Webinar to Discuss Implementation of Florida's Numeric Nutrient Criteria: 303(d), TMDLs, and SSACs

Thursday, December 2, 2010

1:00PM-3:00PM (Eastern Standard Time)

Overview

- Summary of Rule
- Assessment and 303(d) Lists
- Total Maximum Daily Loads (TMDLs)
- Site Specific Alternative Criteria (SSAC)

Rule for Lakes

- Definition
  - "Lake" means a a slow-moving or standing body of freshwater that occupies an inland basin that is not a stream, spring, or wetland
- The rule
  - Classifies lakes into 3 groups based on color and alkalinity
  - Derives criteria from correlations between trophic transition levels of chlorophyll *a* (Chl *a*) and levels of total phosphorus (TP) and total nitrogen (TN)
  - Includes an option for the State to adjust TN and TP criteria for a particular lake within a certain range if sufficient data show the Chl *a* criterion is met

Criteria for Lakes*

Lake Color and Alkalinity	Chl-a (mg/L)	TN (mg/L)	TP (mg/L)
Colored Lakes > 40 PCU	**0.020**	**1.27** [1.27-2.23]	**0.05** [0.05-0.16]
Clear Lakes, High Alkalinity ≤ 40 PCU and Alkalinity > 20 mg/L $CaCO_3$	**0.020**	**1.05** [1.05-1.91]	**0.03** [0.03-0.09]
Clear Lakes, Low Alkalinity ≤ 40 PCU and Alkalinity ≤ 20 mg/L $CaCO_3$	**0.006**	**0.51** [0.51-0.93]	**0.01** [0.01-0.03]

* All concentrations are annual geometric means not to be surpassed more than once in a three-year period. Bracketed numbers reflect the range in which Florida can adjust the TN and TP criteria when data shows the lake is meeting the relevant Chl *a* criterion.

Rule for Streams

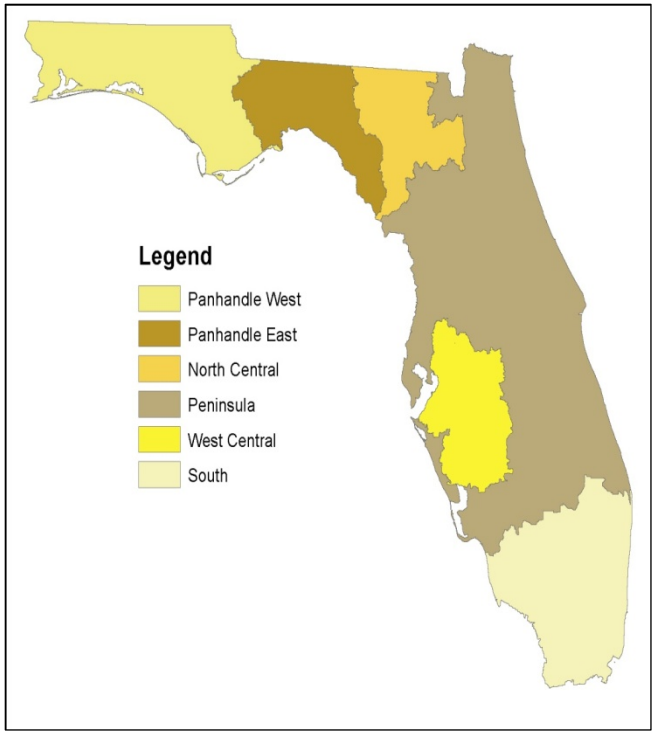
- Definition
  - "Stream" means a free-flowing, predominantly fresh surface water in a defined channel, and includes rivers, creeks, branches, canals, freshwater sloughs, and other similar water bodies
- The rule
  - Classifies streams into 5 watershed-based regions that account for geological differences throughout the State
  - Derives criteria from field data in least-disturbed streams that are not impaired for nutrient-related impacts
  - Applies to all Class I and III lakes in Florida

Criteria for Rivers/Streams

Nutrient Watershed Region (NWR)	Instream Protection Value Criteria	
	TN (mg/L)	TP (mg/L)
Panhandle West	0.67	0.06
Panhandle East	1.03	0.18
West Central	1.65	0.49
Peninsula	1.54	0.12
North Central	1.87	0.30

Concentrations are annual geometric means not to be surpassed more than once in a three-year period

Map of EPA's stream classification by NWRs used in final rule.



