

**MIAMI-DADE PARKS**  
RECREATION & OPEN SPACES DEPARTMENT

# CONSERVATION PLAN







**At the core of Miami-Dade Parks, Recreation and Open Spaces Department's mission**

is the preservation of natural resources and the promotion of good conservation and stewardship practices. Public parks, nature centers, natural areas management and environmental literacy programming are essential components in creating resilient, healthy communities that protect and conserve our land, water, and wildlife.

The Miami-Dade Parks, Recreation, and Open Spaces Conservation Plan provides the necessary guidelines to improve the coordination of conservation and sustainability efforts for its own use, for use across other County departments, with state and federal agencies, as well as with private sector organizations. With its experts and experience, Miami-Dade Parks is positioned to be a leader in regional and national conservation initiatives.

The foundation for the development of this Conservation Plan is based on principles found in Miami-Dade County's Parks and Open Space System Master Plan, the Recreation and Open Spaces Element of the Comprehensive Development Master Plan (CDMP), the Recreation Program Plan, the Miami-Dade County GreenPrint policies, and recommendations from the National Recreation and Parks Association Conservation Task Force.

Miami-Dade County's longstanding commitment to address climate-related impacts is demonstrated by its leadership and partnerships with several key initiatives as a resilient community.



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## Conservation and Stewardship



### CONSERVATION THROUGH A PARK'S LENS

Miami-Dade County's Conservation Plan is intended to guide the Miami-Dade Parks, Recreation and Open Spaces Department and its partners in preserving, protecting and managing parks as well as historic and natural areas by teaching, advocating and implementing sustainable stewardship practices that enhance the resiliency and well-being of our community.

Miami-Dade County is a vibrant community that offers a variety of recreational opportunities and protected open spaces for residents and visitors. These resources contribute to the high-quality of life residents enjoy. Protected open spaces are also valued for their environmental, educational, and economic benefits. These precious resources are worth retaining, enhancing, and expanding; yet, securing additional resources in a region with a growing population, fixed geographic boundaries and massive development is challenging. This Conservation Plan identifies priority actions that support protecting existing resources while enhancing public open spaces. These actions include a focus on engaging internal and external stakeholders (education and advocacy), funding, policy, and opportunities to form and support innovative partnerships between public and private sectors. The recommended strategies and actions in this update support the vision, goals and objectives established in the 2008 Miami-Dade County Parks and Open Spaces System Master Plan.



OVERVIEW OF MIAMI-DADE PARKS

The Parks, Recreation and Open Spaces Department builds, operates, manages, and maintains one of the largest and most diverse park systems in the country — consisting of over 270 parks and more than 13,800 acres of park land. The Miami-Dade Parks system includes passive and active parks, as well as protected, environmentally sensitive lands. The Department creates park and public space experiences that help to build communities and improves the quality of life for all by providing opportunities for health, happiness and prosperity through a connected system of great parks, public spaces, natural and historic areas, greenways, blue-ways and complete streets.

The Department operates as both a countywide park system serving 2.7 million residents and as a local parks department for the unincorporated area serving approximately 1.4 million residents.

*“When properly staffed and funded, Miami-Dade Parks provides all these services and many more to our community, but unfortunately, it is not funded to meet current and increasing needs. With 2.7 million residents, Miami-Dade’s population is expected to reach 3 million by 2025 and 4.5 million by 2026. A significant percentage of the county’s school-aged children, and residents 65 years of age and over are either low-income or live in poverty. Given that the greatest disparity in poverty rates is by race and ethnicity, maintaining a robust public parks system becomes an issue of health and social equity.”*  
— 2018-19 Miami-Dade Parks Business Plan

Miami-Dade Parks Business Plan Responsibilities:

- Alleviate social ills by providing safe parks and programs.
- Protect natural resources to combat pollution, health-related illnesses and climate impacts.
- Promote health and prosperity.
- Respond to natural disasters and assist communities in recovery efforts.
- Increase quality of life through accessible parks, programs and special events.
- Attract top business investment by providing iconic parks and public spaces.
- Grow the tourism economy by providing attractions, beaches, green spaces and historic sites for visitors to enjoy.

To that end, Miami-Dade Parks acquires, plans, designs, constructs, maintains, protects, programs, and operates County parks and recreational facilities; provides out-of-school and afterschool camps and weekend programs and

services for youth; provides programs for active adults and people with disabilities; provides unique experiences through attractions like Zoo Miami and its seven Heritage Parks: Crandon, Deering Estate, Fruit & Spice, Greynolds, Haulover, Homestead Bayfront and Matheson Hammock Parks; provides campgrounds, the maintenance of more than 13 miles of beaches, ballfields, tennis, volleyball, and basketball courts, a state-of-the-art equestrian center, picnic shelters, playgrounds, fitness zones, swimming pools, recreation centers, sports complexes, a gun range and walking and bicycle trails.

The Natural Areas Management Division (NAM) is in charge of managing and restoring the county system of protected natural and environmentally critical natural areas and preserves. Natural and environmental experiences are offered through six nature centers and preserves as well as participation in Eco-Adventure programs.

The department manages revenue generating facilities including six golf courses, five tennis centers, six marinas, three campgrounds, The Deering Estate, Fruit & Spice Park, Trail Glades Range, and Zoo Miami. The Department attracts regional, national and international events, including the Miami International Agriculture, Horse and Cattle Show at the Ronald Reagan Equestrian Center, equestrian shows, USATF Track & Field meets and youth and adult soccer tournaments.

In addition, the department has also been expanded to include landscape maintenance, security guard services and street lighting for 1,091 special assessment districts; manages the County’s University of Florida partnership for Cooperative Extension Services; provides roadside and median maintenance for 260 miles of County roads; administers toll collection and operates linear parks on the Rickenbacker and Venetian Causeways; manages roadway landscape maintenance, roadside safety tractor mowing, and lot clearing services contracts; and facilitates the planting of trees, palms, and landscaping to provide aesthetic enhancements, through the support of Neat Streets Miami.

Furthermore, the department coordinates many activities with a variety of stakeholders including residents, homeowner associations, community councils, municipalities, various groups involved in sports and recreational development, environmental groups, community-based organizations, and other local and neighborhood groups.

Redland Fruit & Spice Park







## Our Legacy

### PAST, PRESENT AND PLANNED

When Dade County was created in 1836, it stretched from Indian Key to the Jupiter inlet. By the late 1890s, there were fewer than 1,000 residents in all of the area. When the railroad arrived in 1896, it brought the County into the modern era, and also brought the destruction of mangroves and the draining of swampland to create new land for settlers. By 1920, Miami's population grew to 29,571. The Miami-Dade County Parks Department got its start in 1929, when the County launched a \$10,000 "Roadside Beautification Program," and hired the first parks department director A.D. "Doug" Barnes to oversee the project. Many in the community and the government thought this was a frivolous idea and that the money could be put towards building more roads. Mr. Barnes and his program had their first challenge: engage and educate the people about the importance for such a program. Today, 90 years later, that challenge is essentially the same: temper the effects of population growth and development through resilient and sustainable practices and public awareness education.

In late 1929, participants of the American Institute of Park Executives Conference were on a field trip to what is now known as Matheson Hammock Park. During a speech on natural resource preservation it was noted that the very hammock they were on should be preserved. Shortly after the conference, 84 acres of Matheson Hammock were preserved and protected in its present original and natural state of vegetation and growth so that the flora, timber, and plants remain in a *natural* state at all times - protected, preserved and perpetuated. Dade County now had its first park that was firmly rooted in the principles of preservation and protection. Principles that have been

carried on through the acquisition of park lands and the development of our park system where conservation and stewardship is one of the organization's three pillars.

### Civilian Conservation Corps

The Civilian Conservation Corps (CCC) was created by President Franklin D. Roosevelt in 1933 to put unemployed young men to work during the Great Depression. It was not only an important milestone to the Dade County Park system, but for conservation as well. According to Mr. Barnes, the assignment of the CCC Camp to Dade County was the greatest thing that happened to the Dade County Park program. Almost overnight, Dade County Parks had become nationally significant. Not only would the CCC help develop Greynolds and Matheson Hammock Parks, but the National Park Service was engaged locally where experienced park people from all over the world exchanged ideas and information. The CCC is recognized as the single greatest conservation program in America and served as a catalyst to the very tenets of modern conservation.

### Green Spaces for All People-Home Rule Charter

Every act of park land acquisition is an act of conservation. In 1957, the State of Florida granted Home Rule Charter to Miami-Dade County serving as the starting point for county-provided municipal services in unincorporated areas. Land was acquired for community and neighborhood parks and pools adding a second tier of local parks to the county park system. In 1969, the first Park System Master Plan was adopted to guide the development and preservation of parks followed by three general obligation bond issues in 1972, 1996 and 2004 to fund construction. In 2009, the Park and Open Space System Master Plan was adopted in order to meet the current growth and development patterns of Miami-Dade.

### Parks Conservation Corp

As the first park stewards, to build parks, the CCC was the inspiration for the Miami-Dade Parks Conservation Corp (PCC). The PCC is a group of volunteers comprised of community members passionate about serving their community, and who play an active role in enhancing Miami-Dade County's park system. PCC members represent individuals from a variety of professions across business, government, education, and the non-profit sectors. They come together with one goal in mind: to champion parks, open spaces and the conservation of natural areas in our community through direct civic engagement.

