


BISCAYNE BAY REASONABLE ASSURANCE PLAN: A PATH TO RESTORING WATER QUALITY AND HABITAT

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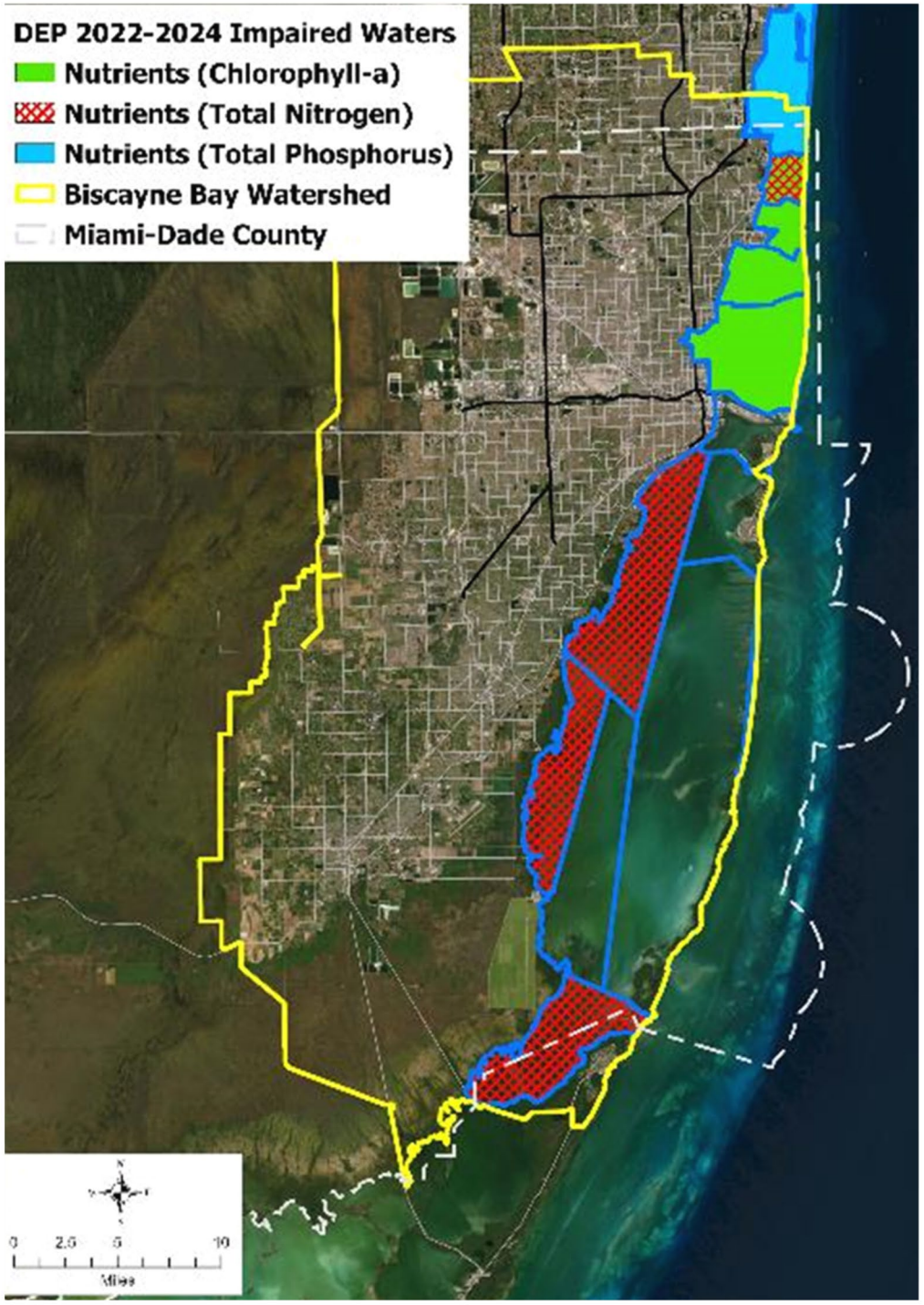


WHAT IS A RAP AND WHY A RAP?

