



# BISCAYNE BAY COMMISSION MEETING

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# BISCAYNE BAY COMMISSION MEETING

## CURRENT WATER QUALITY IN BISCAYNE BAY

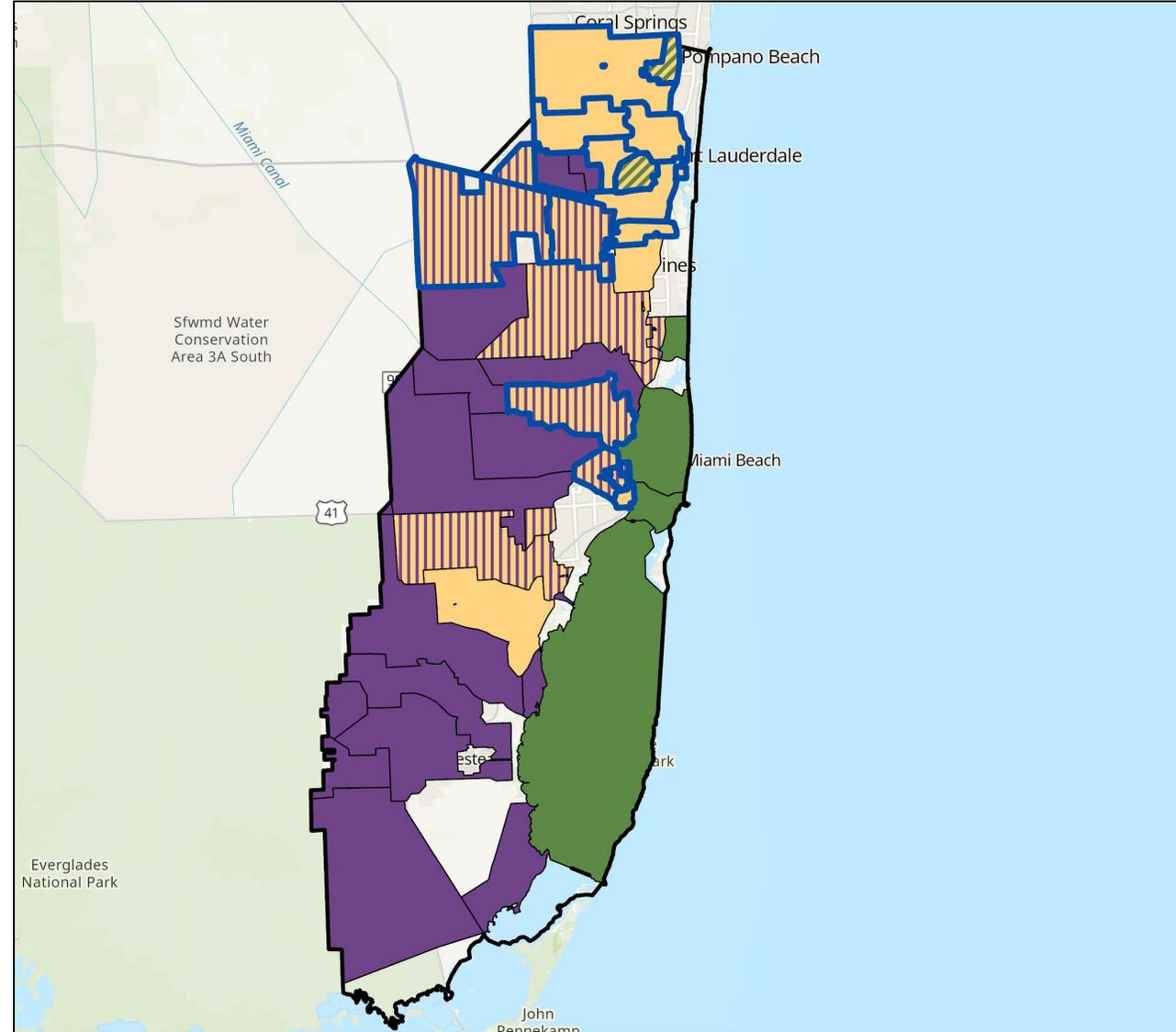


### Biscayne Bay

### Waters Not Attaining Standards (Current Assessment)



-  Biscayne Bay Watershed
-  Waters with TMDLs
-  Bacteria Related Impaired
-  Dissolved Oxygen Impaired Study List
-  Nutrient Impaired

