

# Biscayne Bay Recovery Plan

Summary of Biscayne Bay Task Force Recommendations



Working Together, We Can Help Save Biscayne Bay.

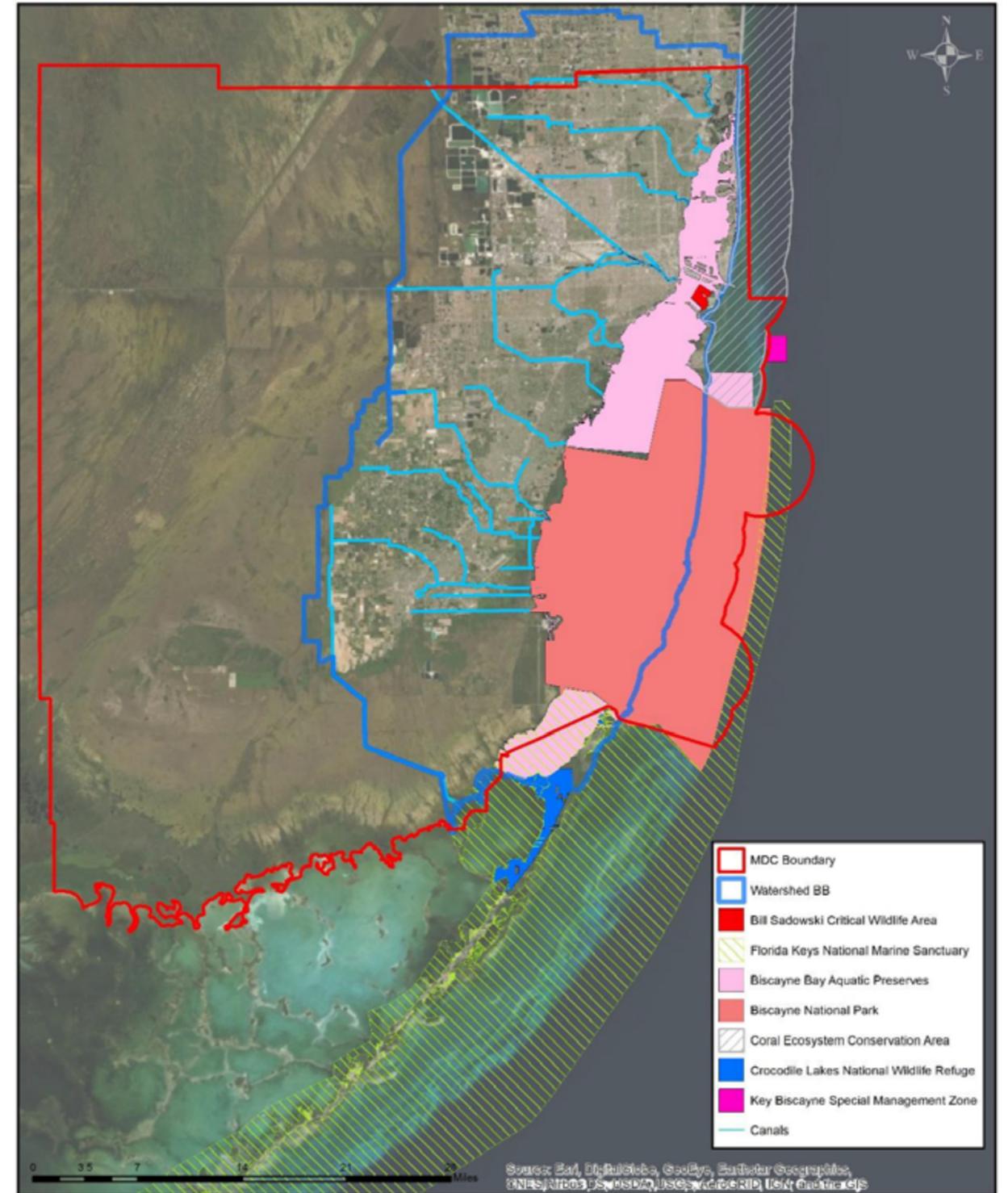
Biscayne Bay is in trouble. Seagrass, the foundation of all life in the Bay, is dying. Scientists have studied Biscayne Bay's fragile ecosystem and have issued a call to action. We, the 2.8 million people who live and call Miami-Dade home, must answer that call.

