Memorandum

MIAMI-DADE COUNTY

Date: July 8, 2010

To: Honorable Chairman Dennis C. Moss and Members, Board of County Commissioners

Agenda Item No. 8(D)(1)(A)

From: George M. Burgess
County Manager

Subject: Resolution Authorizing the Execution of Amendment to the Memorandum of Understanding between Miami-Dade County and the South Florida Water Management District for Continued Provision of Cooperative Management of the South Dade Wetlands and Biscayne Coastal Wetlands

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Recommendation

It is recommended that the Board of County Commissioners (Board) approve the attached resolution authorizing the execution of an amendment to expand and extend an existing Memorandum of Understanding (MOU) between Miami-Dade County and the South Florida Water Management District (District).

Scope

The MOU provides services for the Environmentally Endangered Lands (EEL) Program which is countywide in nature. The EEL Project Areas under the MOU are within Commission Districts 8 and 9.

Fiscal Impact/Funding Source

The EEL Management Trust Fund will continue to fund EEL management activities. As of April 30, 2010, the balance of the EEL Trust Fund (Subfund 081, Project Numbers 081005/-6/-7/-8) is $59,333,168 of which $26,588,683 is reserved for acquisition and $32,744,486 is reserved for management.

Track Record/Monitor

The Director of the Department of Environmental Resources Management (DERM) will monitor this agreement.

Background

The EEL Program's South Dade Wetlands Project includes the District's Save Our Rivers projects, known as the Model Lands and Southern Glades Addition, and portions of two Comprehensive Everglades Restoration Projects. Both the EEL Program and the District have been acquiring land within the project area and acquisition is expected to continue. Rather than manage parcel-by-parcel among seamless tracts of land, the County and District coordinated their management through an MOU that was authorized by the Board on September 8, 2005 (R-986-05). The MOU successfully facilitated sharing of management resources and more effective communication between and across agencies. Under the MOU, a management plan was jointly developed to guide land management activities such as invasive exotic species, protected species, dumping, and hydrology. The goals in the plan have been updated and include objectives to remove exotic vegetation, to implement a prescribed fire program, to restore wetlands functions, and to provide for other activities that are necessary to protect and preserve the natural resources in the project area.

The EEL Program will continue to fund the County's land management activities and the District will continue to fund their activities. The terms of the amendment (Attachment A) will expand the geographic area covered by the MOU to include lands that have been added to the South Dade Wetlands project, will extend the MOU boundaries into the Biscayne Coastal Wetlands and will extend the duration of the MOU until the year 2020.

Assistant County Manager

MEMORANDUM
(Revised)

TO: Honorable Chairman Dennis C. Moss and Members, Board of County Commissioners

DATE: July 8, 2010

FROM: R. A. Cuevas, Jr. County Attorney

SUBJECT: Agenda Item No. 8(D)(1)(A)

Please note any items checked.

_____ **"3-Day Rule" for committees applicable if raised**

_____ **6 weeks required between first reading and public hearing**

_____ **4 weeks notification to municipal officials required prior to public hearing**

_____ **Decreases revenues or increases expenditures without balancing budget**

_____ **Budget required**

_____ **Statement of fiscal impact required**

_____ **Ordinance creating a new board requires detailed County Manager's report for public hearing**

_____ **No committee review**

_____ **Applicable legislation requires more than a majority vote (i.e., 2/3's ____, 3/5's ____, unanimous _____) to approve**

_____ **Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required**

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Approved _____Mayor

Veto _____

Override _____

Agenda Item No. 8(D)(1)(A)

7-8-10

RESOLUTION NO. _____

RESOLUTION AUTHORIZING THE EXECUTION OF AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN MIAMI-DADE COUNTY AND THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR CONTINUED PROVISION OF COOPERATIVE MANAGEMENT OF THE SOUTH DADE WETLANDS AND BISCAYNE COASTAL WETLANDS

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

WHEREAS, this Board desires to accomplish the purposes of Section 24-50 of the Code of Miami-Dade County,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board hereby authorizes the execution of an amendment to the Memorandum of Understanding between Miami-Dade County and the South Florida Water Management district for continued provision of cooperative management of the South Dade Wetlands and Biscayne Coastal Wetlands in substantially the form attached hereto and made a part hereof; authorizes the Mayor or Mayor's designee to execute same for and on behalf of Miami-Dade County; and authorizes the Mayor or Mayor's designee to exercise the provisions contained therein.

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

Dennis C. Moss, Chairman
Jose "Pepe" Diaz, Vice-Chairman

Bruno A. Barreiro	Audrey M. Edmonson
Carlos A. Gimenez	Sally A. Heyman
Barbara J. Jordan	Joe A. Martinez
Dorrin D. Rolle	Natacha Seijas
Katy Sorenson	Rebeca Sosa
Sen. Javier D. Souto	

The Chairperson thereupon declared the resolution duly passed and adopted this 8th day of July, 2010. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By:_____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

Robert A. Duvall

Contract 3600000960/OT051112

AMENDMENT I
MEMORANDUM OF UNDERSTANDING BETWEEN THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND MIAMI-DADE COUNTY

THIS AMENDMENT is made and entered into this _____ day of _____, 2010, by and between Miami-Dade County, a political subdivision of the State of Florida ("County") and The South Florida Water Management District, a public corporation of the State of Florida, ("District").

WHEREAS, County and District entered into that certain Miami-Dade County Environmentally Endangered Lands Program Memorandum of Understanding ("MOU") between the County and the District dated September 23, 2005, which provided for the joint management of land in the SOR Project areas known as the Model Lands Basin, the Model Lands Addition, and the Southern Glades Addition which shall collectively be called the Project Area, shown on the map attached hereto as Exhibit A-1 and made a part of this Amendment; and

WHEREAS, the term of the MOU expires September 30, 2010;

WHEREAS, the County and the District desire to extend the term of the MOU and to amend the Project Area, to include the Biscayne Coastal Wetlands Project and the Keyhole Wetlands addition to the Model Lands Basin, shown on the map attached hereto as Exhibit A-2; and

WHEREAS, the County and the District desire to modify the Conceptual Management Plan, attached hereto as Exhibit B; and

NOW THEREFORE, the County and the District hereby agree Article 1 Section 1.1, Article 4 Section 4.1, and Article 5 Sections 5.1 and 5.2 of the Agreement shall be amended as follows with additions underlined and the corrections struck through:

ARTICLE 1 - ~~CONCEPTUAL~~ INTERIM LAND MANAGEMENT PLAN

1.1 The "Conceptual Land Management Plan," which plan has been updated and is hereby replaced with the "Interim Management Plan" attached hereto as exhibit "B" and made part of this MOU, establishes the goals, objectives, and directs the joint management of COUNTY and DISTRICT owned properties within the PROJECT AREA which has also been updated as set forth in Exhibit A-2.

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ARTICLE 4 - TERM OF THE MOU

4.1 The term of this **MOU** shall commence on the last date of execution by the parties and continue until September 30, 2020 ~~2010~~ unless terminated by either party pursuant to Article 7 ~~below~~ of the MOU.

