

STRATEGIC IMPLEMENTATION OF THE ENVIRONMENTALLY ENDANGERED LANDS PROGRAM

September 2016

Final Report for Resolution R-47-15 in
support of the Sea Level Rise Task
Force final recommendations

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Note on all figures:

If you have any questions or trouble reading any of the figures, please contact the Office of Resilience at green@miamidade.gov to request additional information or a higher resolution version.

Figure 1: Natural areas protect Miami-Dade County from climate change and extreme weather.



Source: Bing Maps, 2016

Introduction

Supporting Resolution & Context

On January 21, 2015, the Board of County Commissioners passed Resolution R-47-15, which directs the Mayor or Mayor's designee,

"to continue strategic implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) Program, consistent with Program objectives as approved by the voters, and to identify potential additional long-term funding sources for the continued acquisition and management of EEL lands."

This final report is provided pursuant to R-47-15. The report first presents a history of the Environmentally Endangered Lands (EEL) Program and its importance for adapting to climate change and sea level rise. The Program's recent progress is also described, including information on the acquisition of approximately 250 acres during this past year. A primary focus of this report is to identify additional potential funding mechanisms. The report includes six (6) potential sources and Program staff continue to evaluate which resources are appropriate to meet short-term and long-term needs. A combination of sources will likely be required moving forward; however, additional funding from the recent passage of Amendment 1 is an important potential source.

Figure 2: The EEL Program provides essential habitat and has protected more than 24,000 acres.



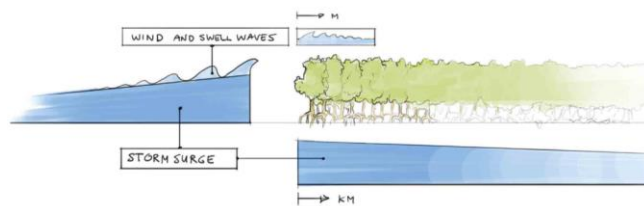
The Environmentally Endangered Lands Program Supports Climate Change Adaptation

Miami-Dade County's natural environments, like coastal barrier islands, mangrove forests, shallow bays, estuaries, and wetlands, are an important first line of defense against climate change (Figure 1). In addition to their intrinsic value as conservation lands, these rich natural resources are also the best insurance to protect our fresh drinking water and our coasts from the impacts of gradual sea level rise and extreme weather.

In 1990, the electorate of Miami-Dade County authorized the County to levy a two year ad valorem tax for acquisition, preservation and maintenance of environmentally endangered lands for the benefit of present and future generations. The initial funding allowed for the creation of the EEL Program. Through the EEL Program, the County has been able to protect more than 24,000 acres of natural areas that are critical to our region's ecological health and our ability to adapt to climate change. These properties provide numerous ecosystem services to the developed areas of the County. The ecological health of these environments also provides important social and economic benefits to our communities by preserving our natural heritage and green spaces for our families, and supporting our tourism economy (Figure 2).

One of the key values these areas provide is protection for our coastlines from erosion and storm surge.¹ The wider and the thicker the natural buffer, the more the mangrove forest can protect the communities behind it by dampening wave energy and potentially delaying or reducing the height of storm surges (Figure 3). For

Figure 3: Protected lands provide natural flood protection.



Source: Spalding M, McIvor A, Tonneijck FH, Tol S and van Eijk P, 2014

example, a mature and healthy forest with a complex root system could help dissipate wave energy more effectively than a thinner or fragmented forest (Figure 4).² Though exact values will vary by location, research has shown that a mature mangrove forest can reduce wave energy by 20 percent for every 300 feet of forest.³ A local study found the mangrove forest effectively attenuated surge and reduced the area inundated during Hurricane Wilma (a Category 2 storm).⁴ The wider the buffer the more effective it is likely to be at protecting communities from surge caused by tropical storms. The acquisition of wetlands in the southern portion of the County along the natural mangrove coast has helped protect the communities behind those properties. These natural barriers can also be used in concert with "grey infrastructure" or manmade coastal defenses; however, it is essential to first preserve and enhance the natural defense to reduce the need and cost of other protective mechanisms.

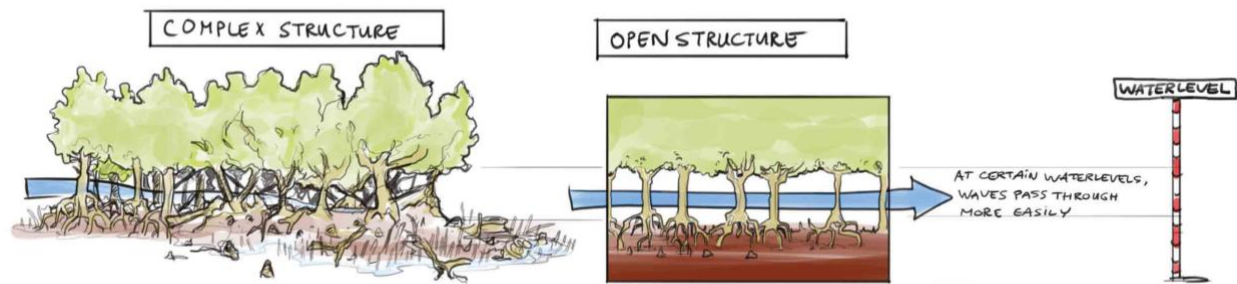
¹ Horstman, E.M., Dohmen-Janssen, C.M., Narra, P.M.F., et al., "Wave Attenuation in Mangroves: A Quantitative Approach to Field Observations" Coastal Engineering (2014) 94, 47-62

² Spalding M, McIvor A, Tonneijck FH, Tol S and van Eijk P (2014) Mangroves for coastal defence. Guidelines for coastal managers & policy makers. Published by Wetlands International and The Nature Conservancy. 42 p

³ Mazda, Y., Magi, M., Kogo, M. & Hong, P.N. (1997a) Mangroves as a coastal protection from waves in the Tong King delta, Vietnam. Mangroves and Salt Marshes, 1, 127-135.

⁴ Zhang, K., Liu, H., Li, Y., Zu, H., et al., "The Role of Mangroves in Attenuating Storm Surges" Estuarine, Coastal and Shelf Science (2012) 102-103, 11-23. Available at http://sofia.usgs.gov/publications/papers/mang_storm_surges/