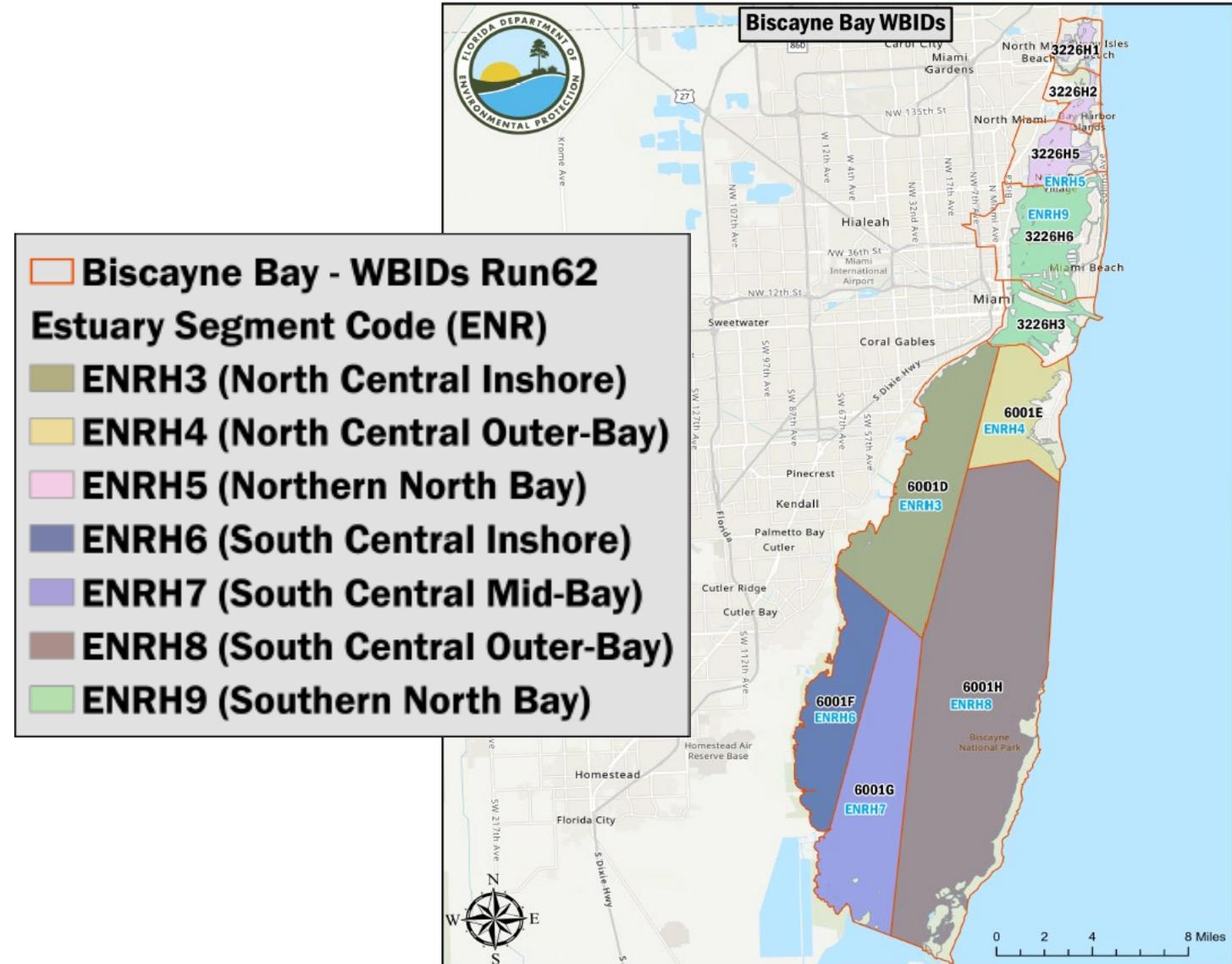


# BISCAYNE BAY COMMISSION MEETING

## UPDATING ASSESSMENT STATUS



- Adopt first biennial assessment (Spring 2022).
- Revising assessment unit boundaries.
- Using up-to-date data:
  - About 35,000 sampling events since 2017.
  - Over 160,000 analytic results.
  - 74% from Dade County.
  - 15% from DEP and DOH.
  - Remainder from Broward County, SFWMD, Lakewatch and Monroe County.



