



# **Biscayne Bay: Status, Coordination, Funding**

**South Florida Regional Planning Council  
January 24, 2022**

**Irela Bagué  
Chief Bay Officer**

**Pamela Sweeney  
Senior Manager  
Water Resources Section (RER -DERM)**



# Julia Tuttle Basin- Seagrass Die Off





# 2020 Fishkill | Algae Bloom | 2021: Fishkill





# Biscayne Bay Collapse – What are the Issues?

## Stormwater Runoff

- Pet waste
- Gas and oil
- Landscape waste
- Trash
- Industrial uses
- Agriculture
- Construction

## Wastewater

- Aged sanitary sewer lines
- Septic systems

## Canal Runoff

## Fertilizer & other chemicals

## Non-compliance & illicit issues

Nutrient  
Enrichment

We Now Know That What Happens  
on the Land Ends Up In Our Bay!

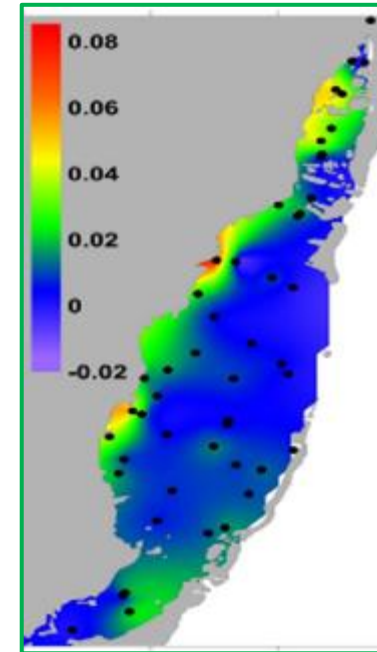
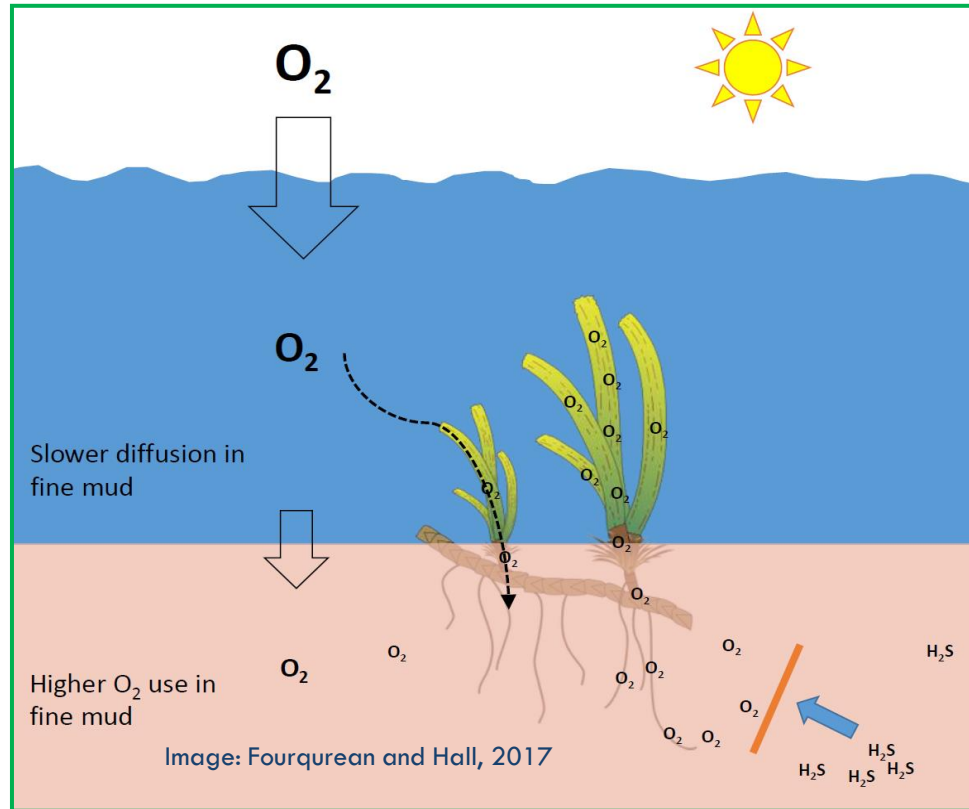


To succeed, we need to collaborate and  
coordinate with all levels of government,  
stakeholders, and the public.