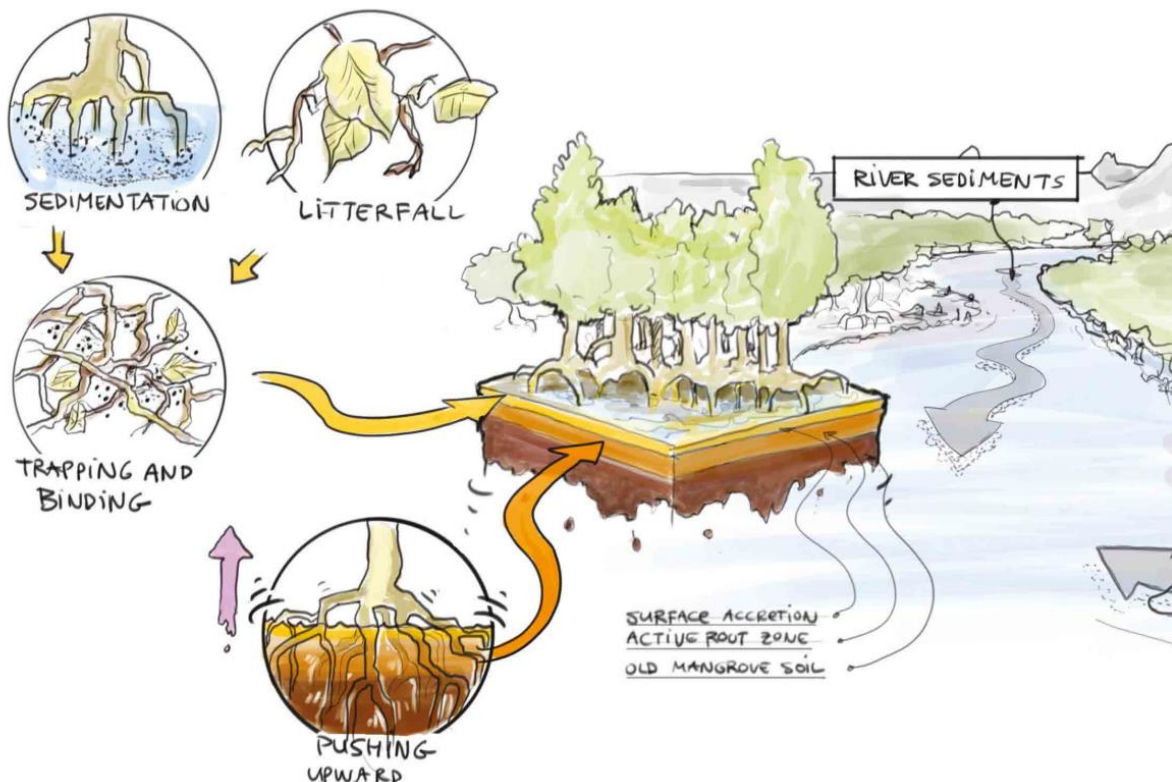
Figure 4: Dense mangrove forests can help diminish wave energy.



Source: Spalding M, McIvor A, Tonneijck FH, Tol S and van Eijk P, 2014

In contrast to manmade flood defenses, mangrove forests have a natural ability to adapt in place and keep pace with rising sea levels if the environmental conditions are favorable (Figure 5). However, many factors may compromise their ability to acclimate. If the rate of sea level rise is too great, if there is a shortage of sediment, or if development or environmental stressors impact the mangroves, they may not be able to keep pace with sea level rise. As a result, if the forests are too stressed, the width of the buffer area and their protective value would diminish.⁵ Protecting the health and integrity of these ecosystems can therefore contribute to the long-term safety and ability to adapt to sea level rise for the communities protected by them.

Figure 5: Mangrove forests ability to trap sediment and adjust to changing water levels.



Source: Spalding M, McIvor A, Tonneijck FH, Tol S and van Eijk P, 2014

⁵ Yip Lee, S., Primavera, J., Dahdouh-Guebas, F., et al., "Ecological Role and Services of Tropical Mangrove Ecosystems: A Reassessment". Global Ecology and Biogeography (2014) 23, 726-743

As sea levels rise, coastal ecosystems naturally shift with the changing conditions. When development constrains the ability for ecosystems to shift or migrate in the face of changing conditions “coastal squeeze” can happen. This means that the coastal ecosystems are squeezed between higher water levels and development inland. As a result they can erode or diminish with time, reducing the protective and ecological capacity and value they provide.⁶

In order to guard against this, it is crucial to protect these vital resources through conservation and preservation with the help of the EEL Program. In order to further the goals of this successful program more sustainable funding sources need to be found. This funding will support the continued acquisition and management of these natural assets. Strategic acquisition of these resources is critical, especially in communities, such as those in south Dade, that currently benefit from their protection.

Our aquifers provide the main source of drinking water for Miami-Dade County. Wetlands and open space also protect our freshwater resources. Conservation lands protect the water quality by reducing the possibility of contamination in the wellfield area. In addition to improving the quality of water, these areas allow water to infiltrate and recharge the aquifer. This recharge can help reduce saltwater intrusion, a threat to our water supply (Figure 6). At the base of the Biscayne Aquifer in southern Miami-Dade County, saltwater intrusion

Figure 6: Open space helps recharge freshwater aquifers.



Source: South Florida Water Management District

now extends more than six (6) miles inland and gradual sea level rise will increase the risk of further intrusion. Maintaining open space and the ability to recharge the freshwater aquifers will help the County protect clean and reliable water supplies into the future. These areas also can help reduce flooding risks by storing or delaying the discharge of water during periods of heavy rain.

EEL lands also help mitigate climate change by sequestering carbon. These areas can also help regulate temperatures and improve water and air quality for adjacent areas. For example, wetlands can help treat stormwater runoff and reduce the level of pollution that reach the bays and beaches. They also provide passive recreational space and educational opportunities for residents. Miami-Dade's unique ecosystem can also attract tourism to the region.

⁶ Yip Lee, S., Primavera, J., Dahdouh-Guebas, F., et al., "Ecological Role and Services of Tropical Mangrove ecosystems: A Reassessment". Global Ecology and Biogeography (2014) 23, 726-743

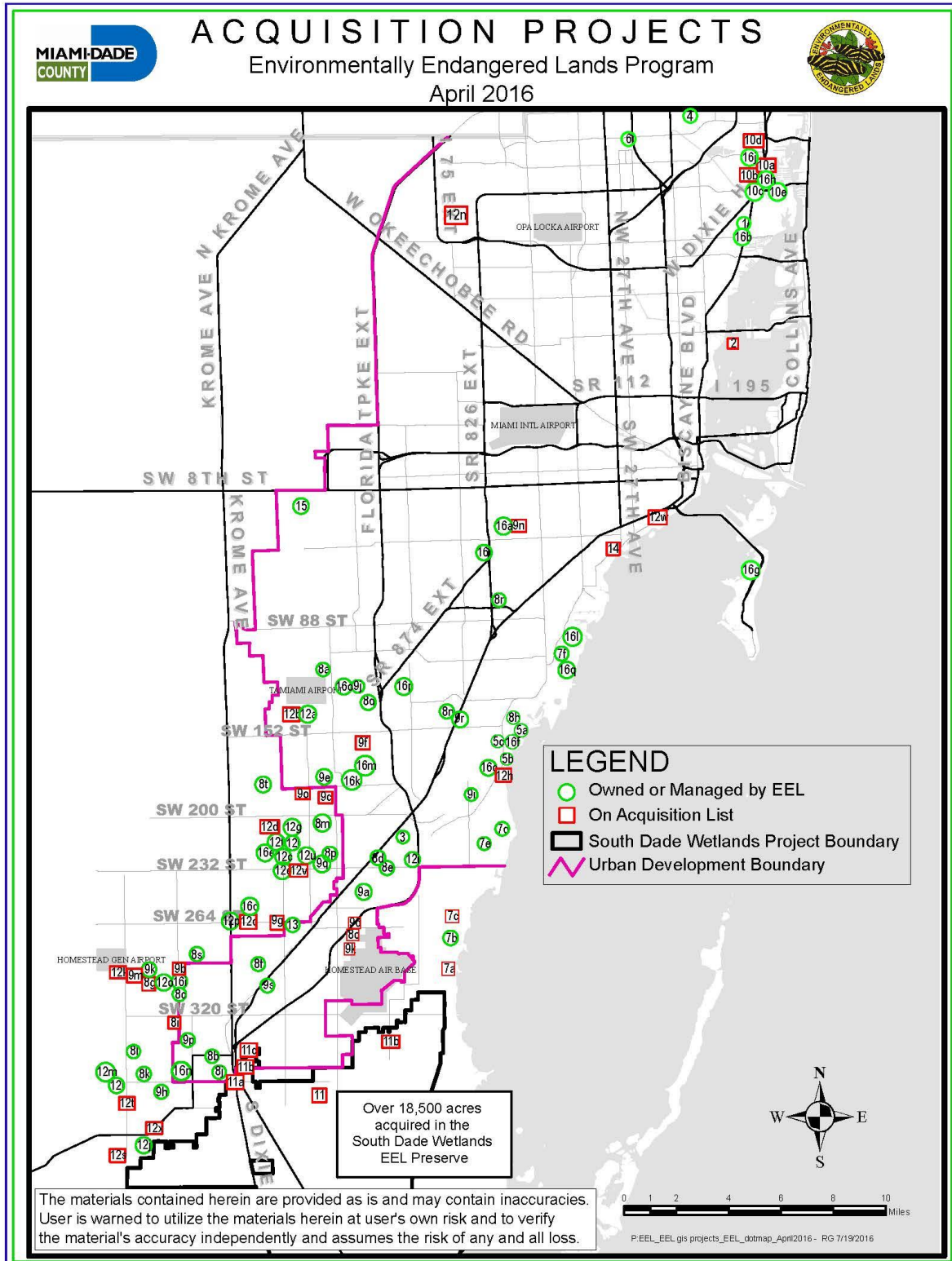
These areas have an intrinsic ecological value as conservation areas. EEL Preserves have high biological diversity and provide critical refuge for rare species that could otherwise be lost, especially in the face of climate change. The EEL Program helps mitigate the well documented historic loss, fragmentation, and degradation of native wetland and upland forest communities, considered globally-imperiled ecosystems. These areas support the wider food web and can enhance fisheries.

