Nutrient Criteria 101

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What are Nutrient Criteria?

Nitrogen
Phosphorus
Algal biomass (e.g., chl-a)
Water clarity (e.g., secchi)

Photo credit: Carl Heilman
www.carlheilman.com

Why are nutrient criteria needed?

1. Determine when waters are impaired;

2. Identify restoration targets for impaired waters;

3. Set permit limits for point sources and better inform nonpoint source efforts to protect waters before they become impaired.

EPA's Nutrient Criteria Strategy

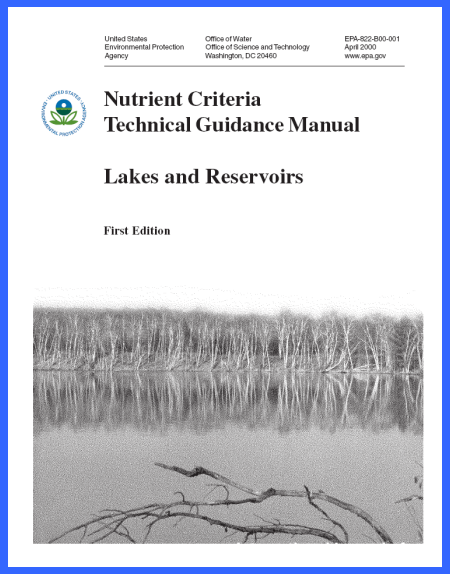
- Began in 1995
- EPA gathered 50 scientists
  - Experts on eutrophication of lakes, rivers and streams, estuaries, coastal waters and wetlands
- Four step approach

