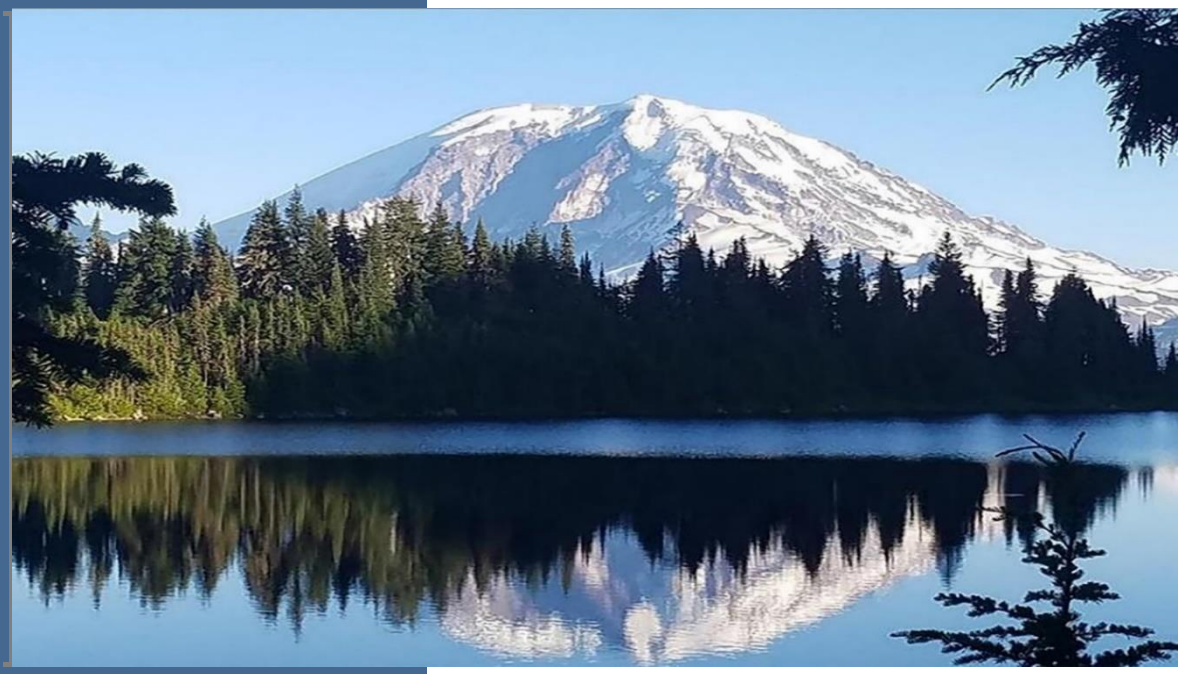

Triennial Review of Water Quality Standards for Surface Waters of the State of Washington

Report to EPA on Updates to the Water Quality Standards Anticipated for 2022-2024

Water Quality Program

Washington State Department of Ecology

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Triennial Review Report to EPA

Introduction

40 Code of Federal Regulations (CFR) 131.20[2] requires that states periodically review their surface water quality standards and hold public hearings to seek feedback on the state's review. This process is referred to as a Triennial Review and is intended to ensure that state water quality standards meet the requirements of the Clean Water Act (CWA) and the needs of the state. As part of this 2021 triennial review public process, the Department of Ecology (Ecology) asked for public feedback on a draft work plan[3] of updates to the surface water quality standards (WAC 173-201A) that are anticipated in 2022 through 2024. In addition to a public process to seek feedback on the agency's priorities for the next three years, the Environmental Protection Agency (EPA) requires that we include an evaluation of CWA section 304(a) recommended criteria and determine if we need to update our standards to align with these federally recommended criteria.

This triennial review report includes Ecology's work plan priorities, an evaluation of CWA section 304(a) recommended criteria (Appendix A), and a responsiveness summary (Appendix B).

Background

Establishing Priorities for the Surface Water Quality Standards

The Triennial Review is a public involvment opportunity that helps inform and prioritize revisions to the surface water quality standards (standards) for the next three years. This is not a rulemaking process; rather, it is a planning process to help guide actions necessary to keep the standards current. Each rulemaking project identified as a priority will have its own public process to formally comment on proposed rule changes, in accordance with Washington's Administrative Procedures Act (APA) at Chapter 34.05 Revised Code of Washington (RCW). The draft work plan shared with the public during this Triennial Review resulted from planning already undertaken at both the state and federal levels.

While the CWA requires that a triennial review be conducted to ensure state water quality standards are kept up to date, it is important to note that setting priorities for the standards routinely occurs through regular agency planning at both the state and federal levels, in response to Governor and state legislative priorities as well as through priorities identified in federal grant agreements with the EPA.

State statutes at 90.48 RCW[4] establish water pollution control laws for the state of Washington. RCW 90.48.260 designates Ecology as the state water pollution control agency for all purposes of the federal CWA. As such, Ecology's Water Quality Program is responsible for administering the Water Quality Standards for Surface Waters of the State of Washington at Washington Administrative Code (WAC) 173-201A.

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[2] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131
[3] https://fortress.wa.gov/ecy/ezshare/wq/standards/2021TriennialReviewDraftPlan.pdf
[4] https://app.leg.wa.gov/RCW/default.aspx?cite=90.48

90.48 RCW dictates that:

> "...the state of Washington will exercise its powers, as fully and as effectively as possible, to retain and secure high quality for all waters of the state. The state of Washington in recognition of the federal government's interest in the quality of the navigable waters of the United States, of which certain portions thereof are within the jurisdictional limits of this state, proclaims a public policy of working cooperatively with the federal government in a joint effort to extinguish the sources of water quality degradation, while at the same time preserving and vigorously exercising state powers to insure that present and future standards of water quality within the state shall be determined by the citizenry, through and by the efforts of state government, of the state of Washington."

The statutes further establish that the department is authorized to cooperate with the federal government and to accept grants of federal funds for carrying out the purposes of 90.48 RCW.

With this joint state and federal obligation to protect and maintain water quality in Washington, changes to the standards are driven not only by state laws and policies, but also directed and influenced by the federal regulations and policies administered by the EPA. Thus, priorities for the standards are set through biennial business planning at Ecology as well as the biennial Performance Partnership Agreement and Grant between Ecology and EPA Region 10.

Water Quality Program Business Planning

The Water Quality Program conducts a biennial planning effort to establish business plans for each section. The current Business Plan for the Watershed Management Section (WMS) covers the state fiscal year (FY) periods for FY22-FY23 (July 1, 2021 through June 30, 2023).

The WMS provides a variety of services to the program and is assigned the responsibility of meeting federal CWA requirements that include developing and regularly updating the state's standards to ensure they are protective and reflective of the latest information and science. Because these standards are critical for all programs, it takes a significant amount of research to develop new or revised standards. It also requires coordination with other programs to understand how the standards will be implemented. Outreach, both internally and externally, is important to make sure all stakeholders understand what we are proposing and why. To this end, we do a concerted internal and external effort to seek input. Depending on the breadth of the rules on which we are working, we may develop an advisory group to provide insights, expertise, and feedback on developing proposed rules. We seek input internally from agency staff with expertise related to the standards issue being researched, such as Environmental Assessment Program (EAP) staff with expertise in science and monitoring. We work with other Water Quality Program staff who have responsibilities to implement CWA programs, such as the Permit Writer's Workgroup, Nonpoint Source Pollution Workgroup, and Total Maximum Daily Load (TMDL) staff.

During the current biennium, expected outcomes for work on the standards in the WMS business plan include the following:

- Conduct CWA Triennial Review Process.

    - Initiate a review of all applicable standards and conduct a public hearing in the summer 2021 timeframe, with the goal of completing the public review process by the end of calendar year 2021.
    - Develop a responsiveness summary and work plan for addressing updates to the standards, including providing an explanation for why revisions are not appropriate, to be submitted to EPA in the first quarter of 2022.
- Develop a strategy and schedule for updates to aquatic life criteria.
- Finalize next steps for the Chelan UAA Rule package.
- Finalize next steps for the Salmon Spawning Rule package.
- Respond to increasing work associated with external requests for Outstanding Resource Waters (ORWs), Use Attainability Analysis (UAA) reviews, and variances to water quality standards.
- Provide ongoing support to staff in the program and agency on our standards.

In addition, the business plan notes that one of the challenges facing the WMS section during this biennium is EPA litigation that will need ongoing attention and will impact the Water Quality Program work into the future, including:

- Litigation related to water quality standards involving a decision on allowing natural conditions by EPA; and
- Human health criteria.

Performance Partnership Agreement

The Environmental Performance Partnership Agreement (PPA) establishes and implements a joint work plan for administering federal grant dollars that the EPA provides to Ecology for air quality, water quality, and hazardous waste management. The current biennial Environmental PPA[5] covers the time period of July 1, 2021 through June 30, 2023, in concert with the Water Quality Program business plan time period. The PPA also serves as the work plan for Performance Partnership Grant (PPG) funds provided to Ecology.

Chapter 9 of the PPA provides objectives and work plan activities for Ecology's Water Quality Program. The PPA objective for the water quality standards is to develop, maintain, and implement standards that protect beneficial uses. Activities and measures specific to the water quality standards are found in Chapter 9, section 4J through 4P and are stated below.

> 4J. Ecology will finalize the water quality standards guidance manual. The manual is intended to instruct agency staff working on CWA programs by providing, a documentation of the proper application of the Water Quality Standards within these programs including documentation of institutional knowledge, impact of legal decisions, and interpretation of commonly applied water quality standards language.
>
> 4K. Ecology will initiate a review of all applicable water quality standards and conduct a public hearing in the summer 2021 timeframe, with the goal of completing the public review process by the end of calendar year 2021. Ecology will develop a responsiveness summary and work plan for addressing updates to the surface water quality standards,

[5] https://apps.ecology.wa.gov/publications/documents/2101002.pdf

including providing an explanation for why revisions are not appropriate, to be submitted to EPA in the first quarter of 2022.

4L. Ecology will work with EPA to review the prioritization and rule development timeline for updates to toxic aquatic life criteria and other criteria identified in Ecology's triennial review work plan. This timeline will also include a review and assessment of updates needed to align with the revised antidegradation rules from 2015.

4M. Ecology will provide technical assistance to stakeholders during the development of use attainability analyses, variances, and other tools where a change in a standard appears appropriate. Ecology and EPA will work together throughout the development of such water quality standard revisions. EPA will provide timely review of use attainability analyses, variance submittals, and other water quality standards submittals from Ecology that require EPA action.

4N. EPA will take the lead in coordinating a process to resolve conflicts created when different standards are adopted for shared waters (tribal and state jurisdictional boundaries). EPA will coordinate with Ecology on pending agency decisions regarding tribal water quality standards in a timely manner, and will encourage the tribes collaborate with the state.

4O. Ecology will work on addressing priority nutrient problems to reduce current loadings of nitrogen and phosphorus to surface waters. Ecology will evaluate the applicability of EPA's 2020 draft ambient water quality criteria recommendations for nutrients in lakes and reservoirs for inclusion in Washington's surface water quality standards.

4P. EPA and Ecology will regularly share information and meet on an as needed basis, at least once a year, to discuss the status of ongoing and future water quality standard projects.

Rulemaking in Washington

The provisions of the APA are found in chapter 34.05 RCW[6] and apply to all rule making and adjudicative proceedings authorized by or arising under the provisions of 90.48 RCW. As such, the water quality standards must adhere to the state's APA for rulemaking.

Following APA procedures, the rulemaking process at Ecology has three phases that must be followed for revisions to WAC 173-201A, the surface water quality standards. Following adoption of the state rule, a fourth phase occurs with EPA before the state-adopted standards can be used for CWA purposes. Each phase can take months or even years to complete before a rulemaking results in adoption of revised standards that are then submitted to EPA for CWA approval. On average, a state water quality standards rulemaking takes 1 to 2 years to adopt the new or revised standards. Federal approval for CWA purposes can take several month to several years. The four phases are described below.

Approval/Announcement Phase (CR-101)

Potential revisions to the state's standards must first go to Ecology's Executive Leadership Team (ELT) for approval to move forward with an announcement of rulemaking. This process includes several briefings to the appropriate levels of leadership before approval is given to start a formal rulemaking process. A potential rulemaking may be denied or delayed because of conflicting agency or Governor priorities, lack of capacity, or legislative mandates. Once ELT approves rule initiation, the rulemaking lead files a Code Reviser (CR)-101[7] announcement of the intent to move forward with rulemaking. We then file the announcement in the state register, notify all tribes in Washington and other interested parties, and issue a public announcement on Ecology's website. After filing the CR-101, staff begin to gather data and information on potential revisions. This includes reaching out to both internal and external parties, setting up advisory groups as needed, and working towards development of proposed rule language. During this phase staff develop draft technical and implementation support documents, conduct literature reviews, develop an associated citation list of studies used, and conduct a preliminary regulatory analysis of the costs/benefits associated with the proposed rule (including a small business economic impact statement, if needed).

The State Environmental Policy Act (SEPA) process at Chapter 43.21C RCW[8] is started at this phase and may involve development of an Environmental Impact Statement (EIS) if we determine the rule will potentially cause an environmental impact. This phase of rulemaking can be lengthy, depending on the complexities of the proposal and the need for an EIS, and can typically take six months or more.

Proposal Phase (CR-102)

After draft rule language is developed and the associated draft rulemaking documents are completed to support the proposed rule, the rulemaking can move to the proposal phase. Draft rulemaking documents include the draft Rule Implementation Plan and, for complex

[6] http://app.leg.wa.gov/RCW/default.aspx?cite=34.05
[7] http://app.leg.wa.gov/WAC/default.aspx?cite=1-21-010
[8] https://app.leg.wa.gov/rcw/default.aspx?cite=43.21C

rulemakings, the draft Technical Support Document. This phase requires approval from Ecology's Deputy Director before filing a CR-102 with the Code Reviser's Office. The CR-102 formally starts the public review of the proposal. During the public review, a public hearing must be held no less than 30 days after the CR-102 is filed, and the public comment period ends no less than 7 days after the last hearing. This phase must be completed within 180 days; if the rule is not adopted within that timeframe, a new CR-102 must be initiated in order to move forward with the proposal.

The CR-102 rulemaking packet typically includes the following documents to meet APA requirements and provide additional information to the public on the basis for the proposed rule and how it will be implemented:

- A formal CR-102 Notice of the proposed rulemaking
- Proposed Rule Language
- Preliminary Regulatory Analyses (including Cost Benefit Analysis and Least-Burdensome Alternative Analysis)
- SEPA documentation (including EIS if appropriate)
- Draft Technical Support Document
- Draft Implementation Plan

Adoption Phase (CR-103)

After the public comment period ends, a Concise Explanatory Statement (CES) must be developed that provides a summary of rulemaking, a response to comments received on the proposed revisions, and a citation list. A final Regulatory Analysis that includes the final cost-benefit analysis and least-burdensome alternative analysis must accompany the adoption, as required under chapters 34.05 RCW and 19.85 RCW. Further, the Rule Implementation Plan and, in complex rulemakings the Technical Support Document, are finalized. This phase requires approval from Ecology's Director before filing a CR-103 with the Code Reviser's Office, which signifies adoption of the rule. Once adopted, the state rule goes into effect 31 days after filing of the CR-103.

The CR-103 rulemaking packet typically includes the following documents:

- A formal CR-103 Notice of the rule adoption
- Adopted Rule Language
- Final Regulatory Analyses (including Cost Benefit Analysis and Least-Burdensome Alternative Analysis)
- Concise Explanatory Statement (including response to comments and final citation list)
- Final Technical Support Document
- Final Implementation Plan
- SEPA documentation

EPA Approval of State-Adopted Standards

In accordance with federal regulations at 40 CFR 131.20(c)[9], revisions to the state's standards must be submitted to the EPA Regional Administrator for review and approval within 30 days of the final state action to adopt and certify the revised standards.

After state submittal, 40 CFR 131.21 and CWA section 303(c) dictates that EPA shall either notify the state within 60 days that the revisions are approved or notify the state within 90 days that the revisions are disapproved. If revisions are disapproved, EPA specifies changes that should be made to bring the standards into compliance. If a state does not revise the disapproved standards, EPA may promulgate federal standards through its rulemaking process to replace the disapproved standards.

Other federal requirements can extend the timeline for federal approval or disapproval of revisions past the 60- or 90-day window. Washington's experience with seeking EPA approval of revisions has been that the approval action can take much longer than what is dictated in CWA section 303(c). This is due, in part, to federal actions required under the Endangered Species Act (ESA). The ESA consultation process ensures that species and critical habitats are sufficiently protected under the state adopted revisions.