ARTICLE 5 - PROJECT MANAGEMENT/NOTICE

5.1 The Project Manager for the **DISTRICT** is Jason Smith, at 2121 SW 3rd Ave. Miami, Fl 33129, telephone (305) 377-72~~33~~ 74. The Project Manager for the **COUNTY** is Gwen Burzycki, Department of Environmental Resources Management, ~~33 SW Second Avenue, Miami, FL 33130~~ 701 NW 1st Court, Miami, FL 33176, telephone (305) 372-6569. The parties shall direct all matters arising in connection with the performance of this **MOU**, other than notices, to the attention of the Project Managers for attempted resolution or action. The Project Managers shall be responsible for overall coordination and oversight relating to the performance of this **MOU**.

5.2 All notices, demands, or other communications to the **COUNTY** under this **MOU** shall be in writing and shall be deemed received if sent by certified mail to:

~~Emilie M. Young~~ Cynthia Guerra, Program Director
Environmentally Endangered Lands Program
Department of Environmental Resources Management
~~33 SW 2nd Avenue PH 2~~ 701 NW 1 Court, 4th Floor
Miami, FL ~~33138~~ 33136,

ALL ELSE REMAINS THE SAME

IN WITNESS WHEREOF, the parties or their duly authorized representatives hereby execute this **Amendment** on the date first written above.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD

By: _____
Jessica J. Flathmann, Procurement Director

SFWMD OFFICE OF COUNSEL APPROVED:

_____

SFWMD PROCUREMENT APPROVED:

_____

MIAMI-DADE COUNTY
BY ITS BOARD OF
COUNTY COMMISSIONERS

By: _____

Title:_____

County Attorney Approved: _____

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EXHIBIT A-1 - 2005 MOU PROJECT BOUNDARY

MIAMI-DADE COUNTY

DERM

Status of Public Land Acquisition
Current to December 2004

LEGEND

- 2005 MOU PROJECT BOUNDARY
- MAJOR ROADS
- MIAMI-DADE COUNTY CLOSED
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT CLOSED
- EVERGLADES ALLIGATOR FARM
- ATLANTIC CIVIL PROPERTIES
- FLORIDA ROCK & SAND MITIGATION AREA
- FLORIDA POWER & LIGHT MITIGATION BANK
- OTHER FP&L
- OTHER DADE COUNTY (NOT ERL)
- STATE OF FLORIDA
- FEDERAL - DOUGHNUT HOLE
- PRIVATE, MODEL LANDS ADDITION
- PRIVATE, MODEL LANDS/SOUTHERN GLADES ADDITION
- HOLIDAY HAMMOCK
- SOUTHERN GLADES WEA
- EVERGLADES NATIONAL PARK

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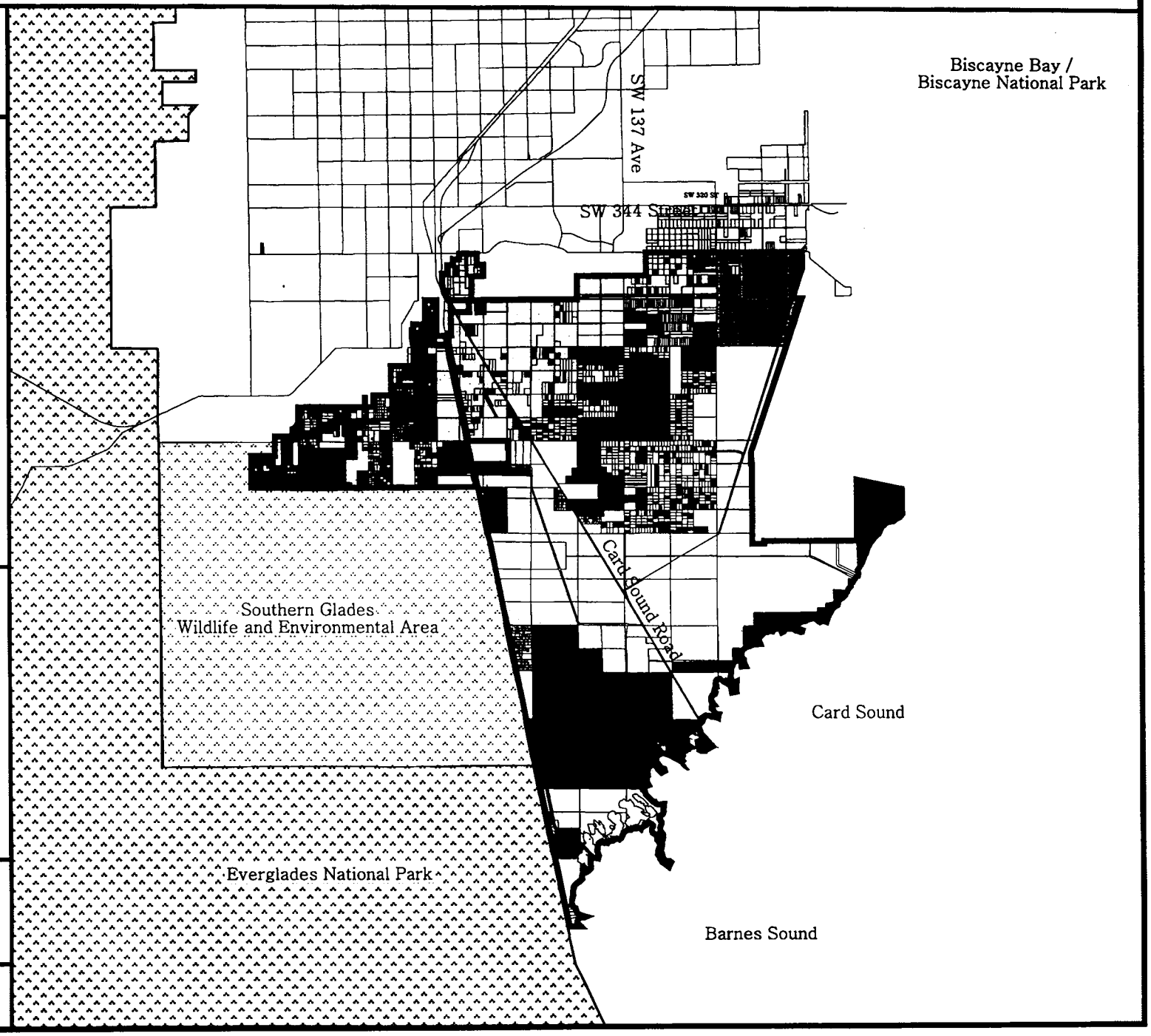

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MIAMI-DADE COUNTY

EXHIBIT A-2 - 2010 MOU PROJECT BOUNDARY

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

Status of Public Land Acquistion Current to March 2010

LEGEND

- 2010 MOU Boundary
- South Dade Wetlands
- Biscayne Coastal Wetlands
- Keyhole Wetlands

- MIAMI-DADE COUNTY OWNED
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT OWNED
- EVERGLADES ALLIGATOR FARM
- ATLANTIC CIVIL PROPERTIES
- FLORIDA ROCK & SAND MITIGATION AREA
- FP&L MITIGATION BANK
- OTHER FP&L
- STATE OF FLORIDA

