

## FACT SHEET

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# EPA ECOREGIONAL NUTRIENT CRITERIA

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### Summary

The U.S. Environmental Protection Agency (EPA) is publishing nine new nutrient water quality criteria documents for lakes and reservoirs, and rivers and streams within specific geographic regions (ecoregions) of the United States. These recommended section 304(a) water quality criteria for nutrients were developed with the aim of reducing and preventing eutrophication on a national scale. Each document presents recommended criteria for causal parameters (total phosphorus and total nitrogen) and response variables (chlorophyll *a* and some form of water clarity, i.e., turbidity or Secchi depth). This information is intended as a starting point for states, authorized tribes and others to develop more refined nutrient criteria, as appropriate, using EPA waterbody-specific technical guidance manuals and other scientifically defensible approaches. EPA will work with states and authorized tribes as they adopt water quality criteria for nutrients into their water quality standards.

### Background

EPA is publishing nine new ecoregional nutrient criteria documents to support the development of state and tribal nutrient criteria for two waterbody types - lakes and reservoirs, and rivers and streams. These nine documents cover four nutrient ecoregions for lakes and reservoirs and five nutrient ecoregions for rivers and streams. They collectively present approximately 160 individual water quality criteria for nutrients. (There are a total of fourteen nutrient ecoregions.) EPA issued seventeen ecoregional nutrient criteria in January 2000. EPA's nutrient website ([www.epa.gov/ost/standards/nutrient.html](http://www.epa.gov/ost/standards/nutrient.html)) presents the geographic coverage and the recommended nutrient water quality criteria for each nutrient ecoregion.

### Why is EPA publishing Ecoregional Nutrient Criteria?

The national goals of the Clean Water Act are to achieve, wherever attainable, water quality which provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. As part of state and tribal water quality standards, the Clean Water Act requires states and authorized tribes to specify designated uses for their waters in

consideration of these goals, and to adopt water quality criteria that protect those designated uses. To help states and tribes, EPA develops and publishes national criteria guidance and information. This information presents the latest scientific knowledge on the effects of pollutants on biological community diversity, productivity, and stability, including information on the factors affecting rates of eutrophication (excess amounts of nutrients that stimulate undesirable plant growth) for receiving waters.

### Overview of the Problem

Eutrophication of United States surface waters is a long standing problem. As much as half of the Nation's waters surveyed by states and tribes do not adequately support aquatic life because of excess nutrients. Nitrogen and phosphorus are the primary causes of eutrophication and resulting algal blooms. Chronic symptoms of overenrichment include low dissolved oxygen, fish kills, cloudy murky water, and depletion of desirable flora and fauna. Nutrient levels that lead to these problems vary from one region of the country to another due to geographical variations in geology, climate and soil types. In order to be most effective, therefore, state and tribal water quality criteria need to take into account ecoregional variations.

### **What are ecoregional nutrient criteria and how should they be used?**

Nutrient criteria are numerical values for both causative (phosphorus and nitrogen) and response (chlorophyll *a* and turbidity) variables associated with the prevention and assessment of eutrophic conditions. EPA's recommended ecoregional nutrient criteria represent conditions of surface waters that have minimal impacts caused by human activities. Therefore, when a state or tribe applies these criteria, the waters are protected from the harmful consequences of nutrient overenrichment. These recommended water quality criteria are suggested baselines which states and tribes should refine to help identify problem areas, serve as a basis for state and tribal water quality criteria for nutrients, and evaluate relative success in reducing eutrophication.

### **What are the activities related to these criteria documents?**

EPA published a Notice of Availability in the Federal Register to solicit scientific views on the criteria documents. EPA will review and consider new information submitted by the public on significant scientific issues and site-specific data. EPA will also forward pertinent data submitted by the public to the appropriate Region to help develop more refined local criteria.

The criteria have been through external peer review, and a summary of these comments are available on the Nutrient website ([www.epa.gov/ost/standards/nutrient.html](http://www.epa.gov/ost/standards/nutrient.html))

EPA intends to complete publication of ecoregional nutrient criteria documents for lakes and reservoirs, rivers and streams, and wetlands within the remaining ecoregions, as well as estuarine and coastal waters in the near future.

### **What are EPA's expectations for these criteria?**

EPA expects that states and tribes will use these nine ecoregional nutrient criteria documents as starting points to identify more precise numeric levels for nutrient parameters needed to protect aquatic life, recreational, or other uses on site-specific

or subregion-specific conditions. EPA expects these more precise numerical levels to be developed on a smaller geographic scale than the ecoregional values presented in the nutrient water quality criteria documents. States and tribes may also develop criteria using other scientifically defensible methods and appropriate water quality data or simply adopt EPA's recommended water quality criteria in their water quality standards. EPA expects states and tribes to prepare a plan for adopting nutrient criteria and to adopt new or revised nutrient criteria into their water quality standards.

### **Will these criteria be revised in the future?**

After we review the submitted significant scientific information, EPA may publish either revised criteria or a notice informing the public that it does not intend to revise the documents presently. EPA will, however, update the criteria as new scientific information becomes available.

### **How do I obtain a copy of the documents?**

You can get copies of the complete set of nine ecoregional criteria documents, or a specific ecoregional criteria document from EPA's National Service Center for Environmental Publications (NSCEP), 11029 Kenwood Road, Cincinnati, OH 45242; (513) 489-8190 or toll free (800) 490-9198. You can also get copies by contacting the Water Resource Center at (202) 260-7786. Alternatively, consult EPA's nutrient website at [www.epa.gov/ost/standards/nutrient.html](http://www.epa.gov/ost/standards/nutrient.html) for downloads. EPA's waterbody-specific technical guidance manuals, which present the Agency's recommended nutrient criteria derivation methodology, are also available at this website.