# Biscayne Bay Recovery – Water Quality Impacts and Why it Matters

- Nitrogen
- Phosphorus
- Bacteria
- Heavy metals
- Herbicides
- Environmental Pollutants of Concern

Nutrient  
Enrichment &  
Pollutants



Contributing to

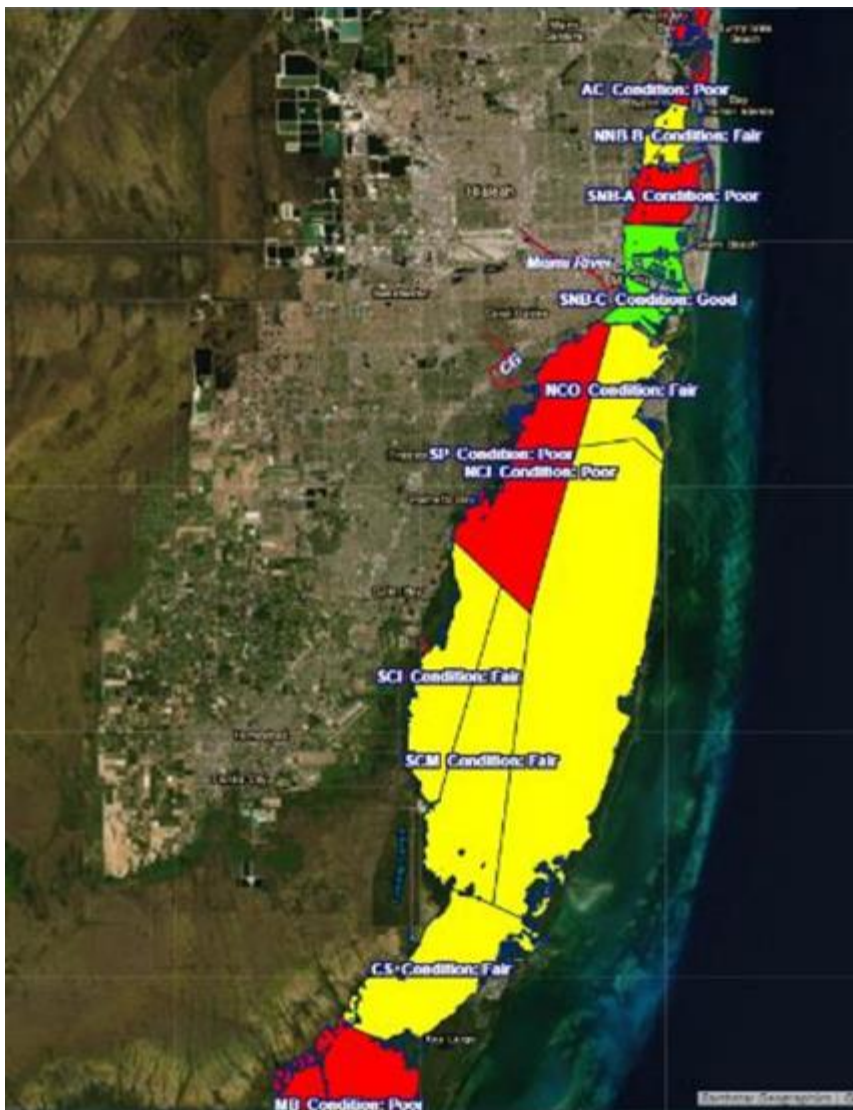
## Seagrass Die-offs

## Algal Blooms

- Micro (phytoplankton) & Macro
- Transition to a algal-dominated system

## Fish Kills

# Biscayne Bay – Water Quality Hotspots



## Snapshot of the Biscayne Bay 2020 Report Card

- Most regions received a “Fair” or “Poor” score
- [www.miamidade.gov/BiscayneBay](http://www.miamidade.gov/BiscayneBay)

## How are nutrients available in the system?

Three main sources of freshwater received by the bay:

- Canal discharge (~40%)
- Submarine groundwater discharge (~10%)
- Precipitation (~50%)

Snake Creek, Little River, and Miami River delivered more than 50% of the bay’s total freshwater contribution from 1994-2002 (Caccia and Boyer, 2007)





# Miami-Dade County Biscayne Bay Task Force



In memory of **Alyce Robertson** for her valuable contribution to the Biscayne Bay Task Force and her dedication to public service and love of our natural environment.