- SOUTHERN GLADES WEA
- EVERGLADES NATIONAL PARK

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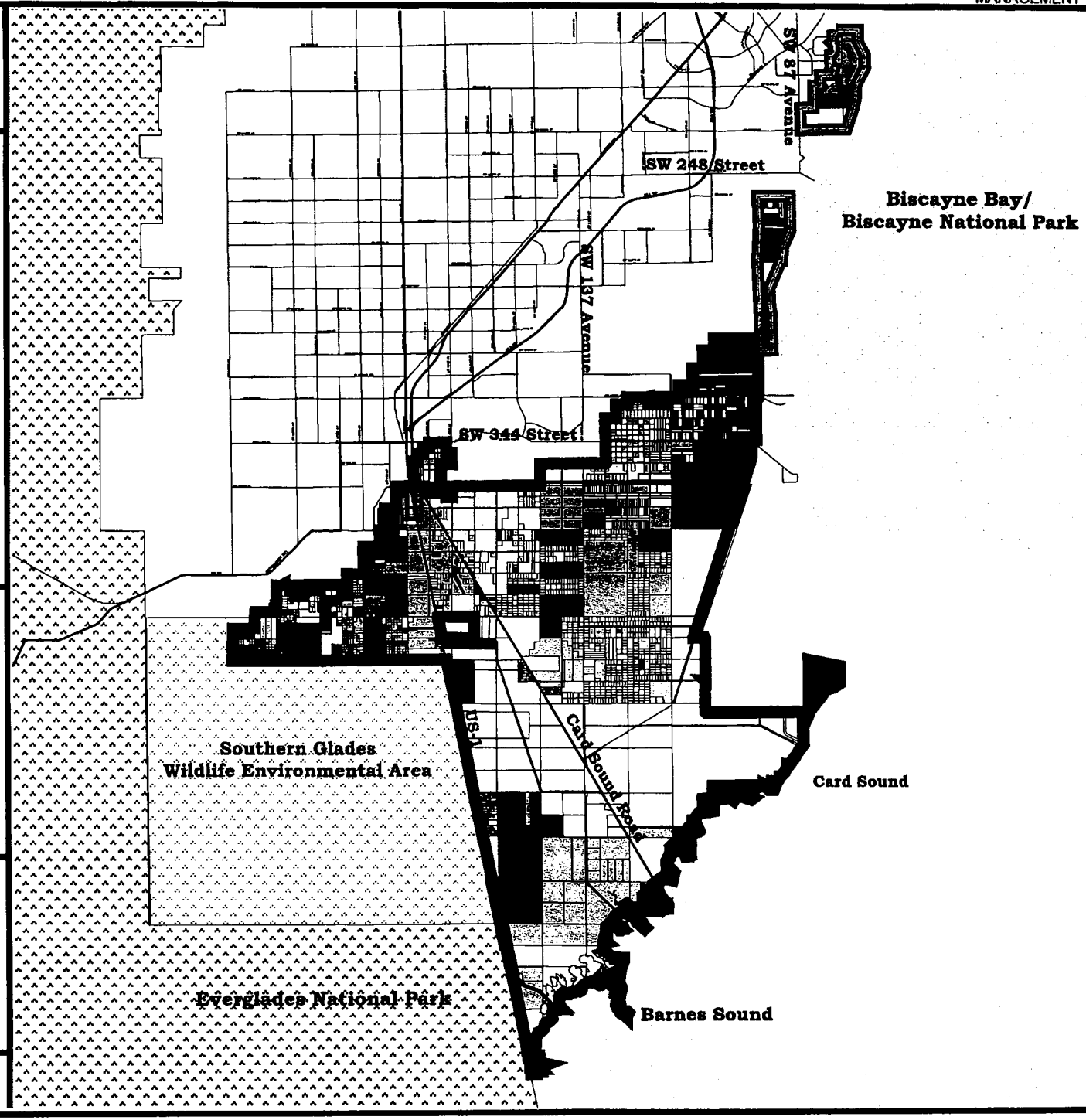

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Disclaimer
This map is not to scale. It is generalized and is intended as an illustration only. This map is not intended for in-depth analysis and materials contained herein are provided "AS IS" and may contain inaccuracies. The user is warned to utilize the materials herein at user's own risk and to verify the material's accuracy independently.

P:EEL/MOU/SFWMD MGT MOU 2010/sfwmdmou2010.apr
JG - March 17, 2010

Exhibit B

Interim Management Plan (IMP)

South Dade Wetlands and Biscayne Coastal Wetlands

The South Dade Wetlands and Biscayne Bay Coastal Wetlands (the Project), for purposes of this document, are defined as the Model Lands Basin, much of the Model Lands Addition, the Southern Glades Addition, the Keyhole Wetlands, and portions of the Biscayne Coastal Wetlands projects, as depicted in black, red, and blue, respectively, in Figure B-1. This Interim Management Plan (IMP) describes the management goals and objectives for the Project during a ten-year period during which Miami-Dade County's acquisition plans, the South Florida Water Management District's Biscayne Bay Surface Water Improvement and Management (SWIM) Plan, and the Comprehensive Everglades Restoration Plan (CERP) are being realized. These acquisition and regional restoration plans will ultimately affect the long term management needs of the Project, but completion will require additional time. The County and the District established a Memorandum of Understanding (MOU) in 2005 for cooperative management of much of the Project area, which included a five-year interim land management plan. Implementation of the MOU demonstrated that management activities in the South Dade Wetlands were more efficient, cost effective, and required fewer staff resources when initiated as part of a cooperative effort than if the same activities had been completed by the agencies separately. The County and District seek to continue this partnership for land management activities over the original acreage and some additional acreage to further increase efficiency and cost effectiveness of land management activities in the Project, while working towards the primary management goal, which is to bring the area into a condition that is conducive to making long-term management feasible.

Background

The Project consists of a broad zone of wetlands located along the coastline in southeastern Miami-Dade County. The Project begins south of SW 196 Street and extends southward to the wetlands immediately west of Turkey Point. From there, the Project expands westward, primarily south of Palm Drive (SW 344 Street), to encompass the majority of the coastal and freshwater wetlands between the boundaries of Everglades National Park (EVER), the Southern Glades Wildlife Environmental Area (SGWEA), and Biscayne National Park (BISC). The County and the District share an interest in these lands because of their strategic location linking Biscayne National Park and Everglades National Park. These wetlands encompass a large portion of the watersheds for, and therefore contribute freshwater flows to Florida Bay, southern Biscayne Bay, Card Sound and Barnes Sound. These wetlands also have intrinsic value as habitat for numerous wading birds, migratory birds, reptiles, amphibians, and mammals, including numerous state and federally listed species.

This region is part of the historical southeast saline Everglades, but road and canal construction has fragmented the area into smaller, semi-isolated hydrologic basins. Regional restoration efforts such as the C-111 Spreader Canal and Biscayne Bay Coastal Wetlands CERP projects are underway to restore the historic hydrologic and ecological connections among the basins. Preserving and restoring the natural environments in these water bodies and the upstream watershed is also a management goal of the Biscayne Bay SWIM Plan.

