composition in historic transverse glades.

- Use restoration strategies that limit the development of canopy.
- When necessary, modify the understory (native pines, hardwoods, vines, etc.) to restore historical structure, to expand potential habitat for herbs and forbs, and/or to improve smoke management.
- Identify relict plant species that are specific to the transverse glade habitat.
- Consider conducting experimental outplantings of transverse glade plant species into restored marl prairies.
- Survey for rare transverse glade plant species in areas of appropriate habitat.
- Consider reintroducing extirpated transverse glade plant species.

GOAL 2: Develop best management practices for historic transverse glades consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

HTG.2.1. Ensure that restoration and monitoring practices in historic transverse glades minimize deleterious off-target effects on native plant and animal species.

- Schedule and conduct prescribed burns to avoid negative long-term impact on rare species during critical life history phases.
- Manage transverse glade sites as multiple burn units through the use of wetlines and other non-invasive methods.
- Avoid establishing crew trails that can change local water flow and hydrology.
- Avoid transfer of exotic organisms in water inputs.

HTG.2.2. Prevent habitat loss and damage to historic transverse glades from development.

- Utilize existing roads and footpaths to develop low-impact interpretive opportunities.
- Due to their rarity, development within historic transverse glade areas should be minimized.

HTG.2.3. Protect the integrity of historic transverse glades in the layout, design, and implementation of adjacent development projects.

- Ensure that projects account for hydrological and fire management needs of historic transverse glades.

Scrubby Flatwoods

GOAL 1: Restore and maintain scrubby flatwoods structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

SF.1.1. Establish the appropriate fire regime for scrubby flatwoods, using prescribed fire in conjunction with other appropriate techniques.

- Conduct prescribed burning to approximate natural fire regimes.
- Utilize site preparation and firing techniques that are safe and will reduce negative impacts to the public, staff, and property.
- Conduct pre- and post-burn monitoring to assess fire effects.
- Establish and utilize a procedure to evaluate the prescribed burn (e.g. fire behavior, smoke dispersion, safety, public response) and assess whether the objectives set in the prescription were met.

SF.1.2. Establish or restore the appropriate canopy and understory structure in scrubby flatwoods.

- Use restoration strategies that will achieve uneven-aged canopy structure with varying densities and age distributions of trees.
- When necessary, modify understory (native hardwoods, vines, etc.) to restore historical structure, to expand potential habitat for herbs and forbs, and/or to improve smoke management.

GOAL 2: Develop best management practices for scrubby flatwoods consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

SF.2.1. Ensure that restoration and monitoring practices in scrubby flatwoods minimize deleterious off-target effects to native plant and animal species.

- Schedule and conduct prescribed burns to avoid negative long-term impact on rare species during critical life history phases.
- Divide sites into multiple burn units and conduct experimental prescribed fires to determine the plant community response.
- Consider relocating rare species such as bromeliads when critical populations may be harmed by fire or pest outbreak.
- Reduce and remove fuel through hardwood thinning and spot-treatment with herbicides prior to burns to reduce fire intensity and smoke, and minimize mortality of rare species.

SF.2.2. Minimize habitat loss and damage from development of trails, buildings, sewer lines, etc.

- Ensure that construction of trails minimizes impacts to scrubby flatwoods and that trails double as fire control lines.
- Manage trails and fire breaks as habitat for low, herbaceous species.

SF.2.3. Protect the integrity of natural areas in the layout, design, and implementation of development projects adjacent to scrubby flatwoods.

- Due to the fact that scrubby flatwoods burn with high intensity, ensure that development projects account for fire management needs of scrubby flatwood sites.
- Encourage the use of local native plant material in sites adjacent to natural areas, using species beneficial to scrubby flatwoods.
- Discourage the use of flammable plant material in landscaping adjacent to scrubby flatwoods.

Coastal Uplands

(Includes: Beach Dune, Coastal Berm, Coastal Strand and Maritime Hammock)

GOAL 1: Restore and maintain coastal uplands structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

CU.1.1. Establish the appropriate fire regime for fire-dependent coastal upland communities such as coastal strand and dune, using prescribed fire in conjunction with other appropriate techniques.

- Conduct prescribed burning to approximate natural fire regimes.
- Utilize site preparation and firing techniques that are safe and will reduce negative impacts to the public, staff, and property.
- Conduct pre- and post-burn monitoring to assess fire effects.
- Establish and utilize a procedure to evaluate the prescribed burn (e.g. fire behavior, smoke dispersion, safety, public response) and assess whether objectives set in the prescription were met.

