

EPA's Numeric Nutrient Criteria Proposed Rule

Background -EPA's Proposal

- Proposal Includes lake, stream, spring and canal criteria for the protection of aquatic life
- Contains Additional Provisions including the Establishment of Restoration Uses
- Scheduled for finalization October 15, 2010
- Comments are due April 28th, 2010.

Proposal for Lakes

- Definition
 - “Lake” means a freshwater body with some open contiguous water free from emergent vegetation, which is not a stream or a watercourse
- Proposal
 - Classifies lakes into 3 groups based on color and alkalinity
 - Derives criteria from field data showing correlations between chlorophyll a (chl_a), Total Phosphorus (TP) and Total Nitrogen (TN)
 - Includes an option for state to adjust TN and TP criteria for a particular lake within a certain range if sufficient data show the chl_a concentration is met



Proposed Criteria for Lakes

Three Lake Categories	Chlorophyll a (ug/L)	Baseline Criteria		Modified Criteria (within these bounds)	
		TP (ug/L)	TN (mg/L)	TP (ug/L)	TN (mg/L)
Colored Lakes	20	50	1.23	50-157	1.23-2.25
Clear, Alkaline Lakes	20	30	1	30-87	1.00-1.81
Clear, Acidic Lakes	6	10	0.5	10-30	0.500-0.900

Concentrations are annual geometric means not to be surpassed more than once in a three-year period or as a long term average

Comments –Lake Criteria

- Lake definition is not specific enough (does not adequately exclude ponds or wetlands)
- FDEP: EPA's Chlorophyll *a* Criteria (6 ug/l) for clear, acidic lakes is not linked to an adverse biological response
- Proposed alkalinity threshold of 50 mg/L CaCO₃ that defines clear, acidic lakes includes many lakes with naturally higher chlorophyll *a* values