The Program has been strategically complementing other regional restoration efforts to maximize their value as conservation lands and reduce fragmentation. By acquiring larger, contiguous areas and completing the acquisition of partially acquired preserves, the Program can provide ecological and managerial benefits. From an ecological perspective, contiguous areas can improve habitat value, reduce encroachment of invasive species, and can facilitate ecosystem migration with climate change. From a management perspective, contiguous parcels can be more efficiently managed. For example, it is easier to control illegal access, remove invasive plants or implement prescribed burns to contiguous conservation areas, than to work around and between private property boundaries. Comprehensive ownership of the preserves will help further Program goals and allow for more efficient use of resources. Miami-Dade County benefits from several long-range plans that advise how we preserve open space including the Parks and Open Space Master Plan and the Comprehensive Everglades Restoration Plan (CERP). The EEL Program is a key component of this comprehensive effort to ensure the health and protective value of our natural resources. Another positive development is the recent passage of HB 989, the Legacy Florida bill. The bill was signed by the Governor on April 7 and would likely help the County coordinate land acquisition with the South Florida Water Management District and support restoration efforts, particularly in south Dade.

Recent Progress

Since the Program's inception, EEL along with its partners has successfully acquired and managed more than 24,000 acres of environmentally endangered land (Figure 7). The Program has also identified strategic priorities for future acquisitions. Together these properties represent a wide range of habitats, which provide a myriad of ecosystem services to the community.

Figure 7: Environmentally Endangered Lands Program acquisition projects as of February 2016.



As summarized in the table below, between January 21, 2015, and January 7, 2016, the EEL Program has acquired 249.78 acres at a total cost of \$1,177,081 (Table 1). These acquisitions were partially funded in General Obligation Bonds (\$1,090,081) and funding from the EEL Trust Fund (\$87,000). This acreage includes the purchase of 15 parcels ranging in size from 1.17 acres to 160 acres. These recent acquisitions include lands within the Goulds Pineland Preserve (Figure 8) and the South Dade Wetlands Preserve (Figure 9). The figures below show how these acquisitions have helped reduce fragmentation between other EEL preserves and lands owned by the South Florida Water Management District. As mentioned before, reducing fragmentation has important benefits in reducing management costs and increasing impact of environmental conservation efforts.

Table 1: Lands acquired during the report period Jan 21, 2015- Jan 7, 2016.

Folio Number	Project name	Acreage	Purchase price
3089180000070	South Dade Wetlands Preserve	24.9	\$104,367.24
3089170000030	South Dade Wetlands Preserve	160.0	\$670,632.76
3089230000920	South Dade Wetlands Preserve	5.0	\$15,027.00
3089230000900	South Dade Wetlands Preserve	5.0	\$15,027.00
3069130000780	Goulds Pineland Preserve	1.17	\$60,700.75
3069130000710	Goulds Pineland Preserve	2.3	\$119,326.25
3089120000510	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000520	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000550	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000540	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000530	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000500	South Dade Wetlands Preserve	5.0	\$15,000.00
3089120000480	South Dade Wetlands Preserve	5.0	\$15,000.00
3089070010220	South Dade Wetlands Preserve	7.61	\$42,000.00
3089070010210	South Dade Wetlands Preserve	8.8	\$45,000.00
Total		249.78- Acres	\$1,177,081

The EEL Program considers multiple criteria when exploring acquisition strategies: rare and critically imperiled habitat; projects involving regional restoration efforts, such as CERP; and the completion of partially acquired preserves. The acquisition of the red parcels below in the Goulds Pineland Preserve (Figure 8) and the South Dade Wetland Preserve (Figure 9) are examples of such efforts.

Figure 8: Lands acquired in the Goulds Pineland Preserve during the report period.