CU.1.2. Establish or restore the appropriate canopy, understory structure, and topography in coastal uplands, or re-establish after disturbance from storms, etc.

- For coastal strand sites, use restoration strategies that will achieve a diverse landscape with patches of open sand, *Serenoa repens* (saw palmetto), and scattered hardwood shrubs.
- Manage coastal strand sites to restore historical topography and ecosystem structure, and to expand potential habitat for herbs and forbs. When necessary, remove native species that are not consistent with the historic vegetation structure.
- Restore the appropriate canopy, understory structure, and topography in coastal uplands after storms, when determined necessary.
- Evaluate the impacts of wrack-line deposition on plant species and remove portions, if necessary.

GOAL 2: Develop best management practices for coastal uplands consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

CU.2.1. Ensure that restoration and monitoring practices in coastal uplands minimize deleterious off-target effects to native plant and animal species.

- When removing invasive plants, minimize piling of plant debris to reduce

concentrations of nutrients in low-nutrient system, coastal strand and dune.

- Conduct experimental prescribed burns to determine the role of fire in the life history of rare plants in coastal uplands.
- Consider relocating rare species when critical populations may be harmed by fire.
- Conduct experimental removal of trees and shrubs to promote the growth of fire-adapted plants.

CU.2.2. Minimize habitat loss and damage from development of trails, buildings, sewer lines, etc.

- Ensure that construction of trails minimizes impacts to coastal uplands and that trails double as fire breaks.
- Manage trails and fire breaks as habitat for low, herbaceous species.

CU.2.3. Protect the integrity of natural areas in the layout, design, and implementation of development projects adjacent to coastal uplands.

- Ensure that projects account for fire management needs of coastal uplands.
- Encourage the use of local native plant material in sites adjacent to natural areas. Use species beneficial to coastal systems, avoiding species such as *Lantana camara* (shrubverbena, lantana), *Calophyllum inophyllum* (beautyleaf), *Washingtonia robusta* (Washington fan palm), and *Scaevola sericea* (beach naupaka).

Wetlands

(Includes: Bayhead, Dome Swamp, Marl Prairie, Swale, Tidal Marsh, Tidal Swamp, and Freshwater Tidal Swamp)

GOAL 1: Restore and maintain freshwater wetlands structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

W.1.1. Encourage restoration of historic hydrology to freshwater wetlands and adjacent estuaries.

- Integrate freshwater wetlands into regional wetland restoration plans.
- Participate in the Comprehensive Everglades Restoration Plan (CERP) process and other regional water management restoration projects to maximize the restoration of historic hydrology in freshwater and coastal wetlands.
- Remove hydrologic barriers such as roads, fill pads, and mosquito ditch spoil.
- Consider filling or plugging canals that drain water from the system.

W.1.2. Restore or improve water quality in wetlands.

- Implement local authority and work with federal and state agencies to: (1) reduce nutrient inputs from agricultural fields into regional canals that serve as water sources for freshwater wetlands, and (2) provide appropriate salinity regime for coastal wetlands.
- Establish buffer zones around wetlands to minimize nutrient and pollutant inputs from adjacent land uses.

W.1.4. Establish the appropriate fire regime for freshwater wetlands, using prescribed fire in conjunction with other appropriate techniques.

- Conduct prescribed burning to approximate natural fire regimes.
- Utilize site preparation and firing techniques that are safe and will reduce negative impacts to public, staff, and property.
- Conduct pre- and post-burn monitoring to assess fire effects.
- Establish and utilize a procedure to evaluate the prescribed burn (e.g. fire behavior, smoke dispersion, safety, public response) and assess whether objectives set in the prescription were met.
- Prevent soil fires in tree islands during drought periods.

W.1.5. Work with owners of private inholdings to reduce impacts on freshwater wetlands

- Encourage and assist with control of populations of invasive plants on private inholdings.
- Discourage and control the release of domestic animals from private inholdings.

- Develop legal mechanisms to include inholdings in the larger prescribed burn unit.
- Discourage inappropriate use of freshwater wetlands such as ORV use, target shooting, and unregulated hunting.

W.1.6. Reduce populations of exotic fish.

- Reduce depth of canals in order to eliminate thermal refugia for tropical exotic fishes.

GOAL 2: Develop best management practices for freshwater wetlands consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

W.2.1. Ensure that restoration and monitoring practices in freshwater wetlands minimize deleterious off-target effects to native plant and animal species.

