



PREPROPOSAL STATEMENT OF INQUIRY

**CR-101 (October 2017)
(Implements RCW 34.05.310)**

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DATE: December 02, 2019

TIME: 9:12 AM

WSR 19-24-073

Agency: Department of Ecology AO #19-05

Subject of possible rule making:

The Washington State Department of Ecology is beginning a rulemaking to revise chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington.

We are proposing to start a Salmon Spawning Habitat Protection rule. This rulemaking will consider revising WAC 173-201A-200(1), Aquatic life uses, to provide additional water quality and habitat protection for early life stages of salmonids—including salmon, steelhead, and trout—and their spawning gravels. We will consider two general revisions in this rulemaking:

- 1) Revising the freshwater dissolved oxygen (DO) criteria to better protect early life stages of salmonids in spawning gravel.
- 2) Adding fine sediment criteria to provide additional protection for spawning gravel habitat.

To improve water quality, we are considering revising the freshwater DO criteria to add a percent saturation component to address natural water conditions, revising biological-based DO concentrations, and modifying averaging periods for the duration component of the DO criteria. To protect spawning gravel habitat, we will consider developing new criteria that will limit the impacts of fine sediment on incubating salmonid eggs and larvae.

Other sections of Chapter 173-201A WAC may be amended, as necessary, to support any revisions to the sections noted above.

Statutes authorizing the agency to adopt rules on this subject: RCW 90.48.035 Water Pollution Control - Rule-making authority; and 40 CFR 131.20 Water Quality Standards - State review and revision of water quality standards, requires states and tribes (with primacy for clean water actions) to periodically review and update the water quality standards.

Reasons why rules on this subject may be needed and what they might accomplish:

Salmon and steelhead populations have been declining in Washington State for more than a decade. Salmonids play a pivotal role in the structure and health of our fresh and marine water ecosystems. Chinook salmon, for example, are the primary food for the endangered Southern Resident Orca, and the decline of Chinook is one of the main factors attributed to the decline of this orca population, according to the 2018 Southern Resident Orca Task Force Final Report. Migrating salmon and steelhead bring essential nutrients from the ocean back to rivers, streams, and surrounding habitat. These nutrients are a significant part of the freshwater food web. Salmonids represent one of the most sensitive aquatic life species in Washington and therefore form the basis for protecting all aquatic life uses, as defined in the Water Quality Standards for Surface Waters of the State of Washington.

a. Salmonids need adequate dissolved oxygen and habitat conditions for spawning

Salmonid eggs and larvae incubate in freshwater gravels in rivers, lakes, and streams, and require specific dissolved oxygen levels to properly grow and develop. We are considering revising the freshwater DO criteria to ensure habitat conditions in gravel are optimal for salmonid spawning.

We also are considering the addition of new criteria to limit the negative impacts of fine sediment and protect the substrate of salmonid spawning gravel habitat. Fine sediments that settle over salmonid spawning gravels can prevent adequate flow of water through the gravels, depriving eggs and larvae of the oxygen they need. Currently,

the Water Quality Standards for Surface Waters of the State of Washington do not specifically address fine sediments. This rulemaking process is not associated with the Sediment Management Standards in chapter 173-204 WAC, which are managed by Ecology's Toxic Cleanup Program and are set to address toxic contaminants in sediment.

The goal of this rulemaking is to ensure adequate oxygen levels and habitat conditions are maintained for salmonids at critical early life stages, and to protect aquatic life under varying water conditions.

b. Ecology has received federal, tribal, and public comment on revisions to protect salmonid spawning gravels.

In January 2003, we developed a discussion document and literature summary entitled *Evaluating Criteria for the Protection of Aquatic Life in Washington's Surface Water Quality Standards for Fresh Water – Dissolved Oxygen* (Hicks, 2002). This document proposed changes to the DO criteria as part of the 2003 rulemaking. Public comments questioned these proposed revisions and Ecology postponed changes to the DO criteria until we could gather additional information.