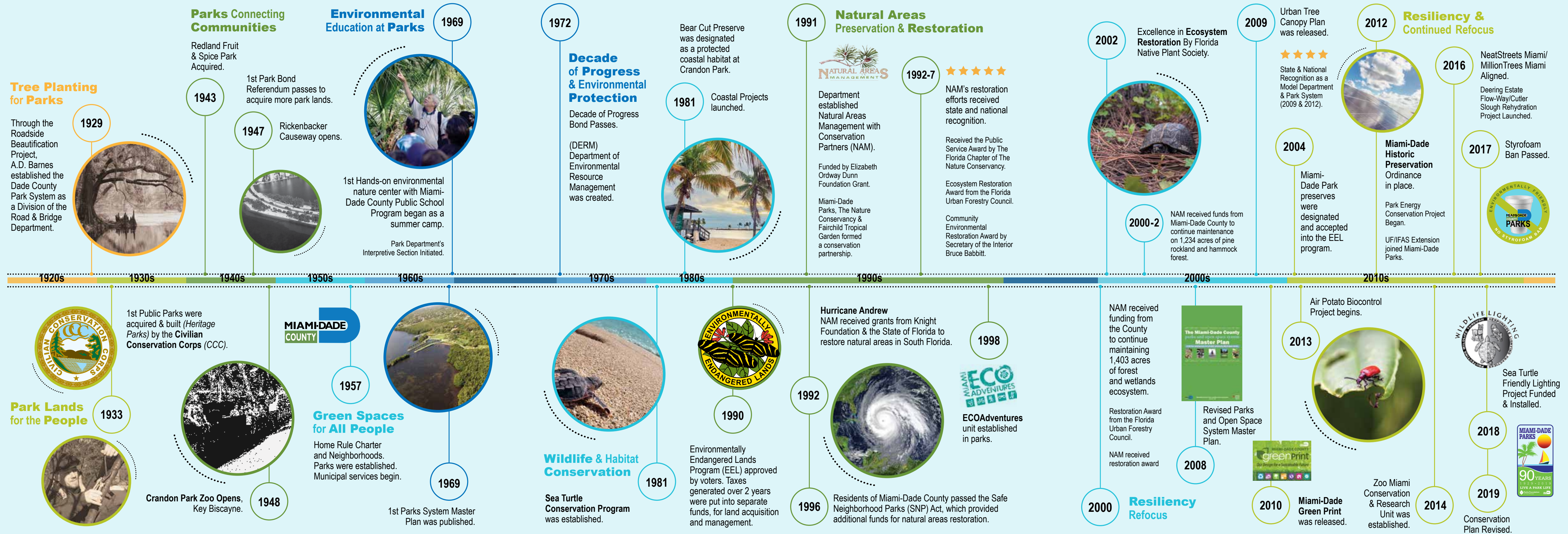
**"When we build, let us think that we build forever.  
Let it not be a present delight, nor for present use alone; let us think,  
as we lay stone on stone, that a time is to come when those stones  
will be held sacred because our hands have touched them."**

*- John Ruskin*



# MIAMI-DADE PARKS: CONSERVATION MILESTONES

1929 — 2019







Matheson Hammock Park



Homestead Bayfront Park



# Conservation Plan and Mission

## CONSERVATION PLAN MISSION

Preserve, protect and manage parks, historic and natural areas by teaching, advocating and implementing sustainable stewardship practices that enhance resiliency and the well-being of our community.

## Guiding Principles

This Plan identifies, coordinates, and recommends actions and programs focused on conservation issues that will make Miami-Dade a more environmentally sustainable county. The Plan addresses conservation threats and opportunities facing the Department and answers the following question: What initiatives and actions should Miami-Dade Parks take to effectively achieve desired environmental outcomes in a coordinated and comprehensive manner?

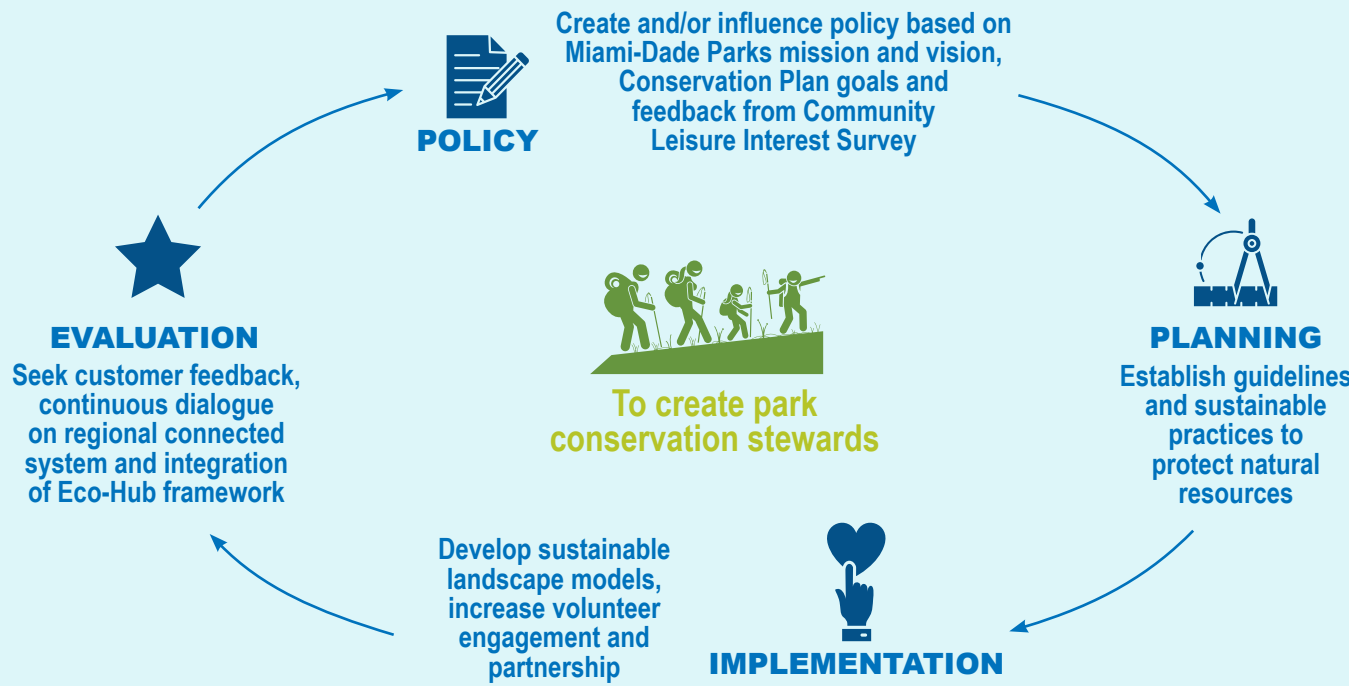
This document provides a three to five year Conservation Plan for the Miami-Dade Parks, Recreation, and Open Spaces Department. The scope of the Plan is designed to help coordinate conservation efforts and to set policy guidelines and management direction for the department by identifying the needs, actions, and costs necessary to balance increasing community demands and natural resource protection. The Plan will guide leaders, administration and constituents in meeting these challenges intentionally, pragmatically, and over the long-term.

As the County’s population grows, so do demands on its infrastructure and the environment. The department faces many challenges as it balances the pressures of growth while protecting the natural environment and quality of life. The following principles encompass the concepts and values that were used in the development of the goals, objectives and strategies of this Plan.

These principles also provide general guidance to support work plan activities and management decisions regarding natural resources.

- Apply objectives and goals of the Miami-Dade Open Space Master Plan (OSMP).
- Achieve results by planning, establishing and implementing clear and measurable goals.
- Develop and foster partnerships to meet common goals and to effectively leverage resources.
- Align actions to the values of engagement, education, advocacy and sustainable practices.
- Utilize best practices while supporting the pursuit of innovative practices.
- Apply Florida Sterling criteria to optimize business processes.
- Utilize Life-Cycle Cost Analysis (LCCA) Standards in planning, designing, constructing, operating and maintaining open spaces and facilities.
- Implement Resiliency and Climate Change best practices as identified by the Southeast Florida Regional Change Compact.

## Conservation & Stewardship Model







# Parks and Open Space System Master Plan

## A Vision For A Livable, Resilient Miami-Dade County

The Parks and Open Space System Master Plan (OSMP) serves as a guiding document that creates a sustainable system of parks, recreation and open spaces for this and future generations. The goal is to mitigate population growth and associated costs as they relate to resource capacity, transportation services, housing demands and safety while creating walkable communities that promote active lifestyles and protect the environment. In short, this Conservation Plan serves as Miami-Dade Parks' long-term vision to help us respond to development, recreation and preservation opportunities and natural resource conservation, while keeping sustainability and resiliency as the fundamental mechanism for creating a "seamless, sustainable, beautiful, equitable, and accessible park system with multiple benefits."

### Specific Objectives Of The Plan Include:

#### one

Developing a unified, physical vision for a connected regional system of parks.

#### two

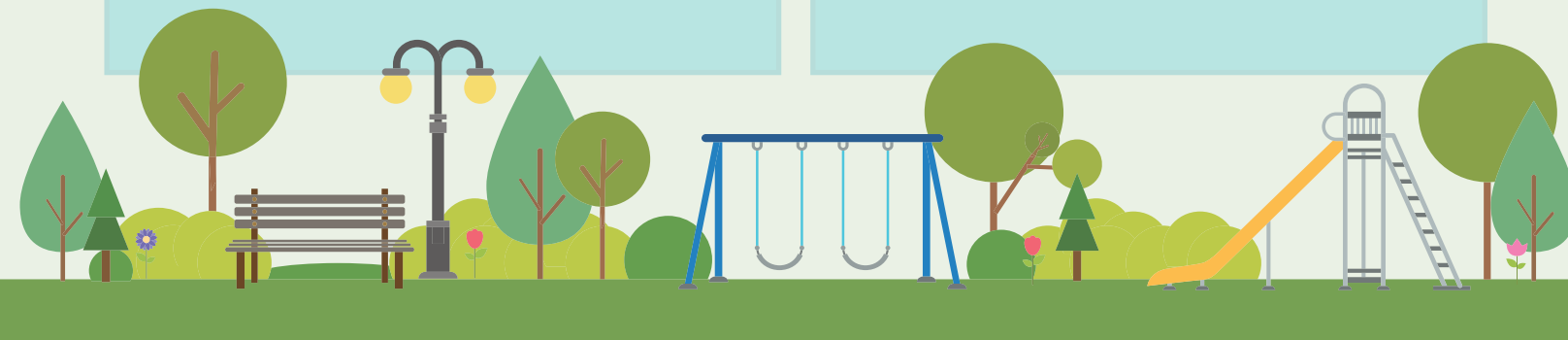
Implementing guiding principles for a unified physical vision of connecting communities.

