



Agriculture & Natural Resources Subcommittee

**Tuesday, October 4, 2011
3:00 pm
Reed Hall (102 HOB)**

**Dean Cannon
Speaker**

**Steve Crisafulli
Chair**

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Agriculture & Natural Resources Subcommittee

Start Date and Time: Tuesday, October 04, 2011 03:00 pm
End Date and Time: Tuesday, October 04, 2011 05:30 pm
Location: Reed Hall (102 HOB)
Duration: 2.50 hrs

Overview of the Florida Department of Environmental Protection's development of numeric nutrient criteria

Overview of litigation relating to the establishment of numeric nutrient criteria in Florida

NOTICE FINALIZED on 09/27/2011 14:40 by Love.John

**Numeric Nutrient
Criteria**



*Florida Department of
Environmental Protection*

Numeric Nutrient Criteria

Discussion of Department's Rulemaking Efforts

By: Florida Department of Environmental Protection

Drew Bartlett, Director

Division of Environmental Assessment and Restoration

Prepared for: House Agricultural and Natural Resources Subcommittee

October 4, 2011

Chair: Representative Steve Crisafulli



Clean Water Act: How it Applies to the States

- The Clean Water Act (CWA) was passed into law in 1972 and applies to waters in every state.
- Programs include:
 - Implementing water restoration activities
 - Authorizing discharges
 - Administering funding opportunities
- EPA has responsibilities and authorities, but states have the first option to implement those authorities.
- State-versions of CWA programs must be at least as stringent as EPA's (federal floor).





Clean Water Act: Its Role in the Nutrient Issue

- 303 (a-c) – **Water Quality Standards**
- Requires each state to assign **designated uses** to all waterbodies in the state, as well as the **criteria** that will maintain or be used to attain the designated use.
 - **Designated Uses/Goals**
 - Recreation, Fish and Wildlife, Drinking Water
 - **Criteria**
 - Water quality limits necessary to protect designated use
 - Can be Numeric or Narrative
 - **Impaired Waterbody**
 - One that does not meet water quality standards.





Clean Water Act: Its Role in the Nutrient Issue

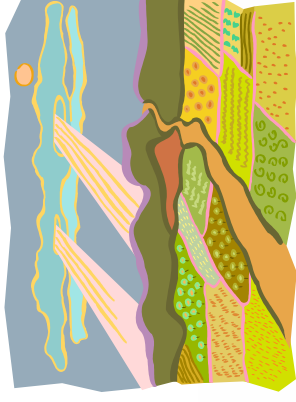
- Implementation of Water Quality Standards
 - §§301, 402 – Permits
 - Cannot discharge without a CWA permit.
 - Discharges cannot contribute to exceedance of water quality standard(s).
 - §303(d) – **Total Maximum Daily Load (TMDL)**
 - A calculation of the maximum amount of a given pollutant that waterbody can accept without becoming impaired.
 - TMDLs are factored into permits for regulated discharges, but also can incorporate unregulated sources of pollution (state discretion).
 - Florida’s Basin Management Action Plans (BMAPs) incorporate nonpoint sources in order to fairly allocate the costs of cleaning up a waterbody.