- Schedule and conduct prescribed burns in appropriate habitats (i.e., not tree islands) to avoid negative long-term impacts on rare species during critical life history phases.
- Divide sites into multiple burn units to minimize impacts to native animals.
- Consider relocating or protecting rare species when critical populations may be harmed by fire.
- Evaluate possible off-target effects of herbicides when developing management strategies.
- Determine acceptable off-target damage from aerial herbicide applications.

W.2.2. Minimize habitat loss and damage from development of trails, buildings, sewer lines, etc.

- Ensure that construction of trails minimizes impacts to freshwater wetlands and that trails double as fire breaks.

W.2.3. Protect the integrity of natural areas in the layout, design, and implementation of development projects adjacent to freshwater wetlands.

- Ensure that projects account for fire management and hydrological needs of freshwater wetlands.
- Encourage the use of local native plant material in sites adjacent to natural areas. Use species beneficial to freshwater wetlands, avoiding species such as *Melaleuca viminalis* (weeping bottlebrush).
- Monitor adjacent tree farms and nursery operations for prohibited species.

Ecotones

GOAL 1: Restore and maintain ecotone structure and function to maximize native biotic diversity and preserve natural resource values.

OBJECTIVES AND RECOMMENDED ACTIONS:

E.1.1. Maintain or restore historic ecotones in preserves containing multiple ecosystems.

- Eliminate firebreaks between habitats, or where this is not possible, continue burns across firebreaks to recreate historic ecotones.
- Use prescribed fire where possible to restore and maintain ecotones.
- When necessary, reduce hardwoods and remove invasive plants from fire-suppressed pine rocklands to recreate ecotones.
- Reintroduce rare ecotonal plant species to restored ecotones.

GOAL 2: Develop best management practices for ecotones consistent with other stated goals.

OBJECTIVES AND RECOMMENDED ACTIONS:

E.2.1. Ensure that restoration and monitoring practices in ecotones minimize deleterious off-target effects to native plant and animal species.

- Consider relocating rare species such as epiphytes and *Liguus* tree snails when critical populations may be harmed by ecotone restoration.
- Avoid piling storm and other debris along ecotones to protect organisms such as bromeliads and terrestrial orchids.

APPENDIX

Pg. 25 - Appendix

*Table 1. MIAMI-DADE NATURAL AREAS MANAGEMENT COOPERATING AGENCIES*BY TOPIC*

Fire management	M-D DERM, M-D Parks, M-D Fire Rescue, M-D Risk Management, ENP, FDOF, TNC (training)
Exotic Plants	M-D DERM, M-D Parks, BNP, FPL, FDACS (Pest. Cert.), USFWS, DEP (BIPM), FLEPPC (list committees, etc.), TNC (community outreach), FNGLA, IRC
Exotic Animals	UF-IFAS, FFWCC
Monitoring/Research/ Rare Species Mgmt	IRC, USFWS, FTBG, FFWCC, FDACS (DPI), FNAI, UM, FIU, M-D Public Works Mosquito Control (to reduce spraying in natural areas), DEP
Reforestation/Planting	FDOF (grows seedling pines), M-D DERM (collects pine seed), M-D Parks (landscaping), relevant nurseries
Hydrology	SFWMD, ACOE
Public Use	M-D Parks, FNPS, TAS, DEP (G&T), MPO (bicycles), community support orgs., homeowners assns., civic assns., environmental education community
Protection	M-D Police Dept (including Environmental Crimes Unit, Agriculture Patrol Unit and Police Services (homeless), M-D Solid Waste Management, FFWCC, SFWMD (hammocks only), DEP, M-D DERM, USFWS
Emergency Response	M-D Emer. Mgt., incident command team (F-DOF, M-D Fire Rescue, ENP, Parks, DERM, etc.), UF-IFAS (pest outbreaks)