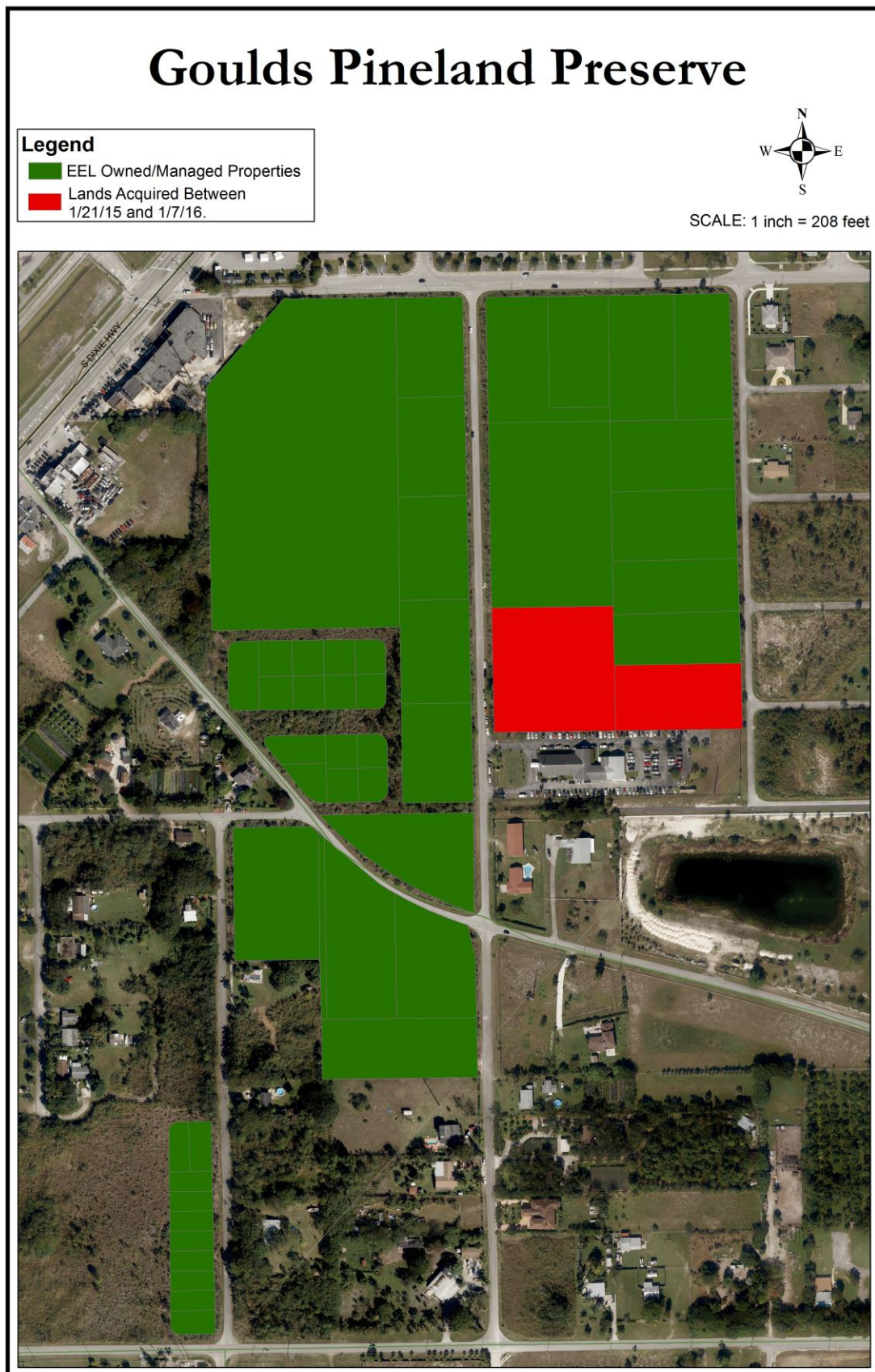
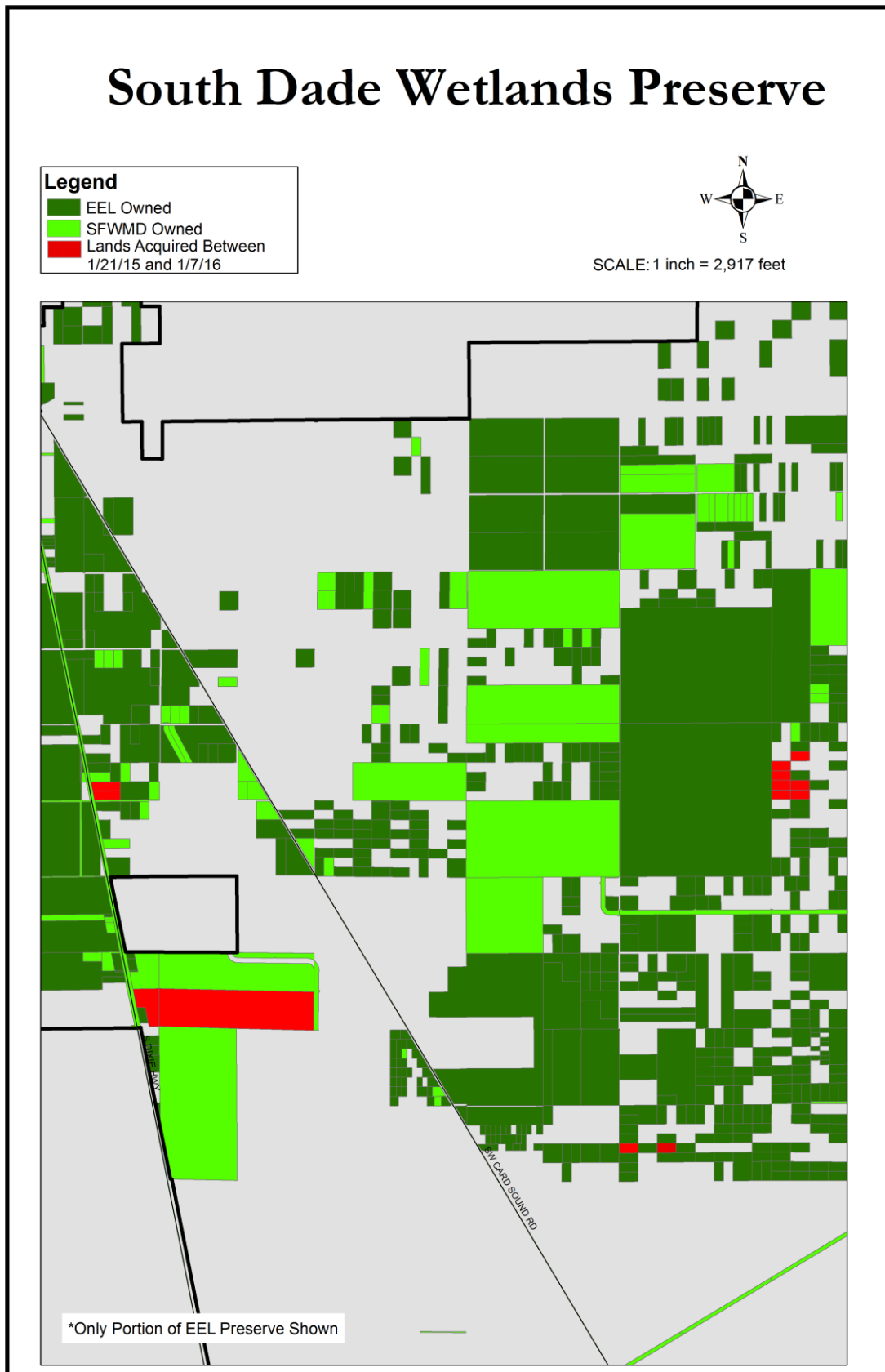


Figure 9: Lands acquired in South Dade Wetlands Preserve during the report period.



Existing EEL Program Funding

A key consideration affecting the EEL Program's long-term success is the ability to fund the perpetual management of EEL Preserves and to acquire the remaining land on the current Acquisition List (Appendix 1). The voter-approved collection of the ad valorem tax provided \$90 million in initial funding to the EEL Trust Fund. This amount was allocated primarily to acquisition (\$80 million) and to management (\$10 million).

The Program has succeeded in leveraging this original investment made by County taxpayers and has accrued \$198 million in revenue since its inception. This revenue has been attained from a variety of sources including grants, General Obligation Bond funds, interest and other sources.

Since its inception, the Program has expended \$157 million on acquisition, management and administration.⁷ The balance of the EEL Trust Funds at the end of fiscal year 14-15 was approximately \$41 million. This amount is approximately evenly divided between the Acquisition Fund and the Management Fund (Table 2). The balance of the EEL acquisition allocation of the Building Better Communities-General Obligation Bond program at the end of fiscal year 14-15 was over \$12.7 million.

Table 2: Balance of EEL Trust Fund at the end of fiscal year 14-15.

Balance of the EEL Trust Funds	
Acquisition Fund	\$20,613,878.91
Management Fund	\$20,045,968.82
Total	\$40,659,847.73

Funding for the acquisition of new properties comes from either the EEL Acquisition Trust Fund or from Building Better Communities General Obligation Bond funds. These funding sources are specifically designated for EEL land purchases by referendum and Board of County Commissioners approval. Any other future source of funding that becomes available for EEL purchase, such as grants, is also subject to approval by the Board.

