



July 9, 2024

Marla Koberstein
Department of Ecology, Water Quality Program
PO Box 47696
Olympia, WA 98504-7696

Dear Ms. Koberstein:

Thank you for the opportunity to comment on Ecology's ***Natural Conditions Proposed Rule under Chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington***. Ecology is proposing a new method to determine when fresh and marine waters of the State naturally are warmer than the numerical standards and/or naturally lower oxygen than the numerical standards. This resulted from EPA's 2021 Reconsideration of its prior approval of Ecology's 2003/2006 water quality standards regarding natural conditions because the natural conditions provision was too broadly drafted and did not specify the types of criteria or pollutants to which it applies.

Maintain the highest possible standards for waters of the state, and never weaken water quality standards

First and foremost, we urge Ecology to strengthen, and never weaken, water quality standards to protect aquatic and human life. This concept is explicitly stated in Chapter 90.48 of the Revised Code of Washington (RCW):

*"...it is the public policy of the state of Washington to maintain **the highest possible standards to insure the purity of all waters of the state** consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of **all known available and reasonable methods** by industries and others to prevent and control the pollution of the waters of the state of Washington" (Chapter 90.48.010 RCW). [emphasis added]*

Ecology has previously managed Washington waters to ensure that permitted human activities do not worsen temperature $>0.3^{\circ}\text{C}$ or dissolved oxygen >0.2 mg/L when the natural conditions do not meet the numerical values established in WAC 173-201A-200. Previous regulatory decisions include warm water and nutrient discharges across the state, including permits for the South Prairie Wastewater Treatment Plant discharge (WA0040479)



for temperature established in a Total Maximum Daily Load study¹ and Spokane County Wastewater Treatment Plant discharge (WA0024473) for dissolved oxygen, also established in a Total Maximum Daily Load study². More recently, Ecology has determined that the cumulative effects of all sewage discharges to Puget Sound collectively worsen oxygen levels by >0.2 mg/L in many areas of Puget Sound and issued the Puget Sound Nutrient General Permit to ensure that municipal sewage dischargers join with municipalities across the country to adopt modern sewage treatment practices that include nutrient removal technology. Furthermore, several treatment plants have upgraded to stay within the 0.2 mg/L human allowance for dissolved oxygen from Spokane County to Pierce County.

We offer these as examples where dischargers have successfully met water quality-based permit limits using **known available and reasonable methods**. Ecology should not weaken those values, which have been in place for decades, and maintain the public policy of the state of Washington to maintain the **highest possible standards to insure the purity of all waters of the state**.

EPA's 2021 reconsideration left in place the numeric standards for temperature and dissolved oxygen in WAC 173-201A-200, which essentially allows zero human activities when natural conditions do fall below those numeric standards. Without the current rulemaking, Ecology cannot approve any discharges of heat or nutrients to waters of the state where sources impact areas that currently fall below the numeric criteria. Moreover, without this rulemaking, permits across the state that are based on the 0.3°C or 0.2 mg/L values in waters where natural conditions are worse than the numerical standards could be challenged by third parties.

Ecology is also proposing that for waters with very low oxygen levels naturally, that human allowances must be no more than 10% of the natural conditions when those natural conditions are at or below 2.0 mg/L. For example, if the natural condition is 1.0 mg/L, then the total of all human activities could not worsen oxygen levels by more than 0.1 mg/L. This proposal would lead to a more protective water quality standard, which we support as a reasonable clarification to *de minimis* impacts.

While Ecology is not proposing to weaken the allowances for human activities, we anticipate that some dischargers will request weakening standards veiled as better public process. **The State of Washington has stringent standards in place for temperature and dissolved oxygen, which is consistent with Ecology's directive under Chapter 90.48 RCW, and Ecology should not capitulate.** Moreover, if Ecology considers the

¹ <https://apps.ecology.wa.gov/publications/documents/0303021.pdf>

² <https://apps.ecology.wa.gov/publications/summarypages/0710073.html>



measurement precision available with field instruments, Ecology would be justified in decreasing the human allowance to 0.1 mg/L and 0.1 °C³ as more modern sensitivity of field instruments for oxygen and temperature.