Downstream Protection for Lakes

- Federal Regulations require WQS to provide for the attainment and maintenance of WQS in downstream waters
- The final rule includes a flexible tiered approach to apply downstream protection values (DPVs) for TP and TN to a watershed to ensure protection of downstream lakes:
  - TN and or TP levels at the point of entry into the lake using BATHTUB model or alternative scientifically-defensible models such as WASP, or
  - Ambient instream levels of TN and/or TP at the point of entry into the lake where lake criteria are met in the lake, or
  - Lake criteria values for TN and/or TP at the point of entry into the lake where lake criteria are not met in the lake or lake is un-assessed

Rule for Springs

- Definition
  - "Spring" means a site at which ground water flows through a natural opening in the ground onto the land surface or into a body of surface water
- Rule
  - Establishes nitrate-nitrite criterion of 0.35 mg/L as an annual geometric mean, not to be exceeded more than once in a three-year period
  - Based on experimental laboratory data and field evaluations that document the response of nuisance algae to nitrate-nitrite concentrations

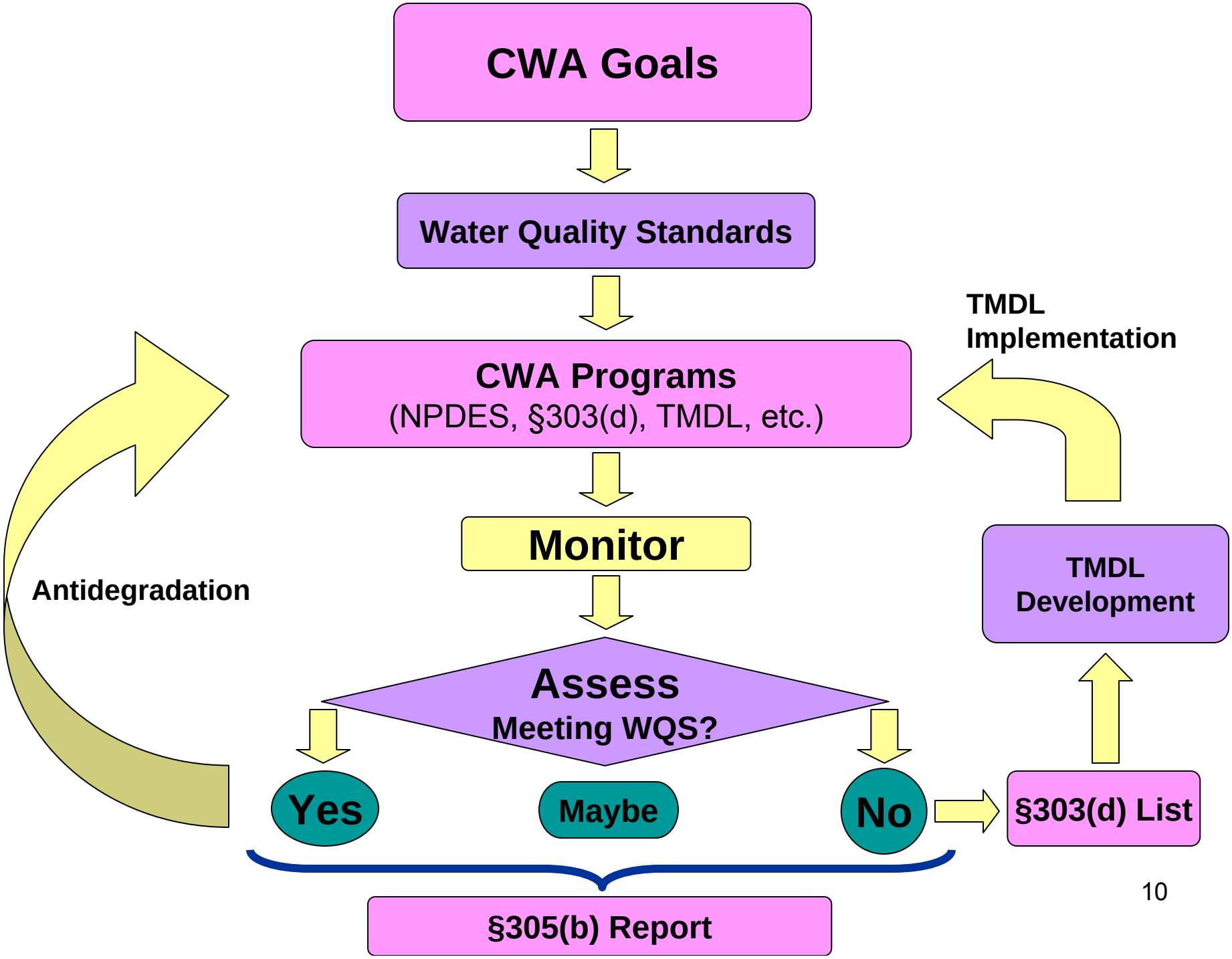
For Further Information

- Web Access
  - Final rule and all associated materials available at:

  www.regulations.gov, docket ID: EPA-HQ-OW-2009-0596

  or

  http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm
- Contact:
  - Danielle Salvaterra
    U.S. EPA, Office of Water
    Office of Science & Technology
    Standards & Health Protection Division
    Regional, State, & Tribal Standards Support Branch; MC 4305T
    T: 202-564-1649
    F: 202-566-9981



303(d) List

Section 303(d) of the Clean Water Act:

- Identify waters that do not meet applicable water quality standards
- Prioritize “impaired waters” for Total Maximum Daily Load (TMDL) development

303(d) List

Waters in the 2010 Integrated Water Quality Assessment for Florida identified as impaired by nutrients:

- 1,918 miles of rivers and streams (about 8% of assessed river and stream miles)
- 378,435 acres of lakes (about 26% of assessed lake acres)

303(d)

- Waters are currently assessed using a narrative standard: no imbalance in natural populations of aquatic flora or fauna.
- Florida uses its Impaired Waters Rule to translate the narrative standard into conditions that can be used to assess waters for impairment.
- The federally promulgated numeric nutrient criteria will affect the way nutrient levels in waterbodies in Florida are assessed.

303(d)

- When the new rule is effective, waters will be assessed against the new numeric criteria.
- Some waterbodies previously determined to be impaired by nutrients may meet the new criteria.
- New waterbodies identified as impaired by nutrients will be added to the 303(d) list and prioritized for TMDLs.
- For 303(d) assessment purposes, the state of Florida primarily monitors the waters of the state in basin groups using a 5-year rotating basin cycle.

303(d)

- More information about the final water quality standards for the state of Florida's lakes and flowing waters is available at:

  http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm

- You may also contact:
  - Andrea Zimmer, Chief
    - Monitoring and Information Analysis Section
    - 404-562-9306
  - Allison Humphris
    - Monitoring and Information Analysis Section
    - 404-562-9305
  - David Melgaard
    - Monitoring and Information Analysis Section
    - 404-562-9265

TMDLs

- TMDL= WLA + LA + MOS
  - **TMDL** is a water pollution control plan that determines the amount of a pollutant a waterbody can receive and still meet water quality standards.
  - **WLA** is a portion of the loading capacity attributed to existing and future point sources
  - **LA** is a portion of the loading capacity attributed to existing and future non-point sources.
  - **MOS** is a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality.