- 8 of 12 Biscayne Bay segments designated impaired by the State for nutrients (TN, TP) and chlorophyll (Chl-a)
  - Biscayne Bay is not attaining standards protective of its designated uses as Class III Waters
- Impairments are addressed one of two ways:
  - TMDL & BMAP; or
  - Alternative Restoration Plan
    - Reasonable Assurance Plan - RAP
      - "4b Plan" under the Clean Water Act
    - "Cleaner water, Faster"
    - RAPs are stakeholder led
    - RAPs are adopted by final order of the Secretary of DEP
- For RAP approval by DEP and EPA, <u>we must demonstrate that we can meet nutrient reduction goals.</u>

- The RAP will only provide reasonable assurance to the extent we work together to provide it.

BISCAYNE BAY RESILIENCE AND THE RAP

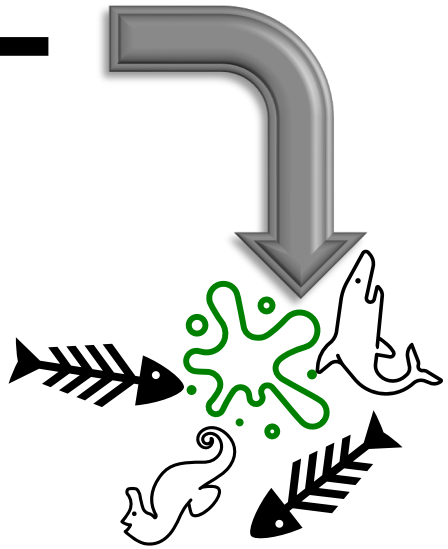
What we DO Control:
- Flooding
- Erosion

What we CAN (and must) control

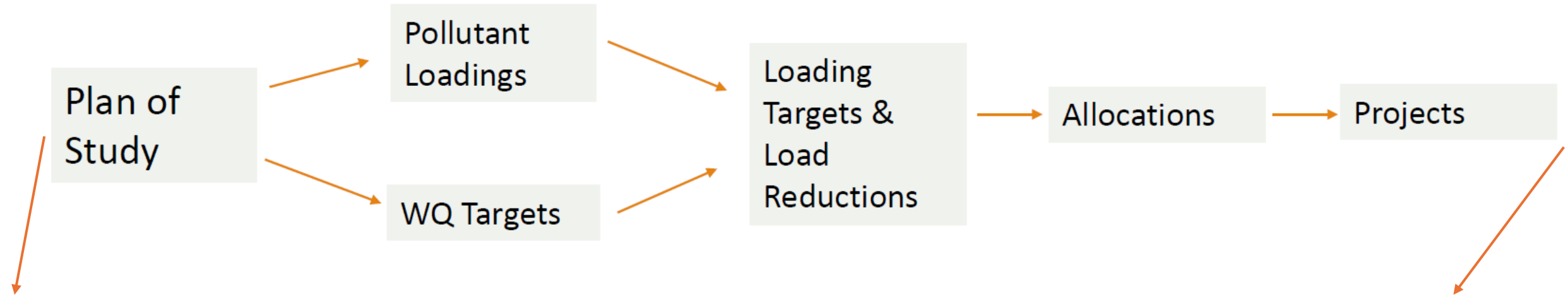
- Nutrient Loading
- Pollutants via stormwater
- Pollutants via groundwater

What we CANNOT control

- Sea Level Rise & Sunny day flooding
- Rising air & water temperatures
- More severe storms
- Rising water table + Saltwater intrusion



