Water Quality Restoration

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December 2020

Outline of Presentation

- Florida's responsibilities
- DEP's Watershed Approach
- Water Quality Restoration Options

Florida's Requirements

- Section 303(d) of the Federal CWA
- Florida statute 403.067 established the Florida Watershed Restoration Act in 1999
- Impaired Waters Rule (IWR) 62-303, F.A.C.

Watershed Approach

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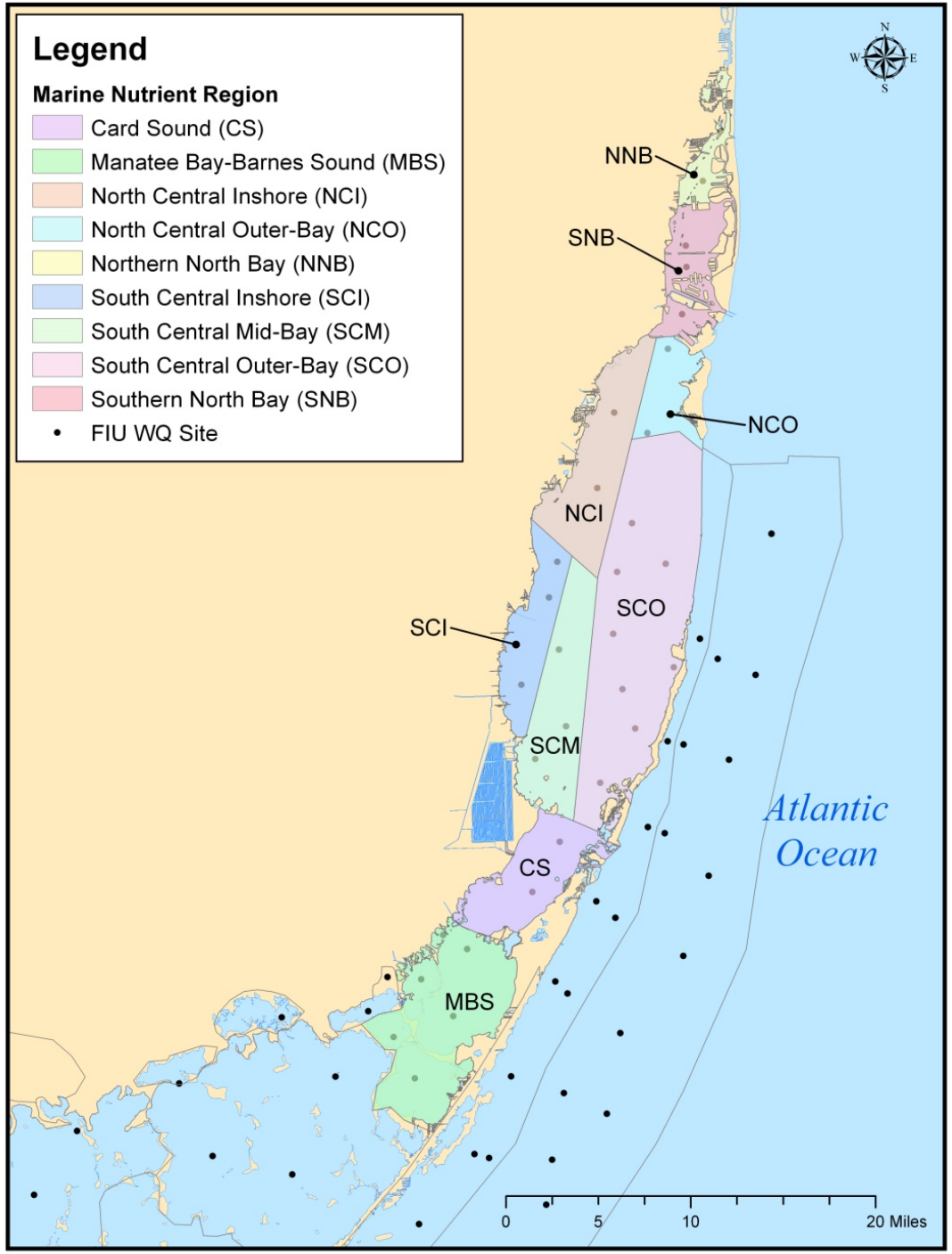
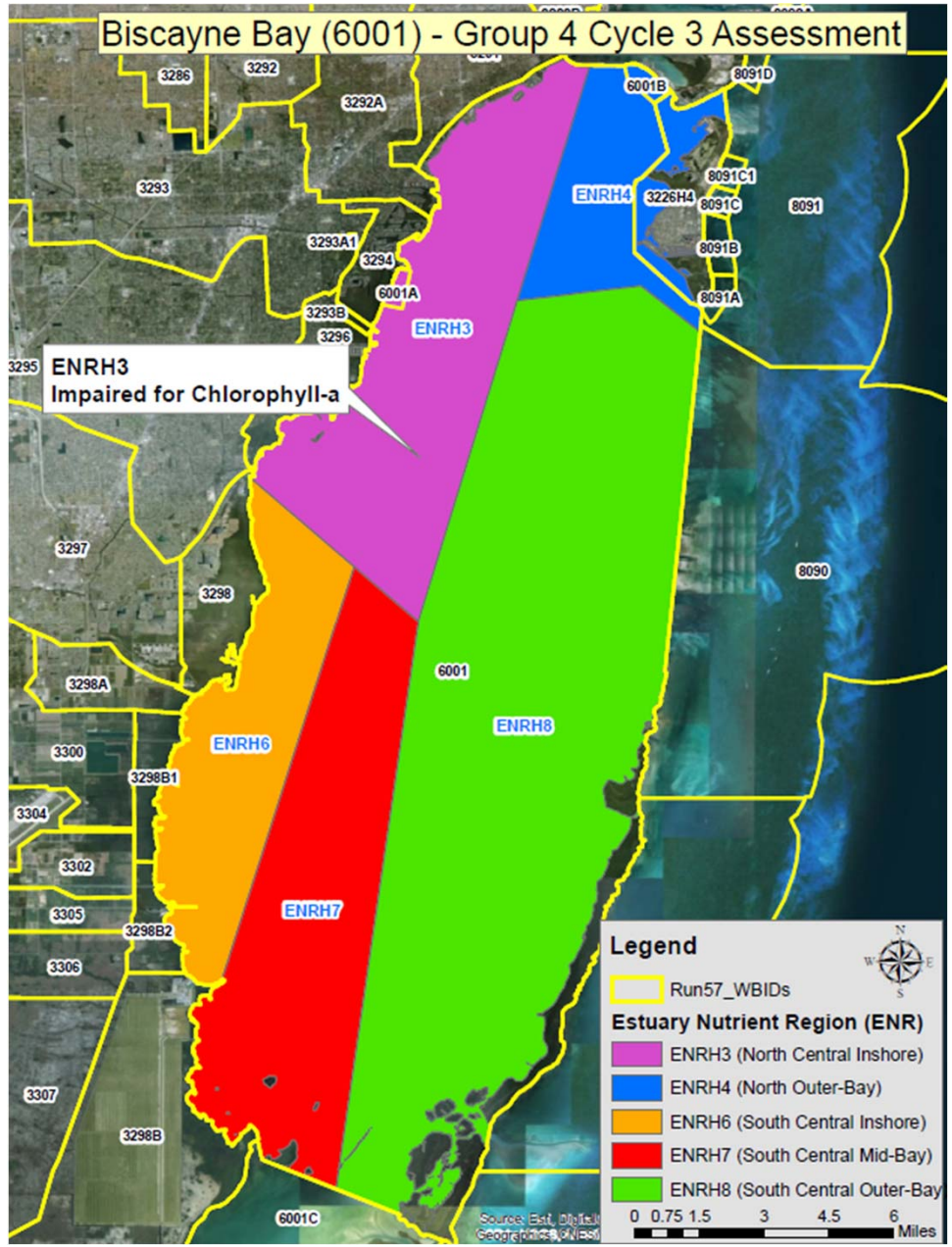
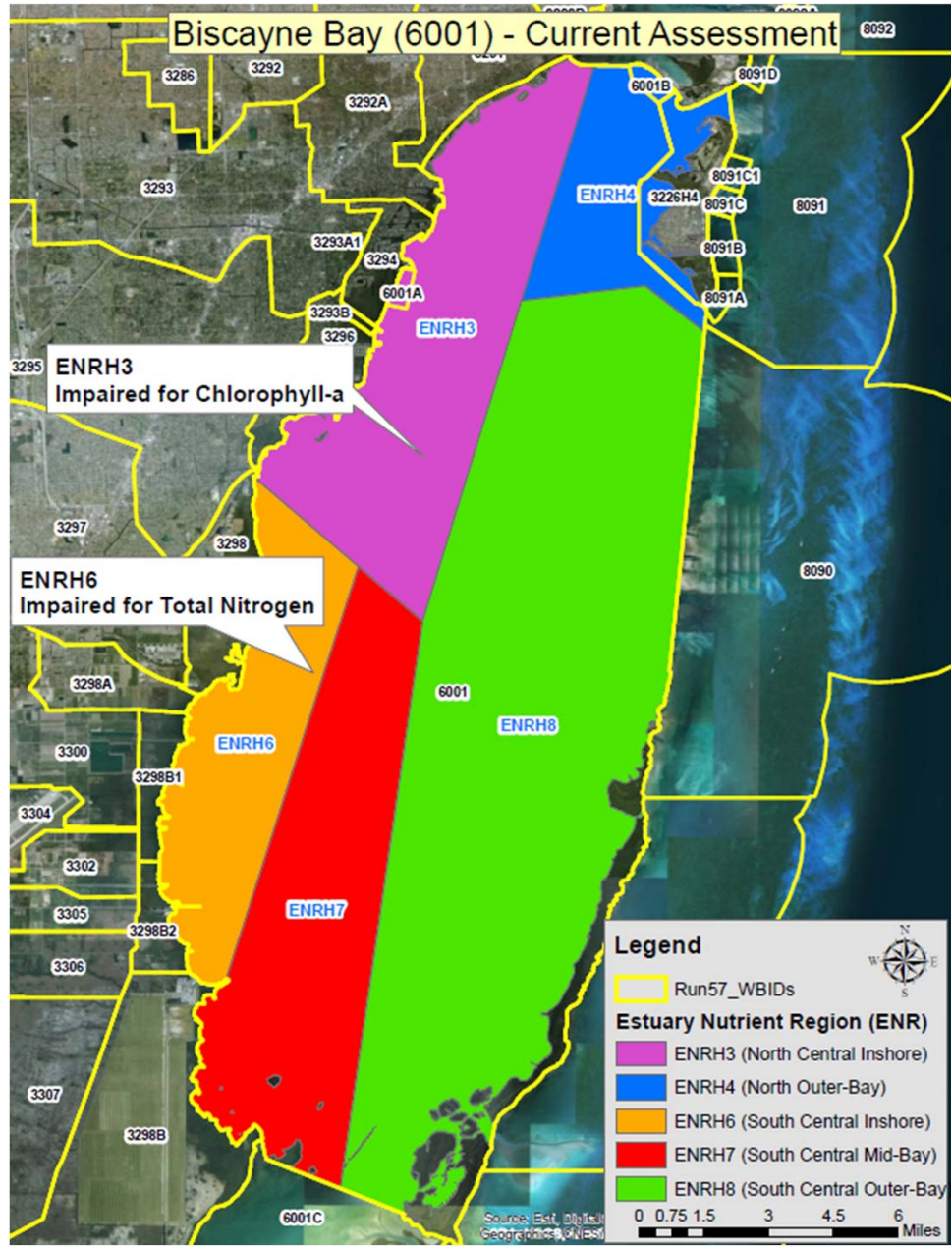
Biscayne Bay Nutrient Regions