*Other agencies may be added to this preliminary list

Table 2. ***COOPERATING AGENCY CONTACT INFORMATION***

Abbreviation	Agency	Telephone	Website
ACOE	US Army Corps of Engineers, Jacksonville	904-232-2241	www.usace.army.mil
BNP	Biscayne National Park, Headquarters	305-230-1144	www.nps.gov/bisc
DEP ➢ BIPM ➢ G&T	Florida Department of Environmental Protection ➢ Bureau of Invasive Plant Management ➢ Office of Greenways and Trails	 850-487-2600 850-245-2052	 www.dep.state.fl.us/lands/invaspec www.dep.state.fl.us/gwt
ENP	Everglades National Park, Beard Research Center	305-242-7700	www.nps.gov/ever
FDACS ➢ DPI ➢ Pest. Cert.	Florida Dept. Agriculture and Consumer Services ➢ DPI = Division of Plant Industry ➢ Pest. Cert. = Pesticide Certification	 352-372-3505 850-488-3314	 doacs.state.fl.us/pi doacs.state.fl.us/onestop/aes/pestapp.html
FDOF	Florida Division of Forestry	305-257-0875	www.fl-dof.com
FFWCC	Florida Fish and Wildlife Conservation Commission (South Regional Office)	305-956-2500	myfwc.com
FIU	Florida International University, Dept. of Biology	305-348-2201	www.fiu.edu/%7Ebiology
FLEPPC	Florida Exotic Pest Plant Council		www.fleppc.org
FNAI	Florida Natural Areas Inventory	850-224-8207	www.fnai.org
FNGLA	Florida Nursery Growers and Landscape Association	800-375-3642	www.fngla.org
FNPS	Florida Native Plant Society		www.fnps.org
FPL	Florida Power and Light	305-442-0388	www.fpl.com
FTBG	Fairchild Tropical Botanic Garden, Research	305-667-1651 ex. 3410	www.fairchildgarden.org

Table 2. ***COOPERATING AGENCY CONTACT INFORMATION (CONTINUED)***

Abbreviation	Agency	Telephone	Website
IRC	The Institute for Regional Conservation	305-247-6547	www.regionalconservation.org
ISA	International Society for Arboriculture	888-ISA-TREE	www.isa-arbor.com/home.asp
MPO	Miami-Dade Metropolitan Planning Org.	305-375-4507	www.co.miami-dade.fl.us/mpo/home.htm
M-D	Miami-Dade County		
➢ DERM	➢ DERM	305-372-6641	www.miamidade.gov/derm
➢ Emer Mgt	➢ Office of Emergency Management	305-468-5900	www.miamidade.gov/oem
➢ FireRescue	➢ Fire Rescue	786-331-5000	www.miamidade.gov/mdfr
➢ Parks	➢ Park and Recreation Department	305-755-7800	www.miamidade.gov/parks
➢ Police Dept	➢ Police Department	305-4POLICE	www.mdpd.com
	♦ Agriculture Patrol Unit	305-383-6800	www.mdpd.com/sta08apuinfo.htm
	♦ Environmental Crimes Unit	305-477-1616	www.miamidade.gov/derm/code_report_eviron_comp.asp
	♦ Police Services	305-471-2625	www.mdpd.com/adp.htm
➢ Pub Works	➢ Public Works (Mosquito Control)	305-592-1186	www.miamidade.gov/pubworks/mosquitoes/mhome.asp
➢ Risk Mgmt	➢ Risk Management Division	305-375-4400	www.miamidade.gov/gsa/depart_risk.asp
➢ SolidWaste	➢ Solid Waste Management	305-514-6666	www.miamidade.gov/dswm
SFWMD	South Florida Water Management District	561-686-8800	www.sfwmd.gov
TAS	Tropical Audubon Society	305-667-7337	www.tropicalaudubon.org
TNC	The Nature Conservancy (S. FL outreach)	954-564-6144	nature.org
UF-IFAS	University of Florida, Inst. Food & Agric. Sci., Dept. Wildlife Ecology & Conservation	352-846-0643	www.wec.ufl.edu/index2.html
UM	University of Miami, Dept. of Biology	305-284-3973	fig.cox.miami.edu
USFWS	United States Fish and Wildlife Service, Vero Beach office	561-562-3909	www.fws.gov

