For assistance in accessing this document, please send an email to ost.comments@epa.gov.

Florida Nutrient Rule Implementation Webinar

Focus on NPDES Dischargers

Of Domestic and Industrial Wastewater & Stormwater

December 7, 2010

9-11 am

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

Overview

- Summary and Background of Rule
- Implementation and Applicability within NPDES Program
- Wastewater Dischargers - Domestic & Industrial
- Stormwater Dischargers
- Common Questions- NPDES Permits
- Question and Answer Session

Summary

- EPA has finalized water quality standards for the state of Florida
  - These include numeric limits on the amount of phosphorus and nitrogen pollution that are allowed in Florida's lakes, rivers, streams and springs.
  - Chlorophyll a limits were also developed to monitor the effect of nitrogen and phosphorus in lakes.
- The purpose of these standards is to improve water quality and protect public health, aquatic life and the long-term recreational uses of Florida's waters, which are a critical part of the state's economy.
- The implementation of these standards will change the criteria used by several Clean Water Act (CWA) programs
  - National Pollutant Discharge Elimination System (NPDES) permitting
  - Total Maximum Daily Load (TMDL) development
  - CWA Section 303(d) listing of impaired waters

Background

- The final rule includes numeric nutrient criteria for lakes, rivers, streams and springs located outside of South Florida (the areas south of Lake Okeechobee, the Caloosahatchee River watershed to the west of Lake Okeechobee, and the St. Lucie watershed to the east of Lake Okeechobee).

- The rule applies to Florida Class I and III waters.

- Class I waters are waters with the designated use of potable water supply. Class III waters are waters with the designated uses of recreation and propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

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
  - Applies to all Class I and III lakes in Florida

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

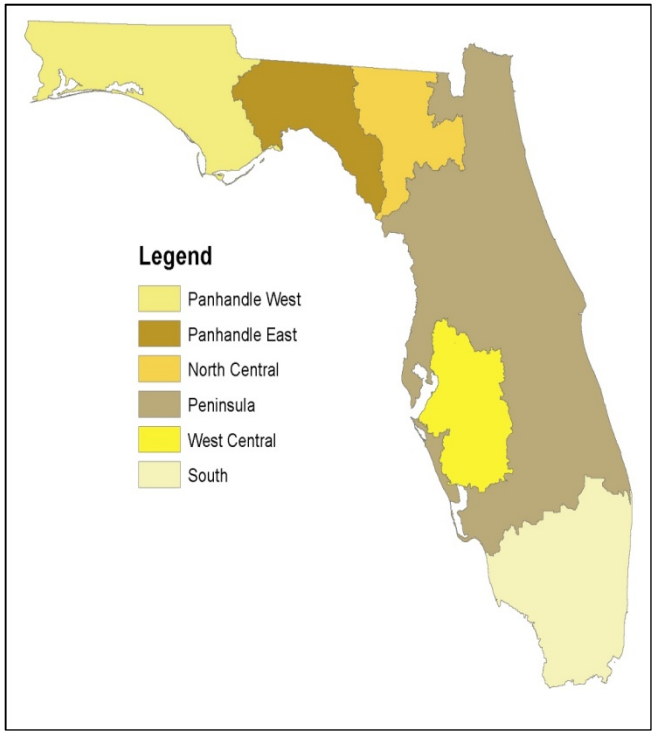
- Definition
  - "Stream" means a free-flowing, predominantly fresh surface water in a defined channel, and includes rivers, creeks, branches, canals, freshwater sloughs, and other similar water bodies
- The rule
  - Classifies streams into 5 watershed-based regions that account for geological differences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

Implementation of Numeric Nutrient Standards in NPDES Program

- NPDES permitting authority in Florida is the Florida Department of Environmental Protection
- FDEP will be responsible for incorporating the new nutrient standards into NPDES permits
- EPA remains responsible for oversight of authorized state NPDES programs

Applicability of New or Revised WQS in NPDES Program

- All NPDES permit holders that discharge nutrients to lakes and flowing waters in Florida will be affected
- All NPDES permits issued after the effective date of the criteria must be based on the new nutrient standards

Applicability of New or Revised WQS in NPDES Program (continued)

- Both continuous discharge facilities and facilities that discharge on an intermittent basis (plants with reuse) will be affected by the new nutrient standards
- General permits also will be reassessed before being reissued to determine how the new nutrient standards apply
- Permit limits and conditions must be consistent with the assumptions and requirements of wasteload allocations in TMDLs

Existing Permitted Wastewater Dischargers

- The new criteria will be applied to existing NPDES permits when those permits are renewed or reissued
- If the limit(s) cannot be achieved on the effective date of the permit, a compliance schedule may be included in the permit or by order, along with interim limits
- Compliance schedules will allow actions such as planning, design, and construction for process changes or for implementing reuse
- The schedules will provide a date for final compliance with the nutrient effluent limits

New and Expanded Wastewater Dischargers

- New discharge permits and permit modifications that allow an outfall to a new receiving water location must be written to achieve the nutrient standards when the discharge commences
  - No allowance for a compliance schedule can be given but other Clean Water Act flexibilities may exist
- For wastewater treatment plant expansions, a compliance schedule can be given for construction leading to compliance with the numeric nutrient limits

Suggested Technical References

- EPA's 2008 "Municipal Nutrient Removal Technologies Reference Document, Volume 1- Technical Report"
  - http://water.epa.gov/scitech/wastetech/upload/mnrt-volume1.pdf
- EPA'S 2009 "Nutrient Control Design Manual: State of Technology Review Report"
  - http://www.epa.gov/nrmrl/pubs/600r09012/600r09012.pdf
- EPA's 2010 "Nutrient Control Design Manual"
  - http://www.epa.gov/nrmrl/pubs/600r10100/600r10100.pdf

NPDES Stormwater

- The Clean Water Act requires that permits for municipal separate storm sewer systems (MS4s) sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable.
- MS4 permit conditions must be consistent with the assumptions and requirements of wasteload allocations in TMDLs.
- Water quality-based effluent limits for MS4 permits may be expressed as:
  - Narrative requirements such as best management practices to reduce pollutants entering an MS4; or
  - Numeric requirements, where feasible.
- EPA recognizes the importance of an iterative approach for controlling pollutants discharged from MS4s.
  - Stormwater controls should be adjusted if monitoring demonstrates that existing controls are not protective of water quality.

Common Questions- NPDES Permits

- Are the EPA criteria to be applied as an average across the waterbody, or as a “any place” within the waterbody?
- What treatment technologies currently exist that would achieve the new criteria?
- How much does EPA think it will cost a typical POTW in FL to achieve the new criteria?
- What if a POTW cannot afford the costs to achieve additional treatment required? What other options are available?
- How much time will POTWs get before they have to start achieving the new criteria?
- Can a POTW get a mixing zone so that the criteria are not applied as an end-of-pipe limit?
- Does EPA expect Florida to revise/re-open currently effective NPDES permits to incorporate the new rule?
- Does EPA expect Florida to include numeric (instead of narrative) water quality based effluent limits in MS4 permits?

Additional Information

- 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:

Mark Nuhfer, Chief
Municipal and Industrial NPDES Section
EPA Region 4; Atlanta
nuhfer.mark@epa.gov

Thomas McGill, Chief
Stormwater and Nonpoint Source Section
EPA Region 4: Atlanta
mcgill.thomas@epa.gov

Question and Answer Session

- Please submit your questions through the chat function
  - Select “Send Chat or Question to USEPA organizer only”

- Link for rule:

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

  or

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