Funding for Management

Land management activities are funded through the EEL Program's Management Fund. However, ongoing land management costs currently exceed the \$3 million dollars budgeted for these activities on an annual basis and cannot be sustained under the current model. The Program has endeavored to address land management needs by engaging community partners and volunteers and by securing additional intermittent sources of funds; however, additional or recurring revenue sources need to be identified and secured to assure that funding for program objectives can be sustained into the future.

Figure 10: Volunteers supporting EEL areas.



⁷ As of the end of fiscal year 14-15

Potential Future Funding Sources

While the County has funding for the coming years, additional or recurring funds will need to be identified to address long-term sustainability of both acquisition and maintenance. Therefore, in addition to continuing to seek intermittent sources of funds, it is also important that long-term funding options be identified. The following are some potential options for consideration:

- **Florida Constitutional Amendment 1**

Amendment 1, also called the Florida Water and Land Conservation Initiative, was approved in 2014. The measure was designed to dedicate 33 percent of net revenue from the existing excise tax on documents to the land Acquisition Trust Fund at a state level. Over the next 20 years this amendment may result in more than \$10 billion in revenue for conservation, management, and restoration of water and land resources. As the most populous county in Florida, Miami-Dade County generates a significant share of Florida's total stamp tax revenues which provides funds to Amendment 1 Programs. The EEL Program already partners with the State of Florida to acquire conservation lands within Miami-Dade County using local funds supplemented with \$14.5 million in grants from the State. The EEL Program is responsible for managing both County-owned and State-owned lands.

The Board has already approved R-173-15 which urged the Florida Legislature to allocate funding for Miami-Dade County's EEL Program for conservation land acquisition pursuant to Amendment 1. Although the state did not provide funding to the EEL Program under this urging, Miami-Dade County could continue to seek Amendment 1 funds for Program activities. Signed by the Governor on April 7, HB 989, the Legacy Florida bill, could potentially help the County better coordinate land acquisition with the South Florida Water Management District and would support restoration efforts, particularly in south Dade.

- **Green Utility Fee**

Counties with a population of 500,000 or more and municipalities with a population of 200,000 or more are authorized to create one or more green utilities or adopt fees to plan, restore, and manage urban forest resources, greenways, forest preserves, wetlands, and other aquatic zones. They may also create a stewardship grant program for private natural areas.⁸ The fee is collected on a voluntary basis as set forth by the county or municipality. The fee is calculated to generate sufficient funds to plan, manage, operate and administer a greenspace management program. The fee proceeds are used to plan, restore and manage urban forest resources, greenways, forest preserves, wetlands, and other aquatic zones. Miami-Dade County could consider the implementation of a Green Utility Fee as authorized under state statute to fund EEL Program activities.

- **State Legislative Proposal to Allocate Funds to the EEL Program for Exotic Plant Removal and Management**

In the 2016 legislative session, a proposed bill would modify state statutes to provide an exception from certain restrictions on the use of governmental lands for mitigating the impacts of the mining of construction aggregate materials. Although the bill did not pass during this session, if such a bill were

⁸ Information from the Florida Legislature's Office of Economic and Demographic Research December 2015 Local Government Financial Information Handbook available at <http://edr.state.fl.us/Content/local-government/reports/lgh15.pdf>

passed in the future, it would include the removal and management of exotic plants as approved mitigation and therefore this funding could become available for EEL land management activities.

- **New EEL Referendum**

The ability of local governments to raise revenue for governmental operations is limited by the state constitution.⁹ However, the state constitution provides two exceptions to limitations, including a voted debt service millage and a voted millage, not to exceed a period of two years. No property may be subject to more than twenty mills of ad valorem tax for municipal and county purposes without elector approval. Currently, the 2015 millage rate for unincorporated Miami-Dade County is 18.2576, which is below the twenty-mill cap. Proposing a millage increase for the purpose of conserving valuable natural resources could be feasible especially given historic support for this kind of initiative.

Florida has demonstrated a high level of support toward initiatives that protect its environmental resources. Between 1990 and 2009, voters in 78 of 96 local governments throughout Florida have approved funding measures for open space acquisition (including in Miami-Dade County). When asked on a local ballot, Florida voters overwhelmingly (more than 81 percent) said “yes” to the use of their taxes for land conservation, including residents of Alachua, Brevard, Broward, Charlotte, Collier, Duval, Flagler, Hillsborough, Indian River, Lake, Leon, Martin, Miami-Dade, Osceola, Pinellas, Palm Beach, and Polk counties. At the state level, voters have also spoken loudly in support of land conservation. In 2014, Florida Amendment 1 passed with more than 74.95 percent of the statewide vote and 75.64 percent of the Miami-Dade County vote. Voter-approved funding mechanisms have included property taxes, sales taxes, and bonds and have ranged from \$20 million to \$250 million per referendum. Miami-Dade County could consider a new voter referendum to gauge public support for a millage increase to fund EEL Program activities into the future.

- **Continued use of Miami-Dade County’s Wetlands and Tree Trust Funds**

The Miami-Dade County Wetlands Trust Fund and Tree Trust Fund, Sections 24-37 and 24-39 of the Code of Miami-Dade County, respectively, receive mitigation funds for permits issued for work in wetlands or for the removal of trees. The mitigation funds in these trust funds can only be spent on the acquisition, restoration, enhancement, management, or monitoring of wetland properties or natural forest communities or for planting trees on public property. The total balance of the Wetland Trust Fund at the end of fiscal year 14-15 was \$7.2 million with an unencumbered balance of approximately \$4 million. The balance of the Tree Trust Fund at the end of fiscal year 14-15 was approximately \$2.8 million with an unencumbered balance of \$1.5 million. These mitigation funds have been used by EEL to acquire and manage lands, and to plant trees in publicly owned natural areas. Since September, 2004, the Wetland Trust Fund has provided more than \$18.7 million to the EEL Program for acquisition, enhancement and management of wetlands in south Miami-Dade County. The EEL Program could continue to pursue these funding opportunities for the acquisition of natural areas or planting of trees in areas acquired by EEL.

- **Stormwater Utility Fee**

Conservation lands can provide protection for surface and groundwater resources, as wetlands naturally provide areas for water storage and water quality improvement. The Miami-Dade County

⁹ Millage information from the Florida Legislature’s Office of Economic and Demographic Research December 2015 Local Government Financial Information Handbook available at <http://edr.state.fl.us/Content/local-government/reports/lgifh15.pdf>

Stormwater Utility was established on June 18, 1991 by Ordinance 91-66. It operates through Chapter 24 Environmental Protection Ordinance, Section 24-51, of the Code of Miami-Dade County. Section 24-51 implements the provisions of sections 403.0893 and 403.0891 of the Florida Statutes by creating a countywide stormwater utility to plan, construct, operate, and maintain stormwater management systems. Fees collected by the Stormwater Utility go toward the planning, construction, operation and maintenance of stormwater management systems in Miami-Dade County. Efficiently managing stormwater can reduce pollution caused by silt, oil, gasoline, fertilizers, pesticides, and other litter carried by run-off. Although the ability to use Stormwater Utility Fees for EEL Program activities is limited, evaluation of the applicability of these funds may be considered on a case-by-case basis under certain circumstances where acquisition and management of the site provides direct benefits to the county's stormwater management systems.

Conclusion and Next Steps

The County's rich natural areas provide significant ecological, economic, and protective values today. These resources are also an essential component to the County's long-term ability to adapt to climate change and weather passing tropical storms. Climate change and other environmental pressures stress these natural resources and initiatives such as the EEL Program can help mitigate those impacts to ensure our communities can continue to enjoy the benefits of a healthy environment.