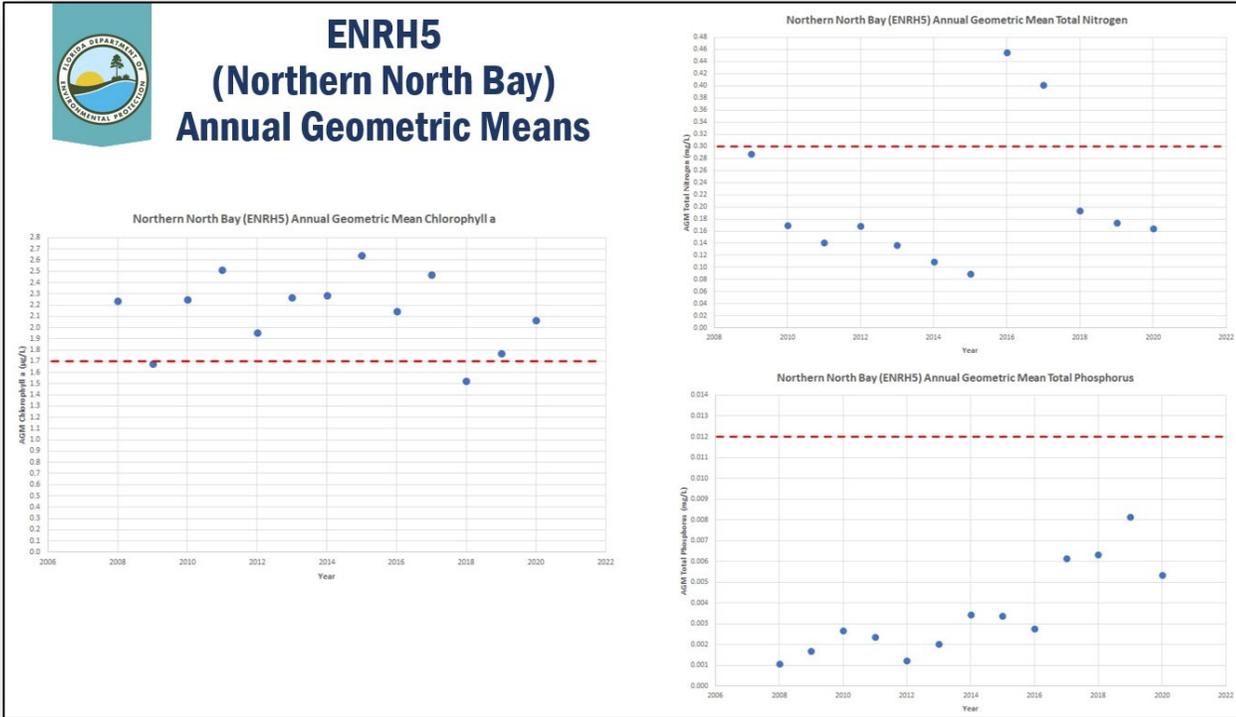
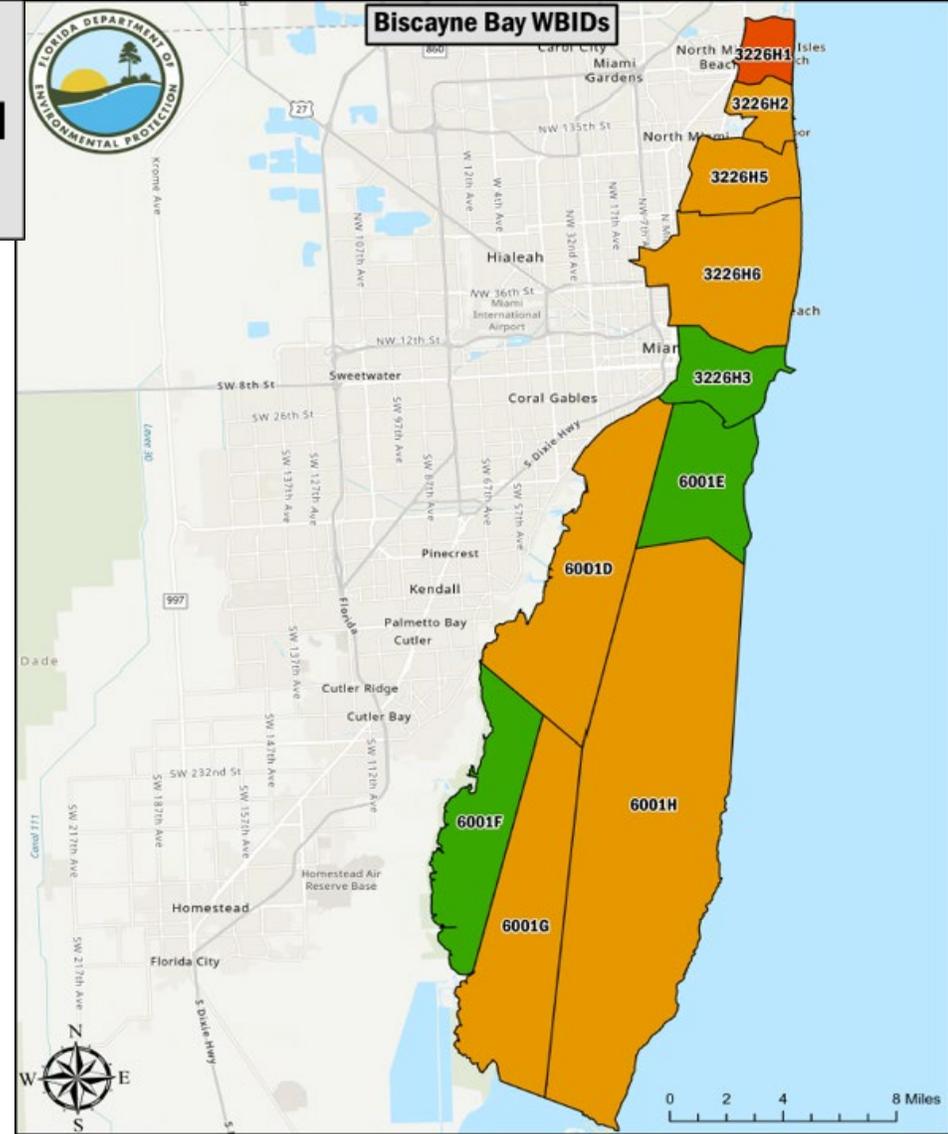
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## UPDATING ASSESSMENT STATUS