Do not risk a jeopardy finding under the Endangered Species Act

In the 2007 Biological Evaluation, EPA determined that the 0.3 °C allowable increase in temperature for fresh waters under natural condition scenarios is consistent with recommendations in *EPA Region 10 Temperature Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards* (EPA 910-B-03-002, 2003). EPA notes that absent such a provision, no heat would be allowed from human sources when the natural conditions criteria are the applicable criteria. Further, EPA stated that a 0.3 °C or less temperature increase above the natural condition temperature is insignificant because monitoring measurement error for recording instruments typically used in field studies are approximately 0.2 to 0.3 °C.

Similarly for dissolved oxygen, EPA concluded that a "... 0.2 mg/L decrease from natural conditions was insignificant," and that "an allowable decrease of 0.2 mg/L is within the monitoring measurement error for recording instruments typically used to monitor dissolved oxygen." EPA acknowledged that "the provisions do not authorize human actions to cause insignificant exceedances to the applicable numeric criteria," and the numeric criteria remain in effect. However, as EPA concluded for lakes, "without at least some allowance for insignificant decreases a natural conditions criterion for dissolved oxygen in lakes would be unnecessarily restrictive for the protection of designated uses." We concur that eliminating any allowance for human activities would eliminate any permitted discharges in many waters across the state and would likely result in decades of litigation.

Ecology summarizes the 2008 National Marine Fisheries Service Biological Opinion *Endangered Species Act – Section 7 Consultation Biological Opinion And Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation; EPA's Proposed Approval of Revised Washington Water Quality Standards for Designated Uses, Temperature, Dissolved Oxygen, and Other Revisions; Statewide Consultation* (NMFS Tracking No. 2007/02301), which concluded that EPA's proposed approval of revised Washington water quality standards for temperature and dissolved oxygen, including natural conditions, are not likely to jeopardize the continued existence of endangered species and critical habitat covered in the Opinion. Similarly, Ecology summarizes the 2008 *U.S. Fish and Wildlife Service Biological Opinion for Environmental Protection Agency's Proposed Approval of the Revised*

³ Pages 54-57 of <https://apps.ecology.wa.gov/publications/documents/2410015.pdf>



Washington Water Quality Standards for Designated Uses, Temperature, Dissolved Oxygen, and Other Revisions (USFWS Reference 13410-2007-F-0298), which confirmed that the temperature and dissolved oxygen deviations of <0.3 °C or <0.2 mg/L would be insignificant⁴.

Ecology should not risk a jeopardy finding by weakening the water quality standards by increasing human allowances above the 0.3 °C and 0.2 mg/L in previous Biological Opinions issued under the Endangered Species Act.

Performance-based approach balances the need for site-specific conditions with pragmatic and efficient timelines

Determining natural conditions requires modeling or statistical approaches because high-quality, site-specific, representative data do not exist for historical conditions prior to human activities. These assessments must be tailored to individual water bodies and conditions and cannot be broadly extrapolated. As such, these assessments may need to occur when site-specific regulatory management decisions arise, such as NPDES permitting and TMDLs.

To date, Ecology has developed dozens of TMDLs; however, the Clean Water Action Section 303(d) list includes thousands of water bodies. **The state cannot wait for Ecology to complete all of the modeling up front and then set site-specific water quality standards**, as some may propose in this rulemaking process. Some may cite the Chesapeake Bay approach, which did develop site-specific dissolved oxygen standards. However, the process took over years to complete and still did not change the regulatory requirement to reduce nutrient pollution from sewage treatment plants and agricultural operations. We urge Ecology not to fall into this trap. While it is an option that EPA has identified, Ecology should continue with the pragmatic approach outlined in the draft rule.

Ecology also should not conduct rulemaking to establish individual watershed standards for temperature and/or dissolved oxygen, which would be administratively inefficient.