#### three

Classifying parks to create a regional system.

#### four

Identifying a clear role for Miami-Dade County.



The OSMP has established a blueprint for improving the quality of life in Miami by transforming it into a more livable, sustainable and prosperous community that is guided by the following principles:



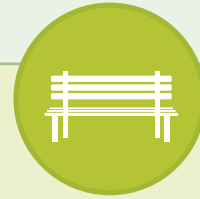
#### SEAMLESSNESS

Community connections to neighborhoods, parks, natural areas, streets, civic centers and commercial areas.



#### BEAUTY

Designed to be aesthetically pleasing and compliment the natural and cultural landscape.



#### MULTIPLE BENEFITS

Public action should generate multiple public benefits to maximize taxpayer dollars.

### Crandon Park and Beach



#### EQUITY

To enjoy the same quality of public facilities and services regardless of income, age, race, ability or geographic location.



#### ACCESS

To be able to safely and comfortably walk, bike, drive and/or ride transit from home to work, school, parks, shopping and community facilities.



#### SUSTAINABILITY

Park improvements, including facilities, programs, operations and management are to contribute to economic, social and environmental prosperity.





**GREAT PARKS**  
Tropical Park - Fitness Zone



**GREAT PUBLIC SPACES**  
Amelia Earhart Park  
Bill Graham Farm Village



**GREAT NATURAL AND CULTURAL AREAS**  
Greynolds Park - Boat House



**GREAT STREETS**  
Crandon Park -  
Rickenbacker Causeway



**GREAT GREENWAYS, TRAILS,  
AND WATERWAYS**  
Crandon Park Nature Center  
Bear Cut Preserve Trail

Parks and Open Space System Master Plan (OSMP) can be found at  
<http://www.miamidade.gov/parksmasterPlan/>

## The Strategic Vision For Miami-Dade Parks

The OSMP is a long-term initiative to reposition the County by creating a new framework for livability and resilient. It is projected that the vision will require at least 50 years to fully implement, and it is important to recognize that every incremental action provides an opportunity to move one step closer to realizing the overall vision.

The Miami-Dade Park's Conservation Plan supports the OSMP through education, awareness, advocacy, and by implementing sustainable stewardship practices.

*"Our cities, our communities and the places we inhabit have an immense impact on how we think and act as human beings. The quality of our built environment has the power to define community identity, transform our public spaces and create a meaningful sense of place. Major public infrastructure, like transportation systems, public works projects and parks, offer the opportunity to shape neighborhoods, landscapes, and cities. With this master planning process, we have an opportunity to articulate a land use agenda that promotes a more livable, attractive, efficient and environmentally aware community. We can create memorable places and images that transform the commonplace into the extraordinary by applying unconventional approaches to design that broaden the palette of traditional responses to urban form and function. We are engaged in and proposing nothing less than a cultural shift in how we think about our approach to community and park planning and the uses of materials, processes and systems for civic infrastructure."*

— Maria I. Nardi, Director Miami-Dade County Parks, Recreation and  
Open Spaces Department (pictured below)







# Miami-Dade Under Threat

## BALANCING GROWTH, OPENS SPACES AND CONSERVATION IN AN EVER-CHANGING ENVIRONMENT

Miami-Dade County is facing population growth issues, a diminished quality of life, increased congestion, declining recreation and conservation open spaces, visual blight, limited transportation options and social inequities. Miami-Dade County’s natural environment continues to be highly valued for its contribution to the quality of life that is enjoyed by residents and visitors. While recognized for its beaches, Miami-Dade County’s value also comes from the breadth of its diversity including its coastal wetlands, the marshes of the Everglades, coral reefs, hardwood hammocks and globally imperiled pine rocklands. Miami-Dade County’s natural areas represent the refugia for some of the rarest plants, wildlife and natural resources in the world. These natural areas also have a major impact on quality of life by supporting jobs, fisheries, recreation and tourism as well as contributing to clean air and water; reducing erosion and flooding and supporting biodiversity.

Preserving, protecting and managing these natural areas and resources in the midst of a burgeoning metropolitan area is not without its challenges. As a coastal community at the tip of the Florida Peninsula with many low-lying areas, Miami-Dade County is one of the world’s most vulnerable urban areas to climate change. Climate change, which is caused by the atmospheric build-up of heat-trapping greenhouse gases (GHGs) from fossil fuel combustion and other human activities, contributes to higher ocean temperatures (which in turn have been linked to increased intensity and frequency of hurricanes), sea level rise, coastal erosion and saltwater intrusion of the Florida Aquifer, jeopardizing the county’s main source of drinking water.

Florida’s climate is changing. The Florida Peninsula has warmed more than one degree (F) during the last century. The sea is rising about one inch every decade, and heavy rainstorms are becoming more severe. In the coming decades, rising temperatures are likely to increase the number of storms, eradicate coral reefs, and increase the frequency of unpleasantly hot days. The increase in population has increased the amount of carbon dioxide in the air by 40 percent since the late 1700s.

## WHAT CLIMATE CHANGE MEANS FOR SOUTH FLORIDA

### Rising Seas and Retreating Shoreslines

On the Atlantic and Gulf Coasts of Florida, the land surface is sinking. As the oceans and atmosphere continue to warm, sea levels along Florida’s coastline are likely to rise one to four feet in the next century. Rising sea levels submerge wetlands, dry out the land, erode beaches, and exacerbate coastal flooding.

### Impacts to Storms, Homes and Infrastructure

Tropical storms and hurricanes have become more intense over the past 20 years. Greater wind speeds and the resulting damages can make insurance for wind damage more expensive or difficult to obtain. Whether or not storms become more intense, coastal homes and infrastructure will flood more often as sea levels rise because storm surges will become higher as well. As a result, rising sea level is likely to increase flood insurance premiums.

### Coral Reefs and Ocean Acidification

The east coast of Florida is protected by the third largest coral reef in the world – The Florida Reef Tract. These reefs extend from Port St. Lucie to the Marquesas. Florida’s coral reefs are susceptible to warming waters and ocean acidification. Rising water temperatures can harm the algae that live inside corals due to not enough sunlight. Sunlight is required for photosynthesis, or make its own food. The coral polyps rely on the algae as a source of food. Rising water interferes with this symbiotic relationship for healthy coastal habitats. This loss of algae weakens corals and can eventually kill them. This process is commonly known as coral bleaching, because the loss of the algae also causes the corals to turn white. In addition, rising water temperatures cause stresses on coral polyps, which then become susceptible to disease. Increasing ocean acidity can also damage corals, as well as fish and other invertebrates, including commercially important species such as crabs, lobsters, clams, shrimp and scallops. Ocean acidity has increased by about 25 percent in the past three centuries, and it is likely to increase another 40 to 50 percent by 2100.

### Water Resource and The Everglades

Climate change is likely to increase the need for water. Higher air temperatures increase the rate at which water evaporates (or transpires) into the air from soils, plants, and surface waters. Because irrigated farmland would need more water, the total demand for water is likely to increase more than 25 percent during the next half century.