## Why Should We Care?

The Biscayne Aquifer is the source of water supply. Protecting water quality in Biscayne Bay is essential to maintain our quality of life. Biscayne Bay is one of the premier recreational locations in the world. From our beaches to our coral reefs and from the seaport to the bay walk, it is and will continue to serve as a vital resource to Miami-Dade's economy. Balancing the health of our ecosystem as our county continues to grow is paramount and investments must be made to preserve, protect and revitalize the habitat and watershed that we all depend upon.



## Biscayne Bay Task Force Watershed and Managed Areas Map



Map of the Biscayne Bay watershed and managed areas within and adjacent to the watershed.  
NOTE: Watershed layer obtained from SFWMD. These subwatersheds are the smallest units classified in AHED (Arc Hydro Enhanced Database). They were formerly known at the District as Subbasins.

# Biscayne Bay Actions Steps to Recovery

## Benchmark

Immediate (I) | Short-Term (S) | Mid-Term (M)  
 Less than one year | Between one and three years | Greater than three years

## Action Type



### WATER QUALITY

<b>1A</b>	Establish science-based, pollutant load reduction goals and interim targets
<b>1B</b>	Develop, implement and continuously monitor and demonstrate progress toward meeting 1A's pollutant load reduction goals and interim targets
<b>1C</b>	Activate additional Department of Regulatory and Economic Resources' (RER) resource management functions
<b>1D</b>	County should conduct an immediate assessment of land-based hotspot areas prioritized based on existing, known impairments
<b>1E</b>	Review, develop (as needed), implement and enforce local ordinances and policies to attain pollution load reduction goals set forth in the Watershed Restoration Plan (WRP)
<b>1F</b>	Coordinate, staff and provide an annual budget for comprehensive, centralized Biscayne Bay Watershed data and research coordination and data management infrastructure
<b>1G</b>	Undertake and secure funding for new pilot projects and research projects focused on reducing pollutant loads
<b>1H</b>	Elevate and further amend the Comprehensive Develop Master Plan (CDMP) to further include Biscayne Bay watershed management planning elements
<b>1I</b>	Conduct a climate change vulnerability assessment for Biscayne Bay
<b>1J</b>	Initiate and fund studies that illuminate specific knowledge gaps for application toward watershed restoration
<b>1K</b>	Pass a county-wide fertilizer ordinance
<b>1L</b>	Increase compliance of all marinas and commercial operations along waterways
<b>1M</b>	Continue to monitor the progress of the October 7th, 2015 Consent Agreement between FP&L and Miami-Dade County

### BENCHMARK

Short-Term (S)
Short-Term (S)
Immediate (I)
Immediate (I)
Short-Term (S)
Immediate (I)
Immediate (I)
Mid-Term (M)
Short-Term (S)
Immediate (I)
Short-Term (S)
Immediate (I)
Immediate (I)

### GOVERNANCE

<b>2A</b>	Establish by ordinance a Biscayne Bay Watershed Management Board (WMB)
<b>2B</b>	The Mayor should appoint a Chief Bay Officer (CBO) and request funding for the position
<b>2C</b>	The WMB will, with technical and community recommendations, review, recommend funding for and implement the Watershed Restoration Plan (WRP)
<b>2D</b>	Develop a formal partnership in the form of a Memorandum of Understanding (MOU) with the SFWMD
<b>2E</b>	Enable the alignment and coordination of County departments that takes a holistic, comprehensive approach to Biscayne Bay recovery and resilience
<b>2F</b>	Develop a formal partnership in the form of a Memorandum of Understanding (MOU) with the Miami River Commission

Immediate (I)
Immediate (I)
Short-Term (S)
Immediate (I)
Immediate (I)
Immediate (I)

