Prioritizing TMDL Development in Florida

Florida Stormwater Association (DEP Day)
December 10, 2014
Outline

• 303(d) Long-Term Vision
• Implementing the Prioritization Goal
• Prioritizing TMDL Development
• Current Status and Future Efforts

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A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program

What is it? How is it being implemented in Florida?
303(d) Long-Term Vision

- Developed by states and EPA
- Announced in December 2013
- Provides a framework for greater efficiency and more success in achieving water quality
- Implements Clean Water Act section 303(d)

http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/programvision.cfm
303(d) Long-Term Vision

- CWA Section 303(d) review
- States (*)
  - Develop lists of impaired waters
  - Prioritize impaired waters and establish a schedule
  - Develop Total Maximum Daily Loads (TMDLs)
    - Seasonal variations; margin of safety
- EPA
  - Approves or disapproves the 303(d) lists, TMDLs
  - Can list and develop federal TMDLs
303(d) Long-Term Vision

- Protection
- Engagement
- Alternatives
- Assessment
- Integration
- Prioritization
303(d) Long-Term Vision

- Gaining efficiency and reorienting the program
- Achieving gains (without changing the CWA)
- Providing flexibility
- Expanding the planning horizon
- Improving collaboration
303(d) Long-Term Vision

State WQ Priorities

Pace of TMDL Development

State WQ

State WQ

Pace

Pace

Pace

Pace
303(d) Long-Term Vision

State WQ Priorities

Pace of TMDL Development

State WQ

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Pace

Pace
303(d) Long-Term Vision

- Removes "one size fits all" expectations
- Allows states to tailor their strategies
  - Leverage local resources
  - Address local water quality goals
- Ensures accountability through new measures
  - Areas addressed by TMDLs
  - Recognition of TMDL alternatives (reasonable assurance, nutrient management plans)
- Operates on a longer time horizon
Total Maximum Daily Loads (TMDLs)
What are they? Why are they important to restoration?
What does TMDL stand for?

• Total Maximum Daily Load

Maximum amount of a given pollutant that a waterbody can take up without causing exceedances of water quality standards.
Ok, so what does that mean?

- TMDLs are water quality restoration goals
  - Pollutant-specific loading targets
  - Derived scientifically by studying the waterbody
  - If targets met, waterbody expected to meet its criteria
Water Quality Restoration

- Standards
- Monitoring
- Assessment
- TMDL development
- Basin management action plan (BMAPs)

*Implemented on a rotating basin approach...*
TMDL Allocation

\[ \text{TMDL} \equiv \sum \text{WLAs}_{\text{NPDES wastewater}} + \sum \text{WLAs}_{\text{NPDES stormwater}} + \ldots \\
\ldots + \sum \text{LAs} + \text{MOS} \]

- WLAs = wasteload allocations
- LAs = load allocations
- MOS = margin of safety
Prioritizing TMDL Development

Which TMDLs should we develop next?
Prioritizing TMDLs

- Rule 62-303.500
  - "Prioritization for TMDL Development"
  - Part of impaired waters rule (IWR)

Class I – Drinking water supplies
Class II – Shellfish propagation or harvesting
Class III – Fish consumption, recreation, well-balanced fish and wildlife
Class III Limited – Class III with limited aquatic life support and habitat
Class IV – Agricultural water supplies
Class V – Navigation, utility, and industrial uses (no current designations)
EPA Consent Decree Era

• EPA/Earthjustice consent decree (1999 – 2013*)
  – Detailed schedule for TMDL development
  – Required EPA to adopt TMDLs (if no state TMDL)

• Some decree-listed waterbodies were not "verified impaired" (so no state TMDL possible)
  – Mix of state and federal TMDLs
Post Consent Decree Era

• New approach needed
  – DEP portion of consent decree schedule completed
  – New standards for dissolved oxygen and nutrients
  – Potential changes in impaired status
Recovery Potential Screening

- EPA tool to assist in prioritizing TMDLs
  - Areas with the greatest chance of success
  - Based on analysis of various selected indicators
    - Ecological
    - Stressor
    - Social

http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/recovery/
Phased Approach