RAP Elements



Integrated Modeling

MIKE SHE
Groundwater
Surface water
Recharge
Evapotranspiration

WASD + DERM
Models & Data

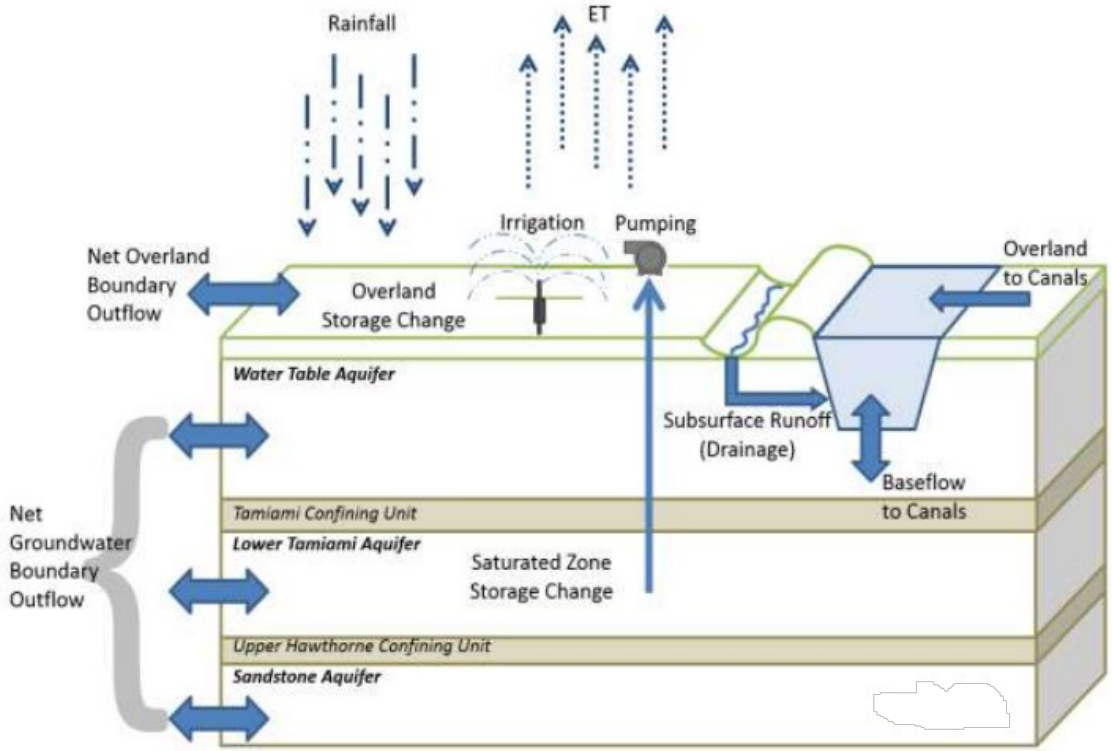
Nutrient Load
Entering Canal

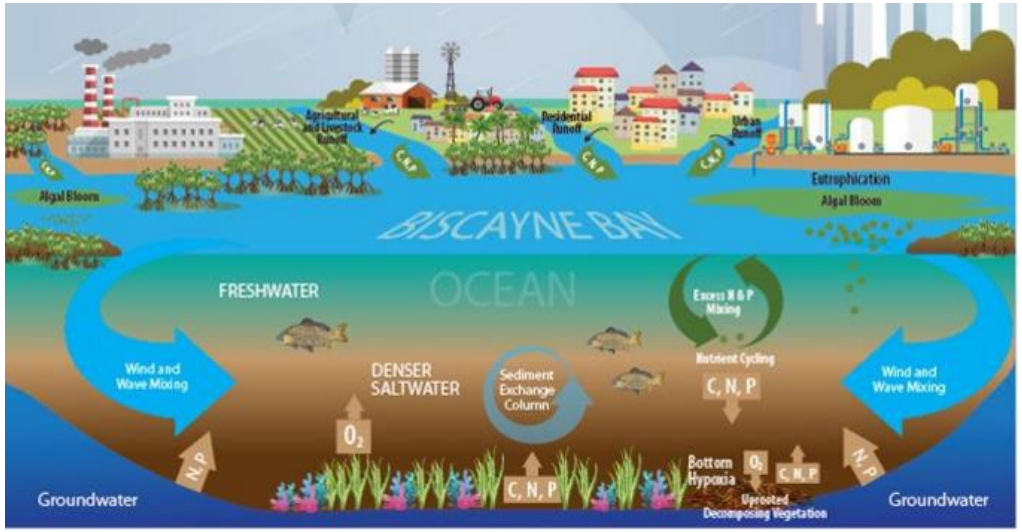
MIKE+
Canal Network Hydraulics
Water Control Structures
Storm Sewer Network
Advective Transport