Nutrients: Nitrogen & Phosphorus

- What are sources of excess nutrients?
 - Human Activity

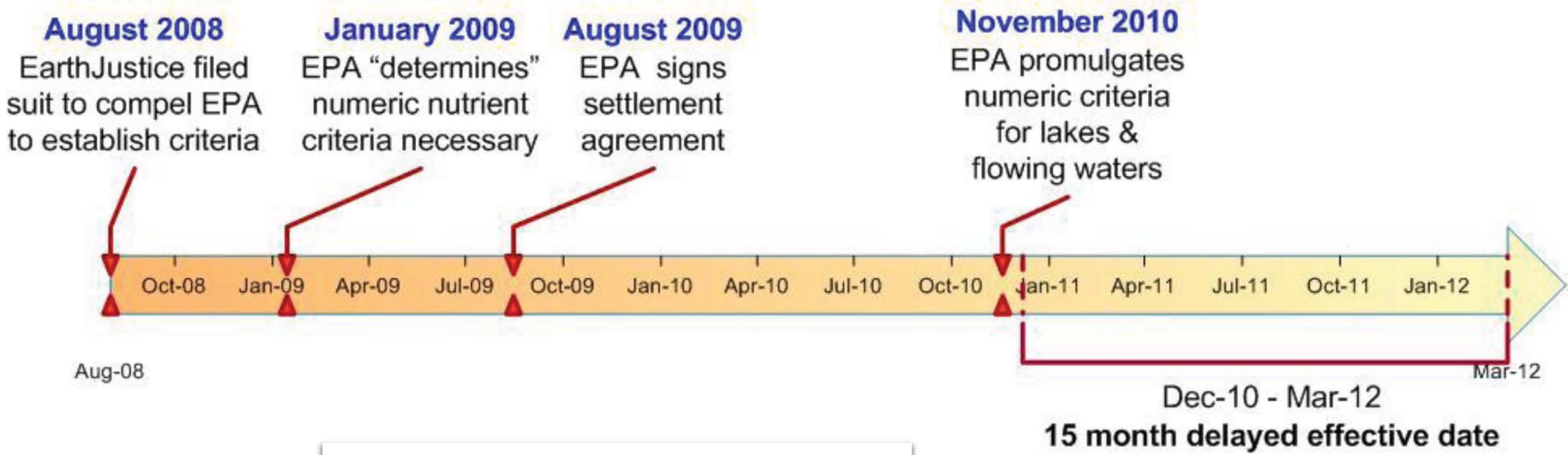


- What are the results of excess nutrients?
 - Environmental and Health Risks: Harmful Algae Blooms
 - Economic Impacts: Tourism and Land Value



Timeline: Numeric Nutrient Criteria

- FDEP Started Developing Numeric Criteria in 2002



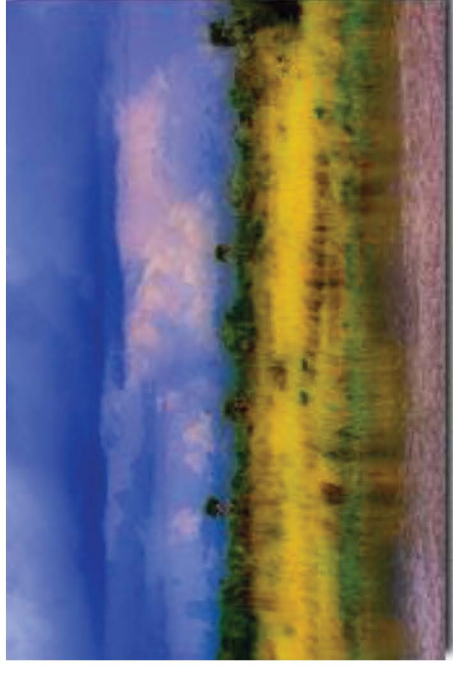
Marine Criteria
Proposal – November, 2011
Final – August, 2012





Status of Litigation

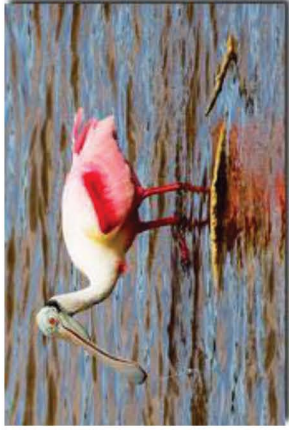
- Eight lawsuits representing ~30 parties filed challenging:
 - EPA necessity determination is invalid
 - EPA criteria are arbitrary & capricious
- Case could take two more years to resolve including appeals.





FDEP Filed Petition with EPA (April 22, 2011)

- FDEP Petitioned EPA based on Florida's performance of the eight key elements identified in an EPA Memo.
- Petition included initiation of rule development for state standards, and requested that EPA:
 - Rescind the Determination to Promulgate Numeric Nutrient Criteria in Florida
 - Rescind Promulgated Criteria
- EPA's initial response (May 22, 2011) did not grant or deny.





Other Recent and Projected Events

- **June-Oct 2011** Holding Public Workshops to Discuss NNC Rule Concepts and Draft Rules
- **October 2011** *Decide Whether to Proceed*
 - Pending: **October 2011** - Notice of Rulemaking
 - November 2011** - Estimated Costs
 - December 2011** - Present Rule for Adoption
 - Legislative Session 2012** - Present Rule for Ratification
 - After Ratification** - Submit Rule to EPA





FDEP Draft Rule Concept

Hierarchy of Site Specific Numeric Interpretation
of Narrative Nutrient Criterion

Nutrient Site Specific Analyses

Cause and Effect Relationships (Lakes & Springs)

**Reference-based Thresholds Combined with
Biological Data to Evaluate Attainment**



Narrative standard continues where numeric interpretation is unavailable.
(e.g., wetlands, intermittent streams)



Three Differences of FDEP's Draft Rule

**Give preference to nutrient
Site Specific Science.**

EPA's do not

**Only create nutrient reduction
expectations where necessary to
protect Florida waterbodies.**

**EPA's do
regardless of
waterbody
health**

**Eliminate unnecessary
procedures that do not add to
waterbody protection
and restoration.**

**EPA's use federal
procedures to
overcome
Illogical
outcomes**





EPA's Process of Applying the Rule to a Stream

Attain EPA stream thresholds?