ESA Consultation on Aquatic Life Criteria

When a state adopts standards that may affect Federally Threatened or Endangered aquatic life (Listed Species) and EPA reviews the standards under CWA Section 303(c), EPA is required to engage in interagency consultation under the Endangered Species Act, Section 7(a)(1). Consultation generally includes the development of a Biological Evaluation (BE) to determine if the proposed action (i.e., EPA's approval of the revised standards) would adversely affect a Listed Species. Depending on the species that may be affected by EPA's approval action, the BE is reviewed by the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service (the Services). This process is formalized in a Memorandum of Agreement[1] established between the federal agencies in 2001. There are several outcomes regarding EPA's review of the potential impacts to Listed Species as a result of its approval action of the revised standards.

1. If EPA determines that the revised standards have no effect on ESA-listed species or critical habitat, then no Section 7(a)(1) consultation is required and no BE is developed. No Effect determinations are based on a lack of geographical overlap with the proposed action and the Listed Species. If there is overlap, the proposed action may affect the Listed Species.
2. If EPA determines that the revised standards may affect ESA-listed species or critical habitat, then a Section 7(a)(1) consultation is required and a BE is developed. In the BE, EPA makes a determination about the type of effect that may occur; that is,
   a. EPA may determine that its approval of the revised standards may affect, but are Not Likely to Adversely Affect (NLAA) Listed Species or its designated critical

[9] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131

[1] https://www.epa.gov/sites/default/files/2018-10/documents/wqs-endangered-species-act-factsheet.pdf

habitat. An NLAA determination requires EPA to conduct an informal consultation with the Services.

b. EPA may determine that its approval of the revised standards are Likely to Adversely Affect (LAA) Listed Species or designated critical habitat. An LAA determination requires a EPA to conduct a formal consultation process with the Services and results in a final biological opinion from one or both [2] of the Services.

If consultation is required, EPA then reviews the information provided either through an informal consultation or a formal biological opinion and makes an determination whether to approve or disapprove the revised standard. An approval may be conditioned to limit incidental take by way of reasonable and prudent measures under informal consultation in the case of LAA; or, as reasonable and prudent alternatives identified during formal consultation in a biological opinion.

Rulemaking from 2010 Triennial Review Priorities

The last triennial review of Washington's surface water quality standards was completed in 2010. As part of the 2010 triennial review, we developed a Five-Year Plan[10] of prioritized topics.

We have not conducted a triennial review since 2010 because we were in continual water quality standards rulemaking efforts, based on priorities established in the Five Year Plan and driven by state prioirites of the Director of Ecology and the Governor, federal priorities directed by EPA through the PPA, and litigation priorities. Since 2010, Ecology has worked on six rulemakings to update the standards. A timeline of active rulemakings resulting (or anticipated to result) in revisions to the standards from 2011 – 2021 can be viewed in Figure 1.[11] For information on the five finished rulemakings, follow the links below to each rulemaking webpage:

- Human Health Criteria[12]
- Recreational Use Criteria[13]
- Total Dissolved Gas[14]
- Salmon Spawning Habitat (freshwater dissolved oxygen and fine sediment)[15]
- Chelan River Use Attainability Analysis[16]

[2] The Services contribute to the biological opinion if both marine (NMFS) and freshwater (USFWS) species are likely adversely affected.
[10] https://ecology.wa.gov/DOE/files/37/3761607d-3390-418a-8684-118c959fc676.pdf
[11] The rulemaking for Spokane River variances has been place on hold.
[12] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC-173-201A-Overview
[13] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC-173-201A-Aug17
[14] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC173-201A-revisions
[15] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Salmon-spawning-habitat
[16] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Chelan-UAA

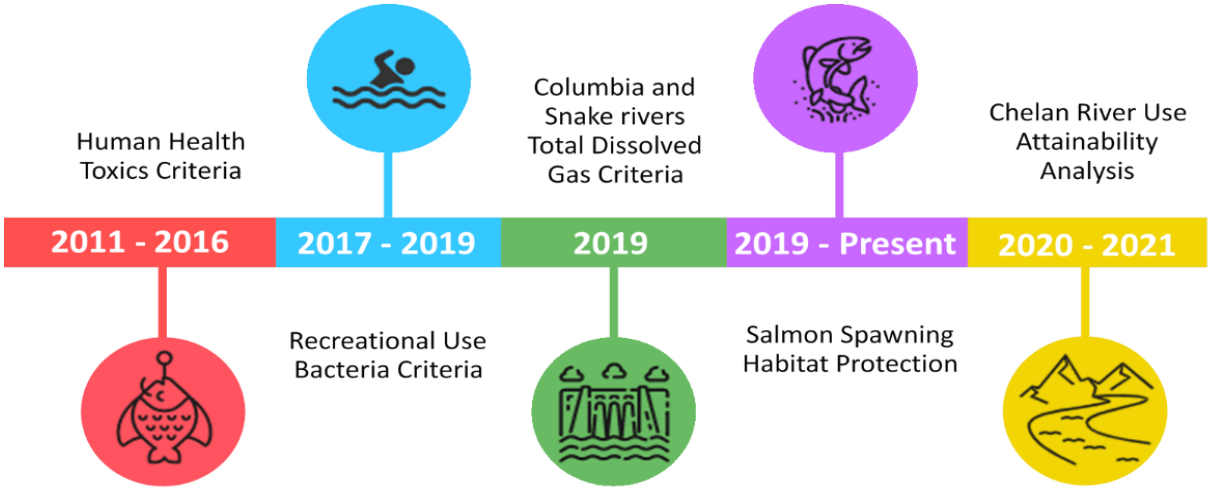

Figure 1. Timeline of rulemakings from 2011 – 2021.

2021 Triennial Review Process

A formal Triennial Review public process was held from July 20, 2021 through September 16, 2021. To assist the public with understanding the purpose of the Triennial Review, a focus sheet[17] provided an overview of the 2021 Triennial Review process to get public feedback on Washington's water quality standards. A draft work plan[18] was also shared with the public that described both standards rulemaking actions that are currently underway as well as actions we may take related to Washington's standards between 2022 and 2024.

In addition to the public process to seek feedback on the agency's priorities for the next three years, EPA requires that we include an evaluation of new or updated CWA section 304(a) recommended criteria in our triennial review report and determine if we need to update our standards to align with these federally recommended criteria. Section 304(a) of the CWA requires EPA to develop, publish, and revise criteria for the protection of water quality, aquatic life, and human health that reflect the latest scientific knowledge. These criteria recommendations are based solely on data and scientific judgments between pollutants and their respective effects on living organisms or ecological systems; they do not reflect consideration of economic impacts or technological feasibility of meeting such criteria.

Public Comments Received

From July 20, 2021 through September 16, 2021, Ecology accepted comments from the public on any changes we should consider to Washington's standards and our draft work plan for the next three years. A workshop and public hearing were held on September 9, 2021 to share our draft plan and receive public feedback on future water quality standard actions. Written comments on the Triennial Review were accepted through September 16, 2021.

Ecology received comments from 13 entities, representing local and federal governments, tribes, nongovernmental entities, industry, and the public. Many comments were generally supportive

[17] https://apps.ecology.wa.gov/publications/SummaryPages/2110031.html
[18] https://fortress.wa.gov/ecy/ezshare/wq/standards/2021TriennialReviewDraftPlan.pdf

of the triennial review draft workplan that was provided as part of the public review. In particular, there was broad support for adopting criteria to provide additional protections for salmonid spawning and habitat uses and updating aquatic life toxics criteria. Comments received can be viewed on Ecology's Triennial Review ecomments webpage.[19] A full response to comments can be found in Appendix B of this report.

CWA Section 304(a) Recommended Criteria

The CWA and 40 CFR 131.20(a) requires that Ecology evaluate new or updated CWA section 304(a) recommended criteria in the triennial review report and determine if we need to update our standards to align with the federally recommended criteria. Section 304(a) of the CWA requires EPA to develop, publish, and revise criteria for the protection of water quality, aquatic life, and human health that reflect the latest scientific knowledge. These criteria recommendations are based solely on data and scientific information between pollutants and their respective effects on living organisms or ecological systems; they do not reflect consideration of economic impacts or technological feasibility of meeting such criteria, nor do they reflect the achievable conditions of waterbodies based on natural conditions.

To satisfy this requirement, Ecology compared the current standards (WAC 173-201A) to the latest CWA section 304(a) national criteria recommendations. The full evaluation is found in *Appendix A: State Evaluation of CWA 304(A) Criteria Recommendations*; a summary of our determinations is below.

Summary of Section 304(a) Criteria Evaluation

EPA recommends water quality criteria that are categorized as aquatic life criteria, human health criteria (including for protection of recreational purposes), or organoleptic effects (e.g., taste and odor).

For aquatic life criteria recommendations, Ecology identified where state standards: (1) meet or exceed the national recommendations; (2) are less stringent than the national recommendations due to EPA-approved state- or site-specific criteria; (3) are less stringent than the national recommendations; or (4) do not have any recommended criteria for that parameter. Ecology has identified 34 new or updated section 304(a) aquatic life criteria that meet category (3) and (4). 31 of these criteria recommendations will be considered in future rulemaking efforts. Ecology has chosen to not adopt section 304(a) criteria recommendations for color, heptachlor epoxide, and nutrients for rivers and streams. Justification for these decisions are found in Appendix A.

For human health toxics criteria recommendations, no actions are being taken at this time due to ongoing litigation and rulemaking by the EPA. For recreational criteria, Ecology will consider the 2019 recommended criteria for microcystin and cylindrospermopsin in future rulemaking efforts. Additional information on human health criteria updates are found on Ecology's rulemaking page[20] and updates to the standards.[21]

[19] https://wq.ecology.commentinput.com/comment/extra?id=R5TkH
[20] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC-173-201A-Overview
[21] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Updates-to-the-standards

For organoleptic criteria, Ecology has chosen to not adopt these criteria. Standards already contains narrative criteria for protection of aesthetics. Justification for this decision is found in Appendix A.

Triennial Review List of Planned Actions for 2022 - 2024

Table 1 provides a summary work plan of rulemaking actions and projects Ecology has initiated or plans to initiate between 2022 and 2024. A description of each rule activity and prioritization follows the table.

Project timing depends on a variety of factors, including staff workload, agency priorities and approvals, and the complexity of the project. Each rulemaking typically takes 1.5 to 2 years to complete, although complex or controversial rulemakings can take significantly longer. The following information reflects our best estimate of what we plan to take on in the next three years, as well as examples of rule-related activities that may be required in the next three years due to formal requests or compliance with court decisions.

Table 1. Ecology's Water Quality Standards Rulemaking Work Plan Summary 2022-2024

Triennial Review Rulemaking Action	2022	2023	2024	Beyond triennial review period
Freshwater criteria for dissolved oxygen and fine sediment	→			
Aquatic life criteria for toxics	→	→	→	
Natural Conditions Provision	→	→	→	
Designations of Antidegradation Tier III ORWs for publically nominated waters	→	→	→	

Freshwater criteria for dissolved oxygen and fine sediment

Project details

We began rulemaking to update freshwater criteria for dissolved oxygen and adopt new fine sediment criteria for the protection of salmonid spawning habitat in 2019. A public comment period was held from October 16, 2021 through December 16, 2021. The rulemaking was recently adopted on March 22, 2022. For more information on this project, view our rulemaking webpage.[22]

Reason for priority: Updating freshwater dissolved oxygen criteria and fine sediment criteria were included in the Five-Year Work Plan[23] developed as part of the last triennial review in 2010, and was initiated in response to federal, tribal, and public feedback for Ecology to better protect salmonid spawning habitat. During the public review of Ecology's draft workplan for this triennial review, we received overwhelming support from commenters on updating rules to provide additional protections for salmonid spawning habitat. Adoption of fine sediment criteria is also part of a stipulated agreement between Northwest Environmental Advocates, EPA, and Ecology.

Aquatic life toxics criteria

Project details

This rulemaking will include a review of aquatic life toxics criteria to determine which criteria should be updated in Washington's standards.

In the draft work plan provided during the public review, Ecology suggested several options on how to approach updates to the aquatic life toxics criteria. We sought feedback on the need and prioritization of the 34 new or updated CWA section 304(a) recommended aquatic life toxics criteria. Ecology received numerous comments on the different approaches for updating these criteria, ranging from staggered rulemakings based on chemical groups to one rulemaking to address all criteria. Based on our initial review, we are tentatively leaning towards a single rulemaking to update aquatic life toxics criteria. More information regarding aquatic life updates and rulemaking will be announced in 2022.

Reason for priority: Updating the toxics aquatic life criteria is a high priority for Ecology and was included in the Five-Year Work Plan[24] developed as part of the last triennial review in 2010. Since the 2010 triennial review, we focused our toxics expertise on updating human health criteria. The decision to prioritize human health criteria updates ahead of aquatic life toxics criteria was determined in part because of significant delays in the ESA consultation process for EPA's nationally-recommended aquatic life toxics criteria that had been adopted by adjacent EPA Region 10 states. We felt it was in the state's best interest to wait for the outcomes of ESA consultation and subsequent EPA approval of adjacent state aquatic life criteria before starting to invest resources in updates to our aquatic life toxics criteria.

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[22] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Salmon-spawning-habitat

[23] https://ecology.wa.gov/DOE/files/37/3761607d-3390-418a-8684-118c959fc676.pdf

[24] https://ecology.wa.gov/DOE/files/37/3761607d-3390-418a-8684-118c959fc676.pdf

EPA Region 10 states have submitted updates to their aquatic life toxics criteria over the past few decades, but ESA consultations have been significantly delayed for several states (e.g., Oregon and Idaho). For example, EPA approval of Oregon's aquatic life toxics criteria adopted in 2004 was significantly delayed as the federal agencies worked through ESA Section 7 consultation. In 2013, EPA disapproved a number of aquatic life criteria that the Oregon Environmental Quality Commission (ODEQ) adopted in 2004. The pollutants included pesticides, cadmium (acute only), copper, ammonia and aluminum. Since 2013, ODEQ adopted and EPA approved revisions to several of the disapproved criteria. EPA's approvals of Idaho's aquatic life criteria likewise have been stalled, leaving the state-adopted criteria unusable for Clean Water Act actions.

In the 2010 triennial review, Washington decided it would be most beneficial for our state to wait until final ESA consultations and subsequent EPA approvals had occurred for the adjacent states before moving forward with adopting aquatic life toxics criteria in order to increase the likelihood of successfully updating criteria that would meet ESA considerations. Given the probability of a delay in federal approval, we made the decision to move forward with human health toxics criteria as a higher priority, to be followed by aquatic life toxics criteria when there was more certainty that EPA-recommended criteria would make it through ESA consultation.

During the public review of Ecology's draft workplan for this triennial review, we received overwhelming support from commenters on updating rules for aquatic life toxics criteria based on updated science.

Natural Condition Provisions

Project details

On November 19, 2021, official correspondence from EPA Region 10's Water Division Director to Ecology's Water Quality Program Manager notified the state of a disapproval action on previously approved Washington State Surface Water Quality Standards. EPA noted that, upon reconsideration of previous approvals of natural condition provisions in the state water quality standards as directed by a court order, EPA was taking an action to rescinded their previous approval and disapprove revisions to the following sections of WAC Chapter 173-201A pursuant to its authority under section 303(c)(3) of the CWA, 33 U.S.C. § 1313(c)(3), and 40 CFR Part 131:

- WAC 173-201A-260(1)(a): Natural and irreversible human conditions
- WAC 173-201A-200(1)(c)(i) and WAC 173-201A-210(1)(c)(i): Allowable human contribution to natural conditions provisions for aquatic life temperature (fresh water and marine water, respectively)
- WAC 173-201A-200(1)(d)(i) and WAC 173-201A-210(1)(d)(i): Allowable human contribution to natural conditions provisions for aquatic life dissolved oxygen (fresh water and marine water, respectively)

In the disapproval notice, EPA acknowledges that Washington's intent for the natural condition provisions was to address circumstances where waterbody conditions are naturally less stringent than the adopted biologically-based numeric aquatic life criteria. EPA further acknowledges that appropriately drafted natural condition provisions can serve an important role in state water quality standards by reflecting a naturally occurring spatial and temporal variability in water quality that is protective of uses. EPA suggests that a new general natural condition provision

that is narrowly tailored to aquatic life uses could be adopted as a narrative criterion where numerical criteria cannot be established or to supplement numerical criteria (40 C.F.R. § 131.11(b)(2)). Additionally, EPA suggests that the adoption of a performance-based approach could be used to more efficiently develop aquatic life criteria reflecting a natural condition for specific pollutants (e.g., temperature, dissolved oxygen).

Based on the recent EPA disapproval, Ecology is planning to initiate rulemaking in 2022 to revise natural condition provisions that will meet CWA approval.