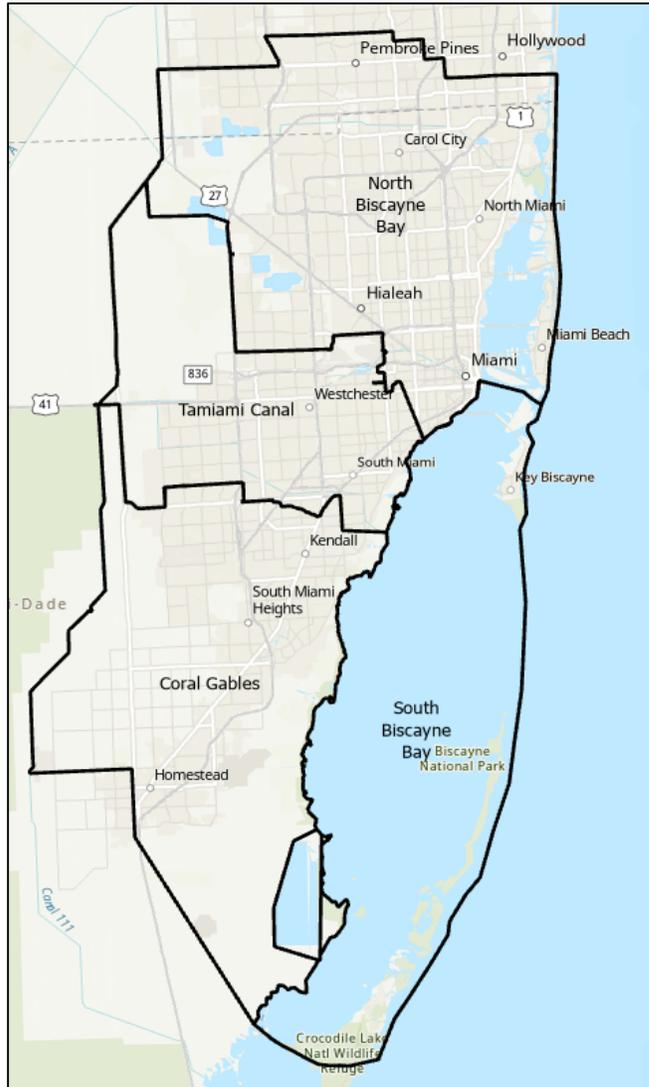
- Updated data.
- To be adopted.

