

# 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.

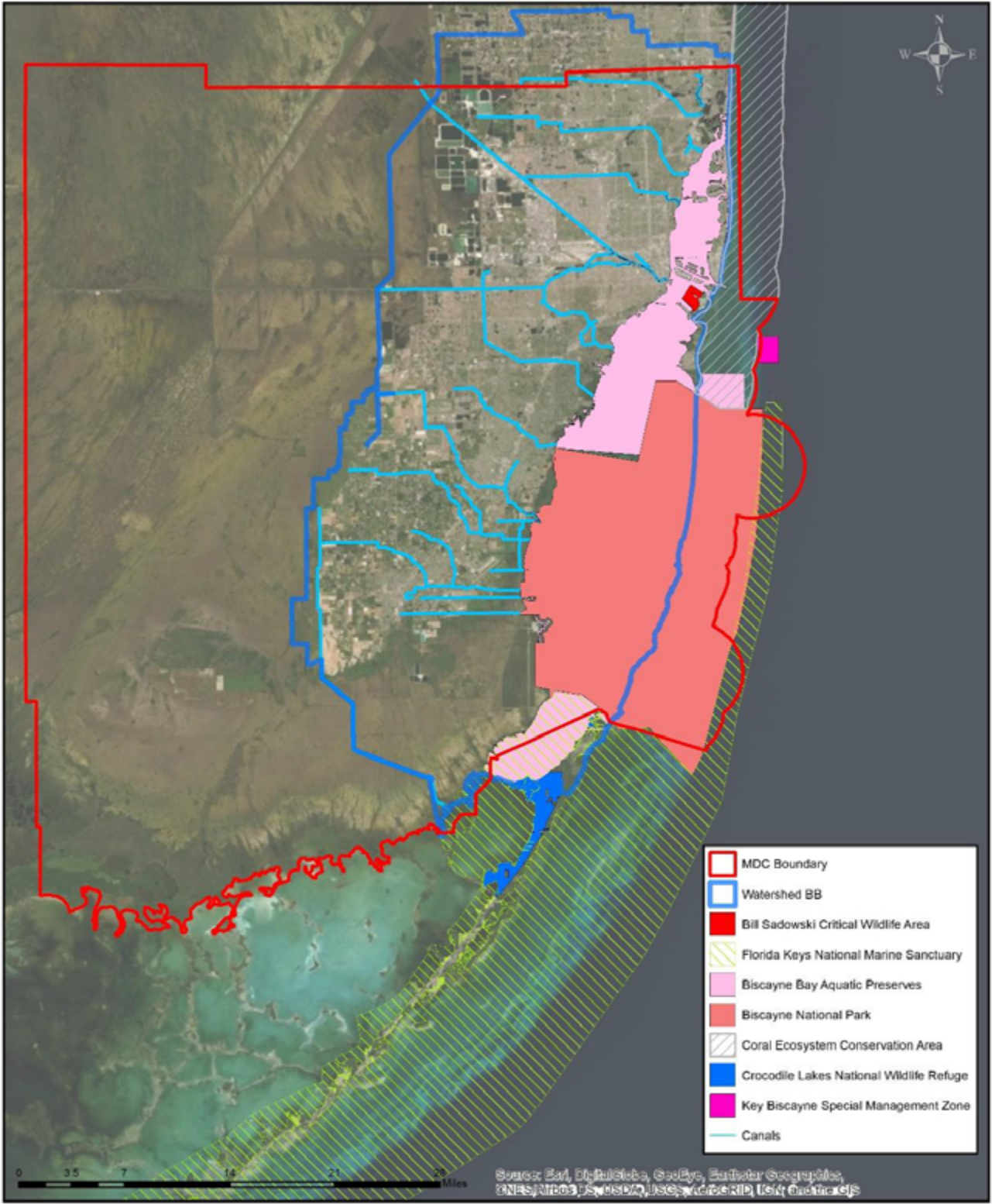


# Why Should We Care?

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) Less than one year	Short-Term (S) Between one and three years	Mid-Term (M) Greater than three years
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## Action Type

Actions that can be accomplished administratively within the County	Actions that require additional policy considerations	Actions that require further collaboration at the municipal, state, or federal level
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WATER QUALITY		BENCHMARK
1A	Establish science-based, pollutant load reduction goals and interim targets	Short-Term (S)
1B	Develop, implement and continuously monitor and demonstrate progress toward meeting 1A's pollutant load reduction goals and interim targets	Short-Term (S)
1C	Activate additional Department of Regulatory and Economic Resources' (RER) resource management functions	Immediate (I)
1D	County should conduct an immediate assessment of land-based hotspot areas prioritized based on existing, known impairments	Immediate (I)
1E	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)	Short-Term (S)
1F	Coordinate, staff and provide an annual budget for comprehensive, centralized Biscayne Bay Watershed data and research coordination and data management infrastructure	Immediate (I)
1G	Undertake and secure funding for new pilot projects and research projects focused on reducing pollutant loads	Immediate (I)
1H	Elevate and further amend the Comprehensive Develop Master Plan (CDMP) to further include Biscayne Bay watershed management planning elements	Mid-Term (M)
1I	Conduct a climate change vulnerability assessment for Biscayne Bay	Short-Term (S)
1J	Initiate and fund studies that illuminate specific knowledge gaps for application toward watershed restoration	Immediate (I)
1K	Pass a county-wide fertilizer ordinance	Short-Term (S)
1L	Increase compliance of all marinas and commercial operations along waterways	Immediate (I)
1M	Continue to monitor the progress of the October 7th, 2015 Consent Agreement between FP&L and Miami-Dade County	Immediate (I)