To continue advancing the Program's goals it will be necessary to secure additional sources of future long-term funding, particularly to support ongoing land management. Program staff have identified several measures to stretch available resources. The Program will work to maintain land management expenses at or below \$3 million per year. This can be partially achieved by continuing to rely on volunteer assistance to support management activities. Staff will also continue to pursue acquisitions in existing preserves to maximize management efficiencies. This can be achieved by using grant funding, Building Better Communities General Obligation Bonds, and other available trust funds. Staff will also solicit a recommendation from the Land Acquisition Selection Committee about the potential transfer of funds from the Acquisition Trust Fund to the Management Trust Fund.

The County will also continue to work closely with federal, state, regional, and non-profit partners to identify potential project and funding opportunities. One of the most promising opportunities is to continue to seek Amendment 1 funds. This amendment may result in more than \$10 billion in revenue over the next 20 years for conservation, management, and restoration of water and land resources. Miami-Dade County is the most populous county in Florida and generates a significant share of Florida's total stamp tax revenues which will provide funds to Amendment 1 Programs. The EEL Program has partnered with the State of Florida to acquire conservation lands within Miami-Dade County using local funds supplemented with \$14.5 million in grants from the State. Miami-Dade County should continue to seek Amendment 1 funds for Program activities.

Appendix 1: Environmentally Endangered Lands Program Acquisitions

The following EEL Acquisition List consists of the Priority A List and the Priority B List. The Priority A List contains projects selected by the Board of County Commissioners where the County shall actively pursue acquisition. The Priority B List contains all acquisition proposals which are deemed worthy of acquisition, but which have not been assigned to the Priority A List. The County may not actively pursue acquisition of a property on the Priority B List unless a partner matches at least fifty percent of the total purchase price. The projects have been selected based on the following criteria: the biological value and viability of the resource; the vulnerability of the resource to degradation or destruction; the requirements (including costs) for managing the resource to maintain its natural attributes, and the feasibility of meeting those management requirements. The list organizes the projects by name and provides the acquisition status, acreage information, and a relative location of the preserves within the projects.

ACQUISITION PROJECTS: Environmentally Endangered Lands Program

February 2016

MAP #	PRESERVE	EEL ACQUISITION, LIST STATUS OR MANAGEMENT	ACRES		LOCATION
			Acquired	Unacquired	
1	Arch Creek Addition	Acquired	1.5	0	NE 135 St. & US-1
2	Bird Key	A List	0	38	NW 79 St. & Biscayne Bay
3	Black Creek Forest	A List	7	45	SW 214 St. & 112 Ave.
4	County Line Scrub Site (FCT, ATT)	Acquired	15	0	NE 215 St. & 4 Ave.
5	Deering Estate Additions				
5a	Deering Coastal (North) Addition (FCT)	Acquired	41	0	SW 152 St. & 67 Ct.
5b	Deering South Addition (CARL)	Acquired	32	0	SW 168 St. & Old Cutler Rd.
5c	Deering Glade Parcel (P&R, SNP, SAMP)	Acquired	10	0	15850 Old Cutler Rd.
6	Dolphin Center Addition	Acquired	4	0	NW 196 St. & 17 Ave.
7	Coastal Wetlands:	A List-unless otherwise noted			
7a	Biscayne Wetland (FCT)		0	445	SW 280 St. & 107 Ave.
7b	Biscayne Wetlands North Addition (GSA)	B List	300	0	SW 270 St. & 107 Ave.
7c	Black Point Wetlands (FCT)		79	192	SW 248 St. & 97 Ave.
7d	Cutler Wetlands (FCT)		454	787	SW 216 St. & 85 Ave.
7e	Cutler Wetlands Addition (P&R)	Acquired	19	0	SW 210 St. & 85 Ave.
7f	R. Hardy Matheson Preserve Add'n		20	21	Old Cutler Rd. & SW 108 St.
8	Miami Rockridge Pinelands: (CARL)	A List-unless otherwise noted			
8a	Camp Matecumbe (CARL)	Acquired	77	0	SW 120 St. & 142 Ave.
8b	Florida City (CARL 15)	Acquired	24	0	SW 344 St. & 185 Ave.
8c	Fuchs Hammock Addition (CARL)	Acquired	14.8	0	SW 304 St. & 198 Ave.
8d	Goulds (CARL 6)	Acquired	36.47	0	SW 224 St. & 120 Ave.
8e	Goulds Addition (CARL)		7	28.8	SW 232 St. & 120 Ave.
8f	Ingram (CARL 12)	Acquired	10	0	SW 288 St. & 167 Ave.
8g	Kings Highway (CARL14)		0	31.1	SW 304 St. & 202 Ave.
8h	Ludlam Pineland (CARL)	Acquired	10	0	SW 146 St. & 67 Ave.
8i	Navy Wells 2 (CARL)		0	20	SW 324 St. & 197 Ave.
8j	Navy Wells 23 (CARL)		20	9	SW 352 St. & 182 Ave.
8k	Navy Wells 39 (CARL)		16	4	SW 354 St. & 210 Ave.
8l	Palm Drive (CARL 16)	Acquired	20	0	SW 344 St. & 212 Ave.
8m	Quail Roost (CARL 7)	Acquired	48	0	SW 204 St. & 147 Ave.
8n	Rockdale (CARL 2)	Acquired	26	0	SW 144 St. & US-1
8o	School Board (CARL 10)		0	19	SW 268 St. & 129 Ave.
8p	Silver Palm Groves (CARL 8)	Acquired	20	0	SW 232 St. & 142 Ave.
8q	Tamiami Complex Addition (CARL)	Acquired	26	0	SW 136 St. & 122 Ave.
8r	Trinity (CARL 1)	Acquired	10	0	SW 76 St. & 73 Ave.
8s	West Biscayne (CARL 13)		15	2	SW 288 St. & 190 Ave.
8t	Wilkins-Pierson (CARL)		10	10	SW 184 St. & 164 Ave.
9	Other Rockridge Pinelands:	A List-unless otherwise noted			
9a	Andrew Dodge New Pines Preserve**	**Managed not Acquired	3.42	1.58	SW 248 St & 127 Ave
9b	Bowers Pineland		0	10	SW 296 St. & 197 Ave.
9c	Calderon Pineland		0	17.5	SW 192 St. & 140 Ave.
9d	Dixie Heights Pineland	B List	0	27	SW 268 St. & 130 Ave.
9e	Eachus Pineland	Acquired	17	0	SW 184 St. & 142 Ave.
9f	Federal Richmond Pinelands (Martinez)		142	212	SW 152 St. & 130 Ave.
9g	Hattie Bauer Pineland		0	5	SW 266 St. & 157 Ave.
9h	Navy Wells 42 (Sunny Palms)	Acquired	40	0	SW 364 St. & 202 Ave.
9i	Ned Glenn Nature Preserve	Acquired	11	0	SW 188 St. & 87 Ave.
9j	Nixon Smiley Addition (Tamiami 8)	Acquired	63	0	SW 124 St. & 127 Ave.
9k	Northrop Pineland	Acquired	12	0	SW 296 St. & 205 Ave.
9l	Notre Dame Pineland	B List	0	32	SW 280 St. & 132 Ave.
9m	Pine Ridge Sanctuary		0	14	SW 300 St. & 211 Ave.
9n	Pino Pineland	B List	0	2	SW 39 St. & 69 Ave.
9o	Railroad Pineland	B List	0	18	SW 184 St. & 147 Ave.
9p	Rock Pit 39	Acquired	9	0	SW 336 St. & 192 Ave.
9q	Rock Pit 46	Acquired	5	0	SW 232 St. & 142 Ave.
9r	Rockdale Addition	Acquired	11	0	SW 144 St. & US-1
9s	Seminole Wayside Park Addition	Acquired	5.5	0	SW 300 St. & US-1.

