



**ENVIRONMENTAL PROTECTION AGENCY**

**[EPA–HQ–OW–2019–0675; FRL 10008-88-OW]**

**Draft Ambient Water Quality Criteria Recommendations for Lakes and Reservoirs of the Conterminous United States: Information Supporting the Development of Numeric Nutrient Criteria**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of availability; request for comments.

**SUMMARY:** The United States Environmental Protection Agency (EPA) announces the release of the *Draft Ambient Water Quality Criteria Recommendations for Lakes and Reservoirs of the Conterminous United States: Information Supporting the Development of Numeric Nutrient Criteria* for a 60-day comment period for scientific input. These draft national criteria recommendations are models for total nitrogen and total phosphorus concentrations in lakes and reservoirs to protect three different designated uses – aquatic life, recreation, and drinking water source protection – from the adverse effects of nutrient pollution. Nutrient pollution can degrade the conditions of water bodies worldwide, and in lakes and reservoirs the effects of excess nitrogen and phosphorus may be particularly evident. These draft criteria recommendations are based on stressor-response models, which link nutrient pollution stressors (nitrogen, phosphorus) to responses associated with protection of designated uses. These draft criteria recommendations, when finalized, will replace the EPA’s previously recommended ambient nutrient criteria for lakes and reservoirs. Models and associated criteria provided in this document are based on national data. States and authorized tribes can also incorporate local data, when available, into

the national models, helping states and authorized tribes to develop numeric nutrient criteria that apply relationships estimated from national data while accounting for unique local conditions.

Following closure of this 60-day public comment period, the EPA will consider the comments, revise the draft document, as appropriate, and then publish a final document that will provide recommendations for states and authorized tribes to establish water quality standards under the Clean Water Act (CWA).

**DATES:** Comments must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA–HQ–OW–2019–0675, to the Federal eRulemaking Portal: <https://www.regulations.gov> (preferred method).

Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www2.epa.gov/dockets/commenting-epa-dockets>.

Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room was closed to public visitors on March 31, 2020, to reduce the risk of

transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via <https://regulations.gov>, as there is a temporary suspension of mail delivery to the EPA, and no hand deliveries are currently accepted. For further information on the EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** Lester Yuan, Health and Ecological Criteria Division, Office of Water (Mail Code 4304T), Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, D.C. 20460; telephone number: (202) 566-0908; email address: [yuan.lester@epa.gov](mailto:yuan.lester@epa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. General Information**

#### *A. How can I get copies of this document and other related information?*

You may access this Federal Register document electronically from the Government Printing Office under the “**Federal Register**” listings in govinfo (<https://www.govinfo.gov/app/collection/FR/>).

### **II. What is nutrient pollution and why is the EPA concerned about it?**

While certain levels of nutrients are essential for healthy aquatic ecosystems, nutrient pollution, or the excess loading of nitrogen and phosphorus, can degrade the conditions of water bodies and potentially make them unsafe for aquatic life, recreation, or to use as drinking water sources. Nutrient pollution stimulates excess growth of algae, which can limit the recreational use of lakes and reservoirs. Overabundant algae also increase the amount of organic matter in a lake or reservoir, which, when decomposed, can depress dissolved oxygen concentrations below levels needed to sustain aquatic life. In extreme cases, the depletion of dissolved oxygen causes

fish kills. Nutrient pollution can stimulate the excess growth of nuisance algae, such as cyanobacteria, which can produce cyanotoxins that are toxic to animals and humans. Elevated concentrations of these cyanotoxins can reduce the suitability of a lake or reservoir for recreation and as a source of drinking water.

### **III. Information on the Draft Ambient Water Quality Criteria Recommendations for Lakes and Reservoirs**

These draft ambient water quality criteria recommendations for lakes and reservoirs are part of the EPA's ongoing efforts to support states and authorized tribes in developing and adopting numeric nutrient criteria. Numeric nutrient criteria provide an important tool for managing the effects of nutrient pollution by providing nutrient goals that support the protection and maintenance of the designated uses of the waters of the United States. Recognizing the utility of such criteria, the EPA published recommended numeric nutrient criteria for lakes and reservoirs for twelve out of fourteen ecoregions of the conterminous United States from 2000 to 2001. These criteria were derived by analyzing available data on the concentrations of total nitrogen, total phosphorus, chlorophyll *a*, and Secchi depth. Scientific understanding of the relationships between nutrient concentrations and deleterious effects in lakes has increased since 2001, and standardized, high-quality data collected from lakes across the United States have become available. In this document, the EPA describes analyses of these new data and provides models to derive draft numeric nutrient criteria for lakes that replace the recommended numeric nutrient criteria of 2000 and 2001. These draft models and associated recommended criteria are provided in accordance with the provisions of Section 304(a) of the CWA for the EPA to revise ambient water quality criteria from time to time to reflect the latest scientific knowledge. CWA Section 304(a) national water quality criteria serve only as non-binding recommendations to

states and authorized tribes in defining ambient water concentrations that will protect against adverse effects to aquatic life and human health. The ecological responses on which these draft models and criteria are based were selected by applying a risk assessment approach to explicitly link nutrient concentrations to the protection of designated uses.