## Biscayne Bay Task Force Recommendations



Water Quality



Governance



Infrastructure



Watershed Habitat Restoration  
and Natural Infrastructure



Marine Debris



Education and Outreach



Funding



A Unified Approach to Recovery  
for a Healthy & Resilient Biscayne Bay

*Biscayne Bay Task Force Report and Recommendations*  
June 2020

#### Biscayne Bay Task Force Members

Irela Bagué, Task Force Chairperson, President, Bagué Group  
David Martin, Task Force Vice Chairperson, President, Terra Group  
Lynette Cardoza, 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, Executive Director, Downtown Development Authority  
Steve Saris, Biscayne Bay Marine Health Summit Steering Committee Member  
Tiffany Trowler, Ph.D., Director of Science, Sea Level Solutions Center, Florida International University

# Biscayne Bay Task Force Report – Accomplishment Highlights

June 2020



**Completed**  
Biscayne Bay Task Force report

December 2020



**Partnered**  
\$10M State & \$10M County match for Biscayne Bay recovery

April 2021



**Created**  
Biscayne Bay Website & Report Card

June 2021



**Applied**  
2021-22 FDEP Water Protection Grants

August 2021



**Budgeted**  
For update 2005 Biscayne Bay Economic Study in partnership with SFWMD

**Released**

Plan of Action to prioritize septic to sewer conversions

**Hired**

Mayor Levine Cava appoints Chief Bay Officer

**Enacted**

Countywide Fertilizer Ordinance May 15th – Oct 31st

**Created**

“Protect Biscayne Bay” specialty license plate

**Established**

Biscayne Bay Watershed Management Advisory Board



December 2020



January 2021



April 2021



June 2021



November 2021



# Accomplishments through Partner Collaborations

**At-Risk Vessel Task Force  
Marine Law Enforcement**



**51 Derelict Vessels Removed  
FWC + FIND**



**Manatee Education & Enforcement  
FWC + MDPD**



**Academic Partnerships**



**Water Quality Monitoring FDEP**



**Spoil Island Coordination  
FDEP & Cities**





# Funding Partnership with FDEP

## 2020 Coral Reef Protection Grant (\$10M Florida + \$10M Miami-Dade)

### Water Quality Hot Spot Investigations

- Miami River | Little River | Biscayne Canal

### Wastewater Improvements

- Septic to sewer conversions & education
- “Smart” manhole cover

### Stormwater Improvements

- Stormwater Innovations
- Pilot Projects (New Blue Technology)
- Enhanced Maintenance

### Habitat Restoration

- Living Shorelines Guidance Document
- Pilot Sponge Restoration

## 2021-22 FDEP Water Protection Grants

Applied for Biscayne Bay Water Quality Improvement Grants

## 2022-23 FDEP Statewide Flooding and Sea Level Rise Resilience Grant

Awarded projects in Miami-Dade to benefit Biscayne Bay include land acquisition, stormwater improvements, and pump upgrades.







## **Biscayne Bay Watershed Management Advisory Board**

Advises Mayor & County Commission on Bay related issues.

Makes recommendations for a new watershed management plan.

Collaborates with Biscayne Bay Commission (FDEP).



## **Local / State Partnership**

## **Recovery Plan Coordination**

## **Project Funding**



## **Biscayne Bay Commission**

Receives and reviews Biscayne Bay plans and project priorities from Miami-Dade County.

Ensures plans and projects are funded and implemented timely.

Submits semiannual report on accomplishments and status of pending tasks.



# Items for Support & Collaboration

**Septic to Sewer:** County requests the Commission's assistance in identifying other funding opportunities and on clarifying the criteria for future grants applications.

**Marine Law Enforcement:** County requests an increased investment in marine law enforcement resources to manage the removal of derelict vessels, illegal charter & rental operations, and increased level of boating traffic.

**Water Quality:** County requests additional resources for data gaps and would like the assistance of the Commission to develop a real-time data program, such as the Orca Kilroy system in Indian River Lagoon.

**Canal Maintenance:** County requests the SFWMD incorporate green infrastructure and include elements from the County's Sea Level Rise strategy in the District's Level of Service (LOS) studies.

**Land Management:** County has been funding maintenance and restoration of the Bay spoil islands for decades. The County requests the Commission through FDEP work to develop partnership agreements with deed owners (Cities of Miami, North Miami & Miami Beach) to equitably distribute the maintenance & restoration responsibilities.

**Environmentally Endangered Lands (EEL):** We provided an update on status and the need to identify new funding sources to continue land acquisitions and maintenance of existing lands. The Commission can help advocate for Florida Forever Funds to enhance the EEL program

**Stormwater:** The County requests the FDEP Stormwater Technical Advisory Committee include innovation in stormwater design that address water quality and trash pollution in their updated guidelines.



A scenic view of Biscayne Bay with clear blue water, a rocky shoreline in the foreground, and a city skyline in the distance under a bright blue sky.

# Thank you! Together We Can!

Biscayne Bay information & updates:  
[www.miamidade.gov/biscaynebay](http://www.miamidade.gov/biscaynebay)