Yes

Nutrients in attainment.

No

Nutrients in *nonattainment*.*

*If waterbody is healthy, entities can petition EPA to set a different criteria by submitting a thorough analysis.
(Site Specific Alternative Criteria)





FDEP's Process of Applying the Rule to a Stream

Site specific analysis?

Yes

No

Site specific analysis = NNC

No

Impaired by current rules?

Yes

Attain EPA thresholds?

No

Nutrients in *nonattainment*.

Yes

Nutrients in attainment.

Exhibit healthy biology?

No

Nutrients in attainment.

Nutrients in *nonattainment*.





Estuaries

- The Department is holding a public workshop in Rookery Bay regarding nutrient standards for certain Florida estuaries.
 - Proposed Criteria for National Estuary Program Estuaries are locally derived.
 - Tampa Bay, Sarasota Bay, and Charlotte Harbor
 - Others must maintain existing healthy condition.
 - The Ten Thousand Islands area and South Florida (Biscayne Bay, Florida Bay, and the Florida Keys).
- Workshop will address FDEP’s commitment to set criteria for remaining estuaries.





Significant Comments/Criticisms

- **Comment:** Stream standards do not protect because healthy biology over-rides nutrient concentrations above thresholds.
 - **Response:** FDEP rule requires that increases in nutrients in healthy waterbodies are identified and addressed.
- **Comment:** Lack of Numeric Downstream Protection Values.
 - **Response:** Neither EPA nor FDEP has enough science to establish numeric values.
 - **Response:** FDEP rule includes requirement that upstream concentrations cannot cause exceedances of downstream standards.
- **Comment:** Man-made canals (outside of south Florida) are subject to the rules.
 - **Response:** Need a new designated use/ goal.





Potentially Affected Parties

- Only if Water Unhealthy
 - Regulated Sources:
 - Wastewater treatment facilities
 - Industrial dischargers
 - Stormwater Discharges
 - Unregulated Source:
 - Urban and Agricultural stormwater discharges
 - Septic Tanks
 - Note: Nonpoint source are discharges factored into Basin Management Action Plans used to restore impaired waterbodies.





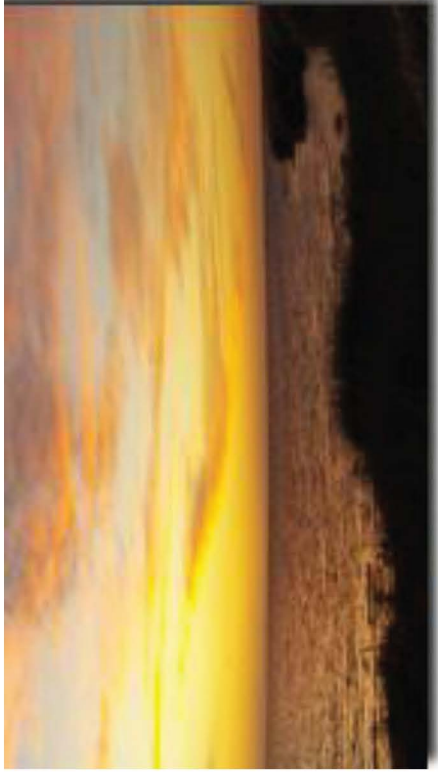
Financial Impact of EPA's Rule

- EPA estimates annual costs of \$135.5 to \$206.1 million.
 - National Academy of Sciences is performing an independent review of EPA's analysis – due out in February 2012.
- Cardno ENTRIX estimates a range of costs between \$298 million to \$4.7 billion.
 - This wide range is due to the uncertainty over how the rule would be implemented.



Financial Impact of FDEP's Rule

- FDEP is performing a costs analysis of its own rule and anticipates that the cost will be lower because:
 - Uncertainties will be addressed.
 - Reductions will not be expected in healthy waters.
 - Elimination of process costs.





Consequences of Not Setting State Rules

- EPA's rules will go into effect.
- FDEP cannot implement those rules.
- Permits would be issued by EPA.
- TMDLs would be issued by EPA.
- Costs would be passed down to households, businesses, and visitors.