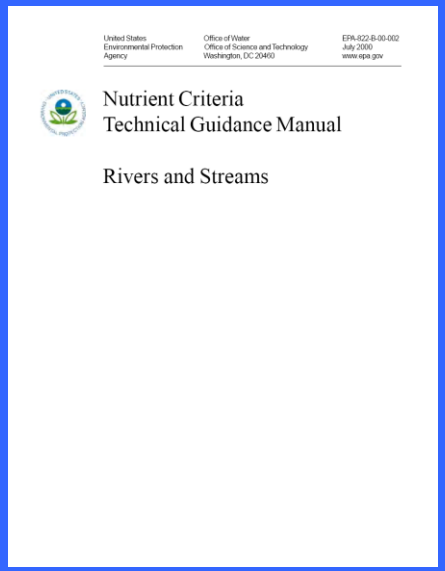
Nutrient Ecoregions

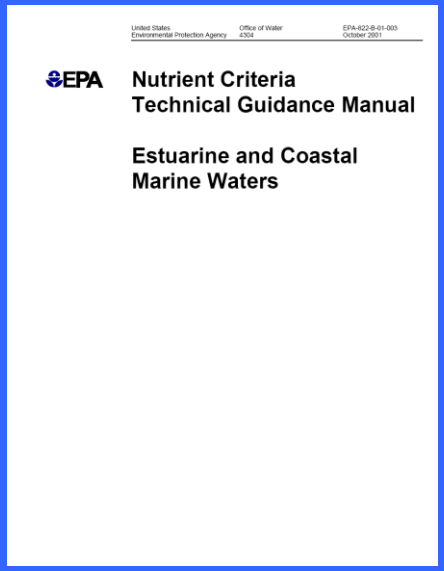
EPA 304(a) Criteria for Lakes

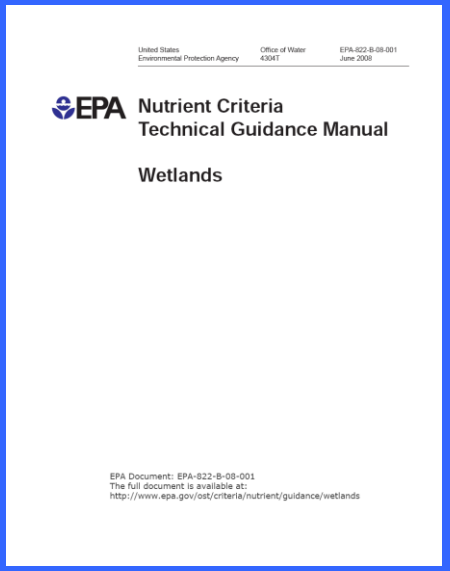
	Ecoregion											
	II	III	IV	V	VI	VII	VIII	IX	XI	XII	XIII	XIV
TP (ug/L)	8.8	17.0	20.0	33.0	37.5	14.8	8.0	20.0	8.0	10.0	17.5	8.0
TN (mg/L)	0.1	0.4	0.4	0.6	0.8	0.7	0.2	0.4	0.5	0.5	1.3	0.3
Chl-a (ug/L)	1.9	3.4	2.0	2.3	8.6	2.6	2.4	4.9	2.8	2.6	12.4	2.9
Secchi (m)	4.5	2.7	2.0	1.3	1.4	3.3	4.9	1.5	2.9	2.1	0.8	4.5