Reason for priority: EPA's disapproval affects the use of the natural conditions provisions in Washington's standards. It is important that Washington has a standard's provision to recognize that natural conditions in waters, sometimes seasonally, do not meet numeric water quality criteria while still protecting designated uses. Most, if not all, states have some provision of this kind, and Washington is in need of one for all CWA programs to function smoothly. Washington state statutes at RCW 90.48.570(3)[25] clarifies that "[i]t is the intent of the legislature that a water body in which pollutant loadings from naturally occurring conditions are the sole cause of a violation of applicable surface water quality standards not be listed as impaired." EPA's disapproval action necessitates that work on the natural condition provisions begin immediately and take precedence over other priority rulemaking actions for the standards.

This is especially critical because the natural condition provisions were regularly applied when implementing CWA programs (e.g., wastewater discharge permits, TMDLs) as a necessary complement to biologically-based criteria that were developed based on the biological needs of aquatic life without consideration as to whether the associated waterbody can naturally meet these criteria.

Designations of Antidegradation Tier III Outstanding Resource Waters for publically nominated waters

Project details

In 2021, we received several nominations to designate waterbodies as Outstanding Resource Waters (ORW), and we determined that each nomination met eligibility requirements described in WAC 173-201A-330. The following nominations include:

- Soap Lake (Grant County)
- Cascade River (Skagit County)
- Green River (Skamania and Lewis counties)
- Napeequa River (Chelan County)

In accordance with WAC 173-201A-330(3), Ecology reviewed the submittals and concluded that the information provided for each waterbody met one or more eligibility requirements under WAC 173-201A-330(1)(a)-(e). Information on each nomination is available on our antidegradation webpage.[26]

[25] https://app.leg.wa.gov/RCW/default.aspx?cite=90.48&full=true#90.48.570

[26] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-qualitystandards/Antidegradation#Nominations

The next step in this process is to schedule a public review of these Tier III nominated waters to determine if they should be designated as an ORW.

Reason for priority: Public nominations for designation of Tier III ORWs were received in 2021 for Soap Lake, Cascade River, Green River, and Napeequa River. Upon review of the information submitted, these waters were found to be eligible for designation as a Tier III ORW. In accordance with WAC 173-201A-330(3)(a), if the submitted information demonstrates that the water body meets eligibility requirements, the department must schedule a review of the nominated water for designation as an outstanding resource water. The review must include a public process and consultation with recognized tribes in the geographic vicinity of the water.

In addition to the nomination process, Ecology received comments during the triennial review from EPA and over 50 organizations in support of prioritizing the Tier III nominated waters during this triennial review period.

Other Potential Considerations and Actions

During the next few years, Ecology may need to initiate rule revisions that are necessary to comply with legal requirements or as a response to requests by entities for actions where specified in the standards.

Compliance with Legal Requirements

We may need to prioritize necessary rule actions to meet legally-mandated deadlines, such as those specified in a court order or settlement agreement, or due to regulatory actions by EPA, such as disapproval of state standards.

For example, in December 2021, EPA disapproved some natural condition provisions in Washington's standards that were regularly used in implementation of CWA programs (e.g., wastewater discharge permits, TMDLs). This determination, alongside the importance for Washington to have natural condition provisions in the standards, resulted in a priority item for the agency over the next three years.[27]

Requests for Rule-Related Actions

The standards include opportunities for entities to request rule-related actions, and Ecology may be required to respond to these requests within a certain number of days. Further, depending on the thoroughness of the material submitted, resources, and agency direction, Ecology may initiate rulemakings in response to these public requests, as provided by the applicable rules. This includes Tier III ORW nominations, requests for determining appropriateness of designated uses assigned to a waterbody, and variance requests.

Use Attainability Analyses

When Ecology proposes to adopt new or revised designated uses for a water body other than those specified in CWA section 101(a)(2), or if Ecology proposes to remove a designated use from a water body, Ecology must submit documentation to EPA justifying the decision. A Use Attainability Analysis (UAA) may be used or required to satisfy this requirement. UAA

[27] *See* "Natural Condition Provisions" in prior section for further details.

requirements for Washington include WAC 173-201A-440, and Federal regulations include 40 CFR 131.10.[28] The UAA allows us to consider the physical, chemical, biological, and economic factors that could affect meeting the designated use of a water body; these factors are listed at 40 CFR 131.10(g).[29]

Ecology may initiate rulemaking as a result of a request to evaluate the designated uses assigned to a waterbody. A recent example of a UAA rulemaking is the Chelan River UAA completed in 2021. See the rulemaking webpage[30] for additional information.

Variances

Variances are tools that Ecology may use to improve water quality over time. A variance is "a time-limited designated use and criterion for a specific pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the…variance" (40 CFR 131.3(o)).[31] This approach maintains the ultimate goal of reaching the water quality criteria for a waterbody through a stepwise process, with accountability measures for public assurance that progress will occur. Water quality regulations allow the use of variances under specific circumstances, which are subject to: federal variance provisions at 40 CFR 131.14[32]; federal public participation requirements at 40 CFR 131.20(b)[33]; state variance provisions at WAC 173-201A-420; and other applicable state and federal laws.

Ecology may initiate rulemaking as a result of a request to evaluate the use of a variance to improve water quality for a specific site. For example, in 2019, Ecology received and considered requests for facility discharge variances for polychlorinated biphenyls (PCBs) on the Spokane River. Because of the uncertainty regarding EPA approval of the PCB human health criteria, the rulemaking has been placed on indefinite hold until a related court case is resolved. See the rulemaking webpage[34] for more information.

[28] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131/subpart-B/section-131.10
[29] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131/subpart-B/section-131.10#p-131.10(g)
[30] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Chelan-UAA
[31] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131/subpart-A/section-131.3#p-131.3(o)
[32] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131#131.14
[33] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-131#p-131.20(b)
[34] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-variances

Appendix A: Evaluation of CWA 304(A) Criteria Recommendations

Overview

As required by the Clean Water Act (CWA) and 40 Code of Federal Regulations (CFR) 131.20(a), Ecology compared the current Washington Water Quality Standards (WAC 173-201A; "standards") to the latest CWA section 304(a) national criteria recommendations. EPA recommends water quality criteria that are categorized as aquatic life criteria, human health criteria (including recreation), or organoleptic effects (e.g., taste and odor). EPA's current national criteria recommendations for water quality are available on their website.[35]

State Evaluation of CWA 304(a) Criteria Recommendations

Human Health Criteria

No actions are being taken at this time for human health toxics criteria due to ongoing litigation and rulemaking by the EPA. On March 28th, 2022, the EPA proposed federal human health criteria for Washington State Waters.[36] Ecology will wait for the results of this process before initiating any future human health toxics criteria rulemaking.

In addition to human health toxics criteria, EPA also publishes recreational 304(a) recommended criteria. For instance, Ecology recently adopted amendments to the standards[37] that added numeric criteria to protect water contact recreational uses, which were based on EPA's 2012 304(a) criteria recommendations for bacterial indicators of fecal contamination. Ecology has identified one 304(a) criteria recommendation that is not currently in Washington's standards: the 2019 recreational water quality criteria for certain cyanotoxins.[38] Ecology will consider this recommendation in future rulemaking efforts.

Additional information on human health criteria updates are found on Ecology's rulemaking page[39] and updates to the standards.[40]

Organoleptic Criteria

Ecology will not adopt the 304(a) recommended criteria. The recommended criteria are based on organoleptic (e.g., taste and odor) effects, rather than human health exposure (e.g., recreation) or consumption. In addition, Washington's standards already contains narrative criteria for aesthetics at WAC 173-201A-260(2)(b):

> *Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste…*

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[35] https://www.epa.gov/wqc
[36] https://www.epa.gov/wqs-tech/federal-human-health-criteria-washington-state-waters
[37] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC-173-201A-Aug17
[38] 2019 *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin* document (EPA 822-R-19-001)
[39] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Closed-rulemaking/WAC-173-201A-Overview
[40] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Updates-to-the-standards

These narrative criteria apply to all existing and designated uses for fresh and marine waters. Further, WAC 173-201A-230 provides guidance for establishing lake nutrient standards to protect aesthetics.

Aquatic Life Criteria

For aquatic life criteria recommendations, Ecology has identified where state water quality standards: (1) meet or exceed the national recommendations; (2) are less stringent than the national recommendations; or (3) do not have any recommended criteria for a parameter.

Where state standards differ[41] from recommended criteria, Ecology has identified: (a) whether these differences are due to EPA-approved state- or site-specific criteria; (b) which criteria will be considered in upcoming rulemaking efforts; and (c) which criteria we do not intend to adopt. Where Ecology has chosen to not adopt new or revised CWA section 304(a) criteria recommendations, we provide explanation, consistent with requirements under CWA section 303(c)(1) and 40 CFR 131.20.

State Evaluation of Aquatic Life Criteria Recommendations

The table below lists Ecology's evaluation of nationally recommended CWA section 304(a) aquatic life criteria. For each parameter, we provide the source of the recommended criteria and Ecology's determination:

- **Future Action**: Ecology will consider adoption of these recommended criteria in upcoming rulemaking efforts or EPA may promulgate these criteria for the State.
- **Already Addressed**: The current water quality standards in Washington (WAC 173-201A) have approved criteria for these parameters. The approved criteria either meet or exceed CWA section 304(a) criteria, or listed criteria have been approved by EPA (e.g., site-specific cyanide criteria).
- **Not Scheduled for Adoption**: Ecology does not intend to adopt these recommended criteria. Justification for these determinations follow the table.

Priority Pollutants

Section 303(c)(2)(B) of the CWA requires states to adopt criteria for all toxic pollutants listed pursuant to section 307(a)(1) for which criteria have been published under section 304(a). Section 307(a)(1) references the Toxic Pollutant List, published at 40 CFR 401.15.[42] This list was intended to be used by EPA, states, and tribes as a starting point to ensure water quality criteria and standards address toxics in waters.

The Toxic Pollutant List, however, consists of broad categories of pollutants rather than specific toxic chemicals. Thus, EPA developed the Priority Pollutant List to allow more practical implementation of the Toxic Pollutant List, including for permitting, effluent guideline development, and derivation and publication of section 304(a) criteria recommendations. The

[41] I.e., (2) and (3) from preceding paragraph.

[42] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N/part-401/section-401.15

Priority Pollutant List contains chemical pollutants for which EPA regulates and has published analytical test methods. The list of priority pollutants is published at 40 CFR 423, Appendix A.[43]

While this list is an important starting point for EPA and states in protecting waters from toxics, these are not the only pollutants regulated in CWA programs. Therefore, the following table identifies priority pollutants for informational use only, as Ecology is required to evaluate all section 304(a) recommended criteria published by EPA regardless of whether it is listed as a priority pollutant.

Evaluation of aquatic life Clean Water Act section 304(a) criteria recommendations.

*Priority pollutants are identified using "(P)" following the parameter name.
**Justification for this determination follows the table and references.

Parameter*	304(a) Criteria Document	Ecology Determination
Acrolein (P)	EPA 2009	Future Action
Aesthetic Qualities	EPA 1986 Gold Book	Already Addressed
Aldrin (P)	EPA 1980a	Already Addressed
Alkalinity	EPA 1986 Gold Book	Future Action
alpha-Endosulfan (P)	EPA 1980b	Future Action
Aluminum	EPA 2018	Future Action
Ammonia Fresh Waters	EPA 2013	Already Addressed
Ammonia Salt Waters	EPA 1989	Already Addressed
Arsenic	EPA 1995	Future Action
Atrazine	EPA Criteria Table	Already Addressed
beta-Endosulfan (P)	EPA 1980b	Future Action
Boron	EPA 1986 Gold Book	Already Addressed
Cadmium (P)	EPA 2016	Future Action
Carbaryl	EPA 2012	Future Action
Chlordane (P)	EPA 1980c	Already Addressed
Chloride	EPA 1988	Already Addressed
Chlorine	EPA 1986 Gold Book	Already Addressed
Chlorpyrifos	EPA 1986 Gold Book	Already Addressed
Chromium (III) (P)	EPA 1995	Future Action

[43] https://www.govinfo.gov/content/pkg/CFR-2014-title40-vol29/pdf/CFR-2014-title40-vol29-part423-appA.pdf

Parameter*	304(a) Criteria Document	Ecology Determination
Chromium (VI) (P)	EPA 1995	Already Addressed
Color	EPA 1986 Gold Book	Not Scheduled For Adoption**
Copper (P)	EPA 2007	Future Action
Cyanide (P)	EPA 1984a	Already Addressed
Demeton	EPA 1986 Gold Book	Future Action
Diazinon	EPA 2005a	Future Action
Dieldrin (P)	EPA 1995	Future Action
Endrin (P)	EPA 1995	Future Action
gamma-BHC (Lindane) (P)	EPA 1995	Future Action
Gases, Total Dissolved	EPA 1986 Gold Book	Already Addressed
Guthion	EPA 1986 Gold Book	Future Action
Hardness	EPA 1986 Gold Book	Already Addressed
Heptachlor (P)	EPA 1980d	Already Addressed
Heptachlor Epoxide (P)	EPA 1986 Gold Book	Not Scheduled For Adoption**
Iron	EPA 1986 Gold Book	Future Action
Lead (P)	EPA 1984b	Already Addressed
Malathion	EPA 1986 Gold Book	Future Action
Mercury (P)	EPA 1995	Future Action
Methoxychlor	EPA 1986 Gold Book	Future Action
Methyl Tertiary-Butyl Ether (MTBE)	EPA 2006 Update	Already Addressed
Mirex	EPA 1986 Gold Book	Future Action
Nickel (P)	EPA 1995	Future Action
Nonylphenol	EPA 2005b	Future Action
Nutrients Lakes and Reservoirs	EPA 2021a	Future Action
Nutrients Rivers and Streams	EPA 2000a	Not Scheduled For Adoption**
Oil and Grease	EPA 1986 Gold Book	Already Addressed
Oxygen, Dissolved Fresh Waters	EPA 1986 Gold Book	Already Addressed

Parameter*	304(a) Criteria Document	Ecology Determination
Oxygen, Dissolved Salt Waters	EPA 2000b	Already Addressed
Parathion	EPA 1995	Already Addressed
Pentachlorophenol (P)	EPA 1995	Future Action
pH	EPA 1986 Gold Book	Already Addressed
Phosphorus Elemental	EPA 1986 Gold Book	Future Action
Polychlorinated Biphenyls (PCBs) (P)	EPA Criteria Table	Already Addressed
Selenium (P), Fresh Waters	EPA 2021b	Future Action
Selenium (P), Salt Waters	EPA 1999	Already Addressed
Silver (P)	EPA 1980e	Already Addressed
Solids Suspended and Turbidity	EPA 1986 Gold Book	Already Addressed
Sulfide-Hydrogen Sulfide	EPA 1986 Gold Book	Future Action
Tainting Substances	EPA 1986 Gold Book	Already Addressed
Temperature	EPA 1986 Gold Book	Already Addressed
Toxaphene (P)	EPA 1986 Gold Book	Already Addressed
Tributyltin (TBT)	EPA 2003	Future Action
Zinc (P)	EPA 1995	Future Action[a]
4,4'-DDT (P)	EPA 1980f	Already Addressed

[a] The 1995 criteria recommendation for zinc is less stringent than Washington's current criteria. However, as the 1995 update included new acceptable acute data for zinc, Ecology will consider this recommendation in a future action.

Table References

EPA. 1980a. Ambient Water Quality Criteria for Aldrin/Dieldrin. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-019.

EPA. 1980b. Ambient Water Quality Criteria for Endosulfan. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-046.

EPA. 1980c. Ambient Water Quality Criteria for Chlordane. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-027.

EPA. 1980d. Ambient Water Quality Criteria for Heptachlor. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-062.

EPA. 1980e. Ambient Water Quality Criteria for Silver. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-071.

EPA. 1980f. Ambient Water Quality Criteria for DDT. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-038.

EPA. 1984a. Ambient Water Quality Criteria for Cyanide – 1984. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-84-028.

EPA. 1984b. Ambient Water Quality Criteria for Lead – 1984. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-84-027.

EPA. 1986. Quality Criteria for Water 1986. "Gold Book". Office of Water, Regulations and Standards. Washington, D.C. EPA 440/5-86-001.

EPA. 1988. Ambient Water Quality Criteria for Chloride – 1988. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-88-001.

EPA. 1989. Ambient Water Quality Criteria for Ammonia (Saltwater) – 1989. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-88-004.

EPA. 1995. 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water. Office of Water. Washington, D.C. EPA-820-B-96-001.

EPA. 1999. National Recommended Water Quality Criteria – Correction. Office of Water. Washington, D.C. EPA 822-Z-99-001.

EPA. 2000a. Ecoregional Nutrient Criteria for Rivers and Streams. Available at: https://www.epa.gov/nutrient-policy-data/ecoregional-nutrient-criteria-rivers-and-streams.