In its 2021 reconsideration letter, EPA outlined that “[a] performance-based approach is a binding methodology that provides a transparent, predictable, repeatable, and scientifically defensible procedure to derive numeric criteria or to translate a narrative criterion into quantifiable measures that are protective of designated uses. The performance-based approach relies on the adoption of a systematic process (i.e., a criterion derivation methodology) rather

⁴ USFWS could not rule out impacts to bull trout in freshwater environments from the separate numerical standards.



than a specific outcome (i.e., concentration limit for a pollutant) consistent with 40 CFR Sections 131.11 and 131.13. When such a performance-based approach is sufficiently detailed and has suitable safeguards to ensure predictable, repeatable outcomes, EPA approval of such an approach also serves as approval of the outcomes as well. See EPA Review and Approval of State Water Quality Standards, 65 FR 24,641, 24,649 (Apr. 27, 2000)."

Ecology's proposed approach appears consistent with the methodology that EPA outlined, administratively efficient, and would be least disruptive to water quality management throughout the state. Further, the approach in *A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington* (Ecology Publication No. 24-10-017) outlines a repeatable scientific method. Finally, the approach requires Quality Assurance Project Plans with data quality objectives and model calibration and evaluation approaches, plus established approaches for agency peer review, to ensure consistency of processes applied to different water bodies.

While other methods are available, including site-specific standards such as developed for the Chesapeake Bay, these would require years to decades to identify representative aquatic species, conduct controlled laboratory experiments to determine how much warming or decreases in oxygen various species and life stages of species could endure without harm to their survival, decisions on what tests to use, experiments that target the antagonistic effects of dissolved oxygen concomitant with temperature and other parameters such as acidification, expert review, policy decisions on the levels to be used, federal Endangered Species Act Section 7 consultations, and litigation before moving ahead.

The state cannot wait years to decades to act on dissolved oxygen and temperature, particularly in a changing climate and facing extraordinary population increases with associated development. We support the balanced approach Ecology proposes in *A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington* (Ecology Publication No. 24-10-017). The performance-based methodology is an expedient approach to natural conditions determinations.

Climate change should be included in the human allowances

Climate change will warm Washington state waters through a variety of processes, and warmer water holds less oxygen. Ecology must factor in climate change into the human allowances. EPA clearly stated that natural conditions cannot reflect climate-related anthropogenic impacts, including changes to air temperature as well as streamflow in



freshwater environments. This means there is less capacity for impacts from current human activities, which will result in more stringent regulatory requirements.

In summary, we support a pragmatic approach to replace the process by which natural conditions are determined during detailed modeling assessments, the subject of EPA's 2021 reconsideration. Ecology's proposed approach addresses EPA's concern that the previous standards language was overly broad and should apply to dissolved oxygen and temperature for aquatic life, and not to human health criteria for toxic substances. EPA had identified multiple approaches available to Ecology for addressing the need. Importantly, it is Ecology's discretion to set water quality standards for Washington's waters. It is reasonable that these differ from the approaches used in San Francisco Bay and the Chesapeake Bay for oxygen, for example. Finally, it is appropriate that Puget Sound water quality standards for dissolved oxygen are more stringent than those in the Chesapeake Bay. Likewise, maintaining stringent temperature standards is critical for the survival and long-term recovery of salmonids throughout state waters.

Ultimately, municipal sewage dischargers in the Chesapeake Bay and San Francisco Bay are moving toward nutrient-removal technology, regardless of the vastly different marine dissolved oxygen standards approaches in those two waters. If Puget Sound sewage dischargers demand that Ecology re-evaluate the stringent standards for dissolved oxygen to launch a lengthy process with a goal to weaken the standards, Ecology should view that attempt for what it is – a futile effort to maintain 1980s technology in the 21st century. While not part of this rulemaking, Ecology and sewage dischargers should collaborate with Tribes and environmental organizations and work with our federal and state elected officials to figure out how to pay for needed modernization.

Thank you for your consideration. Please contact us if you have any questions.

A handwritten signature in blue ink that reads "Mindy Roberts".

Mindy Roberts, Ph.D., P.E.

Puget Sound Program Director, Washington Conservation Action Education Fund