Acquisition of the Project has been a collaborative endeavor by the Environmentally Endangered Lands (EEL) Program of the County, the Save Our Rivers (SOR) Program of the District, and CERP. The area targeted for acquisition within the Project consists of nearly 36,000 acres of freshwater and coastal wetlands. This area excludes land reserved by Florida Power and Light for a mitigation bank, which comprises an additional 13,500 acres. Approximately 53% of the area targeted for acquisition has been acquired either by the County or the District as of February 2010.

The history of opportunities to acquire land from willing sellers has resulted in a mosaic of County/District/private ownership. County parcels blend seamlessly with District parcels, with no distinguishing characteristics between the parcels. This mosaic of ownership made efficient management across the landscape more difficult, prompting the establishment of the Memorandum of Understanding for management in 2005. The 2005 MOU successfully facilitated the sharing of management resources and made more efficient use of limited staff and funds through economy of scale, coordinated efforts, and more effective communication between and across agencies. This renewal and extension of the MOU will add additional lands to the project area and expand opportunities to increase efficiency through sharing management resources.

Current Conditions

The Project is dominated by marl soils, with various types of muck present in the larger flowways and immediately adjacent to the shoreline (Figure B-2). Vegetation consists of a broad zone of coastal wetlands in proximity to the shoreline that is dominated by mangroves (Figure B-3). The landward edge of the wetlands is occupied by short hydroperiod forested wetlands that mark a zone where seasonal farming was common in the 1940s and 1950s. Between these two boundaries lies a zone of freshwater wetlands that is nearly absent in the north of the Project but broadens south of Homestead and Florida City into a wide plain of sawgrass prairie dotted with tree islands. The sawgrass is occasionally replaced by patches of mixed graminoid prairie, cattail, or spike rush, depending on the local hydropattern. The transition between freshwater and brackish/marine wetlands is marked by a relatively narrow zone where sawgrass and/or spike rush mix freely with mangroves. This ecotone shifts coastward rapidly into a zone with distinctively sparse vegetation, primarily mangroves with scattered clumps of sawgrass and/or spike rush. This transition region has been distinct on aerials for more than 70 years, and has often been called the "white zone" because the light-colored marl substratum is readily visible as a background for the sparse vegetation.

Over the past century, regional drainage, construction of hydrological barriers such as roads and levees, farming practices, fire suppression, off-trail riding, and the introduction of non-native invasive plant and animal species have altered the landscape; yet the regional wetland functions continue to support a wide variety of wildlife, including many federally and state listed species. For example, over 140 species of birds have been documented for the region, including 33 wading bird species and listed species such as the white crowned pigeon, least tern, peregrine falcon, woodstork, and snail kite. Florida panthers occasionally inhabit the area, as evidenced by two records of road-killed panthers within the project area in the past 5 years. Eastern indigo snakes, alligators, and American crocodiles also utilize the region.

The Project consists primarily of undeveloped wetlands, although some industrial, agricultural, commercial, and residential uses exist. The largest land use, by area, is for mitigation projects. Florida Power and Light operates a wetland mitigation bank of over 13,500 acres, and Cemex Construction Materials Florida, LLC is enhancing approximately 1,700 acres of wetlands as mitigation for rockmining. Approximately 900 acres have been reserved as mitigation for current and future wetland impacts by Atlantic Civil, Inc. Rockmining and seasonal agriculture are other prominent land uses in the project area. Substantial acreage west of US Highway 1 is owned and utilized by a commercial airboat tour operator. Some wetlands have been converted to agricultural uses such as row crops and field nurseries, although some of this use is currently unpermitted and enforcement action is underway. Florida Power and Light operates several electrical power plants immediately adjacent to the South Dade Wetlands portion of the project, and recently applied to expand power-generating facilities in the area. Residential use is sparse, with two residences east of Card Sound Road and one west of US Highway 1 in the Model Lands Basin. The Biscayne Bay Coastal Wetlands contains platted lots and eventual conversion to residential use may occur if these lots remain unacquired. The US Coast Guard operates a facility with a GPS beacon just east of and adjacent to Card Sound Road. There is a cluster of commercial operations at the south end of Card Sound Road. Other uses include communication towers, closed landfills, and a sailboat marina. The Department of Juvenile Justice operates a facility on SW 424 Street west of US Highway 1 near Mile Marker 123.

The regional trend is for a continuing loss of habitat for wetland-dependent species within the Project due to strong development pressure and land use conversion. Regulatory agencies continue to receive inquiries about conversion of wetlands within the project area to other uses, primarily farming and rockmining. Portions of the project area are within the municipal boundaries of the cities of Cutler Bay and Florida City, although neither municipality has approved new residential or commercial development within the project area as of yet. The long term effects of development pressure and limited ability to acquire land from willing sellers may eventually cause additional degradation through the effects of fragmentation, because these circumstances may eventually reduce the probability of acquiring strategic parcels needed for effective management. These trends significantly underscore the importance of continuing management activities on existing public land, in order to offset ongoing habitat loss in the region.

The County and District will ultimately develop a comprehensive management plan that is based upon a final footprint for publicly owned land in the region and a hydrological regime that will be consistent with ongoing CERP and other regional restoration planning activities. While acquisition and planning efforts are ongoing, interim management must take into account the fragmented pattern of public holdings when prioritizing activities. Management challenges include the need to make management decisions based on parcel boundaries rather than ecological needs, address access control when the affected land includes both public and private owners, and manage edge effects where roads cannot yet be removed. Coordination of management effort between the two agencies will help address these challenges through more efficient use of resources.

Management Issues

Management issues to be addressed during the interim period include control of invasive exotic species (both plant and animal) and preventing reinvasion where feasible, control of public access to limit adverse impacts due to human activities, addressing pollution problems that have resulted from past uses, and use of prescribed fire as a management tool. In addition, restoration of ecological function through removal of physical barriers, restoration of hydroperiod and flow in historic sloughs and flowways, and cooperation and coordination with CERP projects should be accomplished wherever feasible.

Control of invasive exotic vegetation is the most immediate of these land management tasks because of the deleterious effects of invasive plants on wildlife habitat and consideration of recently compiled information indicating that several invasive plant species are continuing to expand their range and distribution. The worst problem species are capable of invading intact wetland habitat and eliminating native species that provide food or other habitat values by shading them out. The effort that has been expended on this need during the initial five years of the MOU has overshadowed all other management issues; the largest management effort has consistently been extended for invasive exotic plant control.

The results of a 1996 exotic plant survey and more recent opportunistic staff observations were combined to produce a map showing the general level of infestation within the South Dade Wetlands prior to the initiation of control efforts (Figure B-4). The 1996 study indicated that almost all areas surveyed had at least some infestation by exotics, and 34% of the surveyed area was infested by 2 or more exotic species. A total of 24 taxa of invasive exotics were detected during the 1996 survey, but five species were the most common: Melaleuca (*Melaleuca quinquenervia*), Australian pine (*Casuarina* spp.), Brazilian pepper (*Schinus terebinthifolius*), shoebutton ardisia (*Ardisia elliptica*), and Burma reed (*Neyraudia reynaudiana*).