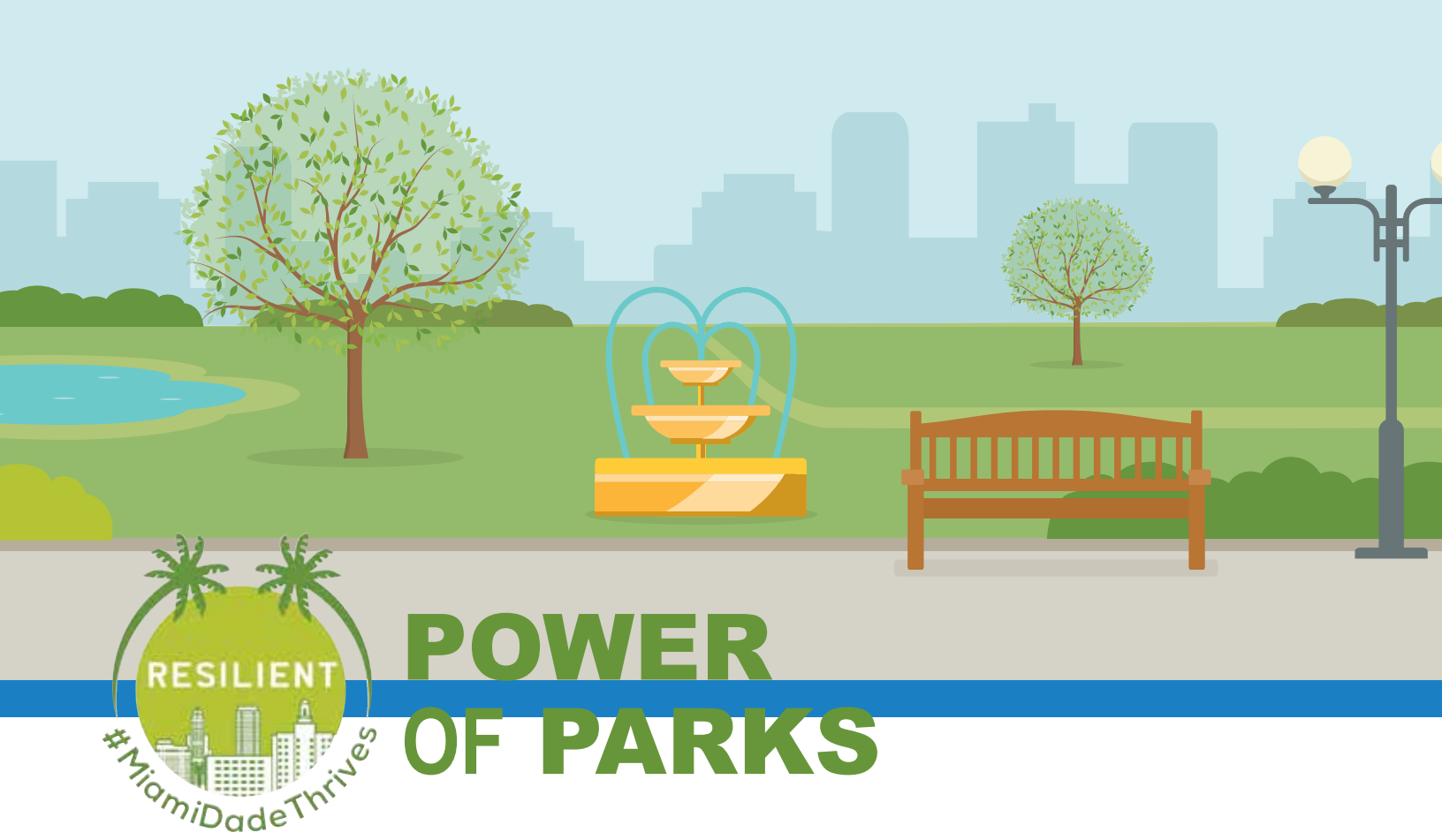
### Agriculture Impacts

Climate change will have both harmful and beneficial effects on farming. Freezing temperatures will become very rare in most of the state, which would benefit citrus trees and other fruits and vegetables grown during winter, but will prevent harmful organisms from dying back during the winter months. During summer, however, hotter temperatures may reduce crop yields, depending on whether sufficient water is available for irrigation. Higher temperatures are also likely to reduce livestock productivity, as heat stress disrupts the animals’ metabolism.

### Human Health

Hot days can be unhealthy—even dangerous. Certain people are especially vulnerable, including children, the elderly, the sick, and the poor. High air temperatures can cause heat stroke and dehydration and affect people’s cardiovascular and nervous systems.





# POWER OF PARKS

## PARK SOLUTIONS FOR A RESILIENT MIAMI-DADE COUNTY

### Great Natural and Cultural Areas

Miami-Dade Parks strives to become the trusted and respected resource for shaping the growth and physical form of the County. Miami-Dade Parks will establish the value and importance of planning while balancing the needs of the County with the needs of individual communities.



SOURCE: Park Assets FY17-18

## SMARTGROWTH

### Making Miami-Dade County Smart

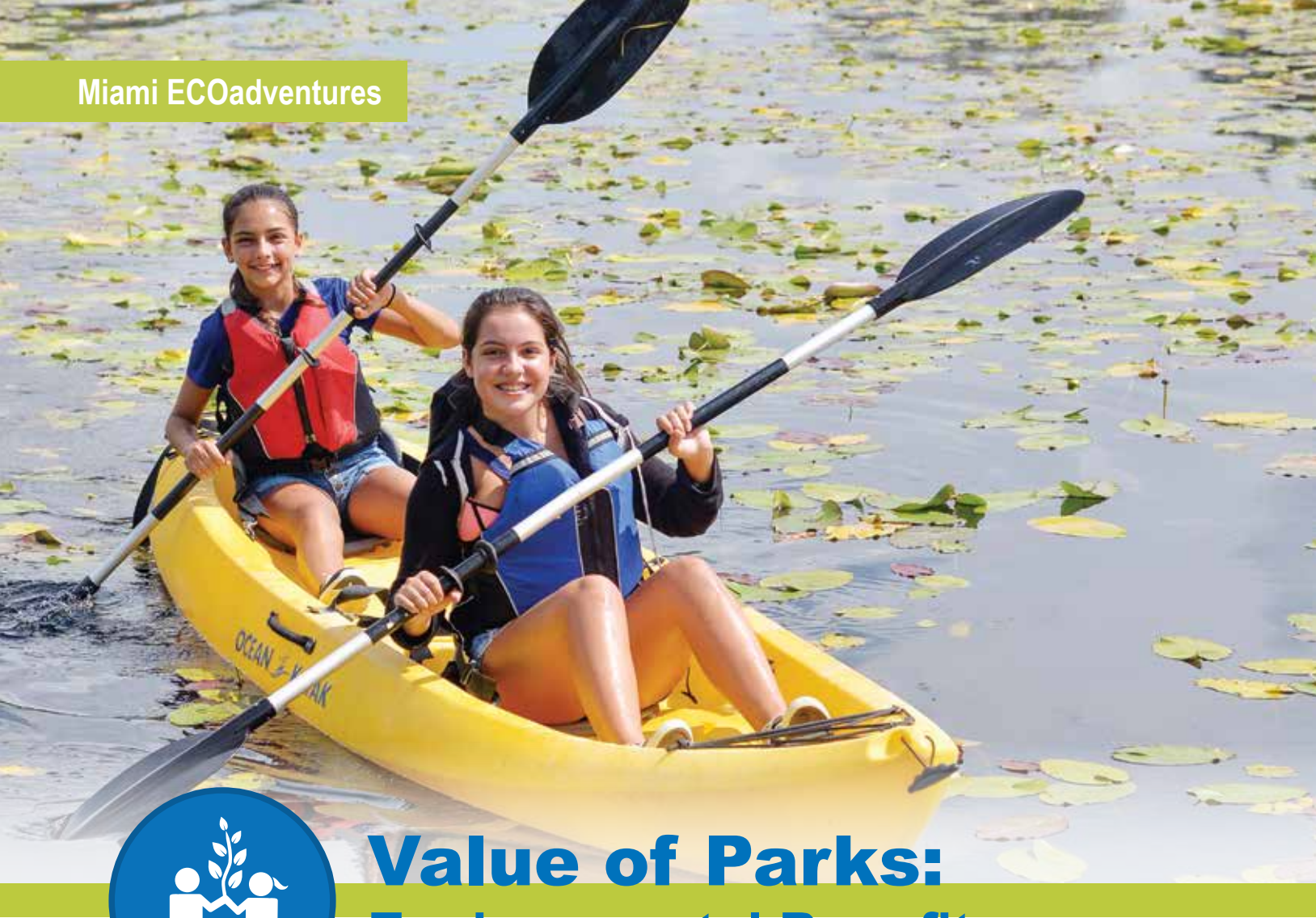
The concepts of smart growth include transit-oriented, compact walkable surroundings that incorporate mixed-land use, including schools, retail and commercial spaces, community institutions and a variety of housing types and styles. These must be within close proximity of one another and are found to positively affect natural habitats, air and water pollution, and the preservation of land. The ideas and principles of smart growth are to gain a particular function of community and place; expand the range of transportation, employment, and housing choices; equally distributing the costs and benefits of development; preserve and enhance natural and cultural resources; and promote public health.

Many cities are facing new challenges in accomplishing economic growth, increasing wealth, and improving quality of life for residents. Growth and development are necessary for newer communities. Growth and development, if managed improperly, can negatively affect a community's quality of life, leading to congestion, pollution, pedestrian-hostile neighborhoods, and sprawl. To accommodate an increasing population and demand for housing, services and infrastructure, there is an urge for a complete revolutionized smart growth technique without upsetting the qualities that make their communities pleasant places to live and work. Locally based, long-term open space conservation plans help communities protect their environment, improve quality of life, and preserve critical elements of the local heritage, culture, and economy. Like development, conservation can be either planned or haphazard. Well-managed open space programs protect a community's natural green infrastructure, providing places for recreation, preserving important environmental and ecological functions, and enhancing quality of life.

Smart growth is an approach to development that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods, and community engagement.

The foundation of smart growth approach account for:			
Design and plan for mixed land use	Create walkable neighborhoods	Offer a range of housing opportunities	
Preserve open spaces, farmland, natural beauty and critical environmental areas	Foster distinctive, attractive communications with a strong sense of place	Encourage community and stakeholder collaboration in development decision	Make development decision predictable, fair and cost effective
Take advantage of compact design	Direct development toward existing communities	Include a variety of transportation options	





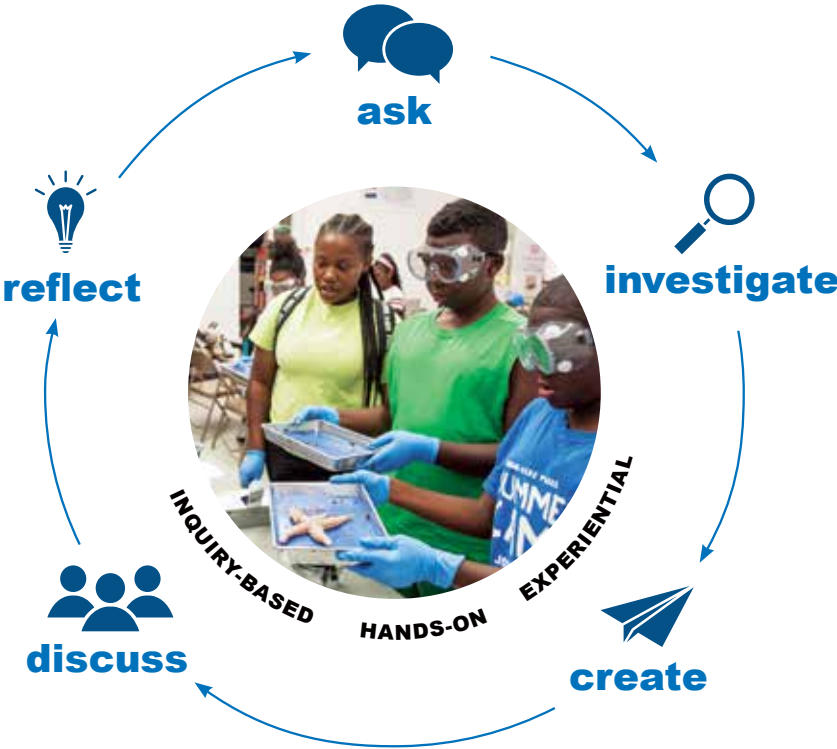
# Value of Parks: Environmental Benefits

## Connecting To Nature Through Parks

Direct exposure to nature is essential for the healthy development of children (physical, educational, spiritual and emotional). Interaction with nature is a critical component in combating the growing problem of childhood obesity. Richard Louv, author of “Last Child in the Woods,” describes lack of interaction with nature as “nature-deficit disorder,” a complete loss of connection with the natural world.