ACQUISITION PROJECTS: Environmentally Endangered Lands Program					
10	Oleta River Corridor:	A List			
10a.	Tract A		0	3	NE 171 St. & US-1
10b.	Tract B (FCT)		0	8	NE 165 St. & US-1
10c.	Tract C (FCT)	Acquired	2.5	0	NE 163 St. & US-1
10d.	Tract D		0	8	NE 191 St. & 24 Ave.
10e.	Terama Tract (DEP)	Acquired	30	0	IN OLETA PRESERVE
11	South Dade Wetlands (SAMP, SOR)	A List	18,911	11,905	SOUTH DADE COUNTY
11a	Keyhole Wetlands		45.0	154	US 1 & Cardsound Rd.
11b	South Dade Wetlands Addition		199	2,135	SW 344 St. & 137 Ave.
11c	Wink Eye Slough Addition		0	57	SW 344 St. & 167 Ave.
12	Tropical Hammocks:	A List-unless otherwise noted			
12a	Big & Little George (CARL 6)	Acquired	20	0	SW 141 St. & 149 Ave.
12b	Big George Addition		0	3	SW 141 St. & 149 Ave.
12c	Castellow 28 (CARL)	Acquired	18.7	0	SW 226 St. & 157 Ave.
12d	Castellow 31 (CARL)		0	10	SW 218 St. & 157 Ave.
12e	Castellow 33 (CARL)	Acquired	10	0	SW 226 St. & 157 Ave.
12f	Castellow Addition (CARL 7)	Acquired	7.8	0	SW 223 St. & 157 Ave.
12g	Chernoff Hammock	Acquired	4.5	0	SW 216 St. & 154 Ave.
12h	Cutler Wetlands North Addition Hammock	B List	0	37	SW 184 St. & Old Cutler Rd.
12i	Harden Hammock (CARL)	Acquired	12.4	0	SW 226 St. & 107 Ave.
12j	Holiday Hammock (CARL 5)		30	27	SW 400 St. & 209 Ave.
12k	Homestead General Aviation Hammock	B List	0	4	SW 296 St. & 217 Ave.
12l	Loveland Hammock (CARL 3)	Acquired	16	0	SW 360 St. & 222 Ave.
12m	Lucille Hammock (CARL 2)	Acquired	20	0	SW 352 St. & 222 Ave.
12n	Maddens (CARL 10)	B List	0	60	NW 154 St. & 87 Ave.
12o	Meissner Hammock (CARL 1)	Acquired	10	0	SW 302 St. & 200 Ave.
12p	Owaissa Bauer Addition #1 (CARL)	Acquired	9	0	SW 264 St. & 177 Ave.
12q	Owaissa Bauer Addition #2		0	10	SW 264 St. & 176 Ave.
12r	Ross (CARL 8)	Acquired	20	0	SW 223 St. & 157 Ave.
12s	Round Hammock (CARL)		0	32.6	SW 408 St. & 220 Ave.
12t	SW Island Hammock (CARL 4)		0	12.5	SW 392 St. & 207 Ave.
12u	Silver Palm Hammock (CARL)	Acquired	10	0	SW 228 St. & 149 Ave.
12v	Silver Palm Hammock Addition		0	19	SW 228 St. & 149 Ave.
12w	Vizcaya Hammock Addition	B List	0	2	3300 South Miami Ave.
12x	Hammock Island	B List	0	100	SW 360 St. & L-31 W.
13	Hattie Bauer Hammock (FCT, P&R)	Acquired	15	0	SW 267 St. & 157 Ave.
14	Barnacle Addition (CARL, City of Miami)	B List	0	6	Main Highway
15	Tree Island Park (FCT, P&R, SAMP, SNP)	Acquired	120	0	SW 10 St. & 147 Ave.
TOTAL EEL Acres			21,203	16,584	
16	Park Natural Areas				
16a	A. D. Barnes Park	Managed by EEL	25	0	3775 SW 74 Ave
16b	Arch Creek Park	Managed by EEL	8.5	0	NE 135 St. & US-1
16c	Bill Sadowski Park	Managed by EEL	23	0	17555 SW 79 Ave.
16d	Camp Owaissa Bauer	Managed by EEL	80.1	0	17001 SW 264 St.
16e	Castellow Hammock Park	Managed by EEL	55	0	22301 SW 162 Ave.
16f	Charles Deering Estate	Managed by EEL	332	0	16701 SW 72 Ave.
16g	Crandon Park	Managed by EEL	444	0	7200 Crandon Blvd.
16h	East, East East Greynolds Park	Managed by EEL	33	0	17530 W Dixie Hwy
16i	Fuchs Hammock	Managed by EEL	24	0	SW 304 St. & SW 198 Ave
16j	Greynolds Park	Managed by EEL	53	0	17530 W Dixie Hwy
16k	Larry & Penny Thompson	Managed by EEL	194	0	12451 SW 184 St.
16l	Matheson Hammock Park	Managed by EEL	381	0	9610 Old Cutler Rd.
16m	Metrozoo Pinelands	Managed by EEL	142.4	0	12400 SW 152nd Street
16n	Navy Wells Preserve	Managed by EEL	239	0	SW 360 St. & SW 192 Ave.
16o	Nixon Smiley Preserve	Managed by EEL	60	0	SW 124 St. & SW 135 Ave.
16p	Pineshore Park	Managed by EEL	7.8	0	SW 128 St. & SW 112 Ave.
16q	R. Hardy Matheson Preserve	Managed by EEL	791	0	SW 112 St. & Old Cutler Rd.
16r	Tropical Park	Managed by EEL	4.4	0	7900 Bird Rd.
TOTAL Park/EEL Acres			2,897		
NOTE: Acronyms in parentheses following the project name indicate the source of funds or matching funds for which the project has been approved. Funding sources are: CARL=Conservation And Recreation Lands; ATT = AT&T Corp.; DEP=Dept. of Environmental Protection; FCT =Florida Communities Trust; GSA = General Services Administration; P&R = Miami-Dade Park & Recreation; SAMP = Bird Drive Special Area Management Plan; SNP = Miami-Dade Safe Neighborhood Parks Bond Program; SOR = Save Our Rivers.					
TOTAL A/B List Acres to be Acquired			16,584		
TOTAL Acquired/Managed Acres			24,100		

Appendix 2: Quarterly Reports

First Quarter Update (January 3, 2015 – April 30, 2015)

On January 21, 2015, the Board of County Commissioners (Board) passed seven (7) separate resolutions, each supporting the implementation of one of the seven (7) recommendations included in the “Miami-Dade Sea Level Rise Task Force Report and Recommendations.” Resolution R-47-15, which requires quarterly status reports and a final report within 364 days, directs the Mayor or Mayor's designee to continue strategic implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) Program, consistent with Program objectives as approved by the voters, and to identify potential additional long-term funding sources for the continued acquisition and management of EEL lands. Pursuant to R-47-15, this quarterly status report is submitted for your review.