### INFRASTRUCTURE

<b>3A</b>	Increase compliance with existing laws to result in the immediate connection of ~12,000 properties to the sewer system
<b>3B</b>	Develop and enforce septic system design criteria with design parameters
<b>3C</b>	Initiate a mandatory septic system registration and inspection program
<b>3D</b>	Undertake immediate efforts to identify and eliminate all root causes of Sanitary Sewer Overflows (SSO) including inflow and infiltration. Accelerate sewer infrastructure maintenance and upgrades
<b>3E</b>	Develop and expedite a Condition Assessment and Asset Management Action Plan to document the condition of the County's wastewater system assets and certify all historical "As Built's" and/or those not already certified with a focus on identifying horizontal and vertical locations of main wastewater transmission lines
<b>3F</b>	Enforce the existing code and update the stormwater design criteria to improve effectiveness and include advances in stormwater treatment technologies
<b>3G</b>	Develop a plan to prioritize the retrofitting of stormwater infrastructure within basins with the most substantial water quality and/or habitat degradation issues
<b>3H</b>	Eliminate direct and indirect stormwater discharges to Biscayne Bay
<b>3I</b>	Set policy that all As-Built's/Record Drawings are done and certified by a Florida Professional Surveyor and Mapper qualified and registered to do work in Miami-Dade County
<b>3J</b>	Set policy to require during the design phase of future construction that all existing utilities are designated and located vertically and horizontally
<b>3K</b>	Ensure that new infrastructure projects to address coastal flooding and storm surge that are cost-shared by the County adhere to the recommendations of this Task Force and prioritize Biscayne Bay health and resilience

### BENCHMARK

Short-Term (S)
Short-Term (S)
Mid-Term (M)
Short-Term (S)
Mid-Term (M)
Short-Term (S)
Short-Term (S)

### WATERSHED HABITAT RESTORATION AND NATURAL INFRASTRUCTURE

<b>4A</b>	Develop ecologically acceptable living shoreline design options that are consistent with the existing Biscayne Bay Aquatic Preserve Act
<b>4B</b>	Raise awareness of the value of mangroves through a homeowner education campaign
<b>4C</b>	Increase enforcement of existing rules for protecting existing mangroves and mangrove shorelines
<b>4D</b>	Identify vulnerable properties along the coastline and partner with municipalities to focus on public properties and private property owners to create a voluntary Mangrove Protection and Restoration Zone Program
<b>4E</b>	Prioritize existing and identify new green and blue infrastructure approaches and restoration projects
<b>4F</b>	Continue to work with SFWMD and to have the State of Florida allocate the funds necessary to ensure the timely commencement of construction of the Cutler Flow Way in accordance with the project timeline in the Integrated Delivery Schedule
<b>4G</b>	Continue to advocate for funding to support the Biscayne Bay Southern Everglades Ecosystem Restoration (BBSEER) project (also known as the BBCW / C-111)
<b>4H</b>	Establish seagrass targets and maintenance requirements
<b>4I</b>	Accelerate green infrastructure solutions for flooding, resiliency and water quality

Immediate (I)
Short-Term (S)
Short-Term (S)
Short-Term (S)
Immediate (I)
Immediate (I)
Mid-Term (M)
Short-Term (S)
Short-Term (S)

### MARINE DEBRIS

<b>5A</b>	Create a comprehensive marine debris prevention, reduction, and removal program within DERM and to adequately fund and staff the program
<b>5B</b>	Establish a marine debris working group to promote collaboration on ways to reduce marine debris
<b>5C</b>	Through the Miami-Dade County Police Department, direct the Marine Patrol Unit to prioritize its commitment to the enforcement of all applicable laws having a nexus to the environmental health of the Bay and its tributaries
<b>5D</b>	Conduct an analysis of marine debris in Biscayne Bay
<b>5E</b>	Adopt a target maximum input level policy for trash
<b>5F</b>	Evaluate the various existing stormwater outfall systems throughout the county to determine their effectiveness at preventing debris from entering Biscayne Bay
<b>5G</b>	Identify and establish dedicated and recurring funding sources to pay for marine debris prevention and removal activities