The environmental education programs offered through EcoAdventures™ tours, Nature Centers, Natural Areas Management, UF/IFAS Extension of Miami-Dade, Deering Estate, and Zoo Miami foster stewardship by exposing kids and adults to the beauty and fragility of Miami’s ecosystems and the need to protect them. Miami-Dade Parks preserves, protects and manages these areas by teaching, advocating and implementing sustainable stewardship practices that enhance the resiliency and well-being of our community through nature-based recreational and environmental educational connections.

## Environmental Education Engagement Process



## PARKS PLAY A VITAL ROLE IN STEWARDSHIP OF LAND AND NATURAL RESOURCES

source: NRPA 2018



**preserving**  
wildlife corridors



**reducing**  
use of pesticides  
and chemical fertilizers



**conserving**  
water and fostering  
energy efficiency



**creating**  
greenstreets, trails  
and greenways



**providing**  
environmental  
stewardship education



**protecting**  
forests and  
open spaces



**augmenting**  
stormwater  
management



**removing**  
invasive plants;  
replacing with  
sustainable landscaping



**improving**  
air and water  
quality

*“Our environment is a part of us. How we care for our environment and live with it, utilize and enjoy it, determines the kind of people we are and will be.”*

— Laurance Rockefeller, First President of the NRPA Board of Trustees





Camp Owaissa Bauer Park

## CARRYING CAPACITY

### Access Across Miami-Dade County

Miami-Dade contains natural and cultural resources of great importance to the community and, in some cases, to the entire nation. Given the significance of these resources, public demand to see and experience them is increasing. This increased visitation does not come without hurdles, as it has become more challenging for Miami-Dade Parks to fulfill its goals to provide for increased access, utilization and enjoyment of its parks while conserving resources for future generations. Given the demand for public use of parks, some decline or change in resource condition and the quality of visitor experience is inevitable, but the questions are how much and how should it be managed?

These questions typically are addressed through a process that begins with understanding the park’s purpose and then developing management prescriptions that specify appropriate resources and social conditions to align with the expected visitor experience. In Miami-Dade County, this process begins with Transect Planning as laid out in the OSMP.

The transect is an ecologically-based ordering system that classifies and arranges the human habitat. The transect is a framework that identifies a continuous range of habitats from the most natural to the most urban.

### AREAS OF HIGH LEVELS OF GREENNESS SHOW:



SOURCE: Journal of the American Heart Association. 2019. Vol. 8, No. 6 “Relationship of Neighborhood Greenness to Heart Disease.

One of Neat Streets Miami initiatives includes Million Trees Miami, a program focused on planting of trees to help counteract global warming. Trees help sequester carbon, provide shade and create more permeable surfaces in our parks, green spaces, and along our roadways. Permeable surfaces allow water to percolate into the soil to filter out pollutants and recharge the aquifer.



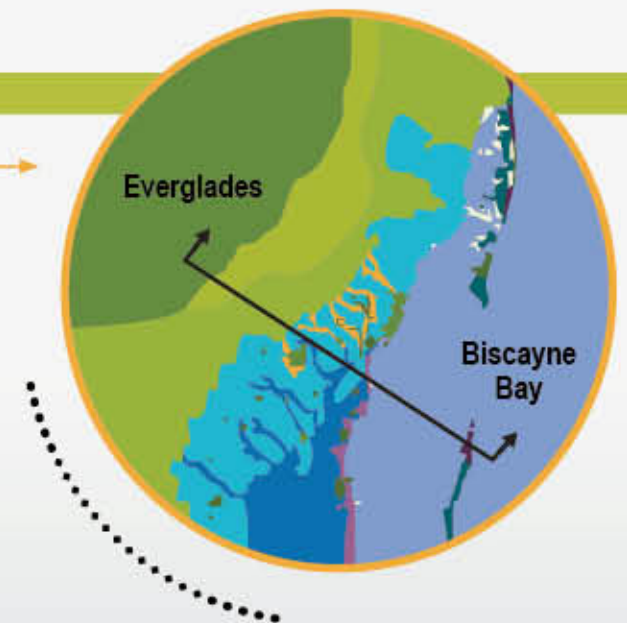
Redland Fruit & Spice Park



# ECOLOGICAL TRANSECT

## Miami-Dade County Ecological Communities

Miami-Dade County Ecological Communities Map  
Section reference for approximate location ONLY.



### Slough, Pond, Marsh

Dominated by pond cypress, white water lily, spatterdock, big floatingheart, bladderworts, open water, maidencane, sawgrass, alligator flag. Pond apple, stoppers, red bay, pigeon plum, myrsine, paradisetree, elderberry, flase mastic on tree islands. Generally, 1 to 5 feet above mean sea level with additional 5 feet of elevation increase on tree islands.

### Sawgrass Marsh

Dominated by sawgrass, with spikerush, arrowhead, pickerelweed. Generally, 2 to 5 feet above the mean sea level.

### Marsh Prairie

Dominated by maidencane, spikerush, water dropwort, muhlygrass, pickerelweed, arrowhead, alligator flag, sand cordgrass, beakrushes, smartweeds. Generally, 1 to 3 feet above mean sea level.

### Transverse Everglades

Historically, these flow-ways, presumably reflected Everglades vegetative communities, and probably included sawgrass/marsh prairie communities in the west, and slough/pond/mangrove swamp nearer to Biscayne Bay — red mangrove sawgrass, big floatinghearts, spatterdock. Generally, 3 to 5 feet above the mean sea level.

### Pine Flatwood, Miami Open Pine Forest

Dominated by slash pine canopy, with saw palmetto, cabbage palm, willow busic, several species of Lyonia and Vaccinium, and in the open understory wiregrass, bluestem and panicgrass and Schizachnium. Generally, 5 to 15 feet above mean sea level.

### Pine Rockland

Dominated by slash pine canopy; saw palmetto, silver palm white indigoberry, varnishleaf, snowberry, willow busic, buckthorn, coontie, lacy bracken. Generally, 5 to 15 feet above mean sea level.

### Coastal Hammock

Dominated by live oak, gumbo-limbo, pigeon plum, wild tamarind, mahogany, false mastic, stoppers, marlberry, satinleaf, wild coffee and epiphytic orchids. Generally, 2 to 5 feet above the mean sea level.

### Southern Coastal Marsh

Dominated by cordgrass, black needlerush, saltwort, saltgrass, sawgrass and muhly grass. Generally, 1 to 5 feet above mean sea level.

### Mangrove Swamp

Dominated by black, white, red mangrove; buttonwood. Generally, 1 to 3 feet above mean sea level.

### Coastal Dunes

Dominated by sea oats, railroad vine, dwarf sea grape, Spanish bayonet, inkberry, bay bean. Generally, 3 to 10 feet above mean sea level.