Although efforts have been underway since 1998 to begin treating invasive exotic plants on publicly owned land, some species (e.g. shoebutton ardisia, *Ardisia elliptica*) appear to be continuing to expand their distribution in the area and outlier populations for new invasive species (e.g. Old World climbing fern, *Lygodium microphyllum*) have been detected. Despite these problems, staff members from both the County and the District have been successful at obtaining grant funding for exotic plant control, and cooperative efforts under the management MOU have resulted in timely and effective use of the funding. Over 2,700 acres within the project area, both County-owned and District-owned, received at least initial treatment for invasive exotic plants during the first 5 years of the MOU, and all publicly-owned sites infested by the highly invasive Old World climbing fern have received at least one treatment. Aggressive control efforts on a sustained basis will be needed during the interim period to control and manage invasive exotic plant species and to preserve and restore the integrity of wetland habitat throughout the region.

The cost and recurring expense of invasive species control has underscored the need to seek partners for treatment and methods to make the region less susceptible to invasive species infestation. Staff members from both the County and District share available information on invasive species during routine coordination activities and cooperate with regional efforts to control and eradicate both invasive plants and invasive wildlife. Since intact habitats are

generally more resistant to invasion by exotic species for a variety of reasons, both staffs coordinate with land planning agencies to stay informed about proposals that may affect the region. In addition, both staffs work with regional restoration projects such as CERP to provide technical support and exchange information on restoration opportunities that will enhance or restore existing habitat and help create future resistance to invasion/reinvasion by exotic species.

The project area currently contains many private inholdings, which makes access control challenging. Public access control is an increasingly important management issue in this region because of the link between uncontrolled access and environmentally damaging activities such as off road vehicle (ORV) use, solid waste dumping, and poaching. Damage to wetlands from off-trail riding has been visibly increasing within the boundaries of the Project. A recent endeavor to assess the amount and intensity of damage in the South Dade Wetlands has indicated that, between 1999 and 2004, both the total number of trails and intensity of damage have increased. This problem is not likely to be appreciably mitigated without additional land acquisition of strategic parcels that will permit more effective road closure and property access control. Some success at stabilizing the level of damage has been achieved in the South Dade Wetlands west of US Highway 1, where a joint effort to post and maintain signage on public lands, coupled with installation of gates on frequented access roads has reduced (although not eliminated) ORV use in this area.

This remote part of the county has been and continues to be used for firearm activities such as hunting and target shooting. Circumstantial evidence has indicated that poaching may have historically been common, and evidence of shooting galleries is routinely discovered in the form of bullet-ridden solid waste and spent shells. The problem is challenging and related to both access control issues and traditional use arguments. A decision on what, if any, firearm activity to permit in the Project will need to be made in the future. For the interim, joint efforts to post and maintain signage on public land, accompanied by jointly-funded random patrols by wildlife enforcement officers from the Florida Fish and Wildlife Conservation Commission (FWC) are being used with some success to limit or eliminate poaching throughout the area and control hunting on public property until a decision has been made.

Solid waste dumping is a common activity in uncontrolled rural areas, and this remote part of the county is no exception. Abandoned cars, construction debris, and household trash such as appliances are common sights along road edges, although solid waste piles also occasionally completely block road access. The problem is challenging and intertwined with acquisition issues, since the easiest way to prevent dumping is to block unauthorized vehicle access to the area. This cannot be accomplished where there are substantial tracts under private ownership, however, unless the affected private landowners concur and cooperate with access control efforts. Limited success has already been gained through the installation of gates at a few key locations, coupled with addition of an enforcement presence to act as a deterrent.

Prescribed fire is an important management tool in seasonal wetlands. It can be effective as part of an integrated program to control invasive woody species after herbicide treatment, reduce native woody vegetation encroachment into prairies, and reduce fuel loading that has contributed to damaging dry season wildfires in the Project. Prescribed fire has not been considered a practical management technique until recently, however, because the mosaic of public and private land has made the planning and execution of prescribed fire impractical. There are now

sufficiently large blocks of publicly-owned land that the use of fire has become a feasible option. Development and implementation of a prescribed fire plan for the region will require careful consideration of the significant public utility, industrial, and transportation uses within the Project in order to effectively use this tool to achieve management objectives.

Construction of physical features such as farm roads and ditches has been a substantial factor in altering local hydrology because of the dramatic effect of such features on the movement and/or ponding of surface water. There are hundreds of such features scattered throughout the project area, therefore there are ample opportunities for restoration or enhancement of wetland function on a local scale that do not require any changes to the regional hydrology. Should CERP or other regional scale projects result in substantial changes to regional hydrology, removal of local hydrologic barriers would enhance whatever beneficial effects are realized as a result of regional restoration.

There may also be opportunities to implement restoration or enhancement projects that would affect hydrology over a large area, because of the large blocks of contiguous public land that now exist. Such projects would likely be funded through pursuit of grant or other outside funding, and may include features identified during the CERP planning process that were not included in the final CERP Project Implementation Report (PIR) because of time or budgetary constraints.

Management Goals and Objectives

OVERARCHING INTERIM GOAL: Bring the IMP Project area into a condition that is conducive to making long-term management feasible.

GOAL 1: Remove invasive exotic species to the extent feasible.

OBJECTIVE 1A: Remove 95% of invasive exotic plant species in publicly owned and managed areas.

OBJECTIVE 1B: Maintain populations of invasive exotic plant species at less than 5% cover within areas that have been treated for invasive species.

OBJECTIVE 1C: Remove invasive exotic animals wherever feasible.

OBJECTIVE 1D: Cooperate with regional invasive species management teams whose jurisdictions are adjacent to or overlap with the project area.

OBJECTIVE 1E: Where feasible, support efforts of private landowners, with priority given to large landowners, to maximize removal of invasive exotic plant species on private inholdings.

GOAL 2: Maximize opportunities to reduce the region's susceptibility to exotic species invasion.

OBJECTIVE 2A: Remove unnecessary features that provide habitat and/or travel corridors for invasive species, including roads, borrow pits, canals, etc.

OBJECTIVE 2B: Improve local and regional hydrology to reduce habitat for invasive species.

OBJECTIVE 2C: Investigate methods for reducing the region's susceptibility to invasive species colonization, and implement as appropriate.

OBJECTIVE 2D: Work with land use agencies to minimize incompatible land uses that could increase area susceptibility to invasive species colonization.

GOAL 3: Improve access control.

OBJECTIVE 3A: Reduce inappropriate uses and damage to wetlands by installing and maintaining access control measures in appropriate locations wherever possible.

OBJECTIVE 3B: Maintain, and increase where possible, enforcement patrols within the project area.

OBJECTIVE 3C: Work with adjacent private property owners to increase the number and security of access control measures.

OBJECTIVE 3D: Seek dedication of rights of way and/or transfers of rights of way to conservation status to the extent possible.

GOAL 4: Reduce vegetation impacts and wildlife mortality due to human activities, with emphasis on protection of rare and protected species, including but not limited to threatened and endangered species.

