

Florida Numeric Nutrient Criteria 2012 Update
 Surface Water Quality Standards Advisory Workgroup, March 28, 2012
 Texas Commission on Environmental Quality Water Quality Standards (WQS)

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 the lack of 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 ([EPA Florida rule webpage](#), [Water Quality Standards for the State of Florida's Lakes and Flowing Waters](#)). The [EPA plans to propose NNC for Florida's estuaries](#) in 2012.

Table 1: EPA's final NNC Rule for Florida Lakes and Flowing Waters - Applicable criteria for chlorophyll *a*, total nitrogen (TN), and total phosphorus (TP) for lakes within each respective lake class.

Lake Color and Alkalinity	Chlorophyll <i>a</i> 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

Table 2: EPA's final NNC Rule for Florida Lakes and Flowing Waters - Applicable instream protection value (IPV) criteria for TN and TP by nutrient watershed region. The criteria also has to take into account the downstream protection value (DPV) if more stringent.

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

Florida's Rulemaking

After an unsuccessful [petition for withdrawal](#) in April 2011 of EPA's promulgated rule in response to the "[working partnership memo](#)"; the FDEP moved forward with a standards revision to replace the nutrient criteria ([FDEP Nutrient Criteria Webpage](#)). After initial review of [Florida's Draft Water Quality Standards](#) revision, EPA indicated in a [November 2011 letter](#) they would support the revision and seek to postpone the effective date of the rule for 90 days to allow FDEP time to finalize their rule. The draft rule was approved for

adoption by the Environmental Regulation Commission on December 8, 2011 and the Final Adopted Rule [Chapters 62-302](#) and [62-303](#) (as amended), was sent to the Florida Legislature for approval on [December 9, 2011](#).

In Florida’s final adopted rule the narrative water quality criterion for nutrients basically states that nutrient concentrations of a body of water will not be altered to cause an imbalance in natural populations of aquatic flora or fauna ([Chapters 62-302](#)). The narrative water quality criteria for nutrients will be numerically interpreted for both nutrients and nutrient response variables in a hierarchical manner as follows:

1. Existing Site Specific Numeric Criteria through TMDL, Site Specific Alternative Criteria (SSAC), Estuary Specific Numeric interpretations, and other
2. Establishing Site Specific Interpretations of the Narrative Nutrient Criteria using thresholds
 - a. Lakes and reservoirs

Table 3: Numeric interpretation thresholds for lakes and reservoirs, maximum and minimum calculated geometric mean (geo-mean) thresholds not to be exceeded.

Long Term Geo-mean Lake Color and Alkalinity (CaCO3 milligrams per liter)	Annual Geo-mean Chlorophyll <i>a</i> micrograms per liter	Min calc. Annual Geo - mean TP milligrams per liter	Min calc. Annual Geo -mean TN milligrams per liter	Max calc. Annual Geo - mean TP milligrams per liter	Max calc. Annual Geo -mean TN milligrams per liter
> 40 PCU	20	0.05	1.27	0.16	2.23
≤ 40 PCU >20 CaCO3	20	0.03	1.05	0.09	1.91
≤ 40 PCU ≤20 CaCO3	6	0.01	0.51	0.03	0.93

b. Streams:

- Average score of at least two temporally independent stream condition index performed at representative locations and times is 40 or higher, with neither two most recent scores 35 or less, or
- The nutrient thresholds below are achieved.

Table 4: Numeric Interpretation Thresholds for Streams not to be exceeded.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold milligrams per liter	Total Nitrogen Nutrient Threshold milligrams per liter
Panhandle West	0.06	0.67
Panhandle East	0.18	1.03
North Central	0.30	1.87
Peninsular	0.12	1.54
West Central	0.49	1.65
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

c. Estuaries:

- The concentration-based estuary interpretations are open water, area-wide averages, or total load. Both arithmetic and geometric means are used in the rule, and are applied site-specifically on an individual basis.

Table 5: Examples of numeric interpretation thresholds for estuaries not to be exceeded, thresholds either in the form of concentrations or loads for specific estuaries. The load criteria are the total load of that nutrient to the estuary divided by the total volume of fresh water inflow to that estuary.

Estuary	Total Phosphorus milligrams per liter	Total Nitrogen milligrams per liter	Chlorophyll <i>a</i> micrograms per liter
St. Joseph Sound	0.05	0.66	3.1
Clearwater North	0.05	0.61	5.4
Clearwater South	0.06	0.58	7.6
Old Tampa Bay	0.23 tons per million	1.08 tons per million	9.3

3. Site Specific Alternative Criteria (SSAC) for Nutrients – site specific numeric nutrient criteria may be established when an affirmative demonstration is made that the proposed criteria achieved the narrative nutrient criteria and are protective of downstream waters.

Chapter [62-303](#) of the adopted Florida rule outlines the identification of impaired surface waters due to nutrients for assessment purposes. It outlines methodologies for addressing water bodies not meeting interpretations of narrative criteria through the creation of Planning, Study, and Verified Lists. A water body will be placed on the Planning List for assessment support if, based on sufficient data, it does not meet an established criteria or does not meet the biological health assessment threshold for its type or exceeds nutrient impairment thresholds as outlined in the rule. The Study List are surface waters or segments that do not attain surface water quality standards, but the cause of non-attainment is unknown and requires further studies, or exhibit a clear adverse trend in nutrients or nutrient response variables where a site specific numeric interpretation has not be established. The Verified List is water bodies or segments with confirmed impairments due to nutrients and well documented.

Once the rule has been approved by Florida’s Legislature it will be sent to EPA for approval.