



# **2025 Triennial Review of Surface Water Quality Standards**

**2025-2027 Draft Workplan**

**Water Quality Program**

Washington State Department of Ecology  
Olympia, Washington

February 2025, Publication 25-10-002



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## Contact Information

### Water Quality Program

P.O. Box 47600  
Olympia, WA 98504-7600  
Phone: 360-407-6600

**Website**<sup>1</sup>: [Washington State Department of Ecology](http://www.ecology.wa.gov)

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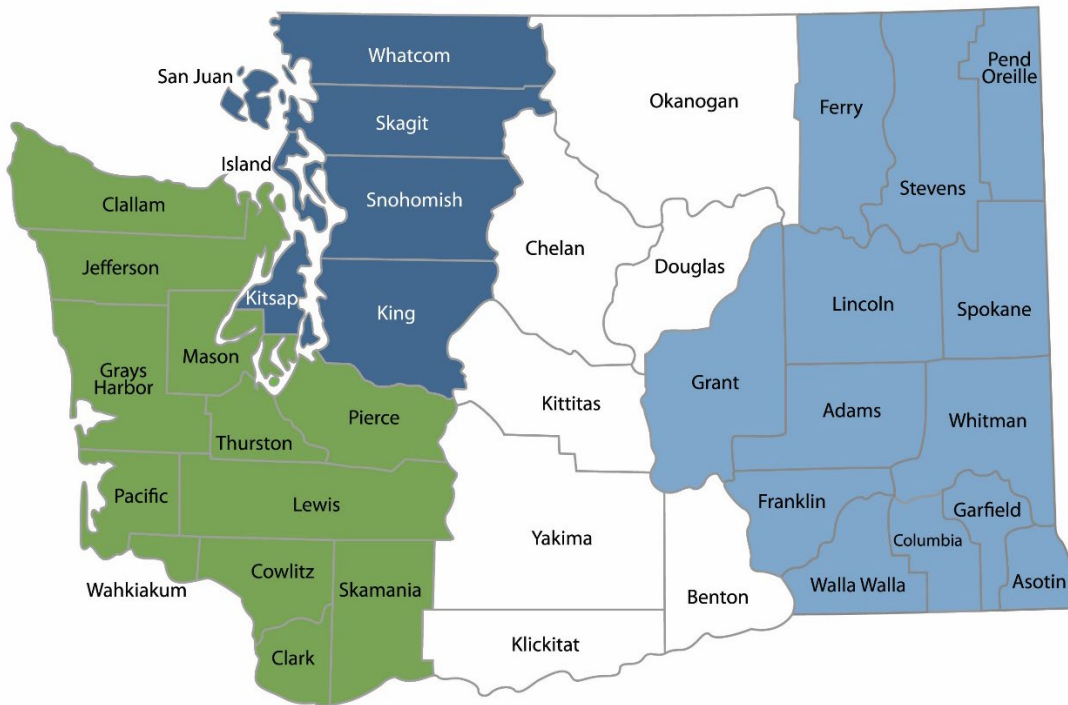
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## Map of Counties Served



<b>Southwest Region</b> 360-407-6300	<b>Northwest Region</b> 206-594-0000	<b>Central Region</b> 509-575-2490	<b>Eastern Region</b> 509-329-3400
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Region	Counties served	Mailing Address	Phone
<b>Southwest</b>	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
<b>Northwest</b>	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
<b>Central</b>	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
<b>Eastern</b>	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
<b>Headquarters</b>	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

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DEPARTMENT OF  
**ECOLOGY**  
State of Washington

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# Triennial Review Draft Work Plan

## Introduction

Washington Department of Ecology (Ecology) is starting a Triennial Review of the surface water quality standards in Chapter 173-201A Washington Administrative Code (WAC). This report provides a draft workplan for projects we propose to begin between 2025 and 2027 that would revise or provide information for future updates to the water quality standards. We invite Tribes and the public to comment on this workplan until 11:59 p.m. on April 22, 2025. For more information on how to comment, see our [water quality standards webpage](#)<sup>2</sup>.

## Background

The Federal Clean Water Act (CWA) requires states to periodically hold a public review of the surface water quality standards (40 Code of Federal Regulations (CRF) § 131.20). This process is called a Triennial Review. A Triennial Review is a public involvement opportunity that helps inform our workplan for the next three years. It is not a rulemaking process. Rather, each project identified in the workplan will have its own process for Tribes and the public to give us feedback and formally comment. Each rulemaking will also complete an environmental justice analysis as required by the Healthy Environment for All (HEAL) Act.