Nutrient TMDLs in Florida

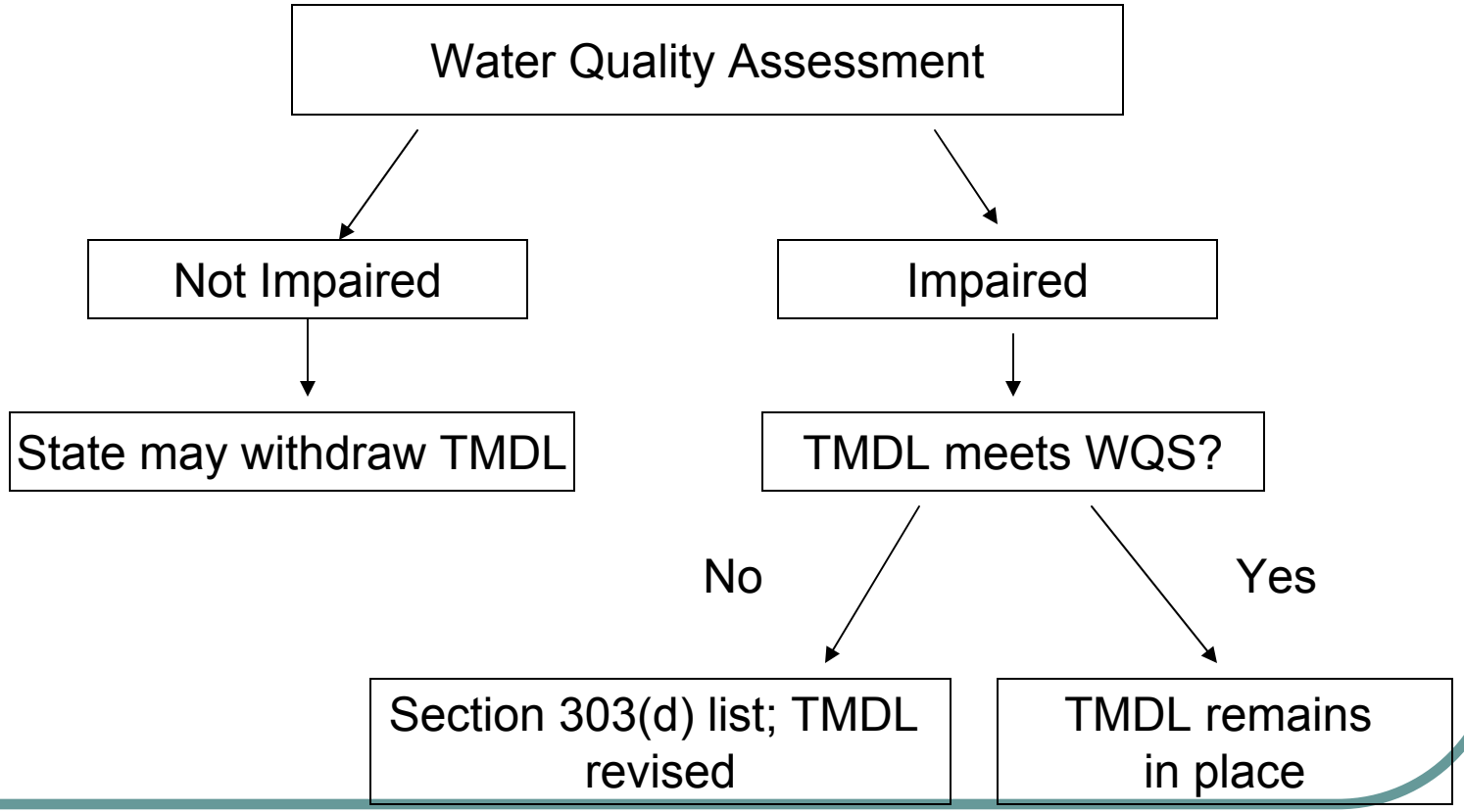
- **281** EPA Approved Nutrient TMDLs
  - 17 Nitrates
  - 129 Total Nitrogen
  - 135 Total Phosphorus
- **268** EPA Established Nutrient TMDLs
  - 1 Nitrate
  - 139 Total Nitrogen
  - 128 Total Phosphorus

Future Nutrient TMDLs in Florida

- Nutrient TMDL wasteload and load allocations must be established at levels that will meet all applicable water quality criteria.
- After the effective date of the federally promulgated numeric nutrient criteria, nutrient TMDLs must be established at levels that will meet and maintain all of the applicable criteria, including the federally promulgated numeric nutrient criteria and existing narrative criteria.