OBJECTIVE 4A: Investigate methods to limit off-road vehicular traffic to the minimum necessary for management and maintenance activities in order to minimize trampling impacts, and implement wherever feasible.

OBJECTIVE 4B: Investigate methods to limit road vehicular traffic to the minimum necessary for management and maintenance activities in order to minimize roadkill impacts, and implement wherever feasible.

OBJECTIVE 4C: Work with appropriate agencies and landowners to ensure that necessary human activities in the region avoid and minimize impacts to ecological resources. Strategies should include avoiding intrusion into existing wildlife corridors, and where avoidance is not possible, utilizing protection measures to the extent feasible.

Such protection measures should include, but not be limited to, providing appropriate buffers between human use facilities and natural features, utilization of appropriate native plant species in plantings, avoiding intrusion into existing wildlife corridors, and use of road underpasses and wildlife fencing, as appropriate and wherever feasible.

GOAL 5: Where feasible, eliminate or remediate existing pollution problems.

OBJECTIVE 5A: Remove solid waste from public land, with highest priority given to locations where access control measures have been successfully implemented.

OBJECTIVE 5B: Develop and implement restoration/remediation projects for areas with a history of adverse impacts.

GOAL 6: Use prescribed fire to achieve management goals when and where feasible.

OBJECTIVE 6A: Develop partnerships with other agencies involved in local and regional prescribed fire activities.

OBJECTIVE 6B: Work with the Florida Division of Forestry (FDOF) to prepare burn plans for sites where prescribed fire seems feasible, and implement if weather conditions permit.

OBJECTIVE 6C: Work with FDOF to develop a wildfire strategy that balances protection of property with opportunities to utilize wildfire to achieve regional management goals.

GOAL 7: Restore ecological function wherever feasible, consistent with CERP and other planned regional restoration projects. Restoration should include but not be limited to hydrologic improvements, removal of physical impediments to overland flow (e.g. roads, berms, canals) and restoration of flow in historic sloughs and other flowways.

OBJECTIVE 7A: Identify opportunities for physical feature removal, including but not limited to roads, berms, and levees, that would enhance wetland hydrologic and ecologic functions without impairing land management access, and implement removal wherever feasible.

OBJECTIVE 7B: Prepare conceptual plans for at least one restoration project to achieve restoration or enhancement of wetland function.

OBJECTIVE 7C: Provide technical support and expertise to regional restoration projects such as CERP.

OBJECTIVE 7D: Explore the potential to construct proposed features that may otherwise be built by CERP using alternative funding sources, and implement such opportunities where feasible.

OBJECTIVE 7E: Consistent with the goals and objectives of the Biscayne Bay Coastal Wetlands CERP Project, explore restoration alternatives within/along existing travel corridors, including but not limited to the SW 137 Avenue corridor.

OBJECTIVE 7F: Consistent with the goals and objectives of the C-111 Spreader Canal CERP Project, cooperate to implement stage increases at the S-20 structure.

Planning and Project Management

An annual work plan/budget, based on the Interim Management Plan, will be prepared and approved by the project contacts and key officials for the County and the District for inclusion in each agency's official budget. Both agencies will fund for land management in the project area exclusive of projects such as CERP, flood control, right-of-way, or other unrelated activities.

The annual work plans will list individual projects that are to be completed during a fiscal year. Each project will be described and have a contribution commitment and management function defined from each agency. The projects will be completed by one or both agencies through management functions that include one or more of the following:

1. Perform management across ownership boundaries based on management activity,

2. Perform multiple management functions across a broader area within the project,

3. Enter into joint contracts with contractors where there is a clear economy-of-scale advantage to doing it,

4. Collaboration between agencies to provide cost savings through sharing of staff and equipment to complete a project.

FIGURE B-1 - 2010 MOU PROJECT BOUNDARY

MIAMI-DADE COUNTY

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

Status of Public Land Acquistion
Current to March 2010

LEGEND

- 2010 MOU Boundary
- South Dade Wetlands
- Biscayne Coastal Wetlands
- Keyhole Wetlands

- MIAMI-DADE COUNTY OWNED
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT OWNED
- EVERGLADES ALLIGATOR FARM
- ATLANTIC CIVIL PROPERTIES
- FLORIDA ROCK & SAND MITIGATION AREA
- FP&L MITIGATION BANK
- OTHER FP&L
- STATE OF FLORIDA

- SOUTHERN GLADES WEA
- EVERGLADES NATIONAL PARK

N
W E
S

1 0 1 2 3 Miles

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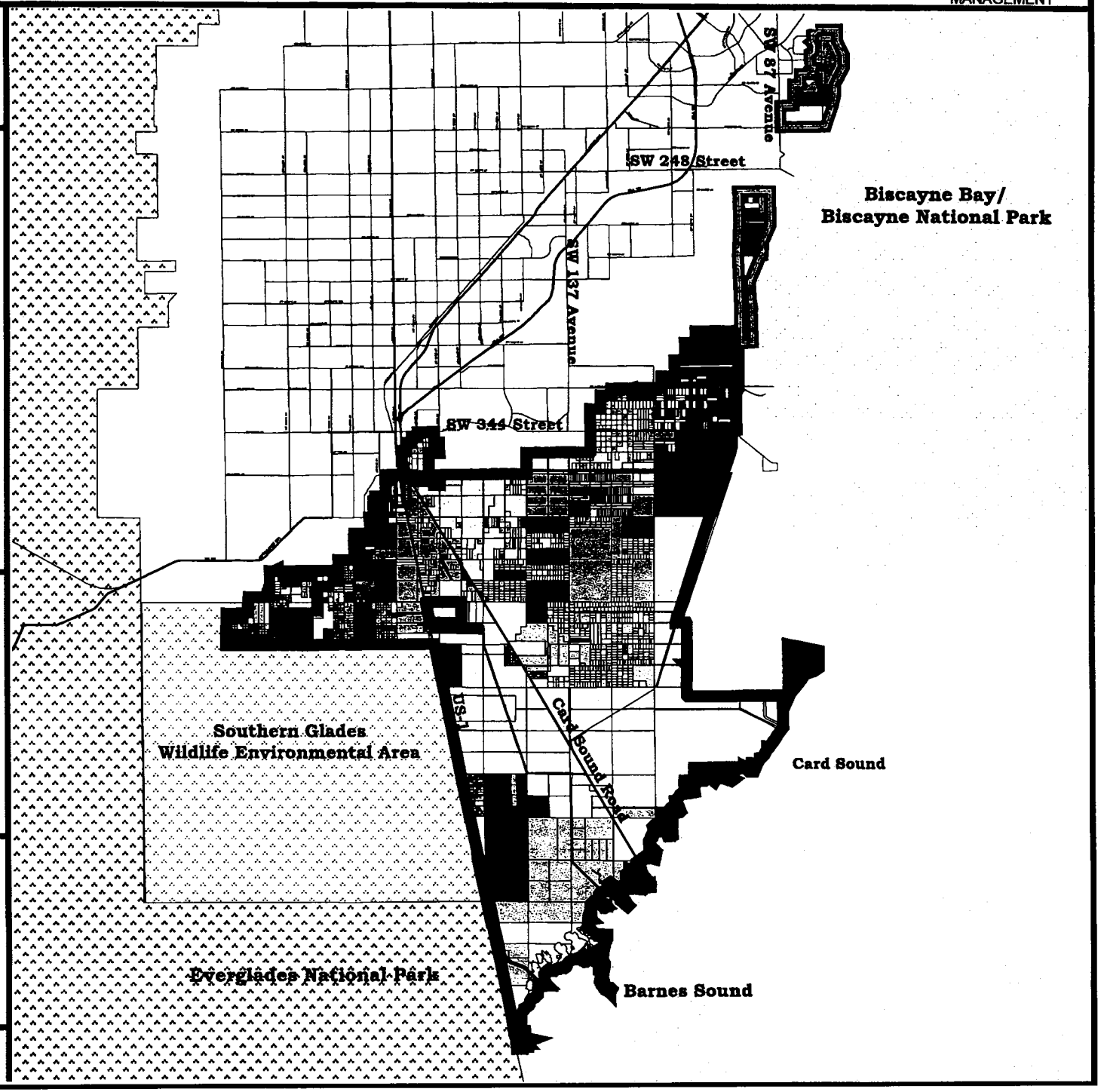
JG - March 17, 2010