EPA. 2000b. Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras. Office of Water. Washington, D.C. EPA-822-R-00-012.

EPA. 2003. Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) – Final. Office of Water. Washington, D.C. EPA 822-R-03-031.

EPA. 2005a. Aquatic Life Ambient Water Quality Criteria Diazinon. Office of Water, Office of Science and Technology. Washington, D.C. EPA-822-R-05-006.

EPA. 2005b. Aquatic Life Ambient Water Quality Criteria – Nonylphenol. Office of Water. Washington, D.C. EPA-822-R-05-005.

EPA. 2006. Aquatic Life Criteria – Methyl Tertiary-Butyl Ether (MTBE). Fact Sheet. EPA 822-F-06-002.

EPA. 2007. Aquatic Life Ambient Freshwater Quality Criteria – Copper. Office of Water. Washington, D.C. EPA-822-R-07-001.

EPA. 2009. Ambient Aquatic Life Water Quality Criteria for Acrolein (CAS Registry Number 107-02-8). Office of Water, Office of Science and Technology, Health and Ecological Criteria Division. Washington, D.C.

EPA. 2012. Aquatic Life Ambient Water Quality Criteria For Carbaryl -2012. Office of Water. Washington, D.C. EPA-820-R-12-007.

EPA. 2013. Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater 2013. Office of Water. Washington, D.C. EPA 822-R-18-002.

EPA. 2016. Aquatic Life Ambient Water Quality Criteria Cadmium – 2016. Office of Water. Washington, D.C. EPA-820-R-16-002.

EPA. 2018. Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018. Office of Water. Washington, D.C. EPA-822-R-18-001.

EPA. 2021a. Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs. Office of Water. Washington, D.C. EPA-822-R-21-005.

EPA. 2021b. 2021 Revision to: Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016. Office of Water. Washington, D.C. EPA 822-R-21-006.

EPA. 2022. National Recommended Water Quality Criteria – Aquatic Life Criteria Table. Available at: https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table.

Justification for Ecology's Determination of "Not Scheduled For Adoption"

Below, we provide justification for each criteria in the above table where the determination was "Not Scheduled For Adoption."

Color

Criteria for color are found in EPA's Quality Criteria for Water 1986;[44] i.e., the "Gold Book". Criteria recommendations for color are:

> "Waters shall be virtually free from substances producing objectionable color for aesthetic purposes;
> the source of supply should not exceed 75 color units on the platinum-cobalt scale for domestic water supplies; and
> increased color (in combination with turbidity) should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life."

Washington's standards already contains narrative criteria for aesthetics at WAC 173-201A-260(2)(b):

> "Aesthetic values must not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the senses of sight, smell, touch, or taste..."

These criteria apply to all existing and designated uses for fresh and marine waters. Further, WAC 173-201A-230 provides guidance for establishing lake nutrient standards to protect aesthetics.

In addition, Washington's water quality standards define pollution as:

> "...contamination...of any waters of the state, including change in...color...as will or is likely to create a nuisance or renders such waters harmful, detrimental, or injurious to the public health...or other legitimate beneficial uses...or other aquatic life."

Per Washington's antidegradation policy (WAC 173-201A-300), all Washington waters use, at minimum, Tier I protections to "...ensure existing and designated uses are maintained and protected and applies to all waters and all sources of pollution."

Thus, Washington currently has approved water quality standards to protect waters from substances that would produce objectionable color for aesthetic purposes. This includes protection of domestic water supplies and aquatic life.

Regarding the decision not to adopt the EPA recommendation that sets a maximum of 75 color units for domestic water supplies, Ecology notes that "the effects of color on public water supplies...are principally aesthetic."[45] As stated above, Washington's standards already contain narrative criteria that would protect aesthetics of waters and protect against changes in color that could be harmful to aquatic life and human health. Further, Washington Department of Health, Office of Drinking Water, protects all public water

[44] https://www.epa.gov/sites/default/files/2018-10/documents/quality-criteria-water-1986.pdf
[45] USEPA. 1986. Quality Criteria for Water 1986 ("Gold Book"). Office of Water, Regulations and Standards, United States Environmental Protection Agency. Washington, D.C. EPA 440/5-86-001

systems by setting the secondary maximum contaminant limit (MCL) to 15 color units (WAC 246-290-310[46] and WAC 246-291-170[47]).

Ecology is not adopting the EPA recommended criteria that "increased color, in combination with turbidity, should not reduce the depth of the compensation point for photosynthetic activity." Washington's standards already contain narrative criteria that would protect all waters against changes in color that could be harmful to aquatic life. Further, Washington has approved turbidity criteria for fresh water (WAC 173-201A-200(1)(e)) and marine water (WAC 173-201A-210(1)(e)) aquatic life use categories.

Ecology concludes that Washington's current standards provide sufficient protections against color contaminants in waters.

Heptachlor Epoxide

Criteria for heptachlor epoxide are found in EPA's aquatic life criteria table.[48] An excerpt of the criteria recommendations for heptachlor epoxide are:

Freshwater CMC (acute) (µg/L)	Freshwater CCC (chronic) (µg/L)	Saltwater CMC (acute) (µg/L)	Saltwater CCC (chronic) (µg/L)
0.52	0.0038	0.053	0.0036

EPA's notes for these criteria state that "[these values were] derived from data for heptachlor and there was insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide."[49]

Washington's standards contains narrative toxics criteria that are applicable to "toxic, radioactive, or deleterious material concentrations…[that] have the potential…to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health".[50] These narrative criteria apply to all existing and designated uses for fresh and marine waters.

In addition to EPA's aquatic life criteria table note regarding the derivation of the heptachlor epoxide criteria,[51] the heptachlor criteria document states that "only one acceptable freshwater study was found that compared the relative toxicity of heptachlor to its common degradation product, heptachlor epoxide."[52] In that 1967 study, Frear and Boyd used an unspecified grade of heptachlor epoxide to determine the LC_{50} for *Daphnia*

[46] https://app.leg.wa.gov/wac/default.aspx?cite=246-290-310
[47] https://app.leg.wa.gov/wac/default.aspx?cite=246-291-170
[48] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table
[49] USEPA. 2022. National Recommended Water Quality Criteria – Aquatic Life Criteria Table. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table
[50] WAC 173-201-260
[51] USEPA. 2022. National Recommended Water Quality Criteria – Aquatic Life Criteria Table. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table
[52] USEPA. 1980. Ambient Water Quality Criteria for Heptachlor. Office of Water, Regulations and Standards, United States Environmental Protection Agency. Washington, D.C. EPA 440/5-80-052

magna. For marine waters, "there [were] insufficient saltwater data to evaluate relative toxicity of heptachlor and heptachlor epoxide."[53]

Ecology does not support adopting the recommended heptachlor epoxide criteria based on the insufficient toxicity data for fresh and marine water species as of 1980 and EPA's conclusion of limited data on the relative toxicity between heptachlor and heptachlor epoxide. Ecology must rigorously defend any rulemaking it proposes that adds or modifies the water quality standards. Ecology finds the data and evidence to support heptachlor epoxide aquatic life criteria to be inadequate to adopt.

Nutrients for Rivers and Streams

Nutrient criteria for rivers and streams are found in a series of documents released by EPA[54] in 2000 and 2001, with each document corresponding to a specific nutrient ecoregion. For Washington, applicable nutrient ecoregions are:

- Ecoregion I: Willamette and Central Valleys
- Ecoregion II: Western Forested Mountains
- Ecoregion III: Xeric West

The following table contains criteria recommendations that are aggregate reference conditions based on 25th percentiles only:

Nutrient Parameters	Aggregate Nutrient Ecoregion I Reference Conditions	Aggregate Nutrient Ecoregion II Reference Conditions	Aggregate Nutrient Ecoregion III Reference Conditions
Total phosphorus (µg/L)	47	10	21.88
Total nitrogen (mg/L)	0.31	0.12	0.38
Chlorophyll *a* (µg/L) (fluorometric method)	1.8	1.08	1.78
Turbidity (FTU)	4.25	1.3	2.34

Washington's standards define pollution as:

> "…contamination…of any waters of the state…including change in…turbidity…as will or is likely to create a nuisance or renders such waters harmful, detrimental, or injurious to the public health…or other legitimate beneficial uses…or other aquatic life."

[53] Ibid

[54] https://www.epa.gov/nutrient-policy-data/ecoregional-nutrient-criteria-rivers-and-streams

Per Washington's antidegradation policy (WAC 173-201A-300), all Washington waters use, at minimum, Tier I protections to "…ensure existing and designated uses are maintained and protected and applies to all waters and all sources of pollution."

Ecology has previously evaluated the feasibility and benefits of establishing nutrient criteria for rivers and streams.[55] During this past review, Ecology examined ecoregional data on periphyton growth, chlorophyll *a*, nitrogen, and total phosphorus. Researchers were "unable to find a predictive relationship between excess production and eutrophication and measured nutrient concentrations." Combined with confounding factors (e.g., flow rates, shading), Ecology chose an alternative pathway that relies on other indicators that provide a trigger for trophic health alongside water body specific modelling. In this alternate pathway, Ecology uses two indicators: dissolved oxygen and pH. Approved dissolved oxygen criteria provide not only protection for the metabolic function of aquatic life, but also set a value that cannot be attained in rivers with nuisance algal growth. The pH criteria serve as a supplementary trigger, since excess nutrients are identified in Washington by increasing trends in pH concentrations and exceedances of the upper pH criterion level. Using these two criteria, Ecology is able to identify waters impacted by excess nutrients, and the criteria "serve as targets for restoration and clean up."

The CWA section 304(a) recommended criteria use a reference condition approach that do not take into account the complexity of natural regimes in Washington's rivers and streams. Adopting these criteria could result in nutrient values that are ineffective in protecting aquatic life in Washington's fresh waters. Ecology believes that appropriate nutrient criteria recommendations for Washington need to consider an approach that can account for these complexities, such as modelling (as was used by EPA for developing lake and reservoir nutrient criteria).

Ecology is not scheduling adoption of these 304(a) ecoregional nutrient criteria for freshwater rivers and streams into Washington's standards. We do not consider these criteria viable due to the large and diverse dynamics of our river systems in Washington. Instead, Ecology will continue to use dissolved oxygen and pH criteria as indicators of potential nutrient problems for rivers and streams in Washington.

[55] Moore, Allen and Mark Hicks. 2004. Nutrient Criteria Development in Washington State – Phosphorus. Water Quality Program, Washington State Department of Ecology. Lacey, Washington. Publication Number 04-10-033.

Appendix B: 2021 Triennial Review Response to Comments

Ecology conducted a Triennial Review[56] of Washington's surface water quality standards (Chapter 173-201A WAC[57]) from July 20, 2021 through September 16, 2021, accepting comments from the public on any changes we should consider to the standards and our draft work plan for the next three years. A workshop and public hearing were held on September 9, 2021 to share our draft plan and listen to the public's feedback. Ecology received comments from 13 entities. To view a full copy of the comments received from each entity, go to Ecology's Triennial Review ecomments webpage.[58]

The table below identifies each commenter affiliation alphabetically with an associated identification code.

Commenter Affiliation	Submitter	Identification Code
Chambers-Clover Watershed Council	Al Schumauder	1
International Zinc Association	Adam Ryan	2
Lummi Natural Resources	Merle Jefferson	3
Northwest Environmental Advocates	Nina Bell	4
Northwest Indian Fisheries Commission	Justin Parker	5
Northwest Pulp & Paper Association	Kathryn VanNetta	6
Russell, Don	self	7
Snoqualmie Tribe	Kelsey Payne	8
Spangrude, Gene	self	9
USEPA Region 10	Andrea Ramirez	10
Washington Wild et. al.	Tom Unlack	11
Windward Environmental	Nancy Judd	12
Zero Waste Washington	Heather Trim	13

Under each affiliation, we have included individual comments verbatim where possible, except in cases of spelling errors or to provide clarification of the comment. Ecology's responses to the comments are directly below each comment.

[56] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Updates-to-the-standards
[57] https://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A
[58] https://wq.ecology.commentinput.com/comment/extra?id=R5TkH

1 – Chambers-Clover Watershed Council

Comment 1.1

Does the Dept of Ecology plan to upgrade State Water Quality Standards to meet Salmon requirements? Like dissolved oxygen, nitrogen and PH. What about PFAS and toxics from tires?

Response 1.1

Ecology conducted a rulemaking to provide additional protections for salmon spawning habitat. The purpose of this rulemaking was to provide additional water quality and habitat protection for early life stages of salmonids—including salmon, steelhead, and trout—and their spawning gravel. A public comment period was held from October 16, 2021 through December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criteria for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022. Ecology does not have plans at this time to update nitrogen and pH criteria. Since the last triennial review, there are no new updated federally recommended 304(a) criteria for either of these parameters in rivers and streams. However, as part of the triennial review, Ecology is reviewing newly recommended Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs (EPA Publication: EPA-822-R-21-005, August, 2021). Ecology will determine if these tools are appropriate for setting nutrient limits in Washington lakes and reservoirs.

Ecology is tracking the implications of *N*-(1,3-dimethylbutyl)-*N'*-phenyl-p-phenylenediamine (6-PPD) and its quinone form, exploring potential solutions to reduce coho urban runoff mortality syndrome. This includes developing a testing method, looking into best management practices, and identifying locations for implementation or retrofit of best management practices. We are currently evaluating the state of the science for 6-PPD to determine if there is adequate data to develop aquatic life criteria. EPA's standardized method for aquatic life criteria development requires a robust amount of toxicity data. If the amount of data is insufficient to calculate numeric criteria, then we can rely on the narrative criterion in the standards to regulate 6-PPD. The narrative criterion states "no toxics in toxic amounts." We are continuing to work on strategies to address regulatory pathways to control 6-PPD.

EPA is currently developing recommendations for aquatic life and human health criteria for PFOA and PFOS. Aquatic life recommendations are anticipated to be released by EPA in winter 2022, while human health criteria is scheduled for fall 2024. We will continue to track the development of EPA's recommendations and guidance for PFAS.

2 – International Zinc Association

Comment 2.1

The International Zinc Association (IZA) is a nonprofit industry association dedicated to supporting the global market for zinc and the role of zinc in sustainable development. IZA actively supports research programs on the fate and effects of zinc in the environment and supports the adoption of regulatory standards for zinc that reflect the current state-of-the science.

Response 2.1

Comment noted. We appreciate the support to adopt regulatory standards that reflect current science.

Comment 2.2

The basis for the current hardness-based zinc WQC for protection of freshwater aquatic life in Washington is the U.S. EPA (1987) ambient WQC for zinc. These WQC are no longer consistent with U.S. EPA's nationally recommended WQC for zinc, which were last updated in 1995 (U.S. EPA 1996). Since 1995, a substantial amount of data on the toxicity of zinc to several freshwater species has overwhelmingly demonstrated that multiple water chemistry characteristics, in addition to hardness, influence the bioavailability and toxicity of zinc. Therefore, zinc WQC should be updated to more accurately reflect zinc bioavailability in freshwaters.

Response 2.2

EPA recommendations are typically the starting point for water quality standards updates. Zinc is a priority chemical that we intend to evaluate during future updates to the aquatic life criteria. We agree that additional data has become available since Ecology last updated aquatic life criteria, including updates to the hardness equation used to calculate a zinc criterion.

EPA has not recommended a biotic ligand or multiple linear regression model for zinc that is based on multiple water chemistry parameters. EPA recommendations for calculating a zinc criterion are based on hardness only. We will continue to track any information related to bioavailability models related to zinc and will give them consideration.

Comment 2.3

At a minimum, we recommend that Ecology adopt U.S. EPA's current nationally recommended freshwater zinc WQC. However, a more appropriate change would be to move toward bioavailability-based freshwater WQC for zinc.

Response 2.3

We will consider updates to zinc based on EPA recommendations and other information that is available. EPA has not recommended a biotic ligand or multiple linear regression type model based on multiple water chemistry parameters for zinc. We will continue to track any future updates related to zinc bioavailability models. When all necessary data are available, the Water Effect Ratio is a criteria adjustment factor in Washington's

standards that can be used to account for the effect of site specific water characteristics on zinc bioavailability and toxicity to aquatic life. To incorporate the results of this criterion adjustment into the standards, it must go through the rulemaking process as defined in 90.48 RCW.

Comment 2.4

If Ecology considers use of the copper BLM (U.S. EPA 2007), a simplified bioavailability-based model for zinc may not be necessary. Rather, the regulatory implementation of the zinc BLM, as described by DeForest and Van Genderen (2012) could be the basis for Ecology's revised zinc WQC. We suggest you revise the WQS to use the zinc BLM described by DeForest and Van Genderen (2012) as an interim freshwater WQC for zinc.

