

NUMERIC NUTRIENT STANDARDS Q & A FACT SHEET



What are numeric nutrient standards and why are they important?

A numeric nutrient standard is a pollutant threshold number for amounts of nitrogen and phosphorus in our waterbodies. These standards are used to regulate nutrient pollution. Nutrient pollution from excess nitrogen and phosphorus has consistently ranked as one of the top causes of degradation in U.S. waters for more than a decade¹. “Excess nitrogen and phosphorus lead to significant water quality problems including harmful algal blooms, dead-zones, and declines in wildlife and wildlife habitat².” Especially in Florida, the consequences of excess nutrients are greatly detrimental to our tourism-based economy and quality of life.

Currently, the state of Florida has a narrative rather than numeric nutrient standards. The narrative standard states: that “in no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of flora and fauna³.” As shown by the increasing frequency and magnitude of toxic algae outbreaks in both coastal and freshwaters, this standard has been a failure as a means of regulating pollutant sources. Blooms of *Karenia brevis* (also called red tide) now affect us almost every year; killing fish, birds, and marine mammals and causing respiratory distress in beachgoers or people living or working near the water.⁴ Conservative estimated economic impacts from these blooms are at least \$15-25 million per year (or \$19-32 million in 2007 dollars) for the state of Florida alone.⁵

Where is Florida at in the process for creating numeric nutrient standards?

Numeric standards already exist for the other pollutants that the Florida Department of Environmental Protection (FDEP) regulates. FDEP has historically recognized the importance of creating numeric standards for nitrogen and phosphorus, stating that “numeric nutrient criteria will improve efficiency of” NPDES permitting and TMDL development.⁶ FDEP has also stated that numeric

¹ U.S. EPA found at: <http://www.epa.gov/waterscience/criteria/nutrient/>

² IBID

³ F.A.C. 62-302.530.

⁴ National Centers for Coastal Ocean Science. “Economic Impacts of Harmful Algal Blooms.” Found at: http://www.cop.noaa.gov/stressors/extremeevents/hab/current/econimpact_08.pdf

⁵ IBID

⁶ “Florida Numeric Nutrient Criteria: History and Status”. FDEP. Found at: <http://www.dep.state.fl.us/water/wqssp/nutrients/docs/fl-nnc-summary-100109.pdf>

nutrient standards will “expedite development of water-quality based effluent limits” as well as “help identify waters impaired by nutrients and provide water quality restoration targets for TMDL development for these waters⁷.”

The EPA required Florida to develop numeric nutrient standards in 1998. After over a decade of numeric standards development there still were no standards. In August, 2008, environmental groups, including the Conservancy, sued EPA in federal court to set the standards which EPA said were required but had not been set by the state. On January 14, 2009, the EPA formally determined that numeric nutrient criteria should be established for Florida. The Consent Decree entered in the lawsuit obligates EPA to propose numeric nutrient criteria for flowing waters and lakes by January 15, 2010 and to finalize those criteria by October 15, 2010. Criteria for coastal and estuarine waterbodies must be proposed by January 15, 2011 and finalized by October 15, 2011. These rules will not go into effect if FDEP has proposed, and EPA has approved, state developed criteria in the meantime.

The opinion of Mr. Ed Decker, Technical Advisory Committee (TAC) member and EPA Region 4 Numeric Nutrient Criteria Coordinator, is that EPA has and will continue to work closely with FDEP in proposing numeric nutrient standards for the state of Florida.

Are the standards going to have a sound scientific basis and utilize Florida’s water quality data?

Yes, EPA staff has confirmed that the numeric standards will be based on the sound science and use Florida data. EPA has confirmed that it will not be using a one-size-fits-all approach for all water bodies as some critics have suggested.

What about criticism of the methodology EPA will use to set the standards?

EPA has a legal obligation to establish water quality standards based on sound science. Anyone who contests the science will have an opportunity to comment on EPA’s methodology and to challenge EPA’s final standards for lack of a scientific basis.

Has EPA developed guidance documents establishing marine numeric nutrient standards?

Yes. EPA has developed guidance documents for estuarine and marine coastal waters, lakes and reservoirs, rivers and streams, and wetlands. All guidance documents can be found at:

<http://www.epa.gov/waterscience/criteria/nutrient/guidance/>

⁷ National Centers for Coastal Ocean Science. “Economic Impacts of Harmful Algal Blooms.” Found at: http://www.cop.noaa.gov/stressors/extremeevents/hab/current/econimpact_08.pdf

Is Florida being singled out, by being the only state with numeric nutrient standards being set for it?

No. Seven states (of the 24 that have estuaries) have adopted numeric nutrient criteria for estuarine waterbodies, 13 states have adopted some/all parameters for their lakes and 9 for rivers.⁸ (See figure below).