Table 3. *LIST OF HABITATS IN EACH NATURAL AREA (N=96)*

Site Name	Habitat(s)
A.D. Barnes	Pine Rockland, Rockland Hammock
Arch Creek	Wetlands, Rockland Hammock
Arch Creek Addition*	Rockland Hammock
Big & Little George*	Rockland Hammock
Bill Sadowski	Rockland Hammock, Pine Rockland
Black Creek Forest*	Pine Rockland, Rockland Hammock
Black Point	Wetlands, Coastal Uplands
Biscayne Wetlands	Wetlands, Coastal Uplands
Boystown*	Pine Rockland
C - 111*	Wetlands
Camp Greynolds	Coastal Uplands, Rockland Hammock, Wetlands
Camp Owaissa Bauer	Pine Rockland, Rockland Hammock
Castellow Hammock	Rockland Hammock, Pine Rockland
Castellow Hammock #28*	Rockland Hammock
Chapman Field	Wetlands
Deering Estate at Cutler	Rockland Hammock, Pine Rockland, Wetlands
Colonial Drive	Pine Rockland
Coral Pine	Pine Rockland
Coral Reef	Pine Rockland
County Line Scrub*	Scrubby Flatwoods
Crandon	Coastal Uplands, Wetlands
Deering North Addition*	Coastal Uplands, Wetlands
Deering South Addition*	Rockland Hammock, Pine Rockland, Coastal Uplands
Dolphin Center	Scrubby Flatwoods
Dolphin Center Addition*	Scrubby Flatwoods
Eachus Pineland*	Pine Rockland
East East Greynolds	Wetlands, Rockland Hammock, Coastal Uplands
East Greynolds Addition	Wetlands, Rockland Hammock
East Greynolds	Wetlands, Rockland Hammock, Coastal Uplands
Fairchild Trop. Bot. Garden	Wetlands
Florida City Pineland*	Pine Rockland
Fuchs Hammock	Rockland Hammock, Pine Rockland
Fuchs Hammock Addition*	Pine Rockland, Rockland Hammock
Gold Coast Railroad	Pine Rockland
Goulds Pineland*	Pine Rockland
Greynolds	Wetlands, Pine Rockland, Rockland Hamm., Coastal Uplands
Harden Hammock*	Rockland Hammock
Hattie Bauer Hammock*	Rockland Hammock
Haulover	Wetlands, Coastal Uplands
Highland Oaks	Wetlands
Holiday Hammock*	Rockland Hammock
Homestead Bayfront	Wetlands
Ingram Pineland *	Pine Rockland

Site Name	Habitat(s)
Kendall Indian Hammocks	Rockland Hammock
Kendallwood	Rockland Hammock
Larry & Penny Thompson	Pine Rockland, Historic Transverse Glade
Lincoln City #2	Pine Rockland
Loveland Hammock*	Rockland Hammock
Lucille Hammock*	Rockland Hammock
Ludlam Pineland Tract*	Pine Rockland
M.E. Thompson Campground	Historic Transverse Glade
Mangrove Preserve	Wetlands
Martinez	Historic Transverse Glade
Matheson Hammock	Rockland Hammock, Wetlands, Historic Transverse Glade
Medsouth Park	Pine Rockland
Meissner Hammock*	Rockland Hammock
Metro Zoo	Pine Rockland
Model Lands*	Wetlands
Navy Wells #39*	Pine Rockland
Navy Wells #42*	Pine Rockland
Navy Wells Preserve	Pine Rockland
Ned Glenn Pineland*	Pine Rockland
Nixon Smiley Preserve	Pine Rockland
Oak Grove	Rockland Hammock
Oleta River Corridor Tract C*	Wetlands
Oleta River Corridor Terama*	Wetlands
Owaissa Bauer Addition*	Rockland Hammock, Pine Rockland
Palm Drive (CARL)*	Pine Rockland
Pelican Harbor	Wetlands
Pine Island	Pine Rockland
Pine Shore	Pine Rockland
Quail Roost*	Pine Rockland
R. Hardy Matheson	Wetlands, Pine Rockland, Rockland Hamm., Coastal Uplands
Rock Pit	Pine Rockland
Rock Pit #34	Pine Rockland
Rock Pit #39	Pine Rockland
Rockdale*	Pine Rockland
Rolling Oaks	Pine Rockland, Rockland Hammock
Ron Ehman	Pine Rockland
Ross Hammock*	Rockland Hammock
Royal Oaks	Rockland Hammock
Seminole Wayside	Pine Rockland
Silver Palm Groves*	Pine Rockland
Silver Palm Hammock	Rockland Hammock, Pine Rockland
South Dade Wetlands*†	Wetlands
Sunkist	Pine Rockland
Sunny Palms*	Pine Rockland
Tamiami #8*	Pine Rockland
Tamiami Complex Addition*	Pine Rockland

Site Name	Habitat(s)
Trail Glades Range	Wetlands
Tree Island Park*	Wetlands
Trinity Pineland*	Pine Rockland
Tropical Park	Pine Rockland
Vizcaya Museum	Wetlands, Rockland Hammock
West Biscayne Pineland	Pine Rockland
Whispering Pines	Rockland Hammock, Pine Rockland

* Includes acquired EEL Property
† Includes property owned by South Florida Water Management District

MISSION STATEMENTS

NAM Mission Statement: To restore, protect, and manage Miami-Dade County's naturally occurring plant communities through resource management, inter-governmental environmental liaison, and community outreach including environmental education and volunteer programming to preserve these areas for present and future generations of South Floridians.