Response 2.4

EPA does not have recommendations for a zinc criterion based on the biotic ligand model (BLM). An interim criterion is not likely to be approved in water quality standards for Clean Water Act purposes. However, states have the option of developing water quality criteria in the absence of EPA recommendations. This typically requires substantially more time and resources. We will consider the available scientific literature for developing a zinc criterion based on the BLM during updates to the aquatic life criteria.

Comment 2.5

After the CRADA process concludes and the U.S. EPA has revised the nationally recommended freshwater WQC for zinc, we suggest you revise the WQS to use the U.S. EPA nationally recommended WQC for zinc.

Response 2.5

Ecology is required to review all EPA nationally recommended water quality criteria for inclusion in our standards. When EPA releases updated recommendations for zinc, we will consider their incorporation into Washington's standards.

Comment 2.6

We also recommend that in the near-term, Ecology prepare for bioavailability-based WQC, and as such, Ecology should encourage measurement of dissolved metals and water chemistry characteristics such as pH, DOC, alkalinity, and major ions.

Response 2.6

We appreciate the suggestion. From a regulatory perspective, it is difficult to promote collection of water chemistry parameters that are not required until water quality criteria are adopted by the state and approved by EPA. There are underlying uncertainties related to future EPA recommendations and approval. However, we anticipate near-term discussions with Ecology's Environmental Assessment Program regarding future monitoring of water chemistry parameters for calculating bioavailability-based water quality criteria.

3 – Lummi Natural Resources

Comment 3.1

Ecology has proposed to adopt two water quality criteria regulations to better protect salmonid spawning habitat: 1) dissolved oxygen (DO) and fine sediment, and 2) aquatic life criteria. Ecology should move forward with adopting criteria protective of salmonids and their spawning habitat swiftly and using the best available science. These updates are overdue and were initially intended to be completed by 2016.

Response 3.1

Comment noted. A public comment period was held from October 16, 2021 through December 16, 2021 on Ecology's proposal to amend the freshwater dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022.

Comment 3.2

Ecology must redouble its efforts to assess freshwater bacteria pollutants that could undermine downstream marine shellfish harvesting areas that support treaty-reserved harvests.

Response 3.2

Comment noted. Please see more detailed responses under comments 3.6 and 3.7.

Comment 3.3

Ecology's DO criteria must ensure intra-gravel concentrations above 8 mg/L in salmonid spawning habitat, which is the concentration at which embryonic survival drops markedly. Depending on the water temperature and permeability of the gravels, EPA (1986) determined that there is an average of 3 mg/L drop in DO levels between the water column and the gravel where fish eggs are deposited. Where dissolved intra-gravel DO concentrations cannot be directly assessed, water column DO criteria should be at least 11 mg/L in spawning habitat.

Response 3.3

We agree that 8 mg/L is fully protective of early life stages of salmonids in gravels. In the water column, EPA recommends 11 mg/L. EPA assumes a 3 mg/L DO depression from the water column to gravels based on two field studies. EPA states that DO depression should be evaluated in streams with relatively little fine sediment. The two field studies that formed the basis of the 3 mg/L DO depression assumption were conducted in high fine sediment conditions. Ecology evaluated literature since EPA's 1986 recommendations and found several new published field studies that met the minimum qualifications of little or no fine sediment in streams. These studies indicated a maximum dissolved oxygen reduction of 2 mg/L from the water column to the gravels. Using the assumption of a 2 mg/L dissolved oxygen depression and protective intragravel dissolved oxygen levels of 8 mg/L, we conclude that water column levels should be set at 10 mg/L.

Comment 3.4

Ecology must adopt fine sediment criteria that are protective of salmonid spawning habitat and provide for methods of measurement that can be readily implemented in monitoring programs and used for compliance enforcement.

Response 3.4

Ecology proposed a narrative based fine sediment criterion for adoption. A public comment period was held from October 16, 2021 through December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022. As part of the rulemaking process, Ecology released an Implementation Plan document describing how the final rule will be implemented. Appendix A of the Implementation Plan includes draft guidance on implementing the proposed narrative fine sediment criterion to determine impairment. This draft guidance includes information regarding recommended parameters to characterize fine sediment. Some parameters (e.g., relative bed stability, fine sediment biotic index, percent substrate) recommended for fine sediment assessments are currently measured in Ecology's freshwater monitoring program, thereby facilitating implementation of fine sediment assessments. The existing information collected that relates to fine sediment can be used for future water quality assessments to determine if waters are impaired by fine sediment. The draft guidance in Appendix A will be finalized within 18 months of rule adoption and will serve as the foundation to update Ecology's Water Quality Policy 1-11 Chapter 1: Washington's Water Quality Assessment Listing Methodology to Meet Clean Water Act Requirements. Updates to Policy 1-11 for the new fine sediment narrative criterion will occur through a formal public process as part of Washington's Water Quality Assessment.

Comment 3.5

Toxic pollutants for which Washington has not adopted new or revised aquatic life criteria since at least 1997 and for which EPA has issued new or revised CWA Section 304(a) recommended criteria include: acrolein, aldrin, aluminum, ammonia, arsenic, beta-Endosulfan, carbaryl, cadmium, chromium III, copper, cyanide, demeton, diazinon, dieldrin, endrin, guthion, heptachlor epoxide, iron, lindane, malathion, mercury, methoxychol, mirex, nickel, nonylphenol, pentachlorophenol, PCBs, selenium, and tributyltin. Ecology must adopt aquatic life criteria protective of salmon survival to protect the designated use of treaty fisheries. We support Ecology's decision to establish these long-awaited aquatic life criteria for toxics necessary for salmonid fisheries and other species in the food web and encourage Ecology to take the rulemaking approach that will bring the updated criteria into effect the fastest.

Response 3.5

Thank you for the support in updating Washington's aquatic life criteria. We look forward to your involvement in this future rulemaking.

Comment 3.6

Whatcom Clean Water Program partners had routinely used the recreational freshwater fecal coliform criteria when communicating water quality monitoring results and progress, encouraging voluntary landowner engagement and action, and as part of compliance enforcement by regulatory agencies. Although it is understandable that Washington State used the best available science and changed the recreational use indicator species and criteria, as recommended by the EPA, the current lack of a numeric fecal coliform criterion for freshwaters has created uncertainties and challenges for Whatcom Clean Water Program partners in their continuing efforts to monitor and improve water quality in the Nooksack River watershed. We recognize that the recent revisions to the Water Quality Assessment Policy 1-11 include continuing assessment of freshwaters for fecal coliform when a TMDL is in place for that watershed, such as for the Nooksack River watershed. However, this does not provide for assessment of or protection of shellfish growing areas and marine waters with shellfish use that are meeting marine fecal coliform water quality criteria or for waters failing to meet marine fecal coliform water quality criteria but for which a TMDL for fecal coliform has not yet been developed. Furthermore, TMDL goals are not perceived as enforceable regulatory thresholds for nonpermitted nonpoint sources.

Response 3.6

The recreational use criteria are intended to protect human health due to water contact activities and are based on a relationship between gastrointestinal illnesses and the presence of bacterial indicators. The recreational criteria are not intended to protect shellfish harvesting uses. Shellfish harvesting has a separate criteria based on the consumption of tissue and the relationship between illness and bacterial indicators. If a water body is impaired for shellfish consumption, limits may be placed on upstream sources to limit downstream impairments.

Nonpoint programs may continue to use fecal coliform to document releases of bacteria into surface waters of the State. Continuing to use fecal coliform for source identification may be useful when downstream waters are designated for the shellfish harvesting use. However, nonpoint sources of bacteria must be identified and removed regardless of bacterial indicator or concentration. In some instances, it may be appropriate to monitor both *E. coli* and fecal coliform to assess both recreational and impacts to downstream shellfish uses over time to determine if cleanup activities are making a positive difference in water quality. For the purposes of trend monitoring, programs may opt to perform dual monitoring of *E. coli* and fecal coliform to develop site-specific translation values. This may help to establish site-specific relationships between fecal coliform and *E.coli* to ensure trend information can be inferred and to evaluate protection of downstream uses while only measuring one bacterial indicator. Additionally, if sufficient information are available demonstrating fecal coliform levels in a fresh waterbody may impair downstream shellfish harvesting uses, that information can be submitted through the Water Quality Assessment Call for Data process for consideration of impairment under our narrative criteria.

Comment 3.7

Action is needed by Ecology to ensure the protection of downstream shellfish harvesting uses in both state and Lummi Nation Waters and to avoid conflict with the state's own antidegradation policy of "restor[ing] and maintain[ing] the highest possible quality of the surface waters of Washington." Ecology should: • continue to utilize all previously existing monitoring and assessment tools for fecal coliform in both marine waters and in upstream freshwaters with a potential to deliver fecal loads to marine waters designated for shellfish harvesting use; • increase its compliance enforcement actions by promptly and consistently responding to and correcting water quality violations that involve fecal coliform pollution in freshwaters upstream of marine shellfish harvesting areas; and • develop (1) numeric fecal coliform criteria for freshwaters upstream of shellfish harvesting areas, or (2) narrative criteria with a clear process of how numeric freshwater criteria are to be developed on a site-specific basis for the protection of downstream shellfish harvesting use in a timely and scientifically rigorous basis.

Response 3.7

Ecology, the Washington Department of Health, and local jurisdictions continue to use fecal coliform and other bacterial indicators to detect sources of pollution. Ecology recognizes that fecal coliform continues to be an important pollutant indicator tool for water quality improvement projects designed to protect downstream shellfish beds. Generally, water quality criteria are developed to protect the designated uses of the water body for which it applies. This allows for the proper magnitude, frequency, and duration to be established for a given pollutant, and is therefore approvable by EPA for Clean Water Act actions. However, the determination of appropriate levels of fecal coliform in upstream freshwater for protecting downstream shellfish harvesting uses is a site-specific criteria process. Stream flow, circulation dynamics, bacterial die-off rates, and other factors must all be considered to establish river-specific criteria that corresponds to the downstream marine fecal coliform criteria.

Due to the site-specific nature of developing upstream fecal coliform criteria, Ecology cannot develop state or regional fecal coliform criteria that are applicable to all streams. To illustrate this point, the former recreational use fecal coliform geometric mean criterion of 50 cfu/mL provided some unintended protection for downstream shellfish use; however it was not protective enough for all downstream shellfish harvesting waters. This is because shellfish use was not the endpoint for which this criterion was established.

To establish numeric fecal coliform criteria for upstream waters, an analysis similar to those conducted in a total maximum daily load (TMDL) is needed. Due to the level of effort to develop these analyses, they are generally developed for the TMDL clean-up process. Ecology can consider placing the results of such analyses into the water quality standards, but arguably, the approval of the TMDL by EPA in effect applies as site-specific criteria for CWA actions.

As we explained in our recreational criteria rulemaking, the lack of river-specific fecal coliform criteria does not affect the ability to monitor for fecal coliform or other

pollutants to identify and remedy pollution sources. Upstream freshwater discharges are not allowed under 90.48 RCW. Non-point programs are required to implement best management practices to limit non-point sources of bacterial pollution. Point source pollution causing impacts to downstream shellfish harvesting can be addressed through the permit renewal process, which includes a public comment period.

Ecology does not have a published guidance document for establishing upstream fecal coliform targets; however, details provided in approved TMDL development reports, as well as consultation with our Environmental Assessment Program staff, can help provide the tools we rely on to develop bacteria limits to protect all designated uses.

It is not necessary to update the narrative water quality criteria in order to apply the results of a peer-reviewed analysis.

Comment 3.8

Ecology should develop standards for freshwaters to protect downstream marine shellfish harvesting uses. Ecology should consider the following, among other, approaches for developing freshwater bacterial criteria to protect downstream shellfish harvesting use: • Adopt freshwater fecal coliform criteria numerically equivalent to the National Shellfish Sanitation Program criteria for shellfish growing areas. For example, for waters upstream of the Portage Bay shellfish growing area (e.g., the Nooksack River watershed), this would be a geometric mean of 14 fecal coliform organisms/100ml and a 90th percentile of 43 fecal coliform organisms/100ml. • When EPA-approved tribal surface water quality standards are in place for freshwaters downstream of state waters, adopt freshwater fecal coliform criteria numerically equivalent to the downstream freshwater fecal coliform criteria. For example, Lummi Nation Surface Water Quality Standards apply to the Nooksack River as it crosses onto the Lummi Indian Reservation; at this point, Lummi Nation's Class AA freshwater fecal coliform criteria apply: geometric mean of 50 fecal coliform organisms/100ml and 90th percentile of (not more than 10% to exceed) 100 fecal coliform organisms/100ml. • When fecal coliform TMDLs have been developed for waterbodies, adopt waterbody specific fecal coliform criteria based on the TMDL goals or clearly allow TMDL goals to be used as enforceable regulatory thresholds. • Adopt state-wide numeric fecal coliform criteria for freshwaters that would be protective of downstream shellfish harvesting use and apply to waters upstream of shellfish harvesting areas. • Adopt waterbody-specific numeric fecal coliform criteria for freshwaters that would be protective of downstream shellfish harvesting uses. This process should be proactive and prevent closures rather than be triggered only when downstream marine shellfish harvesting use criteria or NSSP standards are not met and the waterbody is determined to be impaired. The path from poor water quality to impairment determination to TMDL to implementation is too slow, is not proactive, and allows for a significant period of noncompliance contrary to Washington's own antidegradation policy.

Response 3.8

See response to 3.7.

The basis for developing numeric criteria in a waterbody must be based on the protection of the designated uses in that waterbody. As mentioned in the comment, the

50 fecal coliform organisms/100mL and 90th percentile of (not more than 10% to exceed) 100 fecal coliform organisms/100mL is based on the protection of recreational uses, not for the protection of downstream shellfish uses. Statewide narrative criteria exists for all upstream waterbody conditions to protect downstream uses. However, a statewide numeric criterion is not appropriate since the watershed-specific conditions affect the numeric fecal coliform concentration limits that are necessary to protect downstream shellfish uses. For example, in some watersheds 50 fecal coliform organisms/100mL have been shown to be overprotective of downstream uses. The majority of threats to shellfish harvesting waters is non-point sources contributions to bacteria and associated pathogens. Ensuring that non-point controls are in place to identify and remove bacteria sources can be a more effective approach than spending resources on freshwater river specific fecal coliform that requires analysis similar to a TMDL. Focusing on non-point sources regardless of numeric criteria aligns with the RCW 90.48 requirement of no discharge of pollution. These activities are supported by law and state water quality standards regardless of the existence of a numeric upstream fecal coliform criteria.

Comment 3.9

If no numeric freshwater fecal coliform criteria are developed to protect marine shellfish harvesting uses when such uses exist downstream, Ecology should develop a process for assessing all freshwaters that flow to shellfish harvesting areas for fecal coliform, not just those with existing TMDLs. As mentioned above, Ecology should not wait for impairment in the marine water before taking action to monitor, assess, or take compliance enforcement actions in freshwaters contributing fecal coliform pollution to downstream shellfish growing areas.

Response 3.9

The non-point pollution program conducts source identification studies to identify pollution. Source identification studies identify freshwater sources of bacterial pollution that are of concern and that require enforcement actions, whether there is an existing TMDL or not. State, local, and tribal ambient monitoring programs have the option of monitoring either or both fecal coliform and *E. coli* as they deem necessary. Additionally, if sufficient information are available demonstrating fecal coliform levels in a fresh waterbody may impair downstream shellfish harvesting uses, that information can be submitted through the Water Quality Assessment Call for Data process for consideration of impairment under our narrative criteria.

Comment 3.10

Finally, as ambient monitoring in areas without fecal coliform TMDLs in place shift from fecal coliform to E. coli monitoring in response to the State's revised primary recreational use criteria, it limits the ability to use bacterial results collected as part of ambient recreational use monitoring to determine potential sources of downstream shellfish harvesting use impairment. Ecology should work toward developing a crosswalk or translator to determine if and how freshwater E. coli data could be used for the assessment of freshwaters for the protection of

downstream shellfish harvesting uses in addition to working to develop numeric criteria for freshwaters protective of shellfish harvesting.

Response 3.10

A translation factor to determine a relationship between fecal coliform and *E. coli* is best done on a site-specific level and seasonally. Bacterial indicators' distribution can vary spatially and temporally based on environmental conditions and fecal inputs. These environmental variabilities make it difficult to develop a statewide translation factor between bacterial indicators. In addition, the rule language does not limit what indicators may be used for ambient monitoring and source control.

Comment 3.11

Washington State's Water Quality Standards require that "upstream actions must be conducted in manners that meet downstream water body criteria" in WAC 173-201A-260(3)(b). Table 602 lists the designated uses for specific freshwaters, and should be considered a location to acknowledge the presence of downstream designated uses or downstream waterbodies outside of Washington State jurisdiction, such as waterbodies that extend across borders into other states or onto tribal reservations, that may have more stringent water quality criteria. This information could go into the "Additional info for waterbody" column or into an additional "Downstream uses" column.