This review discusses the state's priorities and commitments to update surface water quality standards between 2025 and 2027, and evaluates whether the water quality standards meet the requirements of the CWA. We regularly update the water quality standards to:

- Reflect new scientific information on the protection of designated uses.
- Align with water quality criteria recommended by the Environmental Protection Agency (EPA).
- Reflect agency or legislative priorities.
- Respond to requests from Tribes or the public.

## How to comment

We are accepting comments from 12 a.m. on February 25, 2025, until 11:59 p.m. on April 22, 2025. You can comment:

- Online using our [online comment form](#)<sup>3</sup>
- Comment by mail (postmarked by April 22, 2025):

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<sup>2</sup> <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Updates-to-the-standards>

<sup>3</sup> <https://wq.ecology.commentinput.com?id=FMCVcP54g>

## Triennial Review Draft Work Plan:

Marla Koberstein  
Department of Ecology, Water Quality Program  
PO Box 47600  
Olympia, WA 98504-7600

- Comment during the public hearing on April 15, 2025

We are looking for feedback on our draft workplan and any other actions Ecology should take to update the water quality standards between 2025 and 2027. We also welcome any new information available about Tribal reserved rights applicable to Washington waters that we should consider when updating our water quality standards, as required under the federal Tribal reserved rights rule adopted in 2024.

### Looking back on the 2021 Triennial Review

The last Triennial Review of our surface water quality standards was held from July 20, 2021 through September 16, 2021, and the [final workplan](#)<sup>4</sup> was submitted to the EPA in April 2022. Following the 2021 Triennial Review, Ecology completed the following actions related to the surface water quality standards:

- Updated the freshwater aquatic life criteria for dissolved oxygen and added narrative fine sediment criteria (adopted and submitted to EPA in 2022; waiting on EPA approval). Following this rulemaking, we also completed fine sediment implementation guidance for applying the narrative fine sediment criteria (completed in 2023).
- Adopted the state's first outstanding resource waters designations for Soap Lake, and parts of the Cascade, Napeequa, and Green rivers (adopted in 2023; approved by EPA in 2024).
- Updated the aquatic life toxics criteria, including adding criteria for 14 new toxic chemicals and updating existing criteria for 16 toxic chemicals (adopted and submitted to EPA in 2024; waiting on EPA approval).
- Updated natural conditions provisions (adopted in 2024).
- Adopted the federal human health criteria set by the EPA for Washington (adopted and approved by EPA in 2024).

Our [surface water quality standards webpage](#)<sup>5</sup> has information on our recent updates to the standards.

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<sup>4</sup> <https://apps.ecology.wa.gov/publications/summarypages/2210002.html>

<sup>5</sup> <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-standards/Updates-to-the-standards>

## Next steps

Following the comment period on this draft workplan, we will review and respond to comments and submit a final workplan to the EPA. Ecology will then proceed with initiating rulemakings over the next three years to update the water quality standards based on the final workplan.



## Draft project list

The following table describes the projects Ecology is considering starting between 2025 and 2027. Each rulemaking typically takes 1.5 to 3 years to complete, and project timing depends on a variety of factors, including staff workload and agency priorities. Following the table, we have provided additional information on each project.

### Project group ranking

Project group ranking is based on agency priorities established through the CWA 304(a) criteria review, previous Tribal and public feedback, and readiness to initiate a rulemaking on the topic. Projects are generally classified as:

- Project group 1: Ecology has the resources and technical information to begin in the next three years, or the project is already underway.
- Project group 2: Ecology will be conducting a technical review of information to consider updating the water quality standards.
- Project group 3: Ecology is exploring whether sufficient information is available to develop water quality standards to be reflected on future Triennial Review workplans.

Table 1 Water Quality Standards priority updates for 2025 to 2027

No.	Project name	Description	Rule section(s) affected in Chapter 173-201A	Project group
1	Performance-Based Approach Methodology Document – marine dissolved oxygen	Publish final methodology for calculating natural conditions criteria for marine dissolved oxygen.	N/A	1
2	Recreational criteria for cyanotoxins	Establish freshwater numeric recreational criteria for cyanotoxins such as microcystins and cylindrospermopsin.	200, freshwater designated uses and criteria	1