ENVIRONMENTAL ZONES

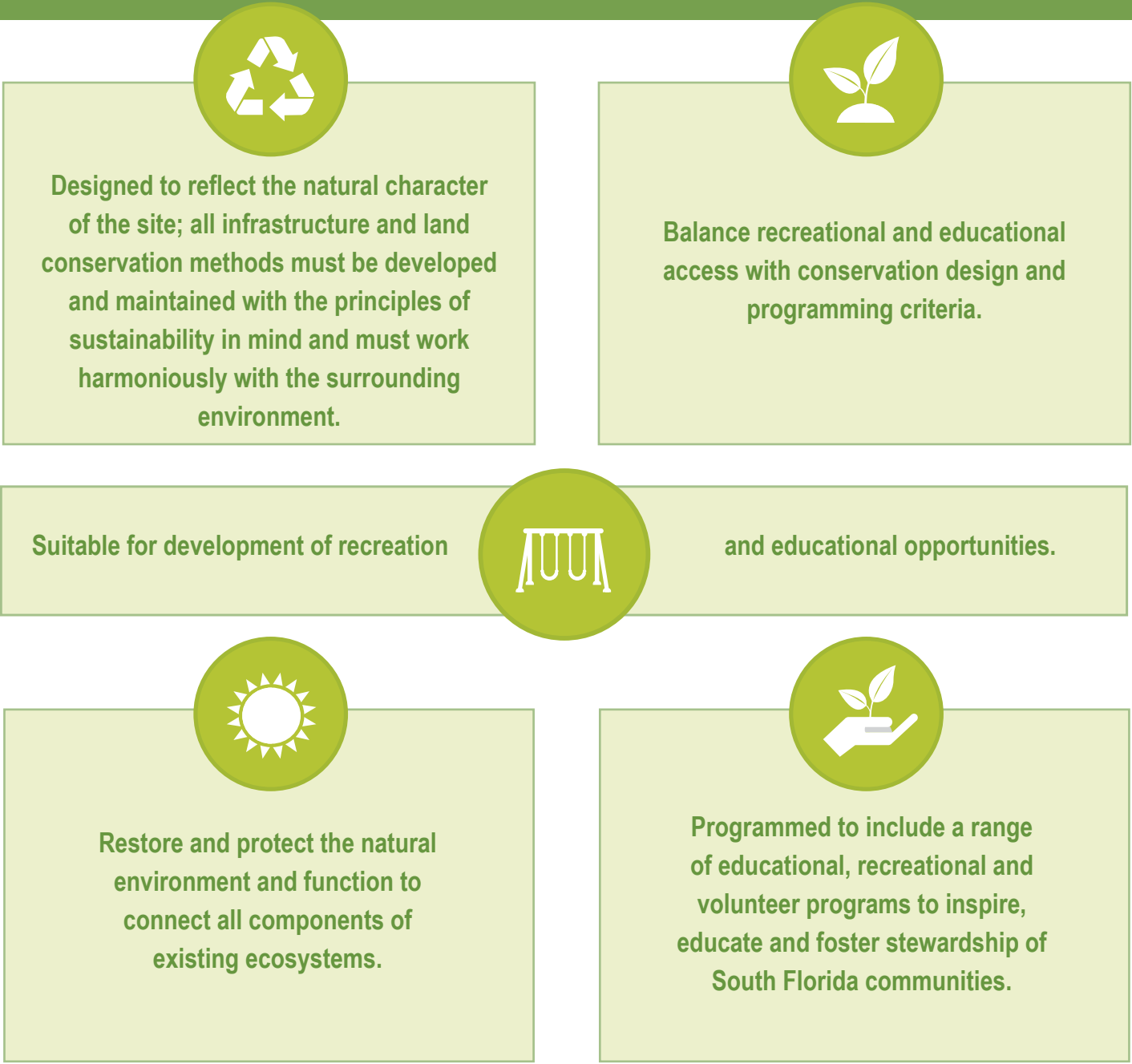
Miami-Dade is a system of Environmental Zones (clusters of environmentally endangered lands) that provide a variety of environmental education activities and programs, elevate the public’s appreciation and understanding of the County’s natural ecosystems, demonstrate the proper management of natural resources, engage the surrounding neighborhoods in the use and management of the sites, and link environmental sites with other elements of the open space system, through streets, greenways, trails and blueways.

The transect lays out four Environmental Zones that differ in experiences and resources in these areas depending on what part of the transect they are located in.



The next phase of addressing carrying capacity is incorporating the Environmental Zones or Eco-Zones. Eco-Zones shall be a series of connected Eco-Hubs that provide resource-based education and recreation. An Eco-Hub is a site connected to an Eco-Zone that includes property suitable for development of recreation and educational opportunities.

Eco-Hubs Characteristics



Environmental Zones emphasize different priorities — those where resource conservation is critical, and those where resource conservation education is the priority. Depending on where the zone falls on this continuum, public access to the areas parallels on a continuum that transitions from restricted to limited to open. It is important that addressing carrying capacity does not end here but continues as an interactive cycle that includes monitoring, evaluation and adjustment.

*“We are not lacking in the dynamic forces needed to create the future. We live immersed in a sea of energy beyond all comprehension.”*  
— Thomas Berry



Eco-Zones

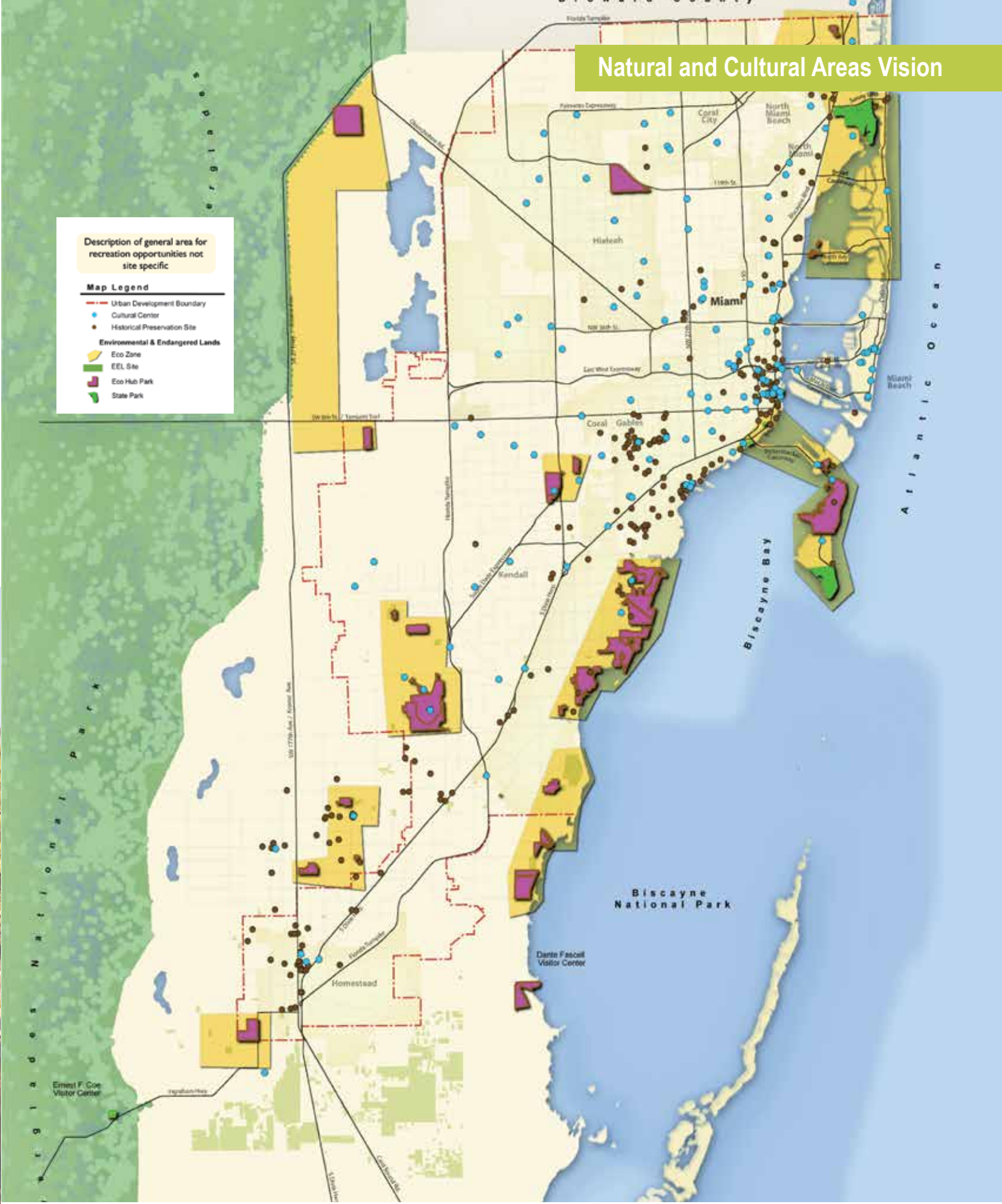
A group of protected natural areas that are connected through greenways, blueways and biotic corridors that provide the community with experiences that inspire, educate and foster stewardship of the natural environment of South Florida. Within an Eco-Zone there shall be a series of connected Eco-Hubs that provide resource-based education and recreation.

Eco-Hubs

Eco Hubs are aimed at solving issues in the environmental sector and support human well-being and sustainable development. These properties are suitable for the development of recreational and educational facilities.



Crandon Park Gardens







## Conservation Plan: Goals, Objectives and Strategies





The Conservation Plan is designed to coordinate conservation efforts and to set the direction and framework for Miami-Dade Parks by identifying the goals and actions necessary to balance the increasing demands of the community while preserving, protecting and managing our natural areas. The Conservation Plan outlines the department's strategies that will support the Open Space Master Plan and the Recreation Plan through conservation practices and resilient objectives.

By identifying needs, actions, and costs necessary to balance the increasing demands with the protection of natural resources, this Plan should prove to be an effective tool in managing Miami-Dade County's natural resources. The Plan must be embedded into the culture of the department, and each employee should be able to embrace and implement it each day. County governments have a great deal of influence over the way resources are used and managed and communities play a significant role in prioritizing their needs. Local governments are closer to citizens and affect their day-to-day lives in many ways by directly providing a wide range of services such as providing safe drinking water, waste management, transportation, and parks and recreation services, to name a few. Miami-Dade County understands that the concentration of people in ever-larger urban settlements creates considerable environmental disruption through the pollution of air and water, consumption of energy and natural resources, loss of natural habitat, and altered drainage patterns.

Miami-Dade County must pursue an active role in regional and national conservation initiatives. The county should recognize Miami-Dade Parks' extensive expertise in planning and development, operations, and natural areas management, thereby elevating both entities as true leaders in conservation in South Florida and beyond.

Miami-Dade Parks Conservation Plan was conceived out of the need to provide the department with the guidelines to improve coordination of conservation and resiliency efforts within its operations, recreation, planning and development, other county departments, municipalities, state and federal agencies, as well as the private sector.