EEL Purpose: To manage environmentally endangered lands with the primary objective of maintaining and preserving their natural resource values by employing management techniques that are most appropriate for each native community so that our natural heritage may be preserved for future generations.

DEFINITIONS

Goal - A desired future condition, at least 50-100 years from now.

Objective - A shorter-term, smaller-scale benchmark needed to reach the goal.

Action - The means to reach a specific objective.

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The Institute for Regional Conservation (IRC). 2001-2004. Floristic Inventory of South Florida Database. Available online at http://www.regionalconservation.org. Accessed January 2004.

Marois, K.C. 1999. Florida Natural Areas Inventory tracking list of rare, threatened and endangered plants and animals and natural communities of Florida. Florida Natural Areas Inventory, Tallahassee, FL.

The Institute for
Regional Conservation

Appendix 11. Arthropod Management Plan - Public Lands:

Florida Department of Agriculture and Consumer Services
Division of Agricultural Environmental Services

ADAM H. PUTNAM
COMMISSIONER

ARTHROPOD MANAGEMENT PLAN - PUBLIC LANDS

Section 388.4111, F.S.
Telephone: (850) 617-7997

For use in documenting an Arthropod Control Pan for lands designated by the State of Florida or any political subdivision thereof as being environmentally sensitive and biologically highly productive therein. Fill this form out if control work is necessary or planned.

Name of Designated Land: **The Deering Estate at Cutler**

Is Control Work Necessary: ☒ Yes ☐ No

Location: **16701 SW 72 Avenue, Miami, FL 33157**

Land Management Agency: **Miami-Dade County Parks, Recreation and Open Spaces Department**

Are Arthropod Surveillance Activities Necessary? ☒ Yes ☐ No
If "Yes", please explain:

Which Surveillance Techniques Are Proposed?
Please Check All That Apply:

☒ Landing Rate Counts	☒ Light Traps	☐ Sentinel Chickens
☒ Citizen Complaints	☒ Larval Dips	☐ Other

If "Other", please explain:

DACS-13668 11/09
Page 1 of 4

Arthropod Species for Which Control is Proposed:
MOSQUITOES

Proposed Larval Control:

Proposed larval monitoring procedure:

Are post treatment counts being obtained: ☒ Yes ☐ No

Biological Control of Larvae:

Might predacious fish be stocked: ☐ Yes ☒ No

Other biological controls that might be used:

Material to be Used for Larviciding Applications:

(Please Check All That Apply:)

☒ Bti

☒ Bs

☐ Methoprene

☐ Non-Petroleum Surface Film

☐ Other, please specify:

Please specify the following for each larvicide:

Chemical or Common name:

☒ Ground ☐ Aerial

Rate of application: Within recommended label rate.

Method of application: Manual

DACS-13668 11/09
Page 2 of 4

Proposed Adult Mosquito Control:

Aerial adulticiding	☐Yes	☒ No
Ground adulticiding	☐ Yes	☒ No

Please specify the following for each adulticide:

Chemical or common name:

Rate of application: Within recommended label rate

Method of application:

Proposed Modifications for Public Health Emergency Control: **Arthropod control agency may request special exception to this plan during a threat to public or animal health declared by State Health Officer or Commissioner of Agriculture.**

Proposed Notification Procedure for Control Activities:

Records:

Are records being kept in accordance with Chapter 388, F.S.:

☒ Yes ☐No

Records Location:
8901 NW 58 STREET

How long are records maintained:

INDEFINITELY

DACS-13668 11/09
Page 3 of 4

Vegetation Modification:

What trimming or altering of vegetation to conduct surveillance or treatment is proposed? None

Proposed Land Modifications:

Is any land modification, i.e., rotary ditching, proposed: No

Include proposed operational schedules for water fluctuations: None

List any periodic restrictions, as applicable, for example peak fish spawning times.

Proposed Modification of Aquatic Vegetation: None.

Land Manager Comments: The Deering Estate at Cutler is a natural area preserve. Any arthropod control methods used within or adjacent to the site should not impact other species besides the target mosquitoes.