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MIAMI-DADE COUNTY

FIGURE B-2 - REGIONAL SOILS

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

Source: 1996 Dade County Soil Survey

LEGEND

2010 MOU Boundary

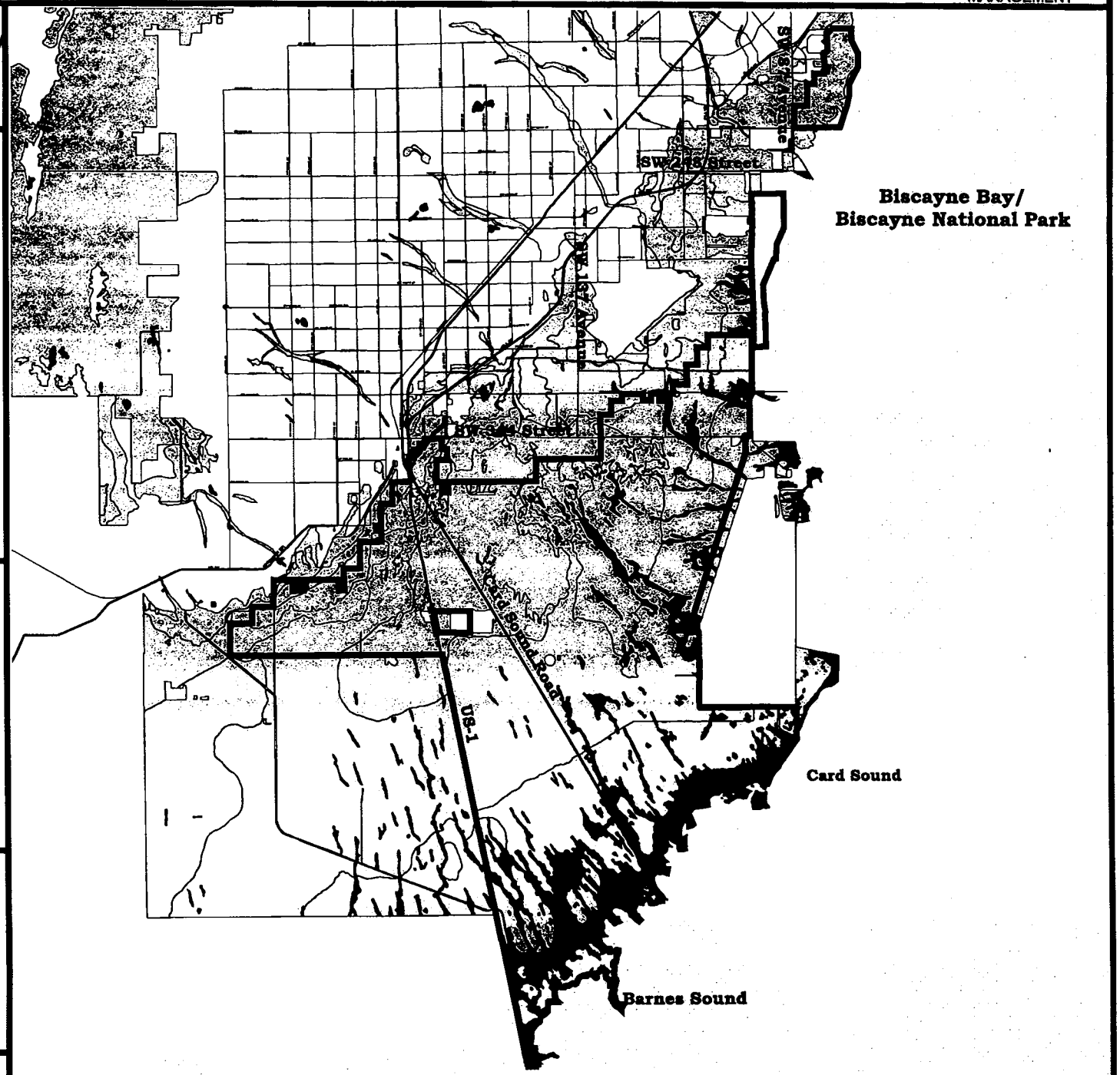
Regional Soil Groups

- Marl
- Muck

- No Information
- Water

N
W E
S

1 0 1 2 3 4 5 6 Miles



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MIAMI-DADE COUNTY

FIGURE B-3 - GENERAL VEGETATION

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

LEGEND

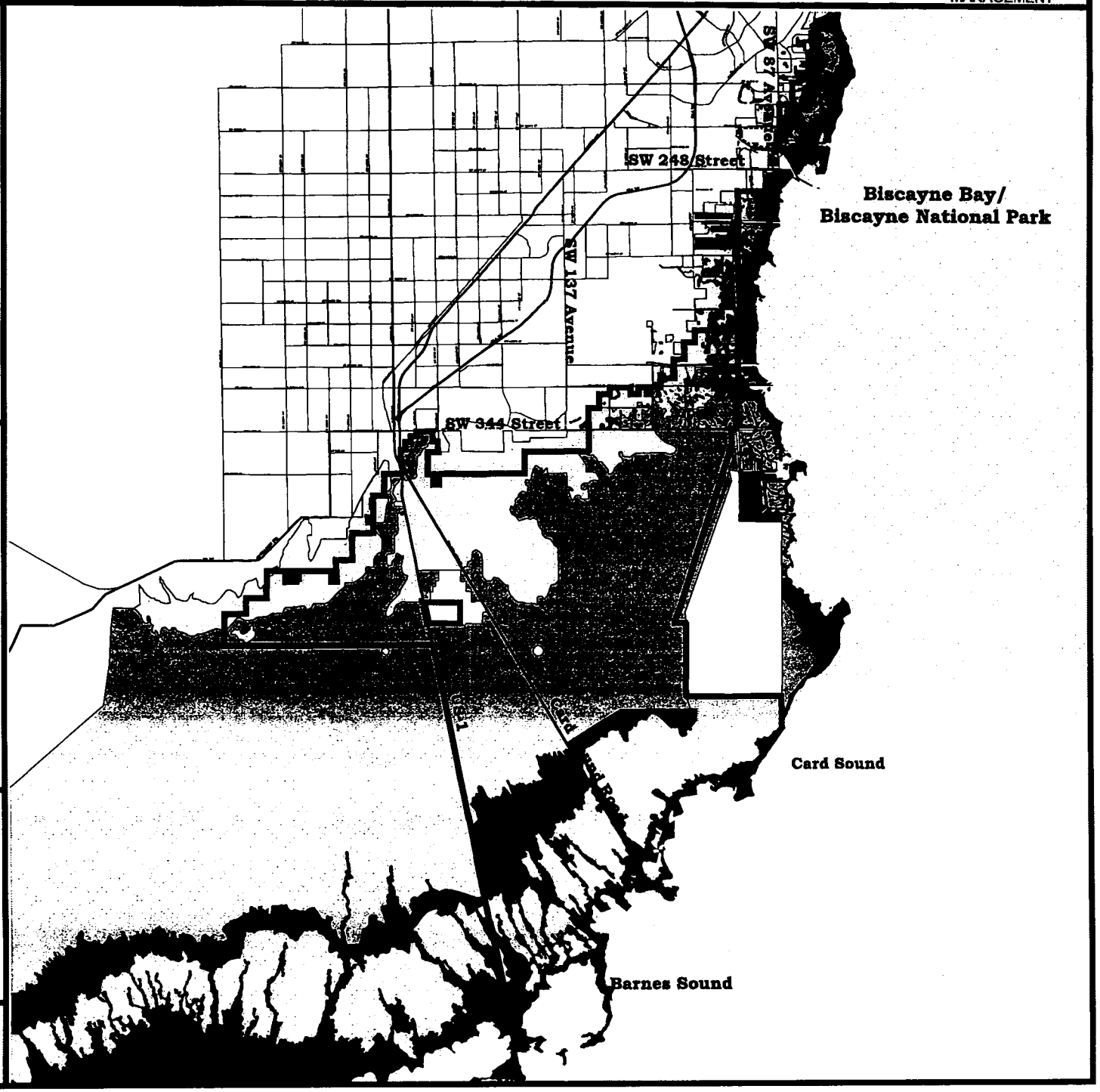
2010 MOU Boundary

Regional Vegetational Trends

- Forested Wetlands