Technical Guidance









RTAG's

Photo credit: NEIWPCC

Florida

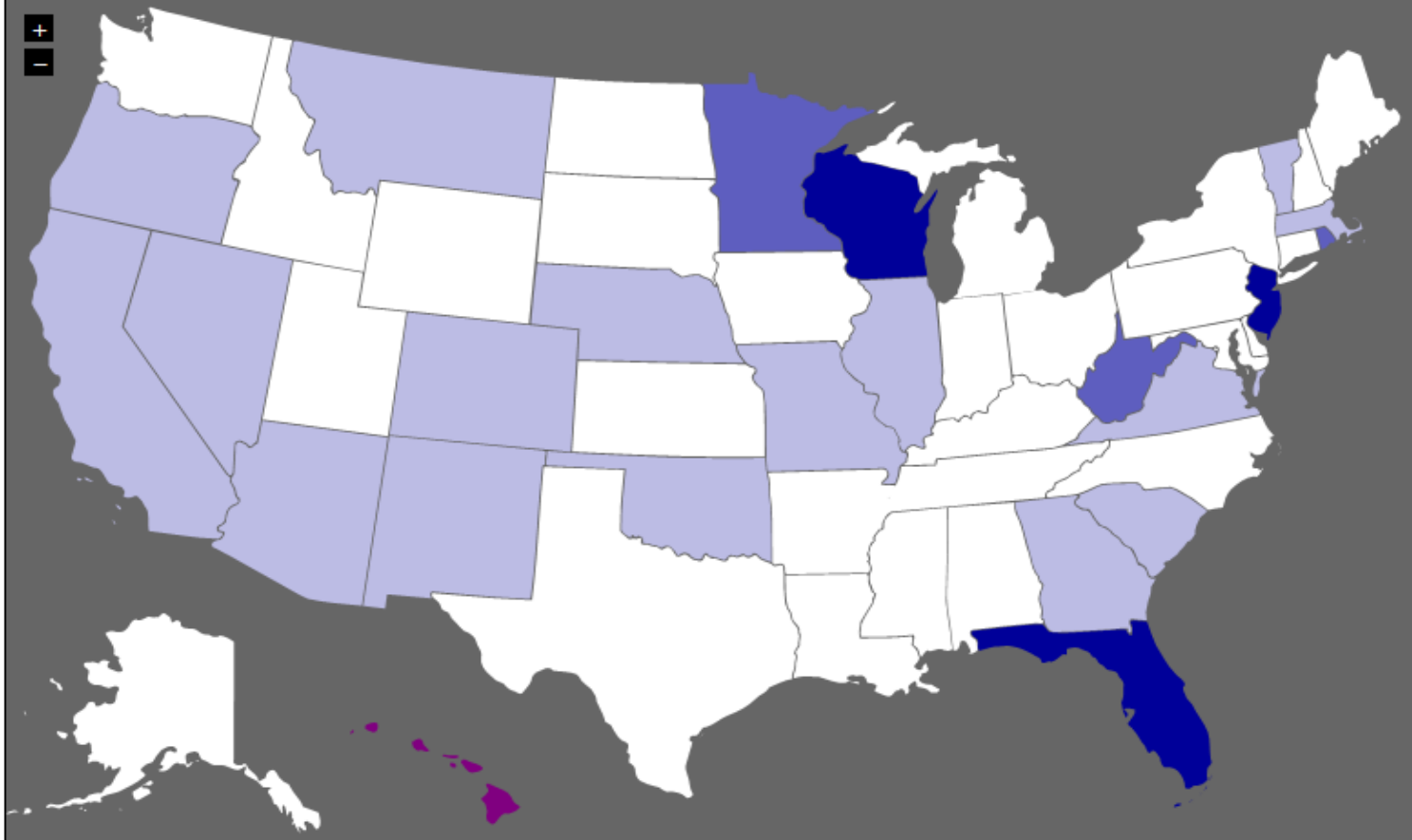
Photo credit: Charlotte Sun Newspaper

- Jul 2008 – complaint filed against EPA
- Apr 2009 – NOI to sue EPA
- Aug 2009 – Consent Agreement
- 2013 – all necessary criteria approved by EPA and adopted by state

Printable Map

States with Total Nitrogen or Total Phosphorus Criteria

1998 | 2008 | 2013 | Current | 2014* | 2015* | 2016*



	District of Columbia
	American Samoa
	Commonwealth of Northern Marianas
	Guam
	Puerto Rico
	US Virgin Islands

Level 5	Complete set of N and P criteria for all watertypes**
Level 4	2 or more watertypes with N and/or P criteria
Level 3	1 watertype with N and/or P criteria
Level 2	Some waters with N and/or P criteria
Level 1	No N and/or P criteria

*When these years are selected, progress is based on milestone information provided by the state or territory.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 16 2011

OFFICE OF WATER

MEMORANDUM

SUBJECT: Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions

FROM: Nancy K. Stoner
Acting Assistant Administrator

TO: Regional Administrators, Regions 1-10

This memorandum reaffirms EPA's commitment to partnering with states and collaborating with stakeholders to make greater progress in accelerating the reduction of nitrogen and phosphorus loadings to our nation's waters. The memorandum synthesizes key principles that are guiding and that have guided Agency technical assistance and collaboration with states and urges the Regions to place new emphasis on working with states to achieve near-term reductions in nutrient loadings.

Over the last 50 years, as you know, the amount of nitrogen and phosphorus pollution entering our waters has escalated dramatically. The degradation of drinking and environmental water quality associated with excess levels of nitrogen and phosphorus in our nation's water has been studied and documented extensively, including in a recent joint report by a Task Group of senior state and EPA water quality and drinking water officials and managers.[1] As the Task Group report outlines, with U.S. population growth, nitrogen and phosphorus pollution from urban stormwater runoff, municipal wastewater discharges, air deposition, and agricultural livestock activities and row crop runoff is expected to grow as well. Nitrogen and phosphorus pollution has the potential to become one of the costliest and the most challenging environmental problems we face. A few examples of this trend include the following:

1) 50 percent of U.S. streams have medium to high levels of nitrogen and phosphorus.
2) 78 percent of assessed coastal waters exhibit eutrophication.
3) Nitrate drinking water violations have doubled in eight years.

[1] *An Urgent Call to Action: Report of the State-EPA Nutrients Innovations Task Group*, August 2009.

Reduce Nitrogen and Phosphorus Pollution

...to Protect Human Health and the Environment

Limiting nitrogen and phosphorus pollution will:

- Safeguard drinking water supplies and protect water resources and aquatic life
- Protect economic prosperity, jobs, and property values
- Maintain recreational uses of waters for swimming and fishing

Learn more at
www.epa.gov/nutrientpollution

EPA United States Environmental Protection Agency