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

INFRASTRUCTURE		BENCHMARK
3A	Increase compliance with existing laws to result in the immediate connection of ~12,000 properties to the sewer system	Short-Term (S)
3B	Develop and enforce septic system design criteria with design parameters	Short-Term (S)
3C	Initiate a mandatory septic system registration and inspection program	Mid-Term (M)
3D	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	Short-Term (S)
3E	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	Short-Term (S)
3F	Enforce the existing code and update the stormwater design criteria to improve effectiveness and include advances in stormwater treatment technologies	Short-Term (S)
3G	Develop a plan to prioritize the retrofitting of stormwater infrastructure within basins with the most substantial water quality and/or habitat degradation issues	Short-Term (S)
3H	Eliminate direct and indirect stormwater discharges to Biscayne Bay	Mid-Term (M)
3I	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	Short-Term (S)
3J	Set policy to require during the design phase of future construction that all existing utilities are designated and located vertically and horizontally	Short-Term (S)
3K	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	Short-Term (S)

WATERSHED HABITAT RESTORATION AND NATURAL INFRASTRUCTURE		
4A	Develop ecologically acceptable living shoreline design options that are consistent with the existing Biscayne Bay Aquatic Preserve Act	Immediate (I)
4B	Raise awareness of the value of mangroves through a homeowner education campaign	Short-Term (S)
4C	Increase enforcement of existing rules for protecting existing mangroves and mangrove shorelines	Short-Term (S)
4D	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	Short-Term (S)
4E	Prioritize existing and identify new green and blue infrastructure approaches and restoration projects	Immediate (I)
4F	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	Immediate (I)
4G	Continue to advocate for funding to support the Biscayne Bay Southern Everglades Ecosystem Restoration (BBSEER) project (also known as the BBCW / C-111)	Mid-Term (M)
4H	Establish seagrass targets and maintenance requirements	Short-Term (S)
4I	Accelerate green infrastructure solutions for flooding, resiliency and water quality	Short-Term (S)

MARINE DEBRIS		
5A	Create a comprehensive marine debris prevention, reduction, and removal program within DERM and to adequately fund and staff the program	Short-Term (S)
5B	Establish a marine debris working group to promote collaboration on ways to reduce marine debris	Short-Term (S)
5C	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	Short-Term (S)
5D	Conduct an analysis of marine debris in Biscayne Bay	Short-Term (S)
5E	Adopt a target maximum input level policy for trash	Short-Term (S)
5F	Evaluate the various existing stormwater outfall systems throughout the county to determine their effectiveness at preventing debris from entering Biscayne Bay	Mid-Term (M)
5G	Identify and establish dedicated and recurring funding sources to pay for marine debris prevention and removal activities	Immediate (I)



EDUCATION AND OUTREACH		BENCHMARK
6A	Create a multi-lingual, multi-media campaign and educational outreach program	Immediate (I)
6B	Leverage the funding in the Community Based Organization grant program to create a special focus on Biscayne Bay education	Short-Term (S)
6C	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	Immediate (I)
6D	Implement policies to reduce the amount of locally generated plastic marine debris	Short-Term (S)
6E	Build upon and increase volunteer clean-up activities county-wide	Immediate (I)
6F	Develop environmental sustainability and "plastic free" best practices	Short-Term (S)
6G	Support a "Living Laboratory for Bay Health"	Short-Term (S)
6H	Develop and implement a contractor and lawn care industry training program	Short-Term (S)
6I	Expand the scope of Baynanza to add year-round activities and collaborate on Biscayne Bay Marine Health Summit activities.	Immediate (I)

FUNDING		
7A	Collaborate with the Miami-Dade Legislative Delegation and the Congressional Delegation to secure annually appropriated funds to support Biscayne Bay watershed restoration	Immediate (I)
7B	Immediately engage in the legislative process to designate a Biscayne Bay License Plate	Immediate (I)
7C	Immediately enter into a cost-share partnership with SFWMD	Immediate (I)
7D	Collaborate with Florida Inland Navigational District (FIND) to immediately identify projects that will improve water quality and restoration of the Biscayne Bay watershed	Immediate (I)
7E	Leverage municipal financial resources through interlocal agreements to supplement County funds	Short-Term (S)
7F	Develop a mechanism to collaborate with municipalities and work with the development community	Short-Term (S)
7G	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)



## 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.



**As a community,  
we can stop pollution,  
creating a healthier,  
more resilient Biscayne Bay.  
Together we can explore solutions  
that will help Biscayne Bay  
and the surrounding areas  
become more beautiful,  
natural spaces for us all,  
forever.**







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