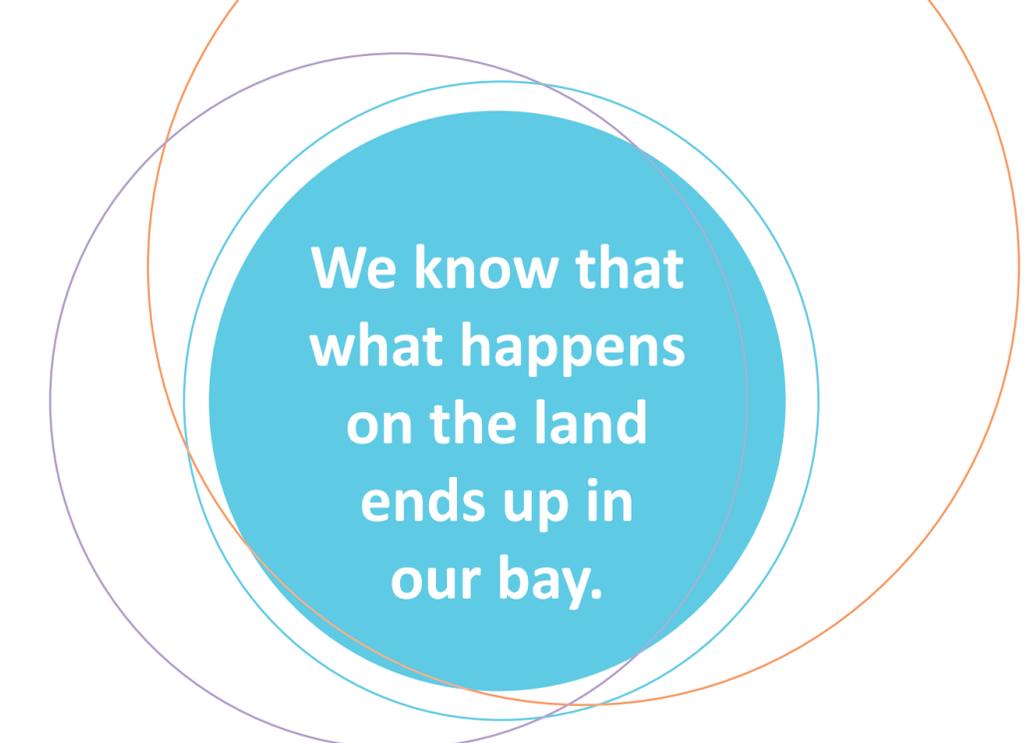
Short-Term (S)
Mid-Term (M)
Immediate (I)

### EDUCATION AND OUTREACH

<b>6A</b>	Create a multi-lingual, multi-media campaign and educational outreach program
<b>6B</b>	Leverage the funding in the Community Based Organization grant program to create a special focus on Biscayne Bay education
<b>6C</b>	Conduct an educational campaign to inform the public on the proper and improper ways to dispose of trash and the impacts of littering and marine debris to the health and management of Biscayne Bay
<b>6D</b>	Implement policies to reduce the amount of locally generated plastic marine debris
<b>6E</b>	Build upon and increase volunteer clean-up activities county-wide
<b>6F</b>	Develop environmental sustainability and "plastic free" best practices
<b>6G</b>	Support a "Living Laboratory for Bay Health"
<b>6H</b>	Develop and implement a contractor and lawn care industry training program
<b>6I</b>	Expand the scope of Baynanza to add year-round activities and collaborate on Biscayne Bay Marine Health Summit activities.

### BENCHMARK

Immediate (I)
Short-Term (S)
Immediate (I)
Short-Term (S)
Immediate (I)
Short-Term (S)
Short-Term (S)
Short-Term (S)
Immediate (I)



### FUNDING

<b>7A</b>	Collaborate with the Miami-Dade Legislative Delegation and the Congressional Delegation to secure annually appropriated funds to support Biscayne Bay watershed restoration
<b>7B</b>	Immediately engage in the legislative process to designate a Biscayne Bay License Plate
<b>7C</b>	Immediately enter into a cost-share partnership with SFWMD
<b>7D</b>	Collaborate with Florida Inland Navigational District (FIND) to immediately identify projects that will improve water quality and restoration of the Biscayne Bay watershed
<b>7E</b>	Leverage municipal financial resources through interlocal agreements to supplement County funds
<b>7F</b>	Develop a mechanism to collaborate with municipalities and work with the development community
<b>7G</b>	Direct the preparation of a report of potential funding sources by the Office of Management and Budget and the Office of Intergovernmental Affairs

Immediate (I)
Immediate (I)
Immediate (I)
Immediate (I)
Short-Term (S)
Short-Term (S)
Immediate (I)

## How Do We Fix It?

As we saw with the shutdown due to COVID-19, when humans stayed home, air and land pollution was reduced. Our activities matter when it comes to the environment, we know that what happens on the land ends up in our bay. We can make a difference to protect the water we drink and the air that we breathe. The Biscayne Bay Task Force report provides our leaders information to help begin to restore Biscayne Bay and make cleaner, more sustainable choices so our children and grandchildren can enjoy fishing, swimming, boating, recreating in, and enjoying the Biscayne Bay for many years.