- Sawgrass Marsh/Prairie
- Sawgrass/Salt Marsh with Mangroves
- "White Zone" Ecotone
- Coastal Forests
- Open Water
- Not Mapped
- Water Bodies

N
W E
S

1 0 1 2 3 4 5 6 Miles



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MIAMI-DADE COUNTY

FIGURE B-4 - EXOTIC PLANT SURVEY

DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

2009 AERIAL

LEGEND

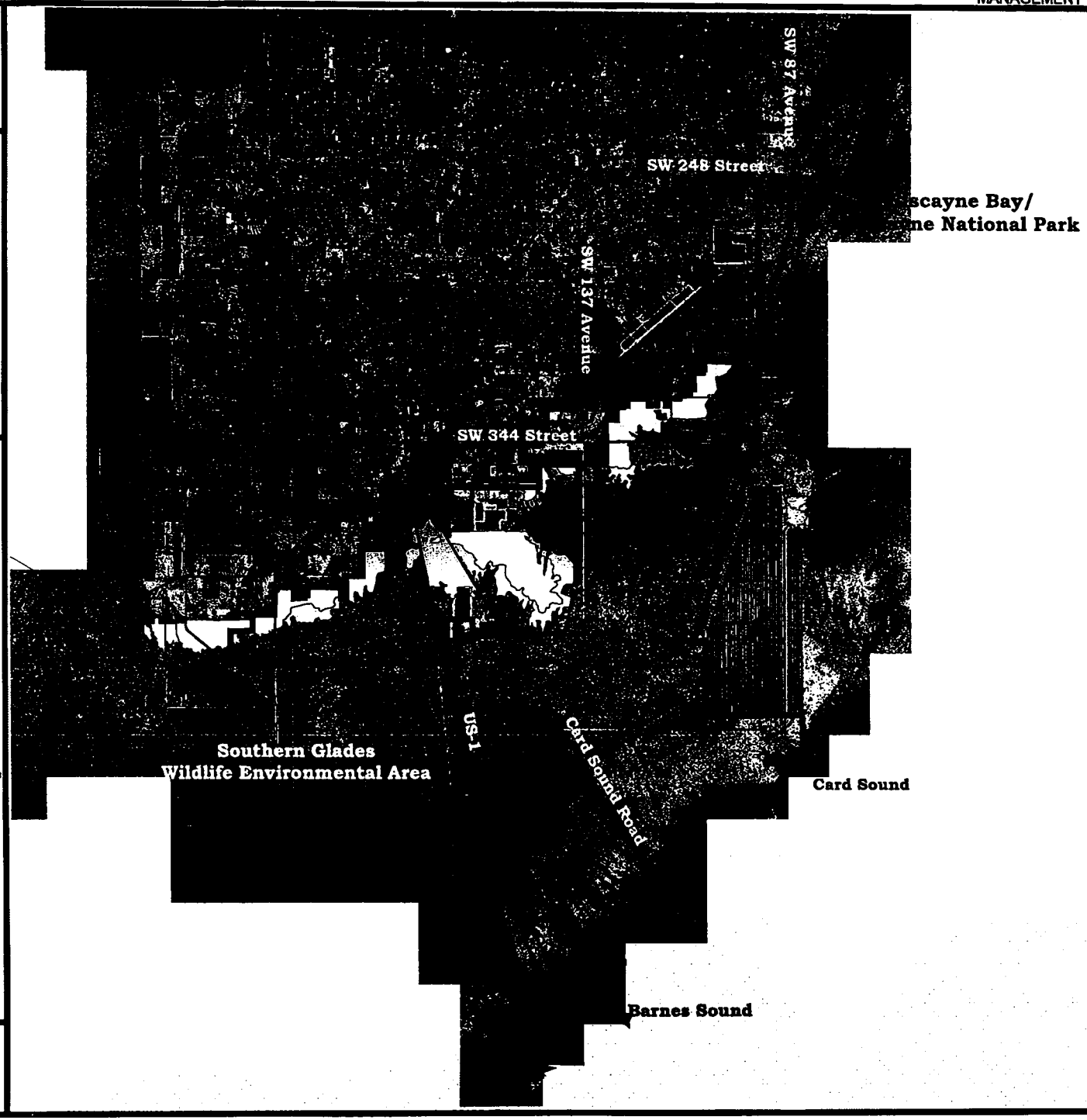
2010 MOU Boundary

Exotic Plant Species Infestation (Percentage within Mapped Areas)

- Low < 10%
- Moderate 10-40%
- High > 40%

N
W E
S

1 0 1 2 3 4 5 6 Miles



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