Response 3.11

Downstream uses were considered when assigning use designations in the water quality standards for criteria with different levels of protection for a given use. For example, a stream that does not have summer salmonid reproduction may be designated for Core Summer Salmonid Habitat because the downstream use is known to support the Core Summer Salmonid Habitat use. This works when there are different protection levels for a given water quality parameter. Although this already applies to all waterbodies, Ecology will consider adding the provision of protecting downstream uses in section 600 of the standards in a future rulemaking for added emphasis.

4 – Northwest Environmental Advocates

Comment 4.1

It is unclear why Ecology has not already, in preparation for taking public comment on its draft project list, "include[d] an evaluation of Clean Water Act Section 304(a) recommended criteria and determine[d] if we need to update our standards to align with these federally recommended criteria." To have taken this relatively minor step prior to public comment, rather than after, would have been to provide much-needed illumination on the work that is required.

Response 4.1

Ecology has followed procedures outlined in federal regulations at 40 CFR 131.20(a) to hold public hearings for the purpose of reviewing state-adopted water quality standards and to seek public input on standards that should be modified or new standards adopted. As such, we included a draft work plan as part of the public review process to

provide Ecology's thinking on priorities over the next three years and to seek public feedback. 40 CFR 13.20(a) also requires that in addition to holding public hearings, the state must provide an explanation to EPA on CWA Section 304(a) criteria recommendations that it has not adopted or revised. This explanation has been included in the Triennial Review report provided to EPA to meet state obligations for the triennial review.

Comment 4.2

In addition, we would appreciate that Ecology be accurate and complete in its description of actions that it is taking. For example, the project entitled "Adopt updates to freshwater criteria for dissolved oxygen and fine sediment" is described as initiated "in response to federal, tribal, and public feedback for Ecology to better protect salmonid spawning habitat in our state freshwater criteria." While there certainly has been federal and tribal feedback on the deficiencies of Washington's dissolved oxygen criteria, it is equally true that Ecology is required, under the terms of a stipulated dismissal signed October 18, 2018, to propose a criterion and (likely) draft guidance for fine sediments by October 18, 2021, and to have issued a final rule by October 18, 2022, with final guidance not later than 18 months following the date of the final rule. By not being accurate and forthright about this work, Ecology also manages to describe it as updates to criteria and rulemaking when it also, if the fine sediment criteria are narrative, requires the issuance of draft and final guidance on how those criteria will be implemented. The so-called project is far more than just rulemaking and will extend further than a rule adoption "in early 2022."

Response 4.2

The draft work plan provided as part of the triennial review process was intended to provide a summary and overview of rulemaking projects that are currently underway or anticipated. It was not intended to provide the kind of detail you have suggested in your comment. A separate rulemaking was conducted for Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criteria for the protection of salmonid spawning habitat. The rulemaking was recently adopted on March 22, 2022. Details such as those suggested in the comment can be found in documents that are part of the adopted rule available at the rulemaking website.[59]

Comment 4.3

Ecology lists a hodgepodge of possible actions that would both theoretically enhance and diminish protection for various waters. Our view is that given the extreme delays in Ecology's taking actions that would provide much-needed protection for designated uses across the state, neither of these groups of proposed actions are likely of sufficient value to merit near-term action.

[59] https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-201A-Salmon-spawning-habitat

Response 4.3

The section of Ecology's draft Triennial Review Work Plan, "Respond to requests for rule-related actions", is an organized list of actions meant to provide a description of rulemakings that Ecology may initiate in response to public requests to update Washington's standards, where provisions in the standards dictate a response from Ecology within a certain time period. For example, in accordance with Washington Administrative Code (WAC) 173-201A-330(3), the department must respond to a request for an outstanding resource water designation within sixty days of receipt with a decision on whether the information provided meets eligibility requirements. If so, the department is obligated to schedule a review of the nomination.

Comment 4.4

The first category that Ecology lists is to respond to nominations for outstanding resource water (ONRW) designation for various waterbodies. As Ecology should tell the public, the state has no Antidegradation Tier III ONRW-designated waters. Again, it might have been useful to add at least a sentence or two describing what this is in order to facilitate the public's comment. Regardless, the real issue is whether there is any value added to the named (and potential future nominated) waters by an ONRW designation in Washington State. Without looking at the details, nominations tend to be aimed at waters that are not used for permitted discharges, meaning that the greatest or perhaps only threats to their quality is from nonpoint sources. Until Ecology adopts a policy on how specifically it intends to protect ONRW waters from nonpoint sources—including but not limited to inadequate logging practices, nonexistent or inadequate agricultural practices, nonexistent or inadequate rural development practices, or inadequately regulated septic systems—Ecology's designation of ONRW waters is a pointless feel-good exercise. Alternatively, where there are current or future threatened point sources, an argument can be made that such designations may have some merit.

Response 4.4

Comment noted. During conversations with the public on Tier III waters, Ecology has clearly stated that there are not currently any Tier III waters in the state. Until recently, Ecology had not received any nominations for designating a Tier III water. While we note your opinion, we are obligated to follow directives in the water quality standards to determine whether to move forward with a Tier III nomination. Seven major environmental interest organizations in Washington collectively requested a Tier III designation of the Cascade River, Green River, and Napeequa River, and we need to handle their nominations in the manner explained in the water quality standards. These nominations met eligibility requirements required by WAC 173-201A-330(2), and there appears to be local support, which will be important for meeting the higher standards of a Tier III water.

Comment 4.5

The second category is where Ecology considers taking actions to remove existing protections provided by water quality standards through Use Attainability Analyses (UAA) and variances. As stated above, given that Ecology is seriously lagging behind in providing the most fundamental

of protections to species and human health across the state, engaging in such proposed deregulation has little or no merit. Limited resources should be focused on providing environmental and public health protections.

Response 4.5

See response to Comment 4.3. Ecology responds to any formal request for rule action in accordance with our standards and applicable state and federal laws.

Comment 4.6

One of the areas where Ecology has failed to meet the requirements of the Clean Water Act and provide full protection for its designated beneficial uses, including many populations of Endangered Species Act ("ESA")-designated threatened and endangered species, is keeping its aquatic life toxic criteria updated. Ecology's description of how far behind it is in this work fails to provide the public with any meaningful information about how many criteria need to be updated, which criteria are already known to be of concern to some threatened and endangered species, and which criteria include "state-specific information to consider in a complete update to these standards" that would inform public opinion on the four proffered options. As a public notice and comment opportunity, this could not be more bare bones, particularly after an entire decade of failing to conduct the required triennial reviews. Moreover, Ecology has not even suggested a timeline for its options, that range from one to at least three separate rulemakings. For example, when Ecology states that rulemakings can take up to two years to complete, is it proposing to take six or more years to update all of the aquatic life criteria if it goes the route of Option 1? Why does Ecology note that "[t]here are advantages and disadvantages to each approach" but not give the public any insight into what those are in order to better inform public input?

Response 4.6

Rulemaking timelines are very difficult to predict based on changes in priorities, workload changes, stakeholder involvement, and resources. One purpose of the triennial review is to gain feedback from public on what to prioritize. We have thought about several strategies regarding updates to aquatic life criteria and asked for feedback to incorporate into our work plan. More information will become available in 2022 regarding timing of updates to the aquatic life criteria.

Comment 4.7

In addition to Ecology's noting that there are some (unnamed) criteria that require an understanding of Washington-specific water quality, Ecology should also have explained another significant barrier to its adoption of toxic criteria for aquatic species in Washington waters, namely whether it has the expertise to do more than adopt 304(a) recommended criteria. Specifically, the expert federal fish and wildlife agencies charged with protecting ESA-listed species in marine and fresh waters have already determined that species that are the same or similar to those in Washington waters are jeopardized by state regulatory criteria that mirror the 304(a) recommended criteria. Washington cannot simply adopt the 304(a) criteria as a matter of course; it must first determine whether those criteria are in fact adequate to protect aquatic species in Washington.

Response 4.7

Comment noted. Ecology has the expertise to complete the review of EPA's recommended 304(a) criteria. The evaluation of these criteria and their adequacy to protect aquatic life, including ESA listed species, occurs once we have announced an intent to begin rulemaking in compliance with the state's Administrative Procedures Act CR-101 process. Ecology intends to perform a state-specific review of the criteria at that time. In addition, any related ESA reviews in neighboring states has and will continue to inform our aquatic life toxic criteria development.

Comment 4.8

This leads directly to the question: does Washington have the necessary expertise to adopt protective aquatic life criteria? If the answer is "no," the outcome is both inevitable and will lead to an unnecessarily protracted regulatory process. Ecology should determine now if it has the scientific capability of evaluating and adopting criteria that are sufficiently protective of T&E species. Where it knows that it does not have that capability, it should inform EPA now that it is unable to update its criteria, and request that EPA take the actions necessary to do what Washington cannot. Alternatively, Ecology could ask that EPA provide assistance now, rather than waiting to develop a BA later, on what may be unprotective criteria.

Response 4.8

Comment noted. Ecology has the expertise to complete the review of EPA's recommended 304(a) criteria. The discussion of Ecology's resources is not necessary for meeting triennial review requirements, and a review of the resource needs would occur after a determination of the work that must be completed. Any lack of discussion in the triennial review related to Ecology and EPA strategies for developing protective criteria should not be viewed as an indicator that discussions are not occurring.

Comment 4.9

Ecology does not have a method by which it interprets and applies its existing narrative criterion to address toxic chemicals for which it has no numeric criteria or for which its numeric criteria are out of date, as are so many of Washington's. Such methods are needed to implement Washington's existing narrative criterion through 303(d) listings, Total Maximum Daily Loads, NPDES permits, and 401 certifications in what is likely to be an extended interim period before protective numeric criteria are developed, adopted, approved by EPA, and subjected to ESA consultation. They will be needed, again, in the future when numeric criteria once again become out-of-date. And they will always be needed when criteria simply do not exist for the innumerable chemicals in which aquatic species are awash.

Response 4.9

The purpose of narrative criteria is to allow the ability to develop pollution limits where pollutant-specific numeric criteria do not exist or do not effectively protect the uses in a specific waterbody. We understand that implementing narrative criteria can be challenging, and we agree that additional guidance on implementing criteria will be helpful.

Comment 4.10

While Ecology professes a keen interest in helping to protect waters, such as Puget Sound, from so-called emerging chemicals of concern ("CEC"), it has taken no steps to use the regulatory basis in its water quality standards to actually control these pollutants. See e.g., Ecology, *Contaminants of Emerging Concern and Wastewater Treatment* (June 2021) at 13. The report stated that "Ecology is currently working through these SRKW Task Force recommendations." Yet there is nothing in the Triennial Review request for public comments that indicates that Ecology is currently "working through" these recommendations. There is no reference to CECs, let alone how they are impacting orcas and their prey. There is no reference to any other pollutants as being identified now or in the near future as "most harmful" to orcas and their prey.

Response 4.10

Ecology primarily works on CECs through the Chemical Action Plan[60] (CAP) process outlined in the PBT Rule.[61] The process creates a list of recommendations for Ecology to take action against chemicals that pose the highest risks to human health and the environment. Ecology also works outside the CAP process when the need arises. For example, 6-PPD Quinone was recently identified as acutely toxic to coho salmon, and Ecology is working with a broad group of stakeholders on an appropriate response to new findings.

Ecology is not limiting comments on needed updates to water quality standards that could address contaminant chemicals of emerging concern. Where water quality standards revisions can be implemented to effectively reduce these chemicals, Ecology welcomes ideas and strategies available from the public and other state and federal agencies.

Comment 4.11

Washington lacks any water quality standards for nutrient pollution, including even a narrative provision addressing the unhealthy growth of algae and aquatic weeds, ocean acidification, and basic narrative biocriteria, other than in lakes. As with the narrative provision on toxic effects, Ecology has not established how it will interpret and apply this narrative criterion in regulatory actions. As a result, it does not. Moreover, this narrative is very clearly focused only on aesthetic values. As such, it does not address the growths and deposits of nutrient-fueled plant life that affect water column chemistry, such as dissolved oxygen and pH, nor impacts to the food web, as Ecology has been studying in Puget Sound, nor harmful algal blooms ("HAB"). At the very least, Ecology should adopt some simple narrative provisions that will set the stage for guidance on how these future narrative criteria will be implemented in regulatory programs. To do otherwise—in the face of increasing nutrient pollution across the state and climate change that exacerbates this pollution—is to fail in providing the most basic protections required by a

[60] https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals#:~:text=Chemical%20action%20plans%20(CAPs)%2C,human%20health%20and%20the%20environment

[61] https://apps.leg.wa.gov/wac/default.aspx?cite=173-333

state's water quality standards. In short, Washington's water quality standards are part of the reason why Ecology lags so seriously behind in addressing the ever-growing problem of nutrient pollution.

Response 4.11

Ecology effectively implements dissolved oxygen and pH condition criteria to identify problems that may be occurring as a result of nutrients coming from anthropogenic sources. Our dissolved oxygen criteria are designed to be protective of aquatic life, and therefore, it addresses aesthetic and HAB impacts. This is described in Ecology Publication 04-10-033, Nutrient Criteria Development in Washington State – Phosphorus, April 2004.[62]

Trying to establish statewide nutrient criteria for our highly dynamic fresh and marine water systems is a concern because of the level of resources that would be needed to develop such criteria statewide. The complexity of natural regimes of nutrient cycling in each lake or watershed requires setting limits seasonally and spatially on a watershed specific basis. To achieve a protective limit requires that each of these systems be modeled to determine the appropriate nutrient criteria for each waterbody to ensure that dissolved oxygen and pH ambient conditions meet the aquatic requirements. We think our current setup of setting protective DO criteria is a way to achieve the same ends.

For lakes and reservoirs, EPA has recently released *Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs* (2021) which provides numeric nutrient criteria recommendations for total phosphorus, total nitrogen, and chlorophyll *a*. The recommendations provide a promising method that may assist Washington with determining maximum nutrient concentrations in these waters that ensures protection of aquatic life, recreation, and human health. In addition, the criteria include models that apply to all lakes and reservoirs, which may reduce the level of site-specific modeling that was previously necessary to develop protective nutrient criteria. Ecology will be reviewing these recommendations as part of its on-going effort to establish statewide nutrient criteria.

Comment 4.12

Washington's water quality standards also are missing a method for implementing Tier I of the antidegradation policy including, in particular, a way in which Ecology can accept public and public agency input in an ongoing fashion on existing uses that are not designated. Then, periodically, it can take use that information to update its use designations. This really is just some form of a database that would give meaning to the requirement to protect existing uses that have not been designated. We suggest looking at Pennsylvania's method of tracking where "surface water segments where data has been collected or evaluated which indicates that the existing use differs from the designated use[.]" Surely if Pennsylvania can do it, Washington can. The importance of Tier I's protection of existing uses is becoming more clear by the year as

[62] https://apps.ecology.wa.gov/publications/UIPages/SearchPublications.aspx

the ignored impacts of poor water quality on species — from marine mammals to freshwater amphibians — continue to lay waste to these populations.

Response 4.12

Ecology maintains that Tier I protections are accomplished through state programs designed to protect and maintain water quality, including implementation of the standards, NPDES permits, 401 certifications, Water Quality Assessment/303(d) listings, Total Maximum Daily Loads (TMDL), Forest Practices, and other programs. Each of these programs have implementation methodologies, procedures, and protocols established so that standards are appropriately applied to ensure Tier I protection.

In addition, Ecology maintains an online map of designated uses, available as the Water Quality Atlas.[63] The public is able to view designated uses for individual waterbodies, and if errors or other designated uses need to be added or modified for a specific water, Ecology encourages the public to contact us. Further, Ecology has the data and associated information from the 2006 review by the U.S. Fish and Wildlife and Washington Department of Fish and Wildlife, where new specific spawning locations were identified.

We do agree that guidance in implementing the three tiers of antidegradation are helpful, and we will consider further guidance on implementing Tier I as resources allow.

Comment 4.13

Ecology needs to reform Washington's mixing zone rules. First, Washington does not have methods to ensure that the biological integrity of the waterbody is maintained within the boundaries of regulatory mixing zones established in NPDES permits. Biological integrity cannot be ensured without monitoring — within the mixing zone. NWEA has not been able to identify any NPDES permits that require such monitoring. EPA is able to provide Ecology with information on states that have such provisions.

Response 4.13

Comment noted. Ecology does not intend to update the mixing zone rule language at this time.

