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Criteria Development Guidance for Estuarine and Coastal Waters

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Fact Sheet

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We published a technical guidance manual which provides methods for developing nutrient water quality criteria for estuarine and coastal marine waters. This guidance is intended to help states, tribes and others in establishing scientifically defensible nutrient criteria. EPA will also use this guidance to develop regionally representative nutrient criteria for estuarine and coastal waters for various ecoregions/coastal provinces across the country to help reduce and prevent overenrichment on a national scale.

Background

EPA is publishing technical guidance which presents EPA's methods for setting nutrient water quality criteria for estuarine and coastal marine waters. The EPA has previously issued technical guidance for developing ecoregional nutrient criteria in lakes and reservoirs and rivers and streams. In addition, EPA has published nutrient criteria recommendations for lakes and reservoirs, rivers and streams and wetlands within specific ecoregions of the country. While this guidance does not present nutrient criteria for a specific estuaries or coastal waters, it constitutes EPA's scientific recommendations regarding defensible approaches for developing regional nutrient criteria. EPA will use this guidance to develop regionally representative nutrient criteria for estuarine and coastal waters for various ecoregions/coastal provinces across the country. These criteria may then form the basis for states and tribes to set water quality standards for estuarine and coastal waters. These criteria will also be designed to enable states and tribes to monitor for attainment of water quality standards.

Why Is EPA publishing a Nutrient Criteria Technical Guidance Manual for Estuarine and Coastal Waters?

On June 25, 1998, EPA published the National Strategy for the Development of Regional Nutrient Criteria in the Federal Register. The Nutrient Strategy specifically states that EPA will establish nutrient criteria that reflect the different types of water bodies and different ecoregions of the country and will assist states and tribes in adopting numeric water quality standards based on these criteria.

Overview of the Problem

Eutrophication of United States surface waters is a long-standing problem, especially eutrophication associated with human activities. 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 parent geology 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, how will they be developed, and how should they be used?

Nutrient criteria are numerical values for both causative (phosphorus and nitrogen) and response (algal biomass and water clarity) variables associated with the prevention and assessment of eutrophic conditions. The guidance manual describes the elements of nutrient criterion development:

1. classification of the estuaries and coastal waters by physical characteristics;
2. historical data and other information to establish nutrient trends;
3. reference site information;
4. models used to predict cause and effect relationships;
5. evaluation of downstream consequences before finalizing criteria values; and
6. a panel of regional, federal, state and tribal specialists to examine the information and establish criteria.

Another key consideration for states and tribes in developing nutrient criteria is the ability to use the criteria to monitor for water quality attainment decisions.

EPA recommended water quality criteria for estuaries and coastal waters should be refined by state and tribes, and can be used to help monitor and identify problem areas, serve as a basis for state and tribal water quality criteria for nutrients, and evaluate relative success in reducing cultural eutrophication.

What are the activities related to this guidance document?

A Notice of Availability in the Federal Register was published to provide the public with the opportunity to provide scientific views on the guidance document. Therefore, EPA will review and consider information submitted by the public on significant scientific issues that have not otherwise been identified by the Agency during the development of this guidance.

This guidance has been through external peer review, and a summary of these comments and other comments made on earlier drafts are available on the [Nutrient Web site](#). Additional [guidance](#) manuals which have been published for rivers and streams, estuarine and coastal waters, and wetlands are available.

Will this document be revised in the future?

After review of the submitted significant scientific information, EPA may publish a revised document or publish a notice indicating its decision not to revise the document. EPA is also committed to updating the document in the future as new scientific information becomes available.

How do I obtain a copy of the document?

Copies of the complete document, *Nutrient Criteria Technical Guidance Manual: Estuarine and Coastal Marine Waters* can be obtained from EPA's National Service Center for Environmental Publications (NSCEP) by phone at (513) 489-8190 or toll-free (800) 490-9198, or by e-mail: ncepiwo@one.net, or by conventional mail to 11029 Kenwood Road, Cincinnati, OH 45242. The document is also available electronically.

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