WASHINGTON CONSERVATION ACTION

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Dear Ms. Koberstein:

Thank you for the opportunity to comment on Ecology's draft document ***A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington (Second Draft)*** (Ecology Publication No. 25-10-022). We appreciate that Ecology is requesting public comment even though the document is not rule language, which was addressed separately. In the document, Ecology proposes a standardized method to establish natural conditions for dissolved oxygen in marine waters of the State that are naturally lower oxygen than the numerical standards. We previously submitted comments on Ecology's 2024 draft approach.

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

In addition to providing comments on the draft document, we want to reiterate that Ecology must strengthen, and never weaken, approaches to protecting aquatic and human life. This concept is summarized on page 7 of the draft report under the State section, and 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 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 nutrient discharges across the state, including permits for Spokane County

Wastewater Treatment Plant discharge (WA0024473) for dissolved oxygen established in a Total Maximum Daily Load study[1]. 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 is pursuing permit approaches to ensure that municipal sewage dischargers catch up 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.

Ecology has used the methods described in the draft document being reviewed for decades. The outcomes of those processes maintain the public policy of the state of Washington to maintain the highest possible standards. Dischargers have successfully met permit limits using known available and reasonable methods.

While Ecology is not proposing to weaken the allowances for human activities in the document under review, but rather to outline a repeatable methodology, we anticipate that some dischargers will continue to request alternative approaches to establishing natural conditions veiled as better public process. The State of Washington has stringent approaches in place for managing impacts to marine dissolved oxygen, which is consistent with Ecology's directive under Chapter 90.48 RCW, and Ecology should not capitulate.

Swiftly adopting the proposed performance-based approach for establishing natural conditions for marine dissolved oxygen is of utmost importance to ensuring strong and consistent regulatory standards across the state.

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

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 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*

[1] https://apps.ecology.wa.gov/publications/summarypages/0710073.html

*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 (Second Draft)* (Ecology Publication No. 25-10-022) 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.

We anticipate that some commenters will ask Ecology to forego the performance-based approach and to develop site-specific standards such as for the Chesapeake Bay. However, these would require years to decades to identify representative aquatic species, conduct controlled laboratory experiments to determine how much 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 other parameters such as temperature, 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**, 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 (Second Draft)* (Ecology Publication No. 25-10-022). The performance-based methodology is an expedient and repeatable approach to natural conditions determinations.

## Specific comments on the revised draft performance-based approach

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. We concur with the approach identified to establish natural conditions for marine dissolved oxygen.

The 10-step approach outlined on page 9 of the revised draft document clarified language beyond that presented in the previous version (ECY Publication No. 24-10-017) yet maintained overall content and sequencing. We concur with adding Step 10, documentation, and the subsequent clarification that Ecology may need to loop back to earlier steps.

In Step 1, we agree with adding model domain and cell resolution explicitly in the approach. We also agree with clarifying that Step 2 involves compiling existing data, rather than the previous version that identified a Quality Assurance Project Plan, which is now Step 3.

The second paragraph of page 12 states that "[a]ny data obtained from academic and literature works (e.g., research journals) must be from published and reputable sources." While this is necessary, it is not sufficient. We suggest that Ecology clearly state that "[a]ny data obtained from academic and literature works (e.g., research journals) must be from published and reputable sources, and must comply with all credible data regulations, rules, and guidance that Ecology must comply with itself." As pointed out in the paragraphs below, Ecology must comply with state credible data laws that require extraordinary documentation. Just because an academic institution collects data, it does not mean that the data complies with state credible data laws. It is unclear as written whether Ecology must also determine compliance by academic institutions or if the institutions themselves could self-evaluate. This fine point could simply be due to academic data described prior to the discussion of the Water Quality Data Act in this section.

Clarifying that Step 4 involves any new data collection needed is helpful, as is Step 5 on data quality.

Step 6 describes the process to develop and calibrate the model. We suggest making the section title plural as "models" given that water quality modeling can involve multiple models together. Model(s) is used on the second line. We concur with including only a summary of the Site Characterization Data, as compared with the detail presented in the previous version of this report.

Under the third bullet, Ecology refers to the Salish Sea Model among those reflecting best available modeling tools. Because the City of Tacoma and others are actively modifying the Salish Sea Model, we suggest adding a clarification: "This includes, but is not limited to, the version of the Salish Sea Model[10] and other models of comparable rigor that have been developed and approved by the Department of Ecology." We fear that the City of Tacoma and the efforts it funds are seeking to weaken the Salish Sea Model in its favor. We want to be clear that it is the Ecology-approved version that represents rigorous modeling

appropriate for regulatory approaches. We concur with referencing Ecology's 2009 QAPP and related publications in Step 6.

Under Step 8, we agree with the detail that describes how Ecology will develop a scenario without human-caused impacts. We expect comment letters from organizations and individuals who want to slow down Ecology's regulation of sewage to exploit this section and attempt to force Ecology to outline today the details encompassing all human-caused changes. This is impractical, and a more beneficial approach is to outline the process that Ecology will use. The draft document clarifies that this performance-based approach will not be used for waters where human structural changes cannot be effectively remedied.

On page 18, Ecology outlines Required Elements to include invasive species and submerged aquatic vegetation. We anticipate that while there may be some species and vegetation that influence marine dissolved oxygen in some places and at some times, these may not be needed for every marine dissolved oxygen analysis. The sentence above the bulleted list appears to include both submerged aquatic vegetation and also invasive species as required to include in models and then remove for natural conditions. Ecology should consider deleting the two bullets and instead combine as one final bullet along the lines of "Submerged aquatic vegetation and/or invasive species, if these are critical to marine dissolved oxygen patterns in the areas of interest."

Step 9 describes aggregating model output data for natural conditions based on Step 8 work. However, Ecology should reiterate that model output for natural conditions should not be aggregated spatially or temporally in a way that masks high or low human impacts when compared with other model scenarios. The goal would be to fairly compare natural conditions with current conditions to characterize existing human impacts. The first line of page 20 has a typographical error in "Horiziontal."

## Climate change should be included in the human allowances

We concur that Ecology must factor in climate change into the human allowances and development of natural conditions. This means there is less capacity for impacts from current human activities, which will result in more stringent regulatory requirements.

## Ecology must determine natural conditions itself

Page 6 includes the phrase "When the performance-based approach is used by Ecology to establish natural condition aquatic life water quality criteria…" and we wanted to emphasize that only Ecology should be developing natural conditions, and that regulatory

step cannot and should not be delegated to another entity. We note a typographical error on line 3 referring to “perrformance-based.”

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In summary, we support a pragmatic performance-based approach to establish natural conditions during detailed modeling assessments. EPA identified multiple approaches available to Ecology for addressing the need. It is reasonable that approaches for Washington marine waters differ from the approaches used in San Francisco Bay and the Chesapeake Bay for dissolved oxygen. Finally, it is appropriate that the Puget Sound water quality approach for marine dissolved oxygen may be more stringent than those in the Chesapeake Bay.

Municipal sewage dischargers in the Chesapeake Bay and San Francisco Bay regions are moving toward nutrient-removal technology, even though both regions have vastly different marine dissolved oxygen standards approaches. If Puget Sound sewage dischargers demand that Ecology re-evaluate the approach for establishing natural conditions for marine dissolved oxygen to launch a lengthy process, Ecology should view that attempt for what it is – a futile effort to maintain 1980s sewage technology in the 21st century.

While not part of this comment period, we urge Ecology and sewage dischargers to 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.

Mindy Roberts

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