### Conservation Goals

-  Develop and Adopt Conservation and Resiliency Best Practices
-  Create Informed Stewards within Miami-Dade County, Committed to Conservation and Resiliency
-  Elevate the Conservation Reputation of Miami-Dade Parks by Becoming a Leader in Conservation
-  Increase Resource Funding to Accomplish Conservation Objectives

### Florida Everglades





GOAL ONE: DEVELOP AND ADOPT CONSERVATION AND RESILIENCY BEST PRACTICES

Our vision is that Miami-Dade County is committed to making a positive impact through outstanding conservation and resiliency best practices. Miami-Dade County strives to incorporate conservation and resiliency best practices into every aspect of our organization and continually seeks to improve in an effort to reduce our environmental footprint.

Objectives
1.1 Promote conservation of our natural resources.
1.2 Implement best practices in recycling and waste management.
1.3 Establish a Planning Phase to implement and promote energy conservation, renewable energies, and a reduced carbon footprint.
1.4 Promote water conservation.
1.5 Plan and adapt our park system to the effects of sea level rise and climate change.

GOAL ONE: Objective Summary

1.1 Promote Conservation of our Natural Resources

Development of best practice standards for the promotion of our natural resources is one of the core objectives as it will address the needs of the county’s diverse and growing audience. These standards will serve as the policy and standard framework that guides the Conservation Plan.

1.2 Implement best practices in recycling and waste management

Develop Standard Operating Procedures relating to recycling and waste management best practices. Written Standard Operating Procedures, or SOPs and evaluation metrics that define and measure the ways activities are to be performed. These SOPs will be essential in allowing the smooth and efficient operation of conservation activities. Clear SOPs help ensure critical processes and responsibilities related to conservation activities are followed, proper action is taken, and ensure local, state and federal compliance.

1.3 Establish a planning phase to promote energy conservation, renewable energies, and a reduced carbon footprint

Promote and implement energy efficient practices, services and access with natural resources in the pursuit of LEED designations for facilities.

1.4 Promote Water Conservation

Understanding the quality of the county’s water resources is important to determining priorities and identifying how strategies and programs can be adapted to better achieve water quality goals and objectives. To assess long-term trends in the quality of the county’s water resources, the county will begin implementing energy efficiency strategies and measuring results.

1.5 Plan and adapt our park system to the effects of sea level rise and climate change

Take proactive action in the areas of risk assessment, mitigation, and adaptive strategies to ensure continuous and sustained service. Integrate efficiency strategies that reduce park system vulnerability and exposure, with special emphasis placed on the four dimensions of resilience that serve as pillars of the [Miami-Dade County’s resilience framework](#):





GOAL TWO: CREATE INFORMED STEWARDS WITHIN MIAMI-DADE COUNTY, COMMITTED TO CONSERVATION AND RESILIENCY

Moving towards the goal of resiliency requires fundamental changes in human attitudes and behavior. Progress in this direction is critically dependent on education and public awareness. Miami-Dade County understands the role of education and public awareness in promoting an inclusive approach in integrating its citizens into action-driven conservation and sustainability through cultural, natural and recreational experiences.

Objectives
2.1 Increase the environmental literacy (awareness, education and action) of staff
2.2 Increase the environmental literacy (awareness, education, and action) of the public.
2.3 Engage the public through interpretive elements, outreach, training workshops and volunteer involvement.

GOAL TWO: Objective Summary

**2.1 Increase the environmental literacy (awareness, education and action) of staff**  
Create a culture of resiliency among all Miami-Dade Parks’ employees through traditional and more inventive educational approaches. Equip every employee with a basic understanding of environmental processes and the role they, as individuals, play in these processes.

**2.2 Increase the environmental literacy (awareness, education and action) of the public**  
As environmental decisions become more complex and widespread—forcing individuals, businesses, and communities to make hard decisions - an environmental education, protection and restoration strategy built solely on the ability of trained environmental management experts cannot succeed. It must be an all-inclusive community endeavor. Like any other successful long-term strategy, natural resource management must be built on the collective wisdom of all citizens, gained through targeted education.

**2.3 Engage the public through interpretive elements, outreach, training workshops and volunteer involvement**  
Ensure that employees and constituents act as environmental stewards who are trained and motivated to follow positive environmental practices.

Miami-Dade County UF/IFAS Extension  
Gould Park Community Garden





GOAL THREE: ELEVATE THE CONSERVATION REPUTATION OF MIAMI-DADE PARKS BY BECOMING A LEADER IN CONSERVATION

Miami-Dade County works to raise awareness on the issues that arise when balancing conservation, society, and resource scarcity. Miami-Dade County will work to continue building support for conservation by providing information to constituents on environmental issues and other policy priorities. Our goal will be to raise awareness on the vital role of the environment in promoting economic, national and global security, and in enhancing the well-being of its people.

Objectives
3.1 Engage partners to work cooperatively towards conservation.
3.2 Engage in long-term ecological studies.
3.3 Develop conservation brand identity.
3.4 Propose and enact legislation on conservation practices.

GOAL THREE: Objective Summary

3.1 Engage partners to work cooperatively towards conservation

Miami-Dade County relies on a broad array of partners to support conservation activities, including federal, state and local government agencies, philanthropic foundations, professional organizations, conservation groups, industry, academia and private individuals. Partnerships have proven to be a vital mechanism in bridging the gap between environmental/community-based planning and on-the-ground implementation. The County will continue to seek and foster community partnerships that help support conservation activities.

3.2 Engage in long-term ecological studies

Miami-Dade County will seek and participate in long-term ecological surveys utilizing the array of ecosystems to better understand environmental change across the globe. Participating in these studies will contribute to solving international ecological and socio-economic problems through question and problem-driven research, with a unique ability to design collaborative, site-based projects; compare data from a global network of sites and detect global trends.

3.3 Develop a conservation brand identity

Seek and establish an identity to help establish a relationship between the brand and the customer. Key elements to contain strategic brand analysis, strategic identity system (brand identity) and brand identity implementation system.

3.4 Propose and advocate for enabling legislation on conservation practices

Play a significant role in raising awareness on resiliency efforts and in creating normative responses that will widen and promote attention to environmental systems and the need to develop and improve our ability to rebound from a wide-range of environmental changes.





GOAL FOUR: INCREASE RESOURCE FUNDING TO ACCOMPLISH CONSERVATION OBJECTIVES

Miami-Dade County depends upon a robust and effective Conservation Plan to achieve its conservation objectives. In an effort to promote a culture of resiliency, Miami-Dade County Parks Department has outlined specific objectives and initiatives to sustain and support funding for its natural areas and conservation programs.

Objectives
4.1 Develop a sustainable programming Plan for Eco Hubs and Eco-Zones that will guide future capital improvement projects.
4.2 Seek philanthropic grant funding for conservation of natural areas and local ecological systems.
4.3 Strengthen in-kind services by developing a citizen science program that supports natural resource management.
4.4 Cultivate Business Sponsorships through (Park Foundation/Zoo Miami/ Deering Estate) to support specific park initiatives.
4.5 Develop a strategy to implement permanent dedicated funding sources for natural areas (i.e. green tax, referendum).

GOAL FOUR: Objective Summary

4.1 Develop a sustainable programming plan for Eco Hubs and Eco-Zones that will guide future capital improvement projects

Develop a sustainable program plan that addresses the economic and environmental expectations of the Open Spaces Master Plan's long-term vision. Planning for this initiative will consider the Eco-hub location and demographics to guide specific capital improvements projects.

4.2 Seek philanthropic grant funding for conservation of natural areas and local ecological systems

An increased funding capacity diversifies the Department's ability to pursue innovative efforts involving conservation, education, and resiliency.

4.3 Strengthen in-kind services by developing a citizen science program that supports natural resource management

Utilize a citizen science program that will invest in partnerships and collaboration to move the citizen science program from compilation of data to comprise involvement from internal and external agencies including state, territorial, tribal and local government.

4.4 Cultivate business sponsorships through (Park Foundation/Zoo Miami/ Deering Estate) to support specific park initiatives

Utilize the abilities of foundations associated with the Parks Department, Deering Estate, and Zoo Miami to spearhead conservation initiatives through public/private partnerships. Popular Department designations can serve as models where community engagements and awareness can crossover beyond boundaries into neighboring communities.

4.5 Develop a strategy to implement permanent dedicated funding sources for natural areas (i.e. green tax, referendum)

A permanent, dedicated source of funding is vital to ensure natural resource management, conservation and stewardship activities are not impacted due to budgetary constraints. This dedicated funding source would allow local governments to acquire, maintain, and protect natural areas and resources.



Pelican Skipper Tour





Matheson Hammock Park



# Appendix Appendices

The Park Conservation Committee meets quarterly to review initiatives. The charts supplied in the appendix provide a progress report on the achievement of the goals and objectives of the Conservation Plan. The appendix will be updated annually to provide the status of the initiatives and achievements.

## GOAL 1

### Develop and Adopt Conservation and Resiliency Best Practices

Category	#	Item	Timeline	Metric/ Outcome
Goal	1	Develop and adopt conservation and resiliency best practices.		
Objective	1.1	Promote conservation of our natural resources.		
Initiative	1.1.1	Maintain the exotic, invasive plant species coverage at 5% or less in 30% of parks and preserves.	Ongoing	5% exotics measured in annual preserve area evaluation.
Initiative	1.1.2	Annually update the Operation Standard Procedures in the Operations Manual for exotic wildlife.	Ongoing	Updated and published document.
Initiative	1.1.3	Update the Miami-Dade Parks inventory of species of concern (endangered, threatened, and rare).	Every two years.	Updated and published document.
Initiative	1.1.4	Increase our prescribed burn.	Ongoing	Increase number of annual burns by 30%.
Initiative	1.1.5	Reduce exotic and feral animal population in parks and preserves.	Ongoing	Decrease exotic animal population by 25%
Objective	1.2	Implement best practices in recycling and waste management.		