Evaluating Existing Nutrient TMDLs

Nutrient TMDLs established before the numeric nutrient criteria will remain in effect until a two-part evaluation occurs.



TMDLs

- The state of Florida or any other entity may decide that an existing TMDL better reflects the conditions of a specific waterbody than the newly promulgated criteria. In those cases, the state or other entity may apply for the TMDL targets to be established as site specific alternative criteria (SSAC).

Implementing TMDLs

- TMDL implementation efforts should remain on schedule.
- The State of Florida uses Basin Management Action Plans (BMAPs) as implementation tools for TMDLs.
- If an existing TMDL is insufficient to meet the effective numeric nutrient criteria and is revised, additional TMDL implementation efforts may be necessary.

TMDLs

- More information about the final water quality standards for the state of Florida's lakes and flowing waters is available at:

  http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm

- You may also contact:
  - Shawneille Campbell-Dunbar, Chief
    - TMDL Development and Implementation Section
    - 404-562-9324
  - Jennifer Eason DiMaio
    - TMDL Implementation Specialist
    - 404-562-9268

Site Specific Alternative Criteria

- Site specific alternative criteria (SSAC) represent alternative values to the criteria that could be applied on a watershed, area-wide, or waterbody-specific basis.
- SSAC must protect the designated use(s), have a basis in sound science, and ensure the protection and maintenance of downstream water quality standards.
- SSAC may be more or less stringent than the otherwise applicable federal numeric criteria.

Site Specific Alternative Criteria

- SSAC may be appropriate when additional scientific consideration can bring added precision or accuracy to express the level or concentration of a water quality parameter that is protective of the designated use.
- The EPA Regional Administrator will evaluate the technical basis and protectiveness of proposed SSAC and decide whether or not to establish SSAC after appropriate public involvement.

Protect Designated Use

- Provide analysis showing designated use is supported in waterbody and downstream
- Include indicators of longer-term response (e.g. SCI) and shorter-term response (e.g. water column chlorophyll a)

Basis in Sound Science

- Use EPA's approach for lakes or streams
- Conduct biological, chemical and physical assessment
  - Could include SCI, DO fluctuation, habitat assessment, hydrologic disturbances
- Use another scientifically defensible approach
  - Allows use of methods not otherwise described in rule

Protect Downstream Uses

- Must ensure values allowed in SSAC provide for attainment and maintenance of downstream water quality
- Examine stream system on broader basis to ensure SSAC does not adversely affect nearby stream segments or downstream waters, such as lakes
- In interim, SSAC should comply with narrative standard for estuaries

How will process work?

- Entity (e.g., State, city/county, discharger, individual) prepares SSAC package
- If entity not the State, provide notice to State
- EPA evaluates package and provides public notice and comment period (or returns submittal with explanation)
- After reviewing comments, EPA makes decision and provides public notice

What can be submitted for consideration?

- TMDLs (final or proposed)
- Reasonable assurance documents for inland waters
- Other scientifically defensible information

SSACs

- More information about the documentation and process for obtaining a SSAC is available in Section V.C of the preamble to the rule:
  http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm
- You may also contact:
  - Annie Godfrey, Chief
    - Water Quality Standards Section
    - 404-562-9967
  - Lauren Petter
    - Water Quality Standards Section
    - 404-562-9272

Question and Answer Session

- Please submit your questions through the chat function
- Link for rule:

  www.regulations.gov, docket ID: EPA-HQ-OW-2009-0596

  or

  http://water.epa.gov/lawsregs/rulesregs/florida_index.cfm