



**UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY
REGION 10**

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WATER
DIVISION

Susan Braley
Washington State Department of Ecology
Water Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

RE: EPA's Comments on the Proposed Salmon Spawning Habitat Protection Rule

Dear Ms. Braley:

Thank you for the opportunity to provide comments on the Washington State Department of Ecology's proposed amendments to WAC chapter 173-201A – Water Quality Standards for Surface Waters of the State of Washington, filed on October 18, 2021. Specifically, Ecology is proposing revisions to the following chapters:

- WAC 173-201A-020 (Definitions)
- WAC 173-201A-200(1)(d) (Aquatic life dissolved oxygen criteria for fresh water)
- WAC 173-201A-200(1)(h) (Aquatic life fine sediment narrative criterion)

EPA has reviewed Ecology's proposed rule revisions and additions and offers the following comments for your consideration:

1. The proposed definition at WAC 173-201A-020, "**Intragravel dissolved oxygen**" means **the concentration of oxygen in the spaces between sediment particles in a streambed.**"

EPA recommends providing additional clarity to the proposed definition by adding more specific language, for example "concentration of *dissolved* oxygen in the spaces between sediment particles in a streambed."

2. The proposed definition at WAC 173-201A-020, "**Spatial median**" is the middle value of **multiple ranked intragravel D.O. measurements taken within the sampling area.**"

Since "spatial median" is a general statistical term, it is unclear if the term will only be used for intragravel dissolved oxygen (IGDO). EPA recommends more specific language to clearly articulate the definition, for example: "**Spatial median for intragravel dissolved oxygen** is the middle value of multiple ranked intragravel D.O. measurements taken within the sampling area."

3. EPA believes that the proposed language at WAC 173-201A-200(1)(d) and revisions to Table 200(1)(d) indicating that the waterbody must only meet water column OR intragravel D.O. concentrations is not protective of the waterbody.

IGDO alone does not guarantee adequate D.O. throughout the water column, and water column criteria are essential for salmonids and other aquatic life. If there is adequate IGDO, then the criterion in the water column can reasonably be lower. EPA recommends additional clarifying language to the text at WAC 173-201A-200(1)(d), for example “The water column D.O. criteria may not be less than 10.0 mg/L. However, if the minimum intragravel dissolved oxygen, measured as a spatial median, is 8.0 mg/L or greater, then the water column D.O. criterion is 9.5 mg/L.”

4. The proposed language at WAC 173-201A-200(1)(d) suggests that percent oxygen saturation is always interchangeable with concentration, i.e., “The D.O. criteria are measured in milligrams per liter (mg/L) or percent oxygen saturation.”

EPA recommends that percent oxygen saturation not be merely interchangeable with concentration-based D.O. criteria. The concentration-based criteria should be primarily relied upon and Ecology should provide more context for when they intend to rely upon the percent oxygen saturation, such as, the percent oxygen saturation will only be used where conditions of barometric pressure, altitude, and temperature preclude attainment of the concentration-based criteria. Suggest adding language to clarify the context of this point, for example, “Where conditions of barometric pressure, altitude, and temperature preclude attainment of the 10.0 mg/L or 6.5 mg/L criteria, dissolved oxygen levels must not be less than 90 percent of saturation.”

5. The proposed language at WAC 173-201A-200(1)(d)(iv)(C), “Be taken within the same aquatic habitat area when measuring intragravel D.O.”

EPA recommends revising the language to provide additional clarity about what is meant by this statement. As written, the intent is unclear and could be interpreted as constraining water column measurements to only IGDO areas.

6. The proposed water column concentrations and percent oxygen saturations at WAC 173-201A-200(1)(d), Table 200 (1)(d) Aquatic Life Dissolved Oxygen Criteria in Fresh Water, indicate 10 mg/L or 90% oxygen saturation for several aquatic life use categories.

For those specific categories, EPA recommends that Ecology fully consider the potential impacts from the application of a 90% oxygen saturation criterion, particularly for spawning uses. Please note that 11 mg/L is the 304(a) recommended criterion for full use protection for spawning. EPA recommends Ecology further explain why a lower concentration value is appropriate for species and life stages identified in the rule, given the environmental conditions associated with spawning habitats in the state, such as sediment conditions and D.O.

7. The proposed language at WAC 173-201A-200(1)(h)(ii) includes, “Water bodies shall not contain fine sediment (<2 mm) from anthropogenic sources at levels that cause adverse effects on aquatic life, their reproduction, or habitat.”

Unless Ecology has some kind of structured approach or translation procedures to address this requirement, “at levels that cause adverse effects on aquatic life, their reproduction, or habitat,” it may be difficult to demonstrate compliance. EPA recommends revising the statement to, for example “shall not contain fine sediment derived from human sources.”

8. The second sentence of the proposed language at WAC 173-201A-200(1)(h)(ii) says, “When reference sites are used, sediment conditions shall be compared to sites that represent least disturbed conditions of a neighboring or similar water body.”

EPA recommends amending the statement, “least disturbed conditions of a neighboring or similar water body” to ensure that the reference site is appropriate to use. Suggest language clarifying this point, for example “least disturbed conditions of a waterbody of comparable hydrography, (including flow, elevation, stream order, gradient), geology, ecology, and habitat.”

EPA appreciates Ecology’s commitment to update Washington’s water quality standards. We look forward to continuing to engage with you throughout this process. If you have any questions, please contact me at (206) 553-0268 or Guzzo.Lindsay@epa.gov.

Sincerely,

Lindsay Guzzo
Water Quality Standards Coordinator