The draft ambient water quality criteria recommendations for lakes and reservoirs are based on the available data from the EPA's National Lakes Assessment (NLA) survey. The NLA surveys are carried out under the EPA's National Aquatic Resource Survey program, which conducts water quality and biological surveys of the Nation's surface waters in partnerships with state and authorized tribal water quality monitoring programs (<https://www.epa.gov/national-aquatic-resource-surveys>). The NLA surveys were designed using random sampling of lakes and reservoirs across the United States, and as a result, the data generated represent the characteristics of the full population of United States lakes and reservoirs. The NLA surveys were implemented using standardized field sampling and analytical methods, with internal oversight and independent quality control surveillance yielding data of high quality and statistical rigor.

The stressor-response models used in generating the draft ambient water quality criteria recommendations are based on previously published EPA technical guidance (U.S. EPA 2010, *Using stressor-response relationships to derive numeric nutrient criteria*, Office of Water, U.S. Environmental Protection Agency, Washington, D.C., EPA-820-S-10-001), as well as scientific peer-reviewed statistical and modeling techniques. Models provided in the draft recommended criteria document are based on national data, but states and authorized tribes may have additional data collected during routine monitoring. Incorporating these local data into the national models can refine and improve the precision of the estimates of the stressor-response relationships. In

the appendices of the draft criteria document, the EPA describes case studies in which state monitoring data have been combined with national data, yielding models that can be used to derive numeric nutrient criteria that account for both unique local conditions and national, large-scale trends.

#### **IV. What are CWA Section 304(a) recommended water quality criteria?**

CWA Section 304(a) water quality criteria are non-binding recommendations developed by the EPA under authority of Section 304(a) of the CWA based on the latest scientific information on the effect that pollutant concentrations have on aquatic species, recreation, and/or human health.

Section 304(a)(1) of the CWA directs the EPA to develop, publish, and, from time to time, revise criteria for water quality accurately reflecting the latest scientific knowledge. Water quality criteria developed under CWA Section 304(a) are based on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. CWA Section 304(a) recommended criteria do not reflect consideration of economic impacts or the technological feasibility of meeting pollutant concentrations in ambient water.

CWA Section 304(a) recommended criteria provide non-binding guidance to states and authorized tribes in adopting water quality standards that ultimately provide a basis for controlling discharges of pollutants. Under the CWA and its implementing regulations, states and authorized tribes are to adopt water quality criteria to protect designated uses (*e.g.*, aquatic life, recreational use). The EPA's water quality criteria recommendations are not regulations and do not constitute legally binding requirements. States and authorized tribes may adopt other scientifically defensible water quality criteria that differ from these recommendations. The CWA and its implementing regulations require that any new or revised water quality standards adopted

by the states and authorized tribes be scientifically defensible and protective of the designated uses of the bodies of water. States and authorized tribes have the flexibility to do this by adopting criteria based on (1) the EPA's recommended criteria, (2) the EPA's criteria modified to reflect site-specific conditions, or (3) other scientifically defensible methods.

## **V. Use of the Ambient Water Quality Criteria Recommendations for Lakes and Reservoirs by States and Authorized Tribes**

The EPA is publishing the draft ambient water quality criteria recommendations for lakes and reservoirs for consideration by states and authorized tribes as they develop numeric nutrient criteria to protect aquatic life, recreation, and drinking water sources from nutrient pollution. States and authorized tribes could consider using the recommendations, once final, as an alternative to or as a supplement of other water quality data and scientifically defensible approaches. States and authorized tribes may also modify the criteria to reflect site-specific conditions or establish criteria based on other scientifically defensible methods (40 CFR 131.11(b)). When finalized, these updated CWA Section 304(a) recommended nutrient criteria for lakes do not compel a state or authorized tribe to revise current EPA approved and adopted criteria, Total Maximum Daily Load nutrient load targets, or nitrogen or phosphorus numeric values established by other scientifically defensible methods. As part of their triennial review, if a state or authorized tribe uses its discretion to not adopt new or revised nutrient criteria based on these CWA Section 304(a) criteria models, then the state or authorized tribe shall provide an explanation when it submits the results of its triennial review (40 CFR 131.20(a)).

## **VI. Solicitation of Scientific Views**

The EPA is soliciting public comment, including, but not limited to, additional scientific views, data, and information, regarding the science and technical approach used in the derivation of these draft ambient water quality criteria recommendations for lakes and reservoirs.

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