**Chlorophyll Impaired**  
 **Chlorophyll and Nitrogen Impaired**  
 **No Nutrient Impairments**



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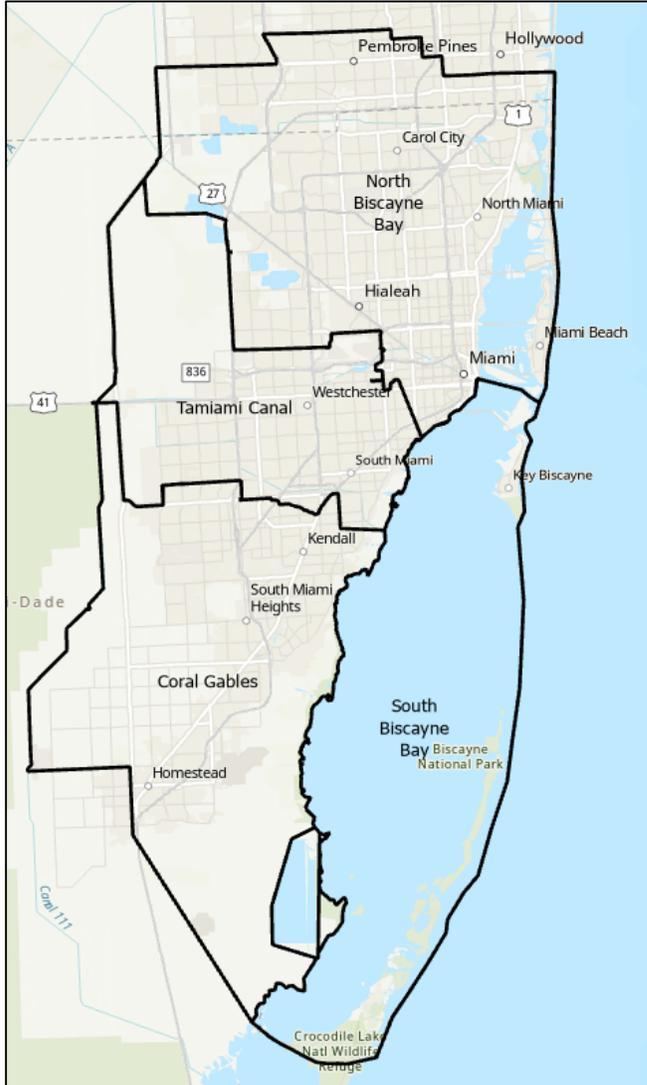
## NUTRIENT LOADING – PLSM ANALYSIS



- **Pollutant Load Screening Model (PLSM):**
  - Spreadsheet and GIS-based tool.
  - Rainfall.
  - Land use type.
  - Event mean concentrations.
  - Runoff coefficients.
- **Contributing watersheds:**
  - North Biscayne Bay, Tamiami Canal, Coral Gables and South Biscayne Bay.