Arthropod Control Agency Comments:

10-9-12
Signature of Lands Manager or Representative Date

10.10.12
Signature of Mosquito Control Director / Manager Date

DACS-13668 11/09
Page 4 of 4

Appendix 12. MDPROS Response to Land Management Review Team Comments:

Miami-Dade County Parks, Recreation, and Open Spaces Response

To The

Land Management Review of the Charles Deering Estate,

Dade County (Lease No. 3418): April 15, 1998

(MDC Response noted in red italics)

Prepared by Division of State Lands Staff

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

Revised ***May 6, 1998***

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. Jim Rath	Mr. Jim Rath
GFC	Mr. Frank Smith	Mr. Frank Smith
Soil and Water Conservation District	Mr. Noble Hendrix (Dade Co.)	Mr. Noble Hendrix
County Commission	Ms. Emilie Young (Dade Co.)	Ms. Emilie Young
Conservation Organization	Mr. Don Chinquina (Tropical Audubon)	Mr. Jeff Myers
Private Land Manager	Name to be provided by Soil and Water	none

Process for Implementing Regional Management Review Teams

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

Review Site

The management review of the Charles Deering Estate considered approximately 380 acres in Dade County that are managed by Dade County. The team evaluated the extent to which current management actions are sufficient, whether the land is being managed for the purpose for which it was acquired, and whether actual management practices, including public access, are in compliance with the management plan. LAMAC approved the management plan on February 2, 1995 and the management plan update is due in February 2000.

Review Team Analysis

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

Review Team Findings

Checklist results

Exceptional management actions		
I.A.1	Pine rockland	Management of the pine rockland community is exceptional.
1.A.2	Rockland hammock	Management of the rockland hammock community is exceptional.
I.C.1.a	Listed plants: Deltoid spurge, etc.	The protection and preservation of listed plants, especially deltoid spurge, is excellent.
II.A	Cultural resources: survey	The cultural resources on the property have been thoroughly surveyed.
II.B	Cultural resources: protection	The protection and preservation of cultural resources is excellent.
III.B.1	Restoration: Hurricane damaged pine rockland	Restoration of the hurricane-damaged pine rockland community is exceptional.
III.B.2.	Restoration: Chicken Key	Restoration of Chicken Key is exceptional.
III.B.3	Restoration: Coastal salt marsh (mahoe site)	Restoration of the coastal salt marsh is exceptional.
III.G	Boundary delineation	Property boundaries are very well delineated.
III.H.3	Inholdings/additions	The managing agency is doing an excellent job of pursuing inholdings and additions for acquisition.
III.I.b	Sanitary facilities	The managing agency is providing ample public restroom facilities.
III.I.2.b	Trails	Public trails on the property are extensive.
III.I.3.a	Buildings	Buildings on the property are excellent.
IV	Education/Public Outreach	The managing agency is doing an excellent job with education and public outreach.
Inadequate items		
III.A.1	Prescribed fire: area	The number of acres being burned should be addressed in the plan.

Response: *Pine rockland (108 acres) and tidal marsh habitats (41 acres) have been identified as habitats that would benefit from the use of prescribed fire as a management too in Section 50 of the management plan. Section 10 contains the acreages for these habitats. It is desired that prescribed fire will be applied as necessary to achieve restoration and management goals and is subject to the availability of state and county resources available to conduct prescribed fire activities.*

III.A.2.	Prescribed fire: frequency	The frequency of prescribed burns should be addressed in the plan.

Response: *The fire return intervals identified for pine rockland and tidal marsh habitats have been identified as every 3 to 7 years in Section 50 of the plan. Prescribed fire frequency will follow guidelines included in the Miami-Dade County Natural Areas Management Plan (NAMP) and be supplemented by mechanical management activities identified by the NAMP to meet restoration and management goals. It is desired that prescribed fire will be applied as necessary to achieve restoration and management goals and is subject to the availability of state and county resources available to conduct prescribed fire activities.*

III.A.2.	Prescribed fire: quality	The quality of prescribed burns should be addressed in the plan.

Response: *Prescribed burns will be utilized to meet restoration and management goals for the pine rockland and tidal marsh habitats when application is possible consistent with the limitations provided by the availability of state and county resources available to conduct the burns. The quality of these burns may vary depending on existing conditions and objectives established for individual burn units/habitats. Monitoring of the burned habitats will determine whether objectives have been met.*

III.B.3	Restoration: Coastal salt marsh (mahoe site)	The restoration of salt marsh from habitat formerly dominated by mahoe is excellent, and should be addressed in the plan.

Response: *The management plan references the restoration of this salt marsh area in the Tidal Marsh description of Section 10 of the plan.*

III.C.1.b	Non-native animals: monitoring	A monitoring program for non-native animals should be addressed in the plan.

Response: *Monitoring for and control of non-native animal species is conducted opportunistically by staff as noted in the Exotic Species Management component of Section 17 of the plan.*

III.D.2.a	Ground water quality	Monitoring of ground water quality should be addressed in the plan.