Table 1. Number of States with Adopted Numeric Nutrient Standards by Year and Waterbody Type

Numeric Nutrient Standards Status by Year	4 Parameters 4 Waterbody Types¹	1+ Parameters 1+ Entire Waterbody Types²	1+ Parameters Selected Waters³	No Numeric Criteria⁴
1998	0	6	7	37
2008	0	7	18	25
2008 Numeric Nutrient Standards Status by Waterbody Type	4 Parameters 4 Waterbody Types⁵	1+ Parameters 1+ Entire Waterbody Types⁶	1+ Parameters Selected Waters⁷	No Numeric Criteria⁴
Lakes/Reservoirs	0	6	13	31
Rivers/Streams	0	5	9	36
Estuaries (24 eligible States)	0	3	7	14
Wetlands	0	0	4	46

1. Adopted numeric criteria for all four parameters for all waterbody types.
2. Adopted numeric criteria for one or more parameters for at least one entire waterbody type.
3. Adopted numeric criteria for one or more parameters for selected waters in one or more waterbody types.
4. Has not adopted numeric criteria.
5. Adopted numeric criteria for all four parameters for the entire waterbody type.
6. Adopted numeric criteria for one or more parameters for the entire waterbody type.
7. Adopted numeric criteria for one or more parameters for selected waters in a waterbody type.

In fact, EPA issued a “National Strategy for Development of Regional Nutrient Criteria” in June 1998, and followed with a November 2001 national action plan for the development and establishment of numeric nutrient criteria in all states and territories.

EPA has had to step in and take the leading role in developing *multiple* numeric criteria for various pollutants throughout the U.S. “On May 18, 2000, the EPA promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters in the State of California. EPA promulgated this rule based on the Administrator's determination that the numeric criteria are necessary in the State of California to protect human health and the environment.

The rule fills a gap in California water quality standards that was created in 1994 when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants, [including mercury, copper, arsenic, PCBs, etc.]. Thus, the State of California had been without numeric water quality criteria for many priority toxic pollutants as required by the Clean

⁸ U.S. EPA. “State Adoption of Numeric Nutrient Standards 1998-2008”. Found at: <http://www.epa.gov/waterscience/criteria/nutrient/files/report1998-2008.pdf>

Water Act, necessitating this action by EPA⁹.” At least 10 other instances have occurred where EPA has had to take the leading role, due to insufficiencies with a state’s compliance with the Clean Water Act.

How would these regulations affect Florida's economy?

The main effect that numeric nutrient standards will have on Florida’s economy will be a positive one. Restricting the amount of nutrients which enter Florida’s waters can only improve our water quality and reduce algal blooms which damage the waters that are so important to a tourism-based economy. Undoubtedly, there will be costs; however EPA staff has specific employees looking specifically at the economics impacts of their policies.

The claim that it will cost \$50 billion to upgrade Florida’s sewage treatment plants is completely false. The cost of all the sewer plant upgrades in the *entire U.S.*, (including federal grants, state contributions, and leveraged bonds) between 1988 and 2007 was \$58 billion.¹⁰ A more important statistical number to grasp is \$19.5 million. That is how much restaurant and lodging revenue *one community* could lose due to a 3-month red tide event.¹¹ The economic impacts of algal blooms and other nutrient-related water quality problems are far greater than would be the effort to reduce our own nutrient pollution.

How would these regulations affect Florida's local governments and water utilities?

The establishment of numeric nutrient standards for specified types of waterbodies in Florida will allow local governments to focus their water quality restoration efforts more precisely. Specific numeric standards will make it easier to identify waters with nutrient impairments and provide water quality restoration targets for TMDLs. FDEP has agreed that numeric standards will make the TMDL process more efficient, as modeling waterbodies on a case by case basis is extremely costly. With a standardized target, less money will have to be spent on creating individual TMDL targets for nutrients.¹² As far as utilities, numeric standards will expedite the development of effluent limits and make the NPDES permit process much more efficient.

Will Florida stakeholders get a chance to comment before the standards are set, and will their comments have to be addressed?

⁹ U.S. EPA. “The California Toxics Rule”. Found at:
<http://www.epa.gov/waterscience/standards/rules/ctr/index.html>

¹⁰ EPA statistics <http://www.epa.gov/owm/cwfinance/cwsrf/cwnims/pdf/invus.pdf>

¹¹ Larkin, Sherry L., Charles M. Adams. “Harmful Algal Blooms and Coastal Business: Economic Consequences in Florida”. Department of Food and Resource Economics, University of Florida. Sept. 2006

¹² “Florida Numeric Nutrient Criteria: History and Status”. FDEP. Found at:
<http://www.dep.state.fl.us/water/wqssp/nutrients/docs/fl-nnc-summary-100109.pdf>

Absolutely. No rule is being “adopted” in January 2010 when EPA is scheduled to release their proposed of numeric standards. Once the proposed rule and its corresponding standards are released, there will be a lengthy comment period and EPA, by law, must respond to every comment. The final rule may or may not have the same proposed standards as the proposed rule, based on concerns raised during the comment period.

Where can I get additional information?

Please contact Jennifer Hecker, Natural Resources Policy Manager for the Conservancy of Southwest Florida, at (239) 262-0304 x 250 or jenniferh@conservancy.org for further information.