Biscayne Bay (6001) - Group 4 Cycle 3 Assessment
ENRH3
Impaired for Chlorophyll-a
Legend
Run57_WBIDs
Estuary Nutrient Region (ENR)
ENRH3 (North Central Inshore)
ENRH4 (North Outer-Bay)
ENRH6 (South Central Inshore)
ENRH7 (South Central Mid-Bay)
ENRH8 (South Central Outer-Bay
0 0.75 1.5 3 4.5 6
Miles


Biscayne Bay (6001) - Current Assessment
ENRH3
Impaired for Chlorophyll-a
ENRH6
Impaired for Total Nitrogen
Legend
Run57_WBIDs
Estuary Nutrient Region (ENR)
ENRH3 (North Central Inshore)
ENRH4 (North Outer-Bay)
ENRH6 (South Central Inshore)
ENRH7 (South Central Mid-Bay)
ENRH8 (South Central Outer-Bay
0 0.75 1.5 3 4.5 6
Miles

Biscayne Bay (WBID 6001) Nutrient Assessment - Example

Group 4 Cycle 3 Assessment

(Data from January 1, 2009 - June 30, 2016)

- Chlorophyll-a was impaired and exceeded the **NCI** criterion ≤ 0.5 µg/L.
- Total Nitrogen and Total Phosphorus were not impaired.

Current Assessment

(Data from January 1, 2014 – September 17, 2019)

- Chlorophyll-a is impaired exceeding the **NCI** criterion ≤ 0.5 µg/L.
- Total Nitrogen is impaired exceeding the **SCI** criterion ≤ 0.4 µg/L.
- Total Phosphorus is not impaired.

Note: impairments of the nutrient criterion equate to the annual geometric means (AGMs) exceeding the criterion more than once in a 3-year period.