Questions?



For more information, please contact:

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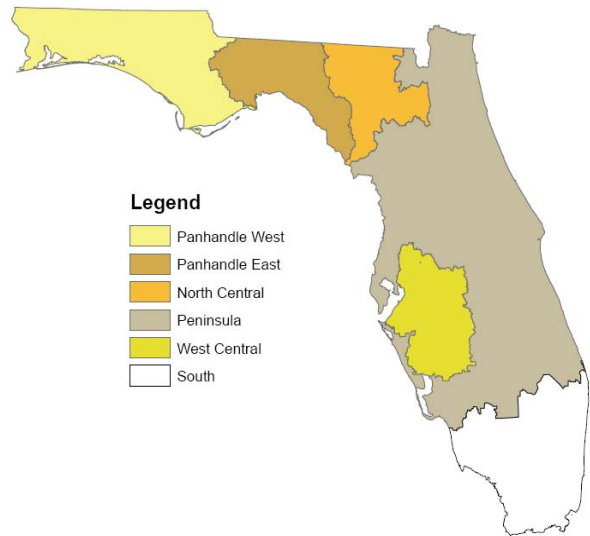


Environmental Protection Agency's (EPA's) Numeric Nutrient Criteria for Inland, Fresh Waters
Last Updated: November 15, 2010

Streams Criteria: The EPA adopted regional criteria for streams. The Nutrient Watershed Regions are defined based on the phosphorus content of geological formations of Florida. The total nitrogen (TN) and total phosphorus (TP) criteria in four of the regions were based on concentrations from minimally disturbed and healthy sites. For the West Central Region, the values were derived from healthy sites regardless of disturbance.

Nutrient Watershed Region*	Instream Protection Value Criteria in milligrams per liter (mg/L)	
	Total Nitrogen (TN)	Total Phosphorus (TP)
Panhandle West	0.67	0.06
Panhandle East	1.03	0.18
North Central	1.87	0.30
West Central	1.65	0.49
Peninsula	1.54	0.12

*For a given waterbody, the annual geometric mean of TN or TP concentrations shall not exceed the applicable criterion concentration more than once in a three-year period.



Legend
 Panhandle West
 Panhandle East
 North Central
 Peninsula
 West Central
 South

Lake Criteria: Lake criteria were derived from a relationship between TN and TP concentrations and algal indicators (chlorophyll *a*). Lakes are separated by color and alkalinity in order to differentiate their naturally sensitivity to nutrients. This critical framework allows the Florida Department of Environmental Protection (FDEP) the flexibility to modify the TN and TP criteria (within the bounds identified in the table below) once based on 3 years of data if the chlorophyll *a* concentration is less than its criterion in each of the three immediately preceding years.

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Lake Color and Alkalinity*	Chlorophyll <i>a</i> (mg/L)	Baseline Criteria (mg/L)		Modified Criteria (within these bounds, mg/L)	
		TN	TP	TN	TP
Colored Lakes (Long-term Color > 40 Platinum Cobalt Units)	0.020	1.27	0.05	1.27-2.23	0.05-0.16
Clear Lakes, High Alkalinity (Long-term Color ≤ 40 Platinum Cobalt Units and Alkalinity > 20 mg/L CaCO ₃)	0.020	1.05	0.03	1.05-1.91	0.03-0.09
Clear Lakes, Low Alkalinity (Long-term Color ≤ 40 Platinum Cobalt Units and Alkalinity < 20 mg/L CaCO ₃)	0.006	0.51	0.01	0.51-0.93	0.01-0.03

*For a given waterbody, the annual geometric mean of chlorophyll *a*, TN, or TP concentrations shall not exceed the applicable criterion concentration more than once in a three-year period.

Downstream Protection Values (DPVs): Additional river/stream criteria apply at the location where watersheds discharge to lakes for the protection of the downstream lake. The criteria are derived by: a) Using a water quality model to derive both TN and TP criteria, or b) Using the lake baseline criteria where there are insufficient data for modeling and the lake does not attain applicable criteria or is unassessed, or c) Using ambient instream levels of TN and/or TP at the point of entry into the lake where there are insufficient data for modeling and the lake attains its applicable criteria.

Springs Criteria: The nitrate+nitrite numeric criterion for Florida's springs is 0.35 mg/L as an annual geometric mean, not to be exceeded more than once in a three-year period.

*Site specific alternative criteria (also known as SSACs) necessary to protect a particular waterbody can be established by the EPA Regional Administrator to replace applicable criteria above.