Phase 1
- Remove Bacteria and Mercury WBIDs

Phase 2
- Numeric Indicators

Phase 3
- Non-Numeric Indicators

List of Waters to Develop TMDLs
## Indicators Overview

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Ecological</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of impairment</td>
<td>Presence of Outstanding Florida Water (OFW)</td>
<td>Listing priority/age of the listing</td>
</tr>
<tr>
<td>Proximity to other impaired waterbodies</td>
<td>EPA/UF Watershed Index</td>
<td></td>
</tr>
<tr>
<td>Number of point source outfalls</td>
<td></td>
<td>(BMAP effectiveness)</td>
</tr>
<tr>
<td>Effluent dominated waterbody</td>
<td></td>
<td>(Presence of EPA TMDL)</td>
</tr>
<tr>
<td>Number of verified listings</td>
<td></td>
<td>(Economic importance)</td>
</tr>
<tr>
<td>Number of impairment/waterbody combinations</td>
<td></td>
<td>(Likelihood of reasonable assurance plan or other approach)</td>
</tr>
<tr>
<td>Designated use</td>
<td></td>
<td>(Public access)</td>
</tr>
</tbody>
</table>

Ecological Index

\[
\text{Ecological Index} = \frac{\text{Ecological Index}}{\text{Stressor Index}}
\]

\[
\text{Ecological Index + Social Index} = \text{RPI Score}
\]
Public Engagement

• Series of six workshops held across the state
• Work plan, maps, other materials on the web
• Stakeholders included:
  – Agriculture (DACS and agriculture councils)
  – Transportation (DOT and contractors)
  – Municipalities
  – Environmental groups and activists
  – Local landowners
  – NPDES permit holders
  – Other concerned citizens
Stakeholder Input

• Broad support for overall approach
• Additional information used to adjust work plan
  – Municipality concern about timing of TMDL development and goals for an ongoing nutrient management plan
  – Environmental group petition to include a water body not originally on the prioritized list
  – Water management district input to take waters off list that were no longer impaired for nutrients
Current Status and Future Efforts

How will we adaptively manage TMDL development?
Current Status

• **Priority Framework Document (Aug 8, 2014)**
  – Describes last year's effort and resultant work plan
  – Draft document
  – Available online, along with TMDL work plan

• Currently implementing TMDL development plan
  – As revised
    (stakeholder input, resource considerations)

[http://dep.state.fl.us/water/tmdl/]
Open TMDL Projects

- Peace River Basin Lakes (Lakes Deer, Hollingsworth, Bonny, and Lena)
- Homosassa and Chassahowitzka Springs
- Lakes Talquin and Tallavanna
- Central Florida Lakes (Lakes Weir, Denham, Roberts, and Marshall)
- Crescent and Lochloosa Lakes
- Caloosahatchee River Basin
- Lake Jesup
TMDL Status – Online GIS

• Relatively new addition to FDEP online GIS tools
• Displays location of water bodies:
  – Verified impaired
  – TMDLs adopted
  – TMDLs "in progress" (i.e., open or on the 2-year plan)
  – BMAPs adopted
  – BMAPs in progress
• Click on "Impaired Waters, TMDLs, and Basin Management"

https://fdep.maps.arcgis.com/home/
Future Prioritization

• Fully implementing 303(d) long-term vision includes identifying "universe" of TMDLs to complete by 2022

• Now running recovery potential screening tools again, at a larger scale and with a different focus
  – Scale – HUC8 watersheds
  – Focus – For use beyond TMDL prioritization
Values for Setting Priorities

- Efficient use of resources
- Implementation-friendly process and results
- Public action, not just education
- Encouragement of TMDL alternatives
- Highest chance of recovery
- Integrated, holistic approach
Conclusion / Summary

• FDEP vision – list of priority waters across state, where we can focus monitoring, assessment, restoration targets, and restoration plans

• Opportunities – spend resources to develop bigger models, involve more stakeholders, solve more problems in areas of highest priority

• Challenges – how to continue meeting the needs of other CWA programs and stakeholders statewide
Questions?

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