Category	#	Item	Timeline	Metric/ Outcome
Initiative	1.2.1	Create a recycling program with clear departmental policies.	FY 19-20	Measure the quarterly amount or recycling to establish baseline.
Initiative	1.2.2	Add recycling canisters to all Miami-Dade County Parks.	FY 20-21	Every park at least 1 recycling container.
Initiative	1.2.3	Foster a phased approach to zero waste culture by providing educational programs for our park patrons and vendors.	FY 22-23	# of workshops held and # of participants.
Initiative	1.2.4	Develop and pass a policy to ban single-use plastics in parks.	FY 19-20	Elimination of single-use plastics.
Initiative	1.2.5	Develop and pass a policy to ban the disposal of compostable organics as garbage in parks.	FY 20-21	Elimination of compostable organics in the trash.
Initiative	1.2.6	Develop and encourage a policy to ban the use of plastic bags, glitter and balloons in parks.	FY 20-21	Elimination of these types of products.
Initiative	1.2.7	Identify and implement compost sites within our parks system.	FY 20-21	# of compost sites and # of pounds composted every year.
Objective	1.3	Establish a Planning Phase to implement and promote energy conservation, renewable energies, and a reduced carbon footprint.		
Initiative	1.3.1	Implement solar lighting projects.	FY 20-21	# of projects and # watts generated.
Initiative	1.3.2	Implement electric vehicle charging stations in our regional parks in conjunction with wind energy.	FY 21-22	# of electric vehicle charging stations.

Category	#	Item	Timeline	Metric/ Outcome
Initiative	1.3.3	Pursue LEED Building Operations and Maintenance certification for three park sites with buildings.	FY 21-22	# of park sites that earn LEED O+M.
Initiative	1.3.4	For all new purchases, buy electric or propane gas golf carts and mowers to reduce our carbon footprint.	FY 21-22	% of electric or propane gas golf carts purchased and the % of non-electric and non-propane golf carts purchased. 100% of all replacement equipment.
Initiative	1.3.5	Increase non-motorized accessibility to our parks by increasing the number of bike racks by 50%.	FY 20-21	# of parks with bike racks in current system compared to the # of parks with new bike racks.
Initiative	1.3.6	Target tree plantings in areas that have a higher heat index.	FY 20-21	# of trees planted in hot areas.
Initiative	1.3.7	Increase non-motorized, pedestrian accessibility to three of our natural areas.	FY 19-20	# of sites.
Objective	1.4	Promote water conservation.		
Initiative	1.4.1	Develop green parking lot pilot projects to include permeable, semi-permeable paving and porous designs to all designs and construction projects.	FY 21-22	# of green parking lots and the # of square feet of green parking lots constructed compared to # non-green parking lots constructed.
Initiative	1.4.2	Develop a golf course water conservation program and reduce our golf course water consumption by 25%.	FY 21-22	% of water volume reduced within our golf courses.



Category	#	Item	Timeline	Metric/ Outcome
Initiative	1.4.3	Develop a water barrel conservation system for all structures with roofs (buildings, offices, shelters).	FY 20-21	# of water barrels added to our system and amount of water collected.
Objective	1.5	Plan and adapt our park system to the effects of sea level rise and climate change.		
Initiative	1.5.1	Identify the most vulnerable park assets against the threat of climate change and sea level rise and develop a Plan to preserve those sites.	FY 19-20	Develop a plan and publish checklist.
Initiative	1.5.2	Develop a strategy to transition vulnerable habitats to resilient natural systems, such as mangrove forests and salt marshes.	FY 20-21	Develop a strategy and implement action plan.
Initiative	1.5.3	Work with the Miami-Dade County Office of Resiliency to prepare guidelines for parks to adapt to climate change.	FY 19-20	# of guidelines integrated into our plans.

Sea Turtle Conservation Program



GOAL 2

Create Informed Stewards within Miami-Dade County, Committed to Conservation and Resiliency

Category	#	Item	Timeline	Metric/ Outcome
Goal	2	Create Informed Stewards within Miami-Dade County, Committed to Conservation and Resiliency		
Objective	2.1	Increase the environmental literacy (awareness, education and action) of staff.		
Initiative	2.1.1	Review current “Green” requirement documents and training offerings which includes Stewardship Checklist and Recycling Contract.	FY 19-20	Adopt policy/procedure, train staff and upload to virtual library.
Initiative	2.1.2	Create an internal Conservation Campaign  - Why should I care? - Park history script - Identify 3-4 messaging per Departmental units (CNP, Community Centers, HPMB, Reginal, Golf).	FY 19-20	Survey 70% of park employees’ awareness of conservation campaign messages.
Initiative	2.1.3	Identify Conservation Outcome Measure for ASE based on the Stewardship Checklist.	FY 19-20	Establish Perf. Meas. For checklist and add one initiative to Active Strategies (ASE).
Objective	2.2	Increase the environmental literacy (awareness, education and action) of the public.		
Initiative	2.2.1	Identify local Conservation partners and review messaging.	FY 19-20	Establish and adopt agreements.
Initiative	2.2.2	Create a Stewardship Pledge.	FY 19-20	Adopt/publish pledge.
Objective	2.3	Engage the public through interpretive elements, outreach, training, workshops and volunteer involvement.		
Initiative	2.3.1	Create templates with conservation branding and value messaging.	FY 19-20	Adopt into EcoAdventures Logic Model.



Category	#	Item	Timeline	Metric/ Outcome
Initiative	2.3.2	Deploy conservation e-newsletter.	FY 19-20	Publish quarterly with less than 30% unsubscribed actions.
Initiative	2.3.3	Incorporate a conservation focus to volunteer projects.	FY 19-20	Include in 100% in signature volunteer programs with P.L.A.C.E
Initiative	2.3.4	Create a standard outreach tool kit.	FY 19-20	Adopt/distribute.

### GOAL 3

### Elevate The Conservation Reputation Of Miami-Dade Parks By Becoming A Leader In Conservation

Category	#	Item	Timeline	Metric/ Outcome
Goal	3	Elevate the conservation reputation of Miami-Dade Parks by becoming a leader in conservation.		
Objective	3.1	Engage partners to work cooperatively towards conservation.		
Initiative	3.1.1	Create a Consortium of Research partners.	FY 19-20	Number of partners.
Objective	3.2	Engage in long-term ecological studies.		
Initiative	3.2.1	Publish research papers/articles annually.	Ongoing	Publish three annually.
Initiative	3.2.2	Develop a Conservation and Assessment Monitoring Tool.	FY 20-21	Finalized Monitoring Tool.
Objective	3.3	Develop a Conservation Brand Identity.		
Initiative	3.3.1	Conduct Brand Equity Analysis.	FY 19-20	Complete Analysis
Initiative	3.3.2	Develop List of Conservation Value Statements.	FY 19-20	List of Value Statements.

Objective	3.4	Propose and enact legislation on conservation practices.		
Initiative	3.4.1	Inventory Conservation Best Practices already taking place within the Department.	FY 2020	Adopt List of Best Practices + implement.
Initiative	3.4.2	Create Speakers Bureau.	FY 2019	Number of Speakers.

### GOAL 4

### Increase Resource Funding To Accomplish Conservation Objectives

Category	#	Item	Timeline	Metric/ Outcome
Goal	4	Increase resources and funding to accomplish conservation objectives.		
Objective	4.1	Seek philanthropic and/or grant funding for conservation of natural areas and local ecological systems.		
Initiative	4.1.1	Identify at least three successful revenue positive or cost neutral programs at Zoo Miami and Deering that can be duplicated at Eco-Hubs.	Ongoing	Adopt/Implement program models.
Objective	4.2	Seek philanthropic and/or grant funding for conservation of natural areas and local ecological systems.		
Initiative	4.2.1	Identify at least 10 philanthropic foundations whose funding priorities align with the Department's and the Plan's priority as a potential match to pursue.	FY 19-20	List of Foundations and outreach.
Initiative	4.2.2	Conduct at least one GoFundMe fundraising campaign to support the need for an Eco-Hub.	FY 19-20	Campaign with funding.
Objective	4.3	Strengthen in-kind services by developing a citizen science program that supports natural resource management.		
Initiative	4.3.1	Convene a task force comprised of representatives from the Parks Conservation Corp (PCC), Zoo Miami, Deering, and the local BioTech High School to identify components to the program objectives and priority projects for FY18-19 & FY19-20.	FY 19-20	Task force kick-off and meet quarterly



Objective	4.4	Cultivate Business Sponsorships through (Park Foundation/Zoo Miami/ Deering Estate) to support specific park initiatives.		
Initiative	4.4.1	Pursue FPL sponsorship of solar trees at Eco-Hubs to increase community awareness and engagement of Solar Now.	FY 19-20	Secure FPL commitment and implement plan.
Initiative	4.4.2	Pursue Bacardi sponsorship of bat boxes at County parks, with funds supporting interpretive exhibits showing the ecosystem connections between various eco-zones/hubs and other areas (e.g. ENP).	FY 19-20	Secure Bacardi Commitment and implement plan.
Objective	4.5	Develop a strategy to implement permanent dedicated funding sources for nature areas (i.e. green tax, referendum).		
Initiative	4.5.1	Prioritize funding for undermanaged or non-managed natural areas.	FY 19-20	List of priorities.
Initiative	4.5.2	A ballot property tax to form an endowment (Similar to Environmentally Endangered Lands (EEL) in 1990-1992).	FY 20-21	Develop bond and operating plan by 10/1/19.
Initiative	4.5.3	Revenue generating parks with natural areas contribute a portion of their profits towards their management (i.e. quarters for conservation).	FY 20-21	Built into FY 21-22 Budget

Natural Areas Management



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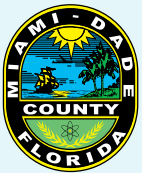
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