Comment 4.14

Second, Ecology should provide guidance as to the meaning of the prohibitions in WAC 173-201A-400(4) ("No mixing zone shall be granted unless the supporting information clearly indicates the mixing zone would not have a reasonable potential to cause a loss of sensitive or important habitat, substantially interfere with the existing or characteristic uses of the water body, result in damage to the ecosystem, or adversely affect public health as determined by the department."). Mixing zones are currently used, throughout Puget Sound for example, to avoid effluent limitations on the discharge of toxic chemicals, which are far-field pollutants causing sediment contamination and unsafe tissue residue levels in species. This prohibition could be

[63] https://apps.ecology.wa.gov/waterqualityatlas/wqa/map

used by permit writers to control such pollutants if the water quality standards division would clarify its intent and meaning. Quite frankly, Ecology makes a complete mockery of its detailed attention to water quality criteria for toxics when it blows the entire regulatory system out of the water with the use of mixing zones, particularly for pollutants that build up in depositional areas and bioaccumulate in animal tissue.

Response 4.14

Comment noted. Ecology does not intend to provide additional guidance for the mixing zone rule language at this time.

Comment 4.15

Third, Washington's standards should make clear or clarify that regulatory mixing zones are never allowed in at least the following circumstances: • in waters that would restrict the movement in or out of a tributary; • for parameters that affect public health where people are unable to discern that such pollutants are present (e.g., indicator bacteria); • adjacent to public recreational areas; • in waters containing bivalves; habitat for threatened, endangered, candidate, or sensitive species; fish spawning areas; and intake structures for public drinking water or food processing supplies; • where the water quality standard for the pollutant or affected parameter in question is already violated in the receiving water; and • for far-field pollutants—such as bioaccumulative toxics and nutrients—where effects occur downstream, sometimes far downstream, and for which monitoring is often not done.

Response 4.15

Comment noted. Ecology does not intend to update the mixing zone rule language at this time.

Comment 4.16

Protection of thermal refugia is not on Ecology's list of priorities but, based on information and belief, we think it should be a priority for this triennial review. As NWEA pointed out to the U.S. Environmental Protection Agency in 2013, one of the unintended consequences of Oregon's adoption of temperature standards was permittees' increasing interest in discharging heated effluent to hyporheic zones. Yet these hyporheic zones have been identified by EPA and others as critically important to moderating stream temperatures and providing thermal refugia, in stream nutrient cycling, and in creating unique habitats within streams. We do believe that that the best solution to the ambiguity that currently exists about whether permitting discharges in this fashion is protective of designated uses would be for Ecology to adopt a rule that makes clear that it is unambiguously prohibited. At the same time, it would be appropriate for Ecology also to make clear that any alteration of thermal refugia is prohibited (by any and all sources). In essence, Ecology should, by rule, grant all thermal refugia Tier III antidegradation protections.

Response 4.16

Ecology agrees that the protection of thermal refugia is an important principle of the water quality standards. If time and resources allow, we can work with EPA and other states with shared waters to identify known areas of thermal refugia within specific

waterbodies in Washington. We note that there are already protections in place through Tier II protections outlined in WAC 173-201A-320, as well as numeric and narrative criteria. Delegating Tier III antidegradation protections as an ORW would first require a determination in accordance with WAC 173-201A-330(3) that the specific waterbodies exhibiting seasonally thermal refugia uses met eligibility requirements of an ORW.

5 – Northwest Indian Fisheries Commission

Comment 5.1

Ecology has proposed to adopt two water quality criteria regulations protective of salmonids: 1) dissolved oxygen (DO) and fine sediment, and 2) aquatic life criteria. Ecology needs to adopt protective criteria for affected fish species, and to support the designated harvest use including the treaty fishery. Ecology also must redouble its efforts to assess freshwater bacteria pollutants that could undermine downstream marine shellfish beds, which support treaty-reserved harvests.

Response 5.1

A public comment period was held from October 18, 2021 through December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022. With regard to downstream protection of marine shellfish beds, see the response to Comment 5.5 below, as well as responses to comments received by the Lummi Natural Resources under Comments 3.6 and 3.7.

Comment 5.2

"Early life stages of fish, specifically the developing embryo, are very sensitive to reduced oxygen levels. The scientific literature suggests that embryo survival drops markedly as [intra gravel] DO concentrations fall below 8 mg/L and is close to zero at 5 mg/L. Depending on the water temperature and permeability of the gravels, EPA (1986) has determined that there is an average 3 mg/L drop in DO levels between the water column and the gravel where fish eggs are deposited." Ecology's DO criteria must ensure concentrations above 8 mg/L in spawning habitat.

Response 5.2

We agree that intragravel DO levels should be at 8 mg/L or greater to protect early life stages of salmonids. Our proposed revisions to freshwater DO have incorporated this information as well as additional science in regards to the DO differences between water column and gravels.

Comment 5.3

Ecology must adopt protective fine sediment criteria, and measures and monitoring to ensure protection of spawning habitat.

Response 5.3

A public comment period was held from October 18, 2021 through December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022. In addition, we have provided draft guidance on the implementation of the fine sediment based narrative criterion and will be updating Water Quality Policy 1-11, the listing methodology to meet Clean Water Act sections 303(d) and 305(b), with a new methodology for determining impairment of fine sediment based on the narrative criterion.

Comment 5.4

It's imperative that the State develop or revise criteria for several toxic pollutants. Washington has not adopted new or revised aquatic life criteria since at least 1997, while EPA has issued new or revised CWA Sec. 304(a) recommended criteria, for toxic pollutants, including: acrolein, aluminum, ammonia, arsenic, carbaryl, cadmium, chromium III, copper, cyanide, demeton, diazinon, dieldrin, endrin, guthion, heptachlor epoxide, iron, lindane, malathion, mercury, methoxychlor, mirex, nickel, nonylphenol, pentachlorophenol, PCBs, selenium and trib utyltin. We support Ecology's decision to establish these long-awaited aquatic life criteria for toxics necessary for salmon fisheries and other species in the food web. Ecology should do so promptly, without further delays. Water quality that ensures the survival of salmon, which are safe to consume, helps support the designated fish harvest use.

Response 5.4

We agree that updates to the aquatic life criteria for toxics is necessary and should be a high priority for the water quality program. We anticipate that rulemaking will be announced in 2022.

Comment 5.5

In recent comments to Ecology regarding the agency's proposal to modify freshwater bacterial monitoring and assessment, NWIFC explained that Ecology should continue to utilize all monitoring and assessment tools for fecal coliform in both marine waters, and upstream freshwater with a potential to deliver fecal loads to marine waters designated for shellfish use.3 Ecology should not wait for Washington Department of Health shellfish bed closures, impaired waters listings under Clean Water Act Sec. 303(d), or Total Maximum Daily Load (TMDL) or TMDL alternative approval before commencing fecal coliform assessment. Ecology's assessment program should be proactive and prevent impaired waters classifications and shellfish bed closures by continuing assessment and remediation for fecal coliform in freshwaters upstream of marine waters designated for shellfish use. If needed, in order for Ecology to protect the designated use of marine shellfish and tribal harvest, Ecology should establish numeric fecal coliform criteria and implement water quality assessment for marine and upstream freshwater habitat through its upcoming work plan.

Response 5.5

For Ecology's response, please refer to similar comments received by the Lummi Natural Resources under Comments 3.6 and 3.7 in this document.

Comment 5.6

Finally, federal Endangered Species Act regulators have identified the need to "[e]ngage EPA in consultation during its triennial review of State water quality standards to identify comprehensive and systemic threshold water quality conditions necessary to maintain or reestablish habitat values necessary for listed fish." Ecology's forthcoming work plan should demonstrate all necessary foresight and diligence needed for recovery of ESA listed species.

Response 5.6

The Department of Ecology is prioritizing the adoption of updated aquatic life toxics criteria as our top priority rule effort. Those criteria will need to be done to protect ESA listed species, and our work will include evaluation of the ESA reviews of these criteria in Idaho, Oregon, and Alaska. In addition to our review and analysis, our final adopted criteria will need CWA review and ESA review. This will ensure that any newly adopted criteria to address ESA listed species are indeed protective of those species.

6 – Northwest Pulp & Paper Association

Comment 6.1

NWPPA has been a consistent advocate for Washington Department of Ecology developing and implementing achievable Washington water quality standards that allow facility compliance while being protective of Washington's beneficial uses. NWPPA believes that a measured, rational, science-based approach to standards development results in achievable water standards that are protective – while fulfilling the environmental goal of continuous improvement and avoiding unintended environmental and economic consequences.

Response 6.1

We appreciate your support of water quality standards development in Washington.

Comment 6.2

NWPPA comments that the Department of Ecology has correctly identified the draft project list for water quality program triennial review consideration in years 2022-2024.

Response 6.2

Comment noted. We appreciate your support of the draft work plan.

Comment 6.3

NWPPA comments that Department of Ecology has correctly prioritized completion of the rulemaking to adopt updates to freshwater criteria for dissolved oxygen and fine sediment.

Response 6.3

We appreciate your support for adopting freshwater criteria for dissolved oxygen and fine sediment. A public comment period was held from October 18, 2021 through

December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat. The rulemaking was adopted on March 22, 2022.

Comment 6.4

NWPPA comments that Department of Ecology has correctly prioritized the project to update aquatic life criteria for toxics. NWPPA comments that "Option 4: Review and update all necessary criteria in one rulemaking" is the appropriate approach to conduct the rulemaking to update aquatic life criteria for toxics.

Response 6.4

Comment noted. We appreciate your support for updating aquatic life criteria for toxics. We are currently evaluating strategies to update the aquatic life criteria for toxics. Based on our initial review, we are tentatively leaning towards a single rulemaking to update aquatic life toxics criteria. More information regarding aquatic life updates and a rulemaking will be announced in 2022.

Comment 6.5

NWPPA comments that Department of Ecology has correctly prioritized projects to respond to requests for rule related actions.

Response 6.5

Comment noted. We appreciate your support for actions involving requests for rule-related actions.

Comment 6.6

NWPPA comments that the Department of Ecology has correctly prioritized short-term priorities and that long-term priorities should include any new projects arising in the next several years.

Response 6.6

Comment noted. We appreciate your support for the short-term priorities identified in the work plan. We anticipate that long-term priorities would include any new projects that are identified.

Comment 6.7

NWPPA agrees with and supports the Department of Ecology's statement/approach on prioritizing updates to water quality standards: For example, we may find that we can complete four moderate-value projects in the same time as one large-value project, and thus have greater overall benefits. This approach also allows us to consider the costs and benefits of an action and select the least costly course of action.

Response 6.7

Comment noted. We appreciate your support for our approach to prioritizing updates to the water quality standards.

Comment 6.8

NWPPA comments that completion of these priority projects in 2022-2024 will be very challenging for the Department. Therefore, Department of Ecology should fully concentrate their resources and staff time on NWPPA's suggested priority projects before considering any other new projects.

Response 6.8

Comment noted. We appreciate your support. We do note that priorities can shift if unforeseen directives require us to alter our priorities, such as from EPA or Ecology's Director, but our goal is to take on and complete prioritized projects within the timeframes identified to the best of our ability.

7 – Russell, Don

Comment 7.1

According to Ecology's Water Quality Index only 40 % of Washington State waters have good water quality. 60 % of the State waters have fair or poor water quality. Yet the primary underlying assumption and context of the State's Water Quality Standards is that the State's waters are for the most part in compliance with water quality standards and therefore need to be preserved and protected from degradation by acts of human caused pollution. There is too little emphasis and provision in the current water quality standards on restoring water quality in the 60 % of water bodies characterized as having fair or poor water quality. The current Surface Water Quality Standards focus on retaining the good water quality that exists in only 40 % of State waters but largely neglect how the State is going to secure high quality water for the 60 % of the waters of the State judged to be of fair or poor water quality.

Response 7.1

We appreciate your suggestion. One of the primary intents of the water quality standards is to set limits to preserve and protect designated uses of waterbodies and to prevent degradation. The standards also have antidegradation requirements to prevent a water from being further degraded from its natural state, and to take action when waters are degraded. Sections 303(d) and 305(b) of the Clean Water Act are designed to identify waterbodies that are not in compliance with water quality standards and need actions to bring the water back into compliance, either through a total maximum daily load (TMDL) or other pollution control program designed to protect waters from human degradation.

Comment 7.2

Washington's Water Quality Standards fail to recognize and acknowledge the vital linkage between surface and ground water quality. Water quantity is an attribute of and a vital component of water quality. Preservation, protection and restoration of this groundwater surface water linkage (continuity) is vital to the preservation, protection and restoration of water quality in Washington's surface water bodies.

Response 7.2

Ecology agrees that protection of ground waters, including its linkage to surface waters, is vital to the preservation, protection, and restoration of water quality in Washington's surface waters.

Protection of ground waters are found in the current standards (WAC 173-201A) in a few places:

- 173-201A-260(3)(f)(i)(B). For human-created waters managed primarily for the removal or containment of pollution, these waters must be managed so that any discharge from these system meet down gradient surface and ground water quality standards.
- 173-201A-260(3)(i)(i). In addition to designated water quality uses, wetlands may have existing beneficial uses that are to be protected, including ground water exchange.
- 173-201A-460(1)(a). When considering intake credits to determine reasonable potential and establish water quality based effluent limits, the amount of pollutant that is present in waters of the state includes the amount in groundwater, except in cases where an intake pollutant in groundwater is partially or entirely due to human activity (in these cases, one would not be eligible for use of an intake credit).

In addition to the surface water quality standards, existing and beneficial uses of ground waters are protected in the Water Quality Standards for Groundwaters of the State of Washington (WAC 173-200).[64] These criteria apply to all ground waters in Washington that occur in a saturated zone or stratum beneath the surface of land or surface waters. Ecology also provides implementation guidance[65] for these standards.

Finally, the U.S. Supreme Court ruled in *County of Maui v. Hawaii Wildlife Fund, 590 U.S.* (2020) that NPDES permits (CWA section 402) apply to dischargers when there is a functional equivalent of a direct discharge from a point source through ground waters into navigable waters (e.g., surface waters). This provides an additional mechanism for Ecology to regulate effluent discharges and protect surface waters in cases where water flows from point sources into surface water bodies through a ground water linkage.

Comment 7.3

Nutrient inactivation treatments are designed and applied to bring phosphorus impaired (303 (d) listed) lakes back into compliance with State Water Quality Standards. The treatments that inactivate phosphorus also result in adsorbing and co-precipitating toxic forms of dissolved metal. The 60 % of the State waters that are considered as having fair or poor water quality suffer this condition because they are impaired because of external loading by nonpoint pollution conveyed to these waters by surface water runoff and nutrient laden groundwater.

[64] https://ecology.wa.gov/Water-Shorelines/Water-quality/Groundwater/Groundwater-quality-standards
[65] https://apps.ecology.wa.gov/publications/documents/9602.pdf

The act to restore the natural function of these impaired water bodies is either to prevent their continuing pollution by instituting effective land use practices and metal and nutrient inactivation treatment at the sources of nonpoint pollution or, in the alternative, to apply metal and nutrient inactivation chemicals at the points of entry of nutrient laden surface and ground water into these water bodies or within the water body itself. In so much as it is the Legislature's intent to restore the surface waters of Washington it does not make a lot of sense to consider metal and nutrient inactivation chemicals as pollutants and their application as acts of pollution. The water quality in an impaired water body is already polluted. The application of nutrient inactivation chemicals and sediment removal is intended to restore the natural function and value of a nutrient and sediment impaired water body. Such acts should be encouraged, not discourage, by provisions of the State of Washington's Surface Water Quality Standards.

Response 7.3

Treatment of surface waters for nutrient inactivation and nuisance plants are administered through our aquatic plant and algae management (APAM) general permit. Treatment applications have the potential to cause adverse effects to aquatic life and human health. The APAM general permit aims at protecting aquatic life and human health designated uses while concurrently allowing treatment to address other pollution problems.

Comment 7.4

Washington's metal standards are currently adequate to assure protection of aquatic life, with the except of aluminum, soluble reactive iron and total iron concentration criteria. Aluminum criteria for the protection of aquatic life have been promulgated by USEPA, but not adopted by Ecology. WDOE does have a surface water quality standard for ammonia-nitrogen for the protection of aquatic life. It is pH and temperature moderated. Soluble reactive iron (ferrous) can precipitate on the gills of macroinvertebrates and salmon causing asphyxiation when in excess of 0.35 mg/L. Oxidized insoluble iron (ferric) can settle out on and foul salmon spawning beds and stimulate excessive aquatic plant growth when in excess of 1.0 mg/L. British Columbia has adopted 0.35 mg/L soluble reactive iron criteria to assure protection of salmonid life. USEPA promulgates a total iron concentration criteria of 1.0 mg/L for the protection of aquatic life. WDOE does not have a surface water quality standard for either ferrous or total iron concentration.