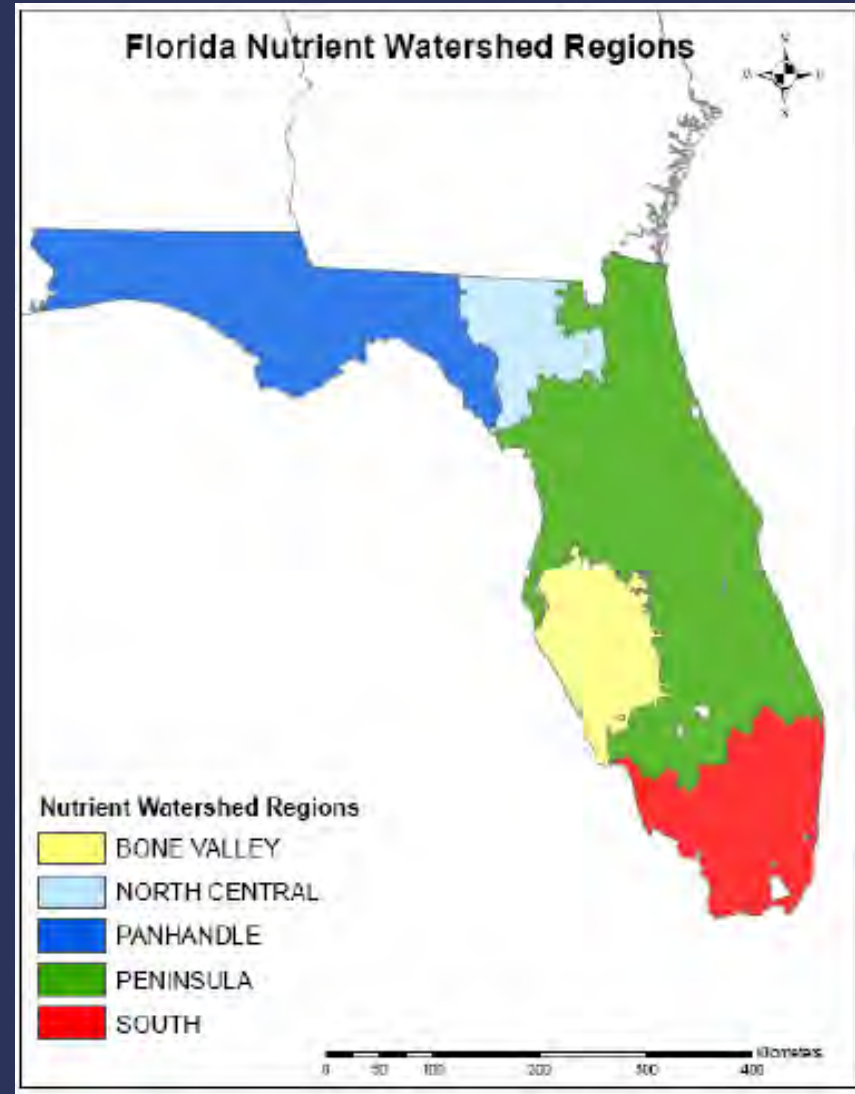
Proposal for Rivers and Streams

- Definition
 - “Stream” means a free flowing, predominantly fresh surface water in a defined channel, and includes rivers, creeks, branches, canals (outside south florida), freshwater sloughs, and other similar waterbodies
- Proposal
 - Classifies streams into regions based on underlying geology, natural features, and watershed boundaries
 - Derives criteria from nutrient levels in streams with healthy biology based on Florida’s Stream Condition Index (SCI)
 - Includes approach for adjusting criteria to reflect protection of downstream lakes and downstream estuaries (withheld at this time)

Proposed Criteria for Rivers and Streams

Nutrient Watershed Region	Instream Protection Value Criteria	
	TN (mg/L)	TP (ug/L)
Panhandle	0.824	43
Bone Valley	1.798	739
Peninsula	1.205	107
North Central	1.479	359

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Comments – Streams Criteria

- Dose-response relationships in streams were very weak.
= Reducing nutrient levels would not result in improved biological response.
- Reference site approach is flawed (Stream Condition Index alone is not enough, must also use Land Development Index)
- EPA used the 75th Percentile Concentration of all Biologically Healthy Sites as Proposed Criteria Threshold
- FDEP: Provisions were not proposed that address the lack of a measurable dose/response relationship
 - Biological validation before listing as impaired
 - Well defined process for establishment of SSAC
- Ecoregions are too broadly defined

Proposal for Springs and clear streams

- Definition
 - “Spring” means the point where underground water emerges onto the Earth’s surface, including its spring run.
- Proposal
 - Derives Nitrate-nitrite criterion of 0.35mg/L for springs and clear streams based on experimental laboratory data and field evaluations that document the response of nuisance algae to nitrate-nitrite concentrations

Comments – Spring Criteria

- Concentration endpoint (criterion) based on observed biological response
- Not consistent with the timeframes of observed biological effects contained in the studies used to derive criteria

Other proposed provisions

- Allowance for Site Specific Criteria Adoption (SSACs) that Florida demonstrates as protective
 - Would allow Florida to submit existing TMDL Nutrient Targets to EPA for consideration as SSACs
- Allowance for State-issued (and EPA approved) restoration Water Quality Standards
 - Would allow Florida to develop a series of interim designated uses and numeric nutrient criteria that represent feasible steps toward the attainment of the full designated use and protective criteria

COMMENTS:

- Acknowledgement of the need for Site Specific Criteria is Critical
- Value of Restoration Standard Provisions is Unclear.

Economic Analysis

- EPA estimates \$107 to \$140 million per year to meet the criteria
- Costs attributed to
 - Upgraded treatment and pollution prevention actions at wastewater treatment facilities and industrial dischargers
 - Implementation of BMPs for non point sources including Ag.
 - Replacement of faulty septic systems

COMMENTS:

- No mention of stormwater Costs or SSAC/UAA costs
- Grossly underestimated

What does this mean for Pinellas County and the municipalities?

- Most waters will be impaired for nutrients
- Very expensive and will not necessarily fix the real problems
- If FDEP doesn't support EPA's proposal, we could be going back to EPA regimented NPDES and TMDL Programs
- EPA is focusing on measurable compliance within NPDES permits for TMDLs