Nutrient Load
conveyed through
canal system

MIKE ECO Lab
Biological Processes
Chemical Processes
Nutrient Cycling

Nutrient Load
conveyed to
Biscayne Bay





WATER QUALITY DATA VISUALIZATION TOOL

Biscayne Bay | Time Series | Segmentation

Group by

(•) WBID ( ) ENR

WBID

3226H6

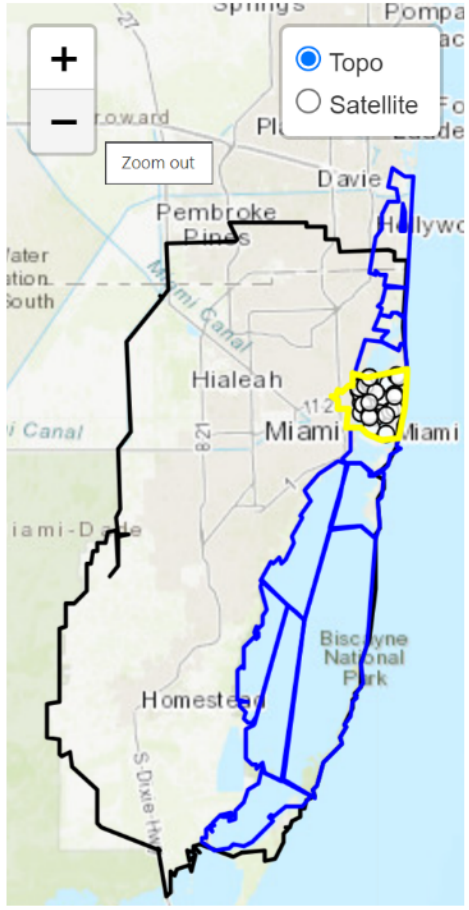
Years

1953 1995 2023

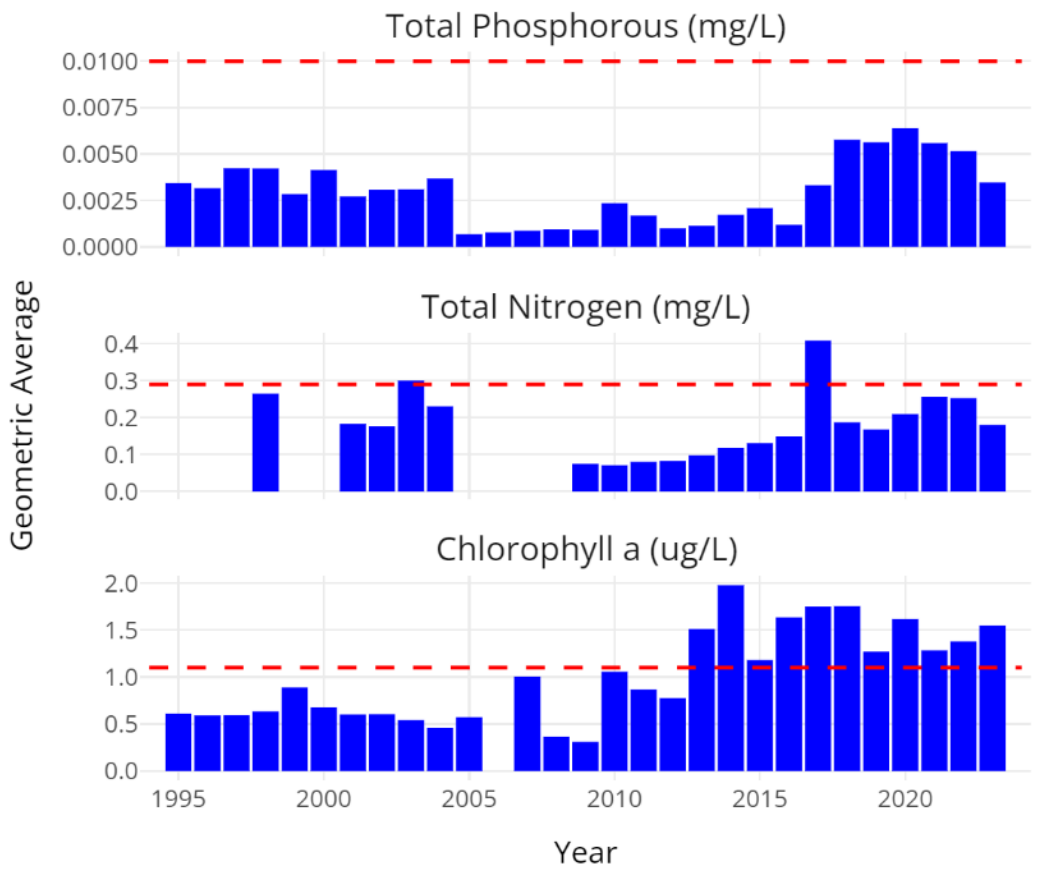
1953 1967 1981 1995 2009 2023

(•) Show Stations

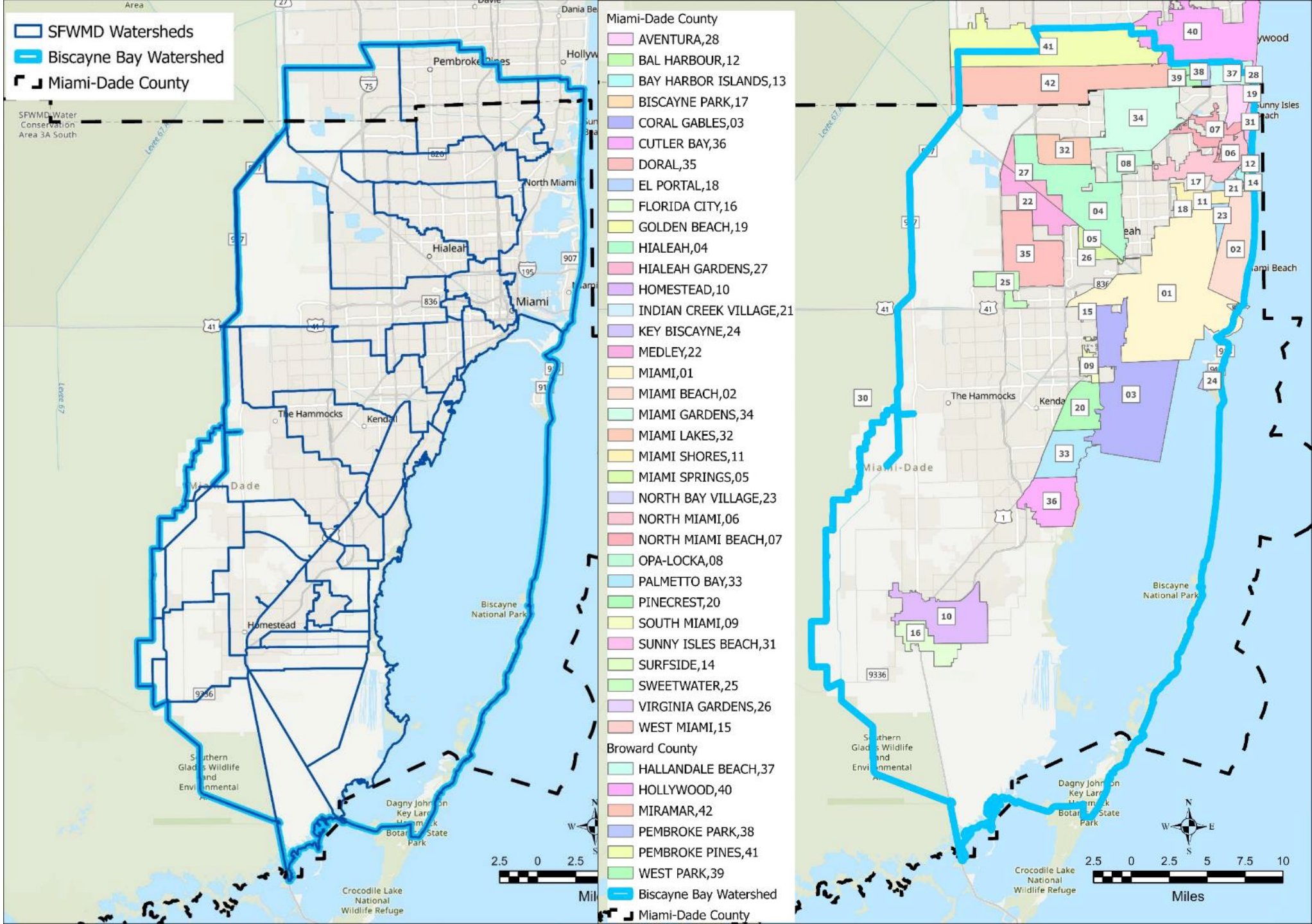
Map



Plots | Table



Identify Watersheds and Jurisdictions



Next Steps for Habitat and Water Quality Restoration

- Biscayne Bay needs more freshwater- more of it, and better quality. Continue to identify sources and water quality and habitat targets

  - RAP will help identify pollutant sources causing impairments and set targets

- Continue to partner with technical and subject matter experts

- Work with technical experts to develop pollutant loading models to develop modeling roadmap

- Collaborate closely with key stakeholders, including support in identifying those projects with potential nutrient load reduction benefits

- Ongoing communication with FDEP related to progress and document decisions associated with the analytical pathway.

THANK YOU!

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Smalltooth sawfish, east of Haulover Inlet
Credit: MDC DERM