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## NUTRIENT LOADING – PLSM ANALYSIS



$$\text{Rainfall (in)} * 0.0254 = \text{Rainfall (m)}$$

$$\text{Rainfall (m)} * \text{Area (m}^2\text{)} = \text{Rainfall Volume (m}^3\text{)}$$

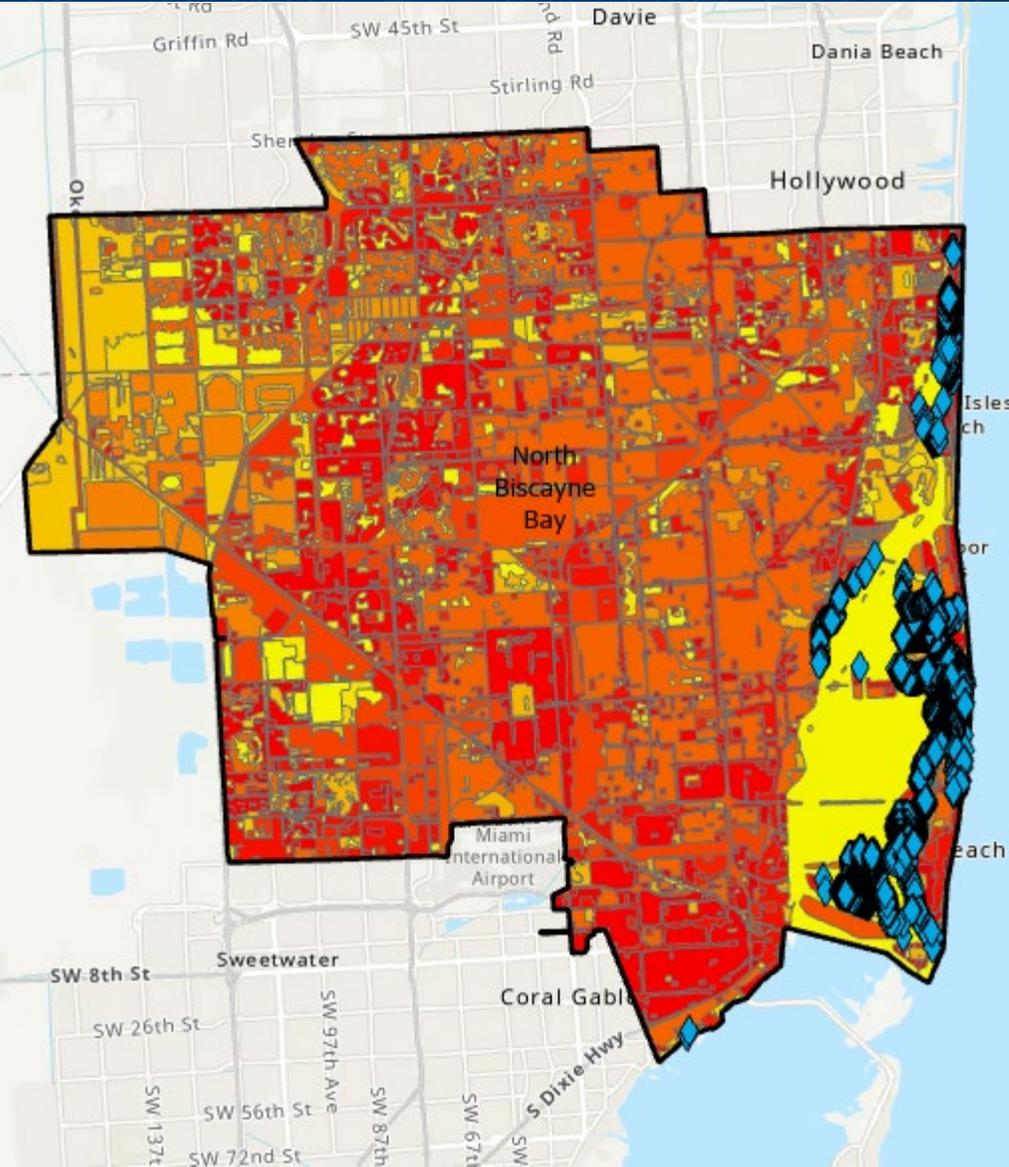
$$\text{Rainfall Volume (m}^3\text{)} * 1000 = \text{Rainfall Volume (L)}$$

