CLEAN WATER ACT AND TMDL IMPLEMENTATION

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Florida Department of Environmental Protection
Define Water Quality Goals

**Section 303(d)**
- Identify waters that are impaired or in danger of becoming impaired.
- Calculate and allocate pollutant reduction levels necessary to meet approved water quality standards.

**Adopt Water Quality Standards**
- Monitor Waters
- Assess Waters
- List Impaired & Threatened Waters
- Develop TMDLs (TMDL=WLA+LA+MOS)

Implementation
- Control Point Sources via NPDES Permits
- Manage Nonpoint Sources via Stormwater Program and MS4

Hierarchy 1 (H1) TMDLs
- Some Reasonable Assurance Plans (RAPs)

Alternative Restoration Plans (4e or 4b)

NPDES – National Pollutant Discharge Elimination System
TMDL – Total Maximum Daily Load
WLA – Waste Load Allocation
LA – Load Allocation
MOS – Margin of Safety
MS4 – Municipal Separate Storm Sewer System
Alternative Restoration Plans (Stakeholder Driven)

- **Pollutant Reduction Plan (PRP):**
  - Defers TMDL development by DEP to allow time for restoration project to improve water quality.
  - Assessment Category 4e.

- **Reasonable Assurance Plan (RAP):**
  - Replaces a TMDL and basin management action plan (BMAP).
  - Agricultural best management practices (BMPs) are not automatically required as in a BMAP.
  - Assessment Category 4b.
RAP REQUIREMENTS (NINE ELEMENTS)

Identify Sources
Identify causes and sources of pollution.

Information and Education
Develop an information and education component.

Implementation Schedule
Develop an implementation schedule.

Estimate Resources
Estimate amount of technical and financial assistance needed to implement the plan.

Monitoring Plan
Develop a monitoring component.

Estimate Reductions
Estimate Pollutant loading and required reductions.

Indicators of Progress
Identify indicators to measure progress.

Management Activities
Describe management activities.

Set Milestones
Describe interim measurable milestones.
• Maximum amount of a pollutant that can be introduced into a waterbody without causing exceedances of water quality standards.

• Restoration target (attain standards).

\[ \text{TMDL} = \text{LA} + \text{WLA} + \text{MOS} \]

\[ \text{LA} = \text{Load Allocation to non-point sources} \]

\[ \text{WLA} = \text{Waste Load Allocation} \]

\[ \text{MOS} = \text{Margin of Safety} \]
TMDL APPROACHES
MODEL COMPLEXITY AND DEVELOPMENT TIME

Simple
Annual Time Step

Complex
Daily to Hourly Time Step

Non-H1 Site-Specific Interpretations (H1)

Existing NNC
Empirical models
BATHTUB
Qual2k
HSPF→EFDC→WASP

Development Time
Days Weeks Months Years

NNC – Numeric Nutrient Criteria
HSPF – Hydrological Simulation Program
EFDC – Environmental Fluid Dynamics Code
WASP - Water Quality Analysis Simulation Program
<table>
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<tr>
<th>Year</th>
<th>BA</th>
<th>Prioritization Activity</th>
<th>TMDL Activities</th>
<th>Bacteria TMDLs</th>
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<td>2022</td>
<td></td>
<td>Develop 10-year Prioritization Process and Establish Two-Year Workplan</td>
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<td>Pilot-EWC</td>
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<td>Set Second Two-year Workplan (IR)</td>
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BA – Biennial Assessment | IR – Integrated Report | EWC – Everglades West Coast
PRIORITY SETTING PROCESS
DEPENDENT ON IMPAIRED PARAMETER AND WATERBODY TYPE

Verified List

Other (Copper)

Bacteria

Nutrients

Lakes

Springs

Estuaries

Streams

Nutrients
NUTRIENT PRIORITY SETTING

Estuaries

Streams

Lakes

Numerical ranking criteria

Logistical and qualitative considerations

Two-Year Priority and Draft List
STATEWIDE BACTERIA IMPAIRMENTS INDICATIVE OF NUTRIENT SOURCES?
THANK YOU

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