Background

In July 2013, the Board created the Miami-Dade Sea Level Rise Task Force (Task Force) for the purpose of reviewing current and relevant data, science and reports, and to assess the likely and potential impacts of sea level rise and storm surge on Miami-Dade County over time. On July 1, 2014, the Task Force presented a report to the Board entitled, “Miami-Dade Sea Level Rise Task Force Report and Recommendations,” providing the requested assessment along with recommendations on how Miami-Dade County can begin planning and preparing for projected sea level rise impacts. In addition, Resolution R-451-14 and Ordinance 14-79 were adopted in 2014, requiring that planning, design, and construction of County infrastructure consider potential sea level rise impacts.

The historic loss, fragmentation, and degradation of native wetland and upland forest communities in Miami-Dade County are well documented. In 1990, the electorate of Miami-Dade County authorized the County to exceed the constitutional millage limitation by levying a two year ad valorem tax of three-quarters of one (1) mil for acquisition, preservation, and maintenance of environmentally endangered lands for the benefit of present and future generations. Collection of the ad valorem tax provided \$90 million in initial funding in the EEL Trust Funds (\$80 million allocated to acquisition and \$10 million allocated to management). The County's EEL Program has been very successful in leveraging the original \$90 million investment made by County taxpayers. Since its inception and through the end of fiscal year 13-14, the EEL Program has accrued \$198 million in revenue, which includes grants, General Obligation Bond funds, interest, and other revenue and expended \$154 million on acquisition, management, and administration. The balance of the EEL Trust Funds at the end of fiscal year 2013-14 was \$44 million, of which \$21.6 million is in the Acquisition Fund and \$22.4 million is in the Management Fund.

Lands acquired by EEL provide numerous environmental, social, and economic benefits to the public including carbon sequestration, protecting wellfields, reducing the impact of stormwater

runoff, complementing regional restoration efforts, providing recreational space, as well as providing our community with opportunities to adapt to the effects of climate change. Saltwater intrusion now extends more than six (6) miles inland at the base of the Biscayne Aquifer in southern Miami-Dade County. EEL preserves provide open land for aquifer recharge, which is critical to ensuring clean and reliable water supplies for urban and agricultural areas as well as providing municipal and rural flood protection. EEL acquisition of wetlands in the central and southern portion of the County preserves public lands along the natural mangrove coast and provides hazard mitigation in terms of storm surge attenuation. EEL acquisition of uplands throughout the County provides protection of globally-imperiled ecosystems and open space in the urban and agricultural sectors of the county. EEL Preserves also have great biological diversity and provide critical refuge for rare species that would otherwise be lost, especially when considering the impacts of climate change.

Quarter 1 Progress (January 31, 2015 – April 30, 2015)

Strategic Implementation through Acquisitions

Between January 21, 2015, (the date the Board approved R-47-15) and April 9, 2015, the EEL Program has acquired 41.410 acres within the South Dade Wetlands EEL Preserve at a total cost of \$162,000 (\$75,000 in General Obligation Bonds and \$87,000 in EEL Trust Funds). This acreage includes the purchase of seven (7) folios ranging in size from five (5) acres to almost nine (9) acres.

Potential Future Funding Sources

Funding for acquiring properties on the EEL acquisition lists includes the EEL Acquisition Trust Fund and the Building Better Communities General Obligation Bond funds. These funding sources have been specifically designated for EEL land purchases by referendum and Board approval. Any other source of funding that becomes available for EEL purchase, such as grants, is also subject to approval by the Board. The EEL Program's land management activities are currently funded through the EEL Program's Management Fund. The EEL Program has been increasingly successful in the last few years at securing other funds for land management and at engaging community partners and volunteers to help meet unmet management needs in EEL Preserves. However, these are non-predictable remedies and do not provide long-term assurance that Program activity levels can be sustained. Therefore, it is important that long-term and sustainable funding options be identified. One potential option includes allocation of funds made available under Florida Constitutional Amendment 1.

Amendment 1 may result in more than \$10 billion over the next 20 years for conservation, management, and restoration of water and land resources. Miami-Dade County is the most populous county in Florida and generates a significant share of Florida's total stamp tax revenues which will be directed to Amendment 1 Programs. The EEL Program has partnered with the State of Florida to acquire conservation lands within Miami-Dade County using local funds supplemented with \$14.5 million in grants from the State. Annually, the EEL Program spends

over \$3 million on the management of state and County-owned conservation lands. On February 18, 2015, the Board approved R-173-15 urging the Florida Legislature to allocate funding for Miami-Dade County's EEL Program for conservation land acquisition and management pursuant to the Florida Water and Land Conservation Initiative, Florida Constitutional Amendment 1. Through the development of the final report required under this resolution, staff will continue to research and identify any further funding options for this important program.

In accordance with Ordinance 14-65, this memorandum and report will be placed on the next available Board of County Commissioners meeting agenda.

If you have questions concerning the above, please contact Lee Hefty, Assistant Director, Environmental Resources Management, Department of Regulatory and Economic Resources, at (305) 372-6754 or heftyl@miamidade.gov.

- c: Honorable Harvey Ruvin, Clerk of Courts, Eleventh Judicial Circuit
Robert A. Cuevas, Jr., County Attorney
Office of the Mayor Senior Staff
Jack Osterholt, Deputy Mayor/Director, Department of Regulatory and Economic Resources
Lee Hefty, Assistant Director, Environmental Resources Management, Department of Regulatory and Economic Resources
Lester Sola, Director, Water and Sewer Department
Lourdes M. Gomez, Deputy Director, Department of Regulatory and Economic Resources
Mark R. Woerner, AICP, Assistant Director for Planning, Department of Regulatory and Economic Resources
Christopher Agrippa, Clerk of the Board
Charles Anderson, Commission Auditor
Eugene Love, Agenda Coordinator

Second Quarter Update (May 1, 2015 – July 30, 2015)

R-47-15: Continue Strategic Implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) Program and Identify Potential Additional Long-Term Funding Sources

This resolution directs the Mayor or the Mayor's designee to continue strategic implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) program, consistent with program objectives as approved by the voters, and to identify potential additional long-term funding sources for the continued acquisition and management of EEL lands.

The following actions have been taken to implement this resolution in the second quarter:

Between April 10, 2015, and July 29, 2015, the EEL Program has acquired 10.00 acres within the South Dade Wetlands EEL Preserve at a total cost of \$30,000 (all Building Better Communities

General Obligation Bonds Program funds). This acreage includes the purchase of two (2) folios, both five (5) acres in size.

Through the development of the final report required under this resolution, staff will continue to research and identify any further funding options for this important program.

Third Quarter Update (July 31, 2015 – October 31, 2015)

R-47-15: Continue Strategic Implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) Program and Identify Potential Additional Long-Term Funding Sources.

This resolution directs the Mayor or the Mayor's designee to continue strategic implementation of Miami-Dade County's Environmentally Endangered Lands (EEL) Program, consistent with program objectives as approved by the voters, and to identify potential additional long-term funding sources for the continued acquisition and management of EEL lands. This resolution requires quarterly status reports and a final report within 364 days of the effective date.

The following actions have been taken to implement this resolution in the Third Quarter:

- Strategic implementation through acquisition: Between July 30, 2015, and October 15, 2015, the EEL Program has acquired 3.47 acres within the Goulds Pineland EEL Preserve at a total cost of \$180,000 (all Building Better Communities General Obligation Bond Program funding). This acreage includes the purchase of two (2) folios, one of which is 2.3 acres and the other is 1.17 acres.
- Identify potential long-term funding for acquisition and land management: The balance of the EEL Trust Fund as of July 31, 2015, was \$41,886,142. Approximately \$12.9 million dollars of additional funds for land acquisition remains available under the Building Better Communities General Obligation Bond Program. County staff continue to evaluate additional potential funding opportunities.