$$\text{Rainfall Volume (L)} * \text{ROC} = \text{Runoff Volume (L)}$$

$$\frac{\text{Runoff Volume (L)} * \text{EMC}}{1000000} = \text{Load (kg)}$$

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## NUTRIENT LOADING – TOTAL NITROGEN (PRELIMINARY) (\*)

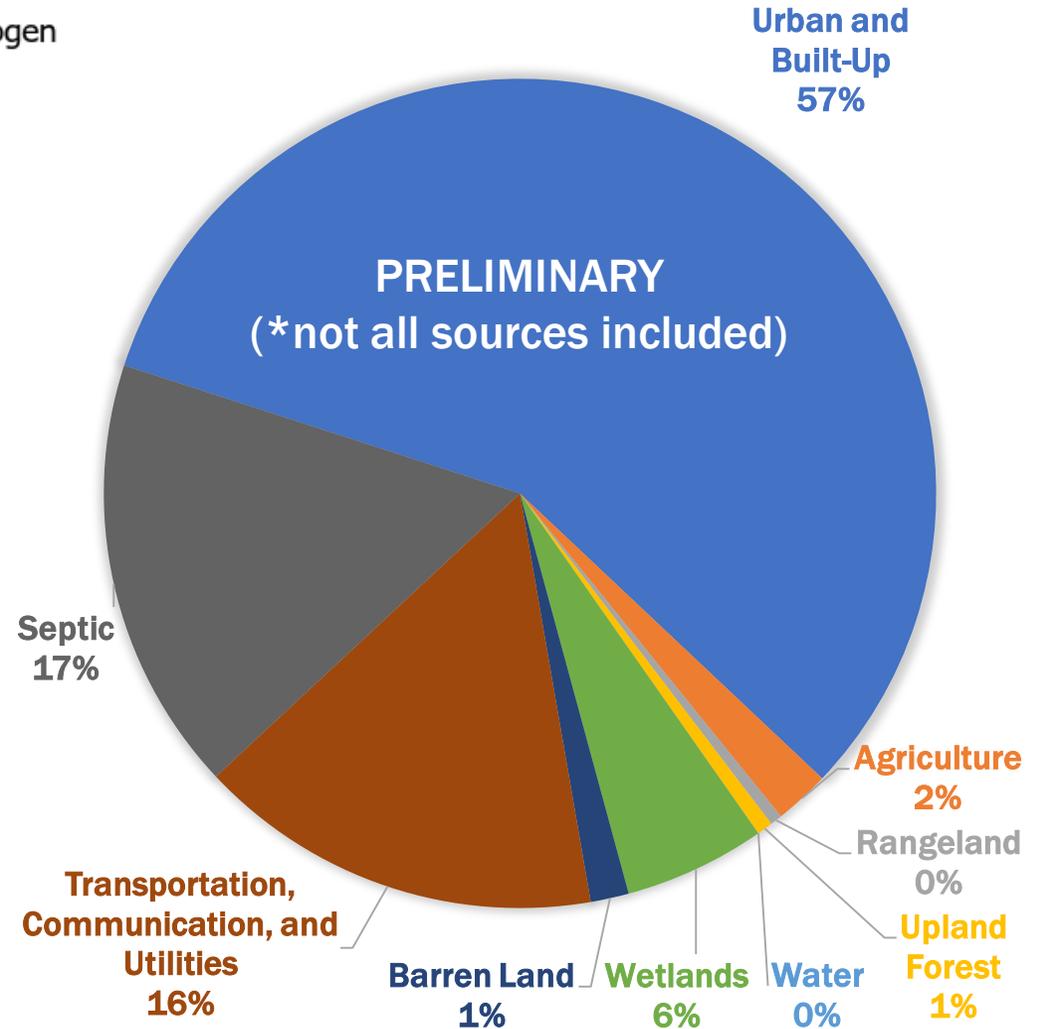


### Long Term Average Total Nitrogen

- ◆ Septic Tanks
- ▭ North\_Biscayne\_Bay

### TN

- 0.000000
- 0.000001 - 1.058101
- 1.058102 - 1.298283
- 1.298284 - 1.460569
- 1.460570 - 1.720564
- 1.720565 - 1.973391
- 1.973392 - 2.284301
- 2.284302 - 2.404534
- 2.404535 - 3.295043
- 3.295044 - 3.937242
- 3.937243 - 5.259571
- 5.259572 - 5.326743
- 5.326744 - 5.346105
- 5.346106 - 5.357338
- 5.357339 - 7.955485
- 7.955486 - 8.001376



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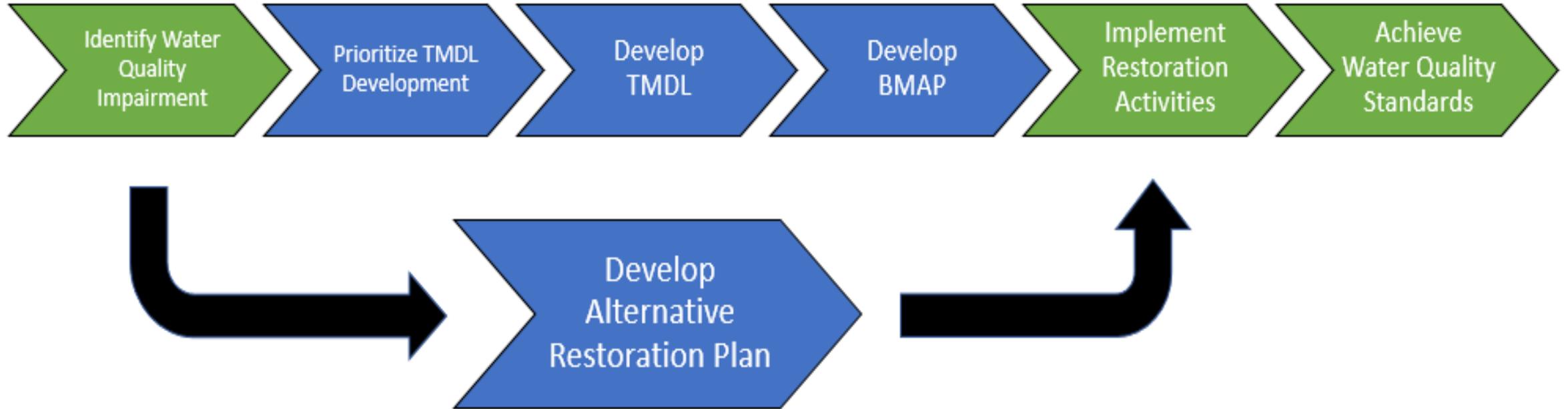
## REASONABLE ASSURANCE PLANS



- **Alternative to traditional TMDL/BMAP route:**
  - Not less stringent, just more efficient.
  - Fewer regulatory processes, same or similar suite of projects.
  - Led by local stakeholders, assistance from DEP.
- **Reasonable assurance** plan requirements:
  - Specified water quality target.
  - Projects sufficient to achieve goals.
  - **Commitment** to implement projects.
  - Monitoring and reporting.
  - **Oversight** (review and adoption by DEP and EPA).

# BISCAYNE BAY COMMISSION MEETING

## REASONABLE ASSURANCE PLANS vs. TMDLS AND BMAPS



**Both pathways have the same goal of implementing projects and strategies to restore water quality.**

# BISCAYNE BAY COMMISSION MEETING

## REASONABLE ASSURANCE PLANNING FOR BISCAYNE BAY



- 2017 – Biscayne Bay impaired for Chlorophyll *a*.
- February 2022 – Biscayne Bay Watershed Management Advisory Board resolution in support of reasonable assurance plan.