Group 4 Cycle 3 Assessment Impairment

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Criterion Concentration or Threshold Not Met	Verified Period Assessment Data
6001	Biscayne Bay	Nutrients (Chlorophyll-a)	ENRH3: AGM ≤ 0.5 µg/L ENRH4: AGM ≤ 0.7 µg/L ENRH6: AGM ≤ 0.4 µg/L ENRH7: AGM ≤ 0.2 µg/L ENRH8: AGM ≤ 0.2 µg/L	ENRH3 (AGM) 2009 (0.4 µg/L) 2010 (0.4 µg/L) 2011 (0.4 µg/L) 2012 (0.3 µg/L) 2013 (0.5 µg/L) 2014 (0.7 µg/L) 2015 (0.8 µg/L) 2016 (0.8 µg/L)

Current Assessment Impairments

WBID	Waterbody Name	Parameters Assessed Using the Impaired Surface Waters Rule (IWR)	Criterion Concentration or Threshold Not Met	Verified Period Assessment Data
6001	Biscayne Bay	Nutrients (Chlorophyll-a)	ENRH3: AGM ≤ 0.5 µg/L ENRH4: AGM ≤ 0.7 µg/L ENRH6: AGM ≤ 0.4 µg/L ENRH7: AGM ≤ 0.2 µg/L ENRH8: AGM ≤ 0.2 µg/L	ENRH3 (AGM) 2014 (0.7 µg/L) 2015 (0.8 µg/L) 2016 (0.5 µg/L) 2017 (0.6 µg/L)
6001	Biscayne Bay	Total Nitrogen	ENRH3: AGM ≤ 0.31 mg/L ENRH4: AGM ≤ 0.28 mg/L ENRH6: AGM ≤ 0.48 mg/L ENRH7: AGM ≤ 0.35 mg/L ENRH8: AGM ≤ 0.24 mg/L	ENRH6 (AGM) 2014 (0.33 mg/L) 2015 (0.56 mg/L) 2016 (0.45 mg/L) 2017 (0.62 mg/L) 2018 (0.80 mg/L)

Watershed Restoration Process

- Assessment of Waters
- TMDL Development for Waters Verified as Impaired
  - 1 year + for priority waters
  - 5-10 years for others
- Development of Basin Management Action Plan (BMAP)
  - 1-3 years
- Implementation of TMDL through BMAP
  - 1-10 years+

Restoration Alternatives

Two types of Restoration Alternative Plans

1) Reasonable Assurance Plan
   - Assessment Category 4b
   - Adopted by DEP and approved by EPA
   - Replaces a TMDL and BMAP

2) Pollutant Reduction Plans
   - Assessment Category 4e
   - Added to DEP's Study List
   - Approved by DEP and reviewed by EPA
   - Delays TMDL development

Reasonable Assurance Plans

Reasonable Assurance plans (4b) provide an implementation schedule and resource commitments that there are, or will be, pollutant loading reductions that will result in the waterbody achieving water quality targets to attain and maintain the designated use.

- A restoration target (e.g. water quality, pollutant load)
- A list of projects and/or activities that will achieve the restoration target
- An implementation schedule that can span multiple years
- Procedures for monitoring and reporting results
- Description of corrective actions
- Funding commitments
- Requires EPA approval

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Pollutant Reduction Plans

Pollutant reduction plans (4e) provide a demonstration that there are, or will be, management actions in place that will result in the waterbody achieving water quality targets (e.g. assessment thresholds or water quality standards) to attain the designated use before the next assessment cycle.

- A restoration target is typically the water quality criterion
- Planned or on-going restoration activities
- A list of projects and/or activities that will achieve the restoration target
- Expected to attain water quality standards by the next time the waterbody is assessed by DEP (e.g. 5 years)
- Does not require EPA approval

Benefits of an Alternative Restoration Plans

- Provides a faster path to restoration
- Allows stakeholders to control their destiny
  - Developing a plan prior to state or federal action provides the best way for stakeholders to plan for efficient and effective management
  - Avoid TMDL-related regulatory requirements
- Acknowledges proactive efforts
  - Stakeholders receive credit for pollutant reductions
  - Benefits to downstream impaired waters
- Enhances public relations

Alternative Plan Development

- Development of these plans is stakeholder driven
- DEP's role is as advisor and reviewer
- DEP has resources to assist stakeholders
  - Facilitation
  - Limited Technical Analysis

Lessons Learned

- Time and project commitments are necessary
- Technical support is beneficial
- Data limitations often affect management decisions
- Local leadership and control of the process is valuable

Summary

- Assess → TMDL → BMAP
- Assess → Alternative Restoration Plan

Either path has the same goal = Water Quality Restoration


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