Summary of Numeric Nutrient Criteria in Florida

Nutrient Criteria Development Advisory Workgroup June 20, 2011
Texas Commission on Environmental Quality Water Quality Standards

Background Information

The Florida Department of Environmental Protection (FDEP) had been working on numeric nutrient criteria (NNC) for several years in addition to developing and updating Florida's Numeric Nutrient Criteria Development plan. In 2008, the U. S. Environmental Protection Agency (EPA) was sued by Florida's Wildlife Federation (FWF) over lack NNC in Florida. As a result, in a 2009 Clean Water Act determination and settlement with the FWF, the EPA issued a consent decree to propose Florida nutrient criteria by January 2010. The EPA published the final nutrient criteria for Florida's lakes and flowing waters in November 2010. The promulgated criteria come into effect in March 2012. The EPA "extended the effective date for the rule for 15 months to allow cities, towns, businesses and other stakeholders as well as the State of Florida a full opportunity to review the standards and develop flexible strategies for implementation" (EPA Florida rule webpage).

The EPA plans to propose NNC for Florida's estuaries in November 2011 with the criteria scheduled for 2012. The FDEP has presented methodologies for the development of nutrient criteria for estuaries and coastal waters in the *Draft Overview of Approaches for Nutrient Criteria Development in Marine Waters* in September 2010 and a revised version in November 2010. The EPA Science Advisory Board (SAB) formed the Nutrient Criteria Review Panel to review the EPA's technical support documents for developing NNC for Florida's estuaries and coastal waters. The draft report was released in November 2010. The FDEP Marine Technical Advisory Committee also provided comments to the EPA SAB on February 1, 2011.

Support and Opposition

The EPA rule is supported by Florida groups such as the Sierra Club, Wildlife Federation, Florida Water Coalition, and others. However, in the wake of the adopted rule, lawsuits over EPA promulgation have been filed with complaints such as: (1) state's prerogative for water quality standards; (2) there is a lack of scientific validity for methodology used to develop criteria; and (3) underestimated financial impacts. On December 7, 2010, the State of Folorida (Agriculture Commissioner and Attorny General) filed suit based on state sovereignty and financial concerns (Florida Office of Attorney General's Press Release and Lawsuit Case 3:10-cv-00503-RV-MD). In January 2011, the Florida League of Cities and the Florida Stormwater Association also filed a joint lawsuit based on the lack of scientific validity for methodology used, impracticality to implement, and failure to follow provisions of the Federal Flexibility Act.

Financial Implications to Florida

"The complaints against the final rule appear to be primarily financial, EPA estimates the incremental cost of the Final Rule over current conditions in Florida will be between $135.5 million and $206.1 million per year, and will cost the average Florida household between $3 and $5 per month. However, some opponents argue that EPA drastically underestimates the costs of the Final Rule by an order of magnitude: In light of the operational and technological changes that would be necessary to meet the new criteria, these opponents estimate that the actual costs of the Final Rule could range between $3.1 to $8.4 billion per year for the next 30 years" (M. MacCurdy, Marten Law Article, February 10, 2011). An independent study prepared by Cardno Entrix for the Florida Water Quality Coalition in November 2010 projects cost increases for city and county wastewater and storm water treatment systems $1 billion to $3 billion, a year (Economic Analysis of the Proposed Federal Numeric Nutrient Criteria for Florida, November, 2010).

Summary of EPA's Final NNC Rule for Florida Lakes and Flowing Waters

Water Quality Standards for the State of Florida's Lakes and Flowing Waters
Environmental Protection Agency, 40 CFR Part 131
Final Rule published in the Federal Register, December 6, 2010

- The final rule is effective March 6, 2012, except for 131.43 section e, which is effective February 4, 2011.

Nutrient Criteria for Florida's Lakes

- The annual geometric mean of chlorophyll *a*, total nitrogen (TN) or total phosphorus (TP) concentrations shall not exceed the applicable criterion concentration more than once in a three-year period.
- The state may calculate a modified criterion for TN or TP, if the chlorophyll *a* criteria are first met, and TN and/or TP values do not exceed for at least three preceding years. Additionally, modified criteria must not exceed the range presented in following the TN and TP criteria in Table 1, and may not exceed applicable downstream criteria.

Table 1: Applicable criteria for chlorophyll *a*, TN, and TP for lakes within each respective lake class.

Lake Color and Alkalinity	Chlorophyll *a* milligrams per liter	TN milligrams per liter	TP milligrams per liter
Colored Lakes	0.020	1.27 range 1.27-2.23	0.05 range 0.05-0.16
Clear Lakes, High Alkalinity	0.020	1.05 range 1.05-1.91	0.03 or 0.03-0.09
Clear Lakes, Low Alkalinity	0.006	0.51 range 0.51-0.93	0.01 range 0.01-0.03

Nutrient Criteria for Florida's Streams

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

Table 2: Applicable instream protection value (IPV) criteria for TN and TP by nutrient watershed region.

Nutrient Watershed Region	IPV TN milligrams per liter	IPV TP milligrams per liter
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

Summary of Criteria for Protection of Downstream Lakes

- The applicable criteria for streams that flow into downstream lakes include both the instream criteria for TP and TN shown in Table 2 and the downstream protection value (DPV) for TP and TN derived.
- The DPV for stream tributaries that flow into a downstream lake is either the IPV or the allowable loading of TN and or TP applied at the point of entry into the lake.
- Contributions from stream tributaries upstream of the point of entry location must result in attainment of the DPV at the point of entry into the lake.
- If the DPV is not attained at the point of entry into the lake, then the collective set of streams in the upstream watershed does not attain the DPV which is an applicable water quality criterion for the water segments in the upstream watershed. The State or the EPA may establish additional DPVs at upstream locations that are consistent with attaining the DPV at the point of entry into the lake.
- The State or the EPA also have discretion to establish DPVs to account for a larger watershed area (i.e., include waters beyond the point of reaching water bodies that are not streams as defined by this rule).
- The State or the EPA can derive DPV for TN and or TP using a lake specific model.