Draft Ambient Water Quality Criteria Recommendations for Lakes/Reservoirs: National Association of Clean Water Agencies Comments

Walter Wright, Jr.
wwright@mwlaw.com
(501) 688.8839

08/24/2020

The National Association of Clean Water Agencies ("NACWA") submitted August 20th comments to the United States Environmental Protection Agency ("EPA") on a document titled:

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

NACWA describes itself as representing the interests of nearly 330 public clean water utilities that are responsible for managing billions of gallons of United States wastewater generated each day.

Water Quality Criteria ("WQC") are ambient water quality conditions deemed protective for the use established for a water body. States are required to adopt WQC to protect designated uses pursuant to Section 303 of the Clean Water Act. The WQC must specify maximum concentrations of pollutants that may be present in the water without impairing its suitability for certain uses. However, they can assume three forms. They may include:

1. Numerical terms reflecting maximum concentration of a particular pollutant in the receiving water;
2. Bioassay or biomonitoring results which reflect mortality rates of certain waterborne organisms relative to the concentrations of particular pollutants; or
3. Terms narrative in nature.

Clean Water Act National Pollution Discharge Elimination System permits must incorporate the limitations necessary to ensure the maintenance of the water quality standards applicable to the water body receiving the wastewater.

The scientific basis or rationale for a particular WQC is obviously important. The WQC represents a judgment as to what levels, concentrations, or conditions can support a desired use for a water body. An indication of the importance of the WQC is the Clean Water Act's requirement that the EPA periodically issued new or revised WQC. States can develop their own WQC if justified by technical data. EPA also undertakes this task pursuant to Section 304(d) of the Clean Water Act. EPA WQC are frequently used by the states in establishing or revising their water quality standards.

EPA has for a number of years been considering strategies to develop nutrient WQC for lakes and reservoirs. EPA issued guidance in 2013 referencing a combined criterion approach. This approach was not limited to numeric phosphorus and nitrogen limits. States could potentially include biological, physical, and chemical parameters.

The phrase “nutrients” refers to nitrogen and phosphorus.

The draft numeric document EPA published in the May 22nd Federal Register references national criteria recommendations which are described as models for total nitrogen and total phosphorus concentrations in lakes and reservoirs. The designated uses for which they are intended to protect are stated to include:

- Aquatic life
- Recreation
- Drinking Water Source Protection

The draft WQC are stated to be based on stressor-response models. They link pollution stressors (i.e., nitrogen, phosphorus) to responses associated with protection of designated uses.

EPA states they would replace previously recommended ambient nutrient criteria for lakes and reservoirs.

By way of introduction, the NACWA comments on the draft state that:

Nutrient-related criteria are a critically important topic for the utilities and communities that NACWA represents. Over the years, NACWA has actively promoted science-based approaches for addressing nutrient challenges.

The organization notes that its members have invested billions of dollars in nutrient reductions at their wastewater treatment facilities.

NACWA identifies as goals and reduction strategies:

- Utilize science-based, quantitative linkages to designated uses;
- Account for water body-specific responses to nutrient inputs;
- Consider options other than numeric nutrient concentration criteria;
- Apply bioconfirmation to increase confidence in attainment decisions; and
- Equitably address all major sources.

By way of summary, the general comments on the draft criteria include:

1. NACWA appreciates EPA’s efforts to improve upon the 2000-2001 ecoregional criteria.
2. Nutrient criteria should be based on water body-specific relationships that consider state and local management goals, not national models or criteria.
3. After comments are addressed, EPA should publish the method as a technical guidance document rather than as 304(a) criteria or models.
4. EPA should differentiate between natural lakes and manmade reservoirs.
5. Nitrogen and phosphorus concentration criteria should be optional.
6. If N and P numeric concentration criteria are adopted, they should be placed in a bioconfirmation framework that gives priority to response variables for assessment.
7. Criteria must be appropriate for individual water bodies.
8. The NLA dataset is too spatially and temporally limited for deriving broadly applicable criteria.
9. The statistical relations are too weak or variable for deriving broadly applicable criteria.
10. The criteria resulting from the use of credible intervals would be inappropriate for many water bodies and would trigger significant and unnecessary economic impacts.

11. Zooplankton rate of change is not an appropriate risk endpoint as presented in the 2020 draft criteria document.
12. The hypo/metalimnetic DO-chlorophyll model is problematic.
13. Cyanotoxins are potentially useful risk endpoints for chlorophyll-a criteria development, but EPA should acknowledge the limitations and uncertainties of the microcystin thresholds.
14. The microcystin target for finished drinking water (0.3µg/L) should not be applied to raw water sources.
15. The list of endpoints should include clarity and fishery metrics.
16. Selection of endpoints should include consideration of a water body's historical condition and actual use attainment.
17. Criteria should recognize the need to balance competing uses.
18. NACWA concurs with the recommendation of a growing season geometric mean for the duration component of chlorophyll-a criteria.
19. The criteria should include an allowable frequency of exceedance (e.g., 1-in-3 or 2-in-6 years).

A copy of the comments can be downloaded here.