Response 7.4

Thank you for the information. We are currently considering updates to all aquatic life criteria, including aluminum and iron.

Comment 7.5

The nutrient criteria that need to be established to protect aquatic life include soluble reactive phosphorus (SRP) at 0.020 mg/L and nitrate-nitrogen at 2.0 mg/L. WDOE does not have a nitrate-nitrogen water quality standard for the protection of aquatic life. Ecology has already adopted USEPA's recommended concentration criteria for ammonia-nitrogen.

Response 7.5

Thank you for the suggestion of including SRP and nitrate-nitrogen into the water quality standards.

Comment 7.6

Other water quality standards that need to be adopted: Alkalinity to protect aquatic life should be equal to or higher than 20 mg CaCO3/L concentration.

Response 7.6

Thank you for the suggestion. We are reviewing all 304(a) recommended criteria not currently in our water quality standards and will consider alkalinity in future rulemaking updates.

Comment 7.7

Other water quality standards that need to be adopted: Sulfide - Hydrogen Sulfide to protect aquatic life should not exceed 2 ug/L as prescribed by USEPA aquatic life criteria. Sulfate concentrations should not exceed those described in a paper titled Sulfate as a Contaminant in Freshwater Ecosystems: Sources, Impacts and Mitigation which can be accessed at: https://conference.ifas.ufl.edu/ncer2011/Presentations/Wednesday/Waterview%20CD/am/0850_Orem.pdf

Response 7.7

Thank you for the suggestion. We will be evaluating all 304(a) recommended criteria and will consider sulfide-hydrogen sulfide in future rulemaking updates.

Comment 7.8

Other water quality standards that need to be adopted: Cyanotoxin concentration limits that are protective of aquatic life should be adopted.

Response 7.8

Thank you for the suggestion of including cyanotoxins for protection of aquatic life into the water quality standards. In addition to aquatic life protections, we are reviewing all recommended section 304(a) criteria from EPA concerning cyanotoxins, including the 2019 *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin*.

Comment 7.9

Other water quality standards that need to be adopted: Sediment physical and chemical criteria that are protective of salmon spawning and rearing activity habitat should be adopted

Response 7.9

Thank you for the suggestion. Ecology currently has proposed a rule that includes revisions to freshwater dissolved oxygen and the addition of a narrative based fine sediment criterion. A public comment period was held from October 18, 2021 through December 16, 2021 on Ecology's proposal to amend dissolved oxygen criteria and add a fine sediment based narrative criterion for the protection of salmonid spawning habitat.

The rulemaking was adopted on March 22, 2022. We are planning a future rulemaking that will involve updates to the aquatic life criteria for toxics.

Comment 7.10

To carry out the Legislature's mandate of preserving, protecting and restoring State waters the current emphasis of the Surface Water Quality Standards on preserving and protecting the 40 % of State waters having good water quality should be counter balanced by an equal, or greater, emphasis on restoring the 60 % of the State waters that are classified as having fair or poor water quality. In this regard there needs to be an understanding that metal, nutrient and sediment impaired streams and lakes are already polluted. To secure high quality surface water and groundwater will require restoration of natural hydrologic conditions, application of chemicals and techniques that inactivate the polluting metals, nutrients and sediment that result in their impairment and restoring other important physical, chemical, and biological conditions that will provide suitable (fit) freshwater habitat conditions for aquatic (salmon) life.

Response 7.10

Thank you for the suggestion. Meeting the water quality standards provides reasonable assurance that aquatic life and human health is protected. If a water body has poor water quality and is not meeting standards, then it is considered impaired. Restoration plans (e.g., TMDLs) are developed based on prioritization and resources for impaired water bodies. This process is aimed at restoring poor water quality conditions to meet the biological requirements of the aquatic life and to protect human health. Washington has also developed antidegradation laws that require water quality not be degraded when it meets or is better than water quality standards.

8 – Snoqualmie Tribe

Comment 8.1

There should be a better process for submitting requests for 303d listings, with more transparency about how Ecology reviews the data submitted by tribes and which data submitted will be used in the determination.

Response 8.1

Comment noted. While this comment is somewhat outside the scope of the triennial review, we want to note that Ecology's Policy 1-11 Chapter 1[66] Sections 1D and 1E describe what and how Ecology evaluates data for use in the Water Quality Assessment process. If there are specific questions on what data may be used, please contact 303d@ecy.wa.gov.

At the beginning of each Water Quality Assessment process Ecology announces a "Call for Data" window, where we invite any interested party to submit numeric data to Environmental Information Management System (EIM) or databases synchronized to the Federal Water Quality Portal (i.e., WQX). Interested parties can also submit any

[66] https://apps.ecology.wa.gov/publications/SummaryPages/1810035.html

relevant narrative data and information, such as 303(d) listing justifications, directly to Ecology. The call for data period has also served as an opportunity for parties to work directly with Ecology to address questions, concerns, or errors regarding datasets. Ecology has delivered this announcement to all Tribal natural resources directors, through Ecology's email listserv, and published this call for data in the Washington State Register during each assessment cycle.

Additionally, in accordance with the Centennial Accord, Ecology offers a preview of the draft Water Quality Assessment to Tribes prior to public review. The review period is an opportunity for Tribes to consult directly with Ecology on concerns regarding the draft Water Quality Assessment. All Washington tribal Natural Resource Directors are invited to consult with Ecology during the Tribal review period prior to each assessment cycle's public review.

We are committed to working with tribes to ensure that tribal data is accessed and used in the development of Washington's Water Quality Assessment. Any suggestions for improvements are appreciated.

Comment 8.2

To facilitate transparency, we request increased communication between Ecology and tribes so that the data that we spend time and resources to collect can be shared and utilized. We also present the following questions: a. Is Ecology using tribal water quality data submitted through WQX? If not, please explain why. b. What can tribes do to make sure their data can be used, accessed, and shared?

Response 8.2

We are committed to working cooperatively with tribes, in accordance with the Centennial Accord established between the State and adjacent federally recognized tribes. In particular, we established an agreement in 1997 to cooperatively manage the Clean Water Act 303(d) Program for the Tribes in Washington State, the Washington State Department of Ecology, and EPA Region 10, including the use of tribal data. We encourage tribal staff to contact our assessment team at 303d@ecy.wa.gov as frequently as needed to ensure the appropriate application of your monitoring data.

To respond to your questions, Ecology does consider and utilize tribal data in WQX. However, we do note that any data collected within tribal reservation boundaries are not used in the Water Quality Assessment, as Washington State water quality standards do not apply in waters flowing through Tribal land.

Depositing data into a publicly available database, such as WQX or the Environmental Information Management System (EIM), is one of the best methods for ensuring data is accessible and shareable. Further, each water quality assessment has a public call-for-data to solicit readily available data and information collected within the data window (typically the ten-year period preceding the call for data).

We put significant importance on the quality and credibility of data for use in the Water Quality Assessment (see Policy 1-11 Chapter 1: Sections 1D and 1E for specific requirements). A few examples of how we exercise this piece of our policy include:

- Data must be collected in Washington State's jurisdictional waters.
- All data must be collected under a quality assurance project plan or similar document in place.
- Any laboratory or analytical methods should be methodologies generally accepted by the scientific community.
- When questions arise during the review of datasets, we regularly request any support quality assurance documents, such as lab reports or field sheets, to support validity of data.

The examples above are not inclusive of all elements necessary to produce a credible dataset for use in the WQA. Ecology recognizes that each dataset is unique. Therefore, we again encourage you to reach out with any questions to 303d@ecy.wa.gov.

9 – Spangrude, Gene

Comment 9.1

My comments relate directly to the Lower Snake River downstream of Clarkston, Washington; and to the current concept of trying to maintain Water Temperatures at less than 68 Degrees Fahrenheit; primarily through the controlled release of Dworshak Reservoir water. I request that this Published USGS Water Temperature Data obtained under 'pre-Lower Snake River Dams Conditions' be considered as part of the current process of discerning the Washington State Water Quality Standards for Water Temperatures on the Lower Snake River; and be considered as part of the 'Scientific Determination' of acceptable Maximum Water Temperatures on the Lower Snake River. Based on the 1950s USGS Data, the 68 Degrees F upper limit currently targeted appears to be quite unrealistic; and appears to be 'quite Un-Natural' based on the actual 'pre-Lower Snake River Dam' conditions experienced and scientifically documented in the 1950s by the United States Geological Survey (USGS).

Response 9.1

Ecology's understanding is that the controlled seasonal releases of cool water from Dworshak dam are related to agreements between federal agencies. However, the state water quality standards currently require the Snake River to not warm greater than 20 degrees Celsius (68 degrees Fahrenheit). The temperature requirement to meet full biological requirements are 17.5°C and 16.0°C, depending on the salmon uses in the waterbody. Given that the 20°C criterion is already higher than these fully protective criteria, we do not anticipate a change to these numeric criteria.

10 – USEPA Region 10

Comment 10.1

EPA supports Ecology for undertaking a triennial review of the state's water quality standards consistent with the federal water quality standards regulations at 40 CFR 131.20.

Response 10.1

Comment noted. We appreciate your support.

Comment 10.2

EPA strongly encourages Ecology to use the triennial review process to update any of Washington's water quality standards that are inconsistent with EPA's revised water quality standards regulations.

Response 10.2

Comment noted. Ecology will review all new and updated section 304(a) criteria recommendations released by EPA. We appreciate working cooperatively with EPA to identify and prioritize issues, not only as part of the triennial review process but also through the biennial Performance Partnership Agreement between EPA and the state.

Comment 10.3

EPA recommends that Ecology conduct a crosswalk to compare Washington's criteria with EPA's current 304(a) recommendations to ensure that water quality standards include up-to-date water quality criteria that are protective of designated uses. If Ecology chooses not to update Washington's criteria to reflect the current 304(a) national criteria recommendations, consistent with the revised federal water quality standards regulations, EPA requests an explanation of the decision rationale when reporting the results of the triennial review to EPA.

Response 10.3

Comment noted. Ecology will provide EPA, in its triennial review submittal, sufficient justification for not adopting any new or updated Clean Water Act section 304(a) criteria recommendations into Washington's Water Quality Standards, consistent with 40 CFR 131.20 and section 303(c)(2) of the Clean Water Act.

Comment 10.4

EPA is supportive of Ecology's efforts to review the Outstanding Resource Waters nominations in accordance with WAC 173-201A-330, which is the Washington's equivalent of the federal antidegradation policy's Outstanding National Resource Water provision at 40 CFR 131.12(a)(3). Such designations would afford Soap Lake, Cascade River, Green River, and Napeequa River with the highest level of protection in the antidegradation policy and provide th at the high water quality be maintained.

Response 10.4

Comment noted. We appreciate EPA's support of designating Tier III waters in the state.

Comment 10.5

EPA notes that there is overlap between Ecology's triennial review priorities and the commitments contained in the most recent Performance Partnership Agreement (PPA), including updating the aquatic life criteria for toxics. We encourage the state to continue to prioritize the projects identified in Chapter 9, Section 4 of the PPA.

Response 10.5

Comment noted. We agree that there is overlap with the triennial review priorities and commitments made in the biennial PPA that is established cooperatively between EPA and Ecology on behalf of the state. We take the PPA commitments in Chapter 9, Section 4 very seriously and strive to meet the timelines to be best of our ability. Any unavoidable delays are noted in the progress reports submitted to EPA every 6 months as part of the PPA.

11 – Washington Wild, et al.

Comment 11.1

We, the undersigned 50 organizations, appreciate the opportunity to comment on the Washington Department of Ecology's 2021 Triennial Review of Surface Water Quality Standards: Draft Work Plan to Update the Water Quality Standards for 2022-2024 (Draft Work Plan), dated July 2021. We support Ecology's work to comply with the federal Clean Water Act and review surface water quality standards through the Triennial Review process. This process is essential to identify priorities for work that Ecology is going to undertake between 2022 and 2024.

Response 11.1

Comment noted. We appreciate the support for the triennial review process.

Comment 11.2

The Draft Work Plan includes a list of projects that Ecology is initiating or considering undertaking between 2022-2024. Among the projects being considered are rulemakings in response to requests to update the state water quality standards and designate several river systems as Tier III(A) Outstanding Resource Waters (ORWs) pursuant to WAC 173-201A-330. Nominations to designate the Cascade River (Skagit County), Green River (Skamania and Lewis counties), and Napeequa River (Chelan County) were submitted to Ecology on June 24, 2021 by several of the undersigned organizations. Designation of these river systems would benefit the state's people, its economy, its wildlife, and its salmon. It is essential that the state take steps now to protect some of its remaining high-quality rivers that provide numerous benefits to Washingtonians. We urge Ecology to prioritize ORW rulemakings for the Cascade, Green (Mount St. Helens), and Napeequa rivers in the final work plan, which will reflect projects Ecology will initiate from 2022-2024.

Response 11.2

Thank you for your comment and your continued interest in forwarding these waterbodies to the rulemaking phase for Tier III protections. As noted in this triennial review submittal, we intend to seek agency approval to move these forward as part of our priority work.

12 – Windward Environmental

Comment 12.1

Windward is in favor of Ecology's Option 1 or Option 2 for Aquatic Life Criteria Strategies. There have been many improvements to the understanding of bioavailability and toxicity since the 1992 National Toxics Rule—the basis for many of Washington's aquatic life criteria—that are unique to metals and warrant careful consideration. We are concerned that these issues might get lost, muddled, or bogged down in the "all at once approach" of Option 4, as happened in the last triennial review with the "tricky" chemicals for human health water quality criteria.

Response 12.1

Thank you for providing your preferred option for aquatic life toxics rulemaking. We are currently evaluating each of these strategies. Based on our initial review, we are tentatively leaning towards a single rulemaking to update aquatic life toxics criteria. More information regarding aquatic life updates and a rulemaking will be announced in 2022.

Comment 12.2

Windward also supports a public involvement process that includes some webinar/training for the public and stakeholders that focuses on the science supporting newer metals criteria. We fully support adoption of the copper biotic ligand model (BLM), which is the basis for EPA's copper aquatic life ambient water quality criteria and for aquatic life criteria in Idaho and Oregon. BLMs have also been developed for several other metals, including cadmium, lead, nickel, and zinc. The BLM combines a mechanistic understanding of toxicity processes with site-specific chemistry data to improve predictions of bioavailability. Appropriate introduction to the tool and how to use it are critical to earning the confidence and support of the Ecology team, the regulated community, and the public. Windward hosts the BLM on our website, where it is freely available to the public. We can also offer support to Ecology by meeting with Ecology staff and/or providing an educational webinar on the BLM that includes practical considerations for its use, such as appropriate collection and organization of chemistry data.

Response 12.2

Thank you for the information and the offer to meet with Ecology. While considering updates to the aquatic life criteria for toxics, we intend to evaluate the BLM models that have been recommended by EPA and determine if they are appropriate for Washington's standards. We look forward to your involvement in updates to aquatic life criteria through the public rulemaking process.

Comment 12.3

Ecology may already be aware that EPA has a Cooperative Research and Development Agreement with several metals associations, with the objective of developing updated bioavailability-based metals criteria. Different metals bioavailability models are being considered, including the BLM and multiple linear regression (MLR)-based approaches. This ongoing process may be useful to Ecology as it considers approaches for developing updated metals criteria.

Response 12.3

Thank you for the information. Any future EPA 304(a) recommendations for metals will be considered for adoption.

13 – Zero Waste Washington

Comment 13.1

For Update aquatic life criteria for toxics: Please use option 4. While it might be a little longer, it will ultimately mean less delay overall. Toxic chemicals are critical to update!

Response 13.1

Thank you for your input. We are currently evaluating strategies to update the aquatic life criteria for toxics. Based on our initial review, we are tentatively leaning towards a single rulemaking to update aquatic life toxics criteria. More information regarding aquatic life updates and rulemaking will be announced in 2022.

Comment 13.2

We recommend that plastic and aquatic litter be prioritized for inclusion in the next water quality assessment and 303(d) list preparation. There is considerable evidence now about the impacts on wildlife and thus the potential impairment of beneficial uses.

Response 13.2

Ecology does not currently have in place surface water quality standards specific to plastic or aquatic litter. However, our narrative criteria apply to this and other deleterious material. Any publicly available and scientifically credible aquatic litter datasets or information will be evaluated using these narrative water quality standards to determine potential impacts to beneficial uses. To be considered in the 303(d) listing process, the data would need to include: 1) documentation of a designated use impairment within a specific waterbody; and 2) documentation that measured plastic or aquatic litter levels are causing the documented designated use impairment within the same waterbody. *See* Water Quality Policy 1-11 Chapter 1[67] Section 1E Subsection: Information Submittals Based on Narrative Standards.

[67] https://apps.ecology.wa.gov/publications/SummaryPages/1810035.html