## What Happened?

Settlers in Miami's early days knew little about freshwater, saltwater and the impact human activities had on the natural balance of our ecosystem. Early developers built this city on coral rock and marsh land. As a matter of practice, they dumped raw sewage into the Bay. Fortunately, that's illegal now, but raw sewage still makes its way into the Bay when our old sewer systems malfunction.

As Miami grew, the Bay bottom was dredged to make islands for homes and ports for ships. However, the dredged areas are too deep for seagrasses to grow and the unstable island shorelines make the water murky, starving the water plants of much needed sunlight. People with waterfront homes wanted a clear view of the gorgeous bay, and some have cut down nature's water filters, mangroves. Rainwater washes the streets all over Miami-Dade County and ends up in the canals and eventually Biscayne Bay. Chemicals, grease, fertilizers, litter and trash travel through the storm drains that were designed to prevent our homes and streets from flooding, sending the dirty polluted water directly into the Bay.

However, as more and more people moved here, so did demands on freshwater for drinking, cooking, showering, and landscaping. Instead of allowing freshwater to naturally flow through the aquifer into the Bay, we are pumping it out, causing the saltwater from the bay and the ocean to seep in, coming dangerously close to the pumps that supply drinking water in certain geographical areas.

All of these problems combined have put the Bay in a fragile condition and we must act to nurse it back to health.

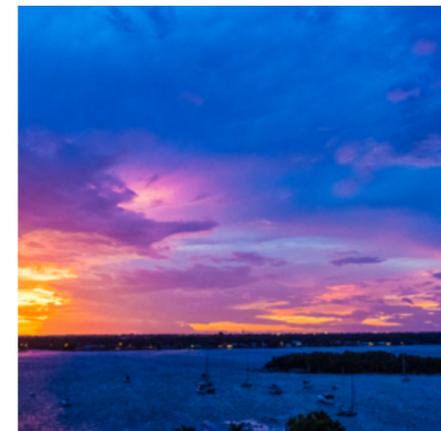




Photo by Muzammil Soorma

## Biscayne Bay Task Force Mission and Activities

On February 5, 2019, the Miami-Dade Board of County Commissioners (BCC) adopted Resolution No. R-165-19, establishing the Biscayne Bay Task Force (Task Force). The Task Force was established as a nine-member advisory board consisting of appointed professionals representing civil engineers, coastal real estate developers, water quality and ecology experts, coastal managers, environmental regulators, resilience experts, and the community at-large. The Task Force was charged to meet at least four times over a six-month period to review prior studies, relevant data, and evaluations, and management planning and policy documents related to Biscayne Bay (Bay) as well as to receive recommendations related to the health and management of the Bay. The Task Force met 18 times and received approximately 35 presentations related to the health and management of Biscayne Bay from local and state regulatory agencies, municipalities, academia, community-based organizations, and other key stakeholders.

### Biscayne Bay Task Force Members

**Irela Bagué**, Task Force Chairperson, President, Bagué Group

**David Martin**, Task Force Vice Chairperson, President, Terra Group

**Lynette Cardoch**, Ph.D., Director of Resilience & Adaptation, Moffatt & Nichol

**Lee Hefty**, Director, Division of Environmental Resources Management, Miami-Dade County

**James Murley**, Chief Resilience Officer, Office of Resilience, Miami-Dade County

**John Pistorino**, P.E., Principal, Pistorino and Alam

**Alyce Robertson**, Former Executive Director, Downtown Development Authority

**Steve Sauls**, Biscayne Bay Marine Health Summit Steering Committee Member

**Tiffany Troxler**, Ph.D., Director of Science, Sea Level Solutions Center, Florida International University