Response: *Monitoring for surface water quality within Biscayne Bay is conducted by the County. Because the Bay is outside of the Estate's boundary, it is not addressed in the plan. Groundwater quality monitoring is not done within the Estate.*

III.D.2.a	Ground water quantity	Monitoring of ground water quantity should be addressed in the plan.

Response: *Groundwater quantity is being addressed through regional efforts, such as CERP. No groundwater quantity monitoring is proposed in the Preserve.*

III.G.2	Storm water/effluent	Storm water runoff into the property should be addressed in the plan.

Response: *Stormwater is addressed in the Stormwater Runoff and Treatment component of Section 17 of the plan. Management of effluent is not applicable to the Preserve.*

III.H.1.a	Waste removal	Waste removal facilities should be addressed in the plan.

Response: *Waste removal is addressed as part of the Infrastructure component of Section 17 of the plan.*

III.H.4	Staff	Staffing needs should be addressed in the plan.

Response: *Staffing for the Estate is addressed in the Maintenance Responsibility and Needs component of Section 17 of the plan.*

III.I.5	Funding	Additional funding needs should be addressed in the plan.

Response: *Activities and planned uses for which funding amounts were identified are listed in Sections 36 and 44 of the plan.*

Recommendations to the managing agency

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

1. Miami-Dade County should determine recreational uses that are compatible with the re-establishment of the historically documented water bird breeding colony on Chicken Key.

Response*: Recreational use of Chicken Key is limited to users who are accompanied by Estate or County staff members as noted in the Nature-Based Recreation and Tourism component of Section 14 of the plan.*

The management plan must include responses to the checklist items and the recommendations that are identified above. The checklist items should be addressed in relation to the category(ies) in which they received a low score, e.g. whether the plan sufficiently addressed protection/ restoration/ management needs, or whether sufficient management actions were being taken.

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

After completing the checklist, team members were asked to answer “yes” or “no” to this question and given the opportunity to provide general comments. All team members agreed that Charles Deering Estate is being managed for the purpose for which it was acquired.

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

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

Attachment 2

The following are compilations of comments from individual review team members and are given here for information purposes only.

Review Team Comments

"Site has not been open to the public since Hurricane Andrew's 17-foot storm surge hit the site in 1992. Restoration of both native forest and cultural resources is outstanding. Restoration has been supported by grants funding, and staffing for management once the site re-opens has not been identified."

Response: *The Estate re-opened to the public in 1999 and has been staffed by the county since re-opening.*

"Efforts are being made to restore burning regimes and reforest pine rockland community; also to eliminate exotic plants. Area will be opened for public access after building restoration is completed. Dade County should contract with qualified professionals to complete surveys of wildlife and plants. Get some help from U. of Miami. Should identify the prescribed burning effort to burn more and burn more often. Dade Co. is doing an excellent job of restoring buildings of the old Deering Estate. Need more staffing for the area and a reliable boat for getting to coastal wetland areas. Explore the feasibility of closing Chicken Key to public access during portions of the year to protect nesting birds."

Response: *The county contracts with Fairchild Tropical Botanic Gardens to monitor and survey plant populations within the Estate. Prescribed burning frequency and desired application is addressed in Section 50 of the plan. Public access to Chicken Key is limited to those accompanied by Estate staff or volunteers.*

"All possible efforts should be made to acquire Powers estate. Feral cats should be managed as exotics. Red-tailed boa tracking study should be undertaken."

Response: *The Powers Property was acquired as part of the Deering Flow-way project, which was a designated component of the Comprehensive Everglades Restoration Plan (CERP). Improvements to the site have been implemented as noted in the Water Resources component of Section 10 of the plan. Feral cats are listed as feral animals to be managed/removed from the Estate. There are no current plans to conduct a red-tailed boa tracking study at this time.*

"Great educational opportunity-- uplands and facilities can and will be tremendous. Excellent public use opportunity. Need to assure that all management practices occurring throughout the property needs to e included in the management plan updates or addenda. Excellent educational opportunity for public. Study Chicken Key closure as a natural key/integrated recreational use. Conducting a lot of management activities on the Estate not in the plan and should be included."

Response: *Management activities occurring within the Estate have been identified within the plan as have educational and public use activities. Public access to Chicken Key is limited to those accompanied by Estate staff or volunteers.*

MIAMI-DADE COUNTY

PARKS, RECREATION
and OPEN SPACES
DEPARTMENT

Deering Estate at Cutler - MANAGEMENT PLAN