In 2006, Ecology revised the state's Water Quality Standards for Surface Waters of the State of Washington. We did not revise the freshwater DO criteria at that time, although much review of the criteria was done prior to finalizing the rule. EPA's final Clean Water Act approval of the revised Washington standards included consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fishery Service under Section 7(a)(2) of the Endangered Species Act (ESA). That consultation concluded that EPA's approval action was largely beneficial and would not jeopardize the continued existence of any endangered or threatened species. As part of that consultation, conditions were set forth to minimize any adverse effects to ESA-listed species, which included an evaluation of the DO criteria to protect aquatic life.

In January 2006, EPA, USFWS, NOAA Fisheries, and Ecology met to discuss federal agency concerns about the DO criteria in the standard for protection of incubating salmonids. Ecology agreed to further study the relationship between surface water DO concentrations and intragravel dissolved oxygen (IGDO) concentrations. Ecology then established a work group to develop an IGDO study. The goal of the study was to investigate uncertainties that the current 9.5 mg/L water column criterion was sufficiently protective to meet IGDO salmonid requirements. The work group included staff from federal agencies, Tribes, and other interested parties. As a result of the work group research and discussion, Ecology published *Washington State Dissolved Oxygen Standard: A Review and Discussion of Freshwater Intragravel Criteria Development* (Brown and Hallock, 2009). Study conclusions include:

- A percent oxygen saturation criterion may be a more meaningful measure of oxygen conditions to protect spawning gravels than increasing the absolute dissolved oxygen criteria because it takes into account the effect of temperature on DO concentration.
- A direct measure of the DO concentration within spawning gravels is not a feasible criteria that can be effectively implemented.

This rulemaking seeks to resolve these conclusions to appropriately modify the freshwater DO criteria to better protect intragravel habitat by improving the water column DO criteria, incorporate a percent saturation element to the criteria, and protect spawning gravel substrate more directly by limiting fine sediment intrusion.

c. We agreed to address fine sediments in the surface water quality standards

Adding fine sediment criteria aligns with our agreement in the 2018 U.S. District Court Stipulated Order of Dismissal (Order) between Northwest Environmental Advocates (NWEA), EPA, and Ecology. In the Order, Ecology agreed to propose fine sediment criteria to protect salmonid nests, known as redds. We committed to completing proposed language by October 18, 2021.

Identify other federal and state agencies that regulate this subject and the process coordinating the rule with these agencies: We will work with tribes to discuss, and seek input on, rulemaking activities. Other coordinating federal and state agencies include the Washington State Department of Fish and Wildlife and the United States Environmental Protection Agency

Process for developing new rule (check all that apply):

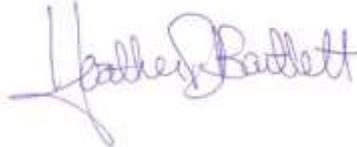
- Negotiated rule making
- Pilot rule making
- Agency study
- Other (describe) Ecology will follow the standard process for the adoption of rules under the

Administrative Procedure Act (Chapter 34.05 RCW).

Interested parties can participate in the decision to adopt the new rule and formulation of the proposed rule before publication by contacting:

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| Email: swqs@ecy.wa.gov | Email: |
| Web site: www.ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Salmon-spawning-habitat | Web site: |
| Other: Sign up to receive email notices: http://listserv.ecology.wa.gov/scripts/wa-ECOLOGY.exe?SUBED1=ECOLOGY-WATER-QUALITY-INFO&A=1 | Other: |

Additional comments: Interested parties can stay informed about the rulemaking and public involvement opportunities as described above. Ecology will extend an offer for government-to-government consultation with tribal governments during each phase of rule development.

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| Date: 12/2/2019 | Signature:  |
| Name: Heather Bartlett | |
| Title: Water Quality Program Manager | |