Triennial Review Draft Work Plan: Draft project list

<b>No.</b>	<b>Project name</b>	<b>Description</b>	<b>Rule section(s) affected in Chapter 173-201A</b>	<b>Project group</b>
3	Lake nutrient criteria	Establish criteria for total nitrogen, total phosphorus, and chlorophyll in lakes and reservoirs.	230, Establishing lake nutrient criteria	1
4	Performance-Based Approach Methodology Document – freshwater temperature	Develop new chapter in Performance-Based Approach methodology document for calculating natural conditions criteria for freshwater temperature.	N/A	1
5	Respond to requests for rule-related actions	Respond to public petitions as needed, such as for outstanding resource waters nominations, use attainability analyses or variances.	Varies	2
6	Aquatic life toxics – Iron, hydrogen sulfide, heptachlor epoxide, alkalinity	Review new scientific studies since EPA’s last criteria update to determine if EPA’s minimum data requirements are met to derive aquatic life criteria and consider updates for WA.	240, Toxic substances	2
7	Aquatic life toxics – PFOS and PFOA	Review EPA final 304(a) criteria and consider updates to WA criteria.	240, Toxic substances	2
8	Aquatic life toxics criteria for chemical mixtures	Explore the development of water quality criteria to address chemical mixtures within chemical classes (e.g., PAHs, PCBs, PBDEs, pesticides) known to have toxic effects on aquatic species.	240, Toxic substances	3

Triennial Review Draft Work Plan: Draft project list

No.	Project name	Description	Rule section(s) affected in Chapter 173-201A	Project group
9	Water quality standard developments	<p>We will evaluate EPA’s recently released draft human health criteria for PFOA, PFOS, and PFBS and will consider finalized criteria for inclusion into WA standards once completed.</p> <p>We will evaluate any new work released from EPA’s Cooperative Research and Development Agreement (CRADA) project that aims to develop new bioavailability models for metals criteria.</p> <p>We will continue to track EPA’s recently proposed rule to use EPA’s Office of Pesticide Programs aquatic life benchmarks as CWA 304(a)(1) criteria or 304(a)(2) benchmarks.</p> <p>We will track EPA’s criteria development efforts for ions, mercury, cyanide, arsenic, and selenium aquatic-dependent wildlife.</p>	Various	3

## Project descriptions

### Project group 1

#### 1. Performance-based approach methodology document – marine dissolved oxygen

##### Description

The performance-based approach methodology document, titled, *A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington*, details the methods Ecology will use to establish natural conditions criteria. At this time, we will detail methods for deriving natural conditions criteria for marine dissolved oxygen only. Following the completion of the marine dissolved oxygen chapter, we will draft methods for deriving freshwater temperature criteria (see description below “4. Performance-Based Approach Methodology Document – freshwater temperature.” In the future, we will also consider developing methods for temperature in marine water, and dissolved oxygen and pH in freshwater, which would be incorporated in future Triennial Review workplans.

We plan to have a final draft document for review in Spring 2025. After considering comments from Tribes and the public, we will finalize the document and submit to the EPA for review and approval.

##### Reason for priority

In 2024, we provided a draft methodology document for calculating natural conditions as part of our Natural Conditions rule proposal packet for public review. This document is referenced in a newly adopted section of the water quality standards, [WAC 173-201A-470, Performance-based approach](#)<sup>6</sup> (adopted Nov. 2024). Based on feedback from the public and Tribes, we are revising this document and will provide another opportunity for comment before we publish a final methods document.

For more information, visit the [natural conditions rulemaking webpage](#).<sup>7</sup>

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<sup>6</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=173-201A-470>

<sup>7</sup> <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/closed-rulemaking/wac-173-201a-natural-conditions>



## **2. Recreational criteria for cyanotoxins**

### **Description**

Harmful algal blooms occur when groups of algae grow in excess and produce toxins that can harm people and animals. Cyanobacteria, also called Blue-Green Algae, are a group of microorganisms that can produce toxins such as microcystins and cylindrospermopsin that are particularly harmful to humans. Other harmful toxins produced by cyanobacteria include anatoxin-a and saxitoxin.

### **Reason for priority**

In 2019, the EPA published final recommended human health recreational water quality criteria for two toxins produced by cyanobacteria: microcystins and cylindrospermopsin. In our 2021 Triennial Review, we noted that Ecology will consider these recommended criteria in future rulemakings. We may also consider developing criteria for other toxins produced by cyanobacteria that the EPA has not published final recommended criteria for, including anatoxin-a and saxitoxin.





### 3. Lake nutrient criteria

#### Description

Healthy lakes provide habitat for fish and wildlife, sustain food webs, support tourism and recreation, and supply drinking water. Excess nutrients into lakes and reservoirs can contribute to algal blooms, including ones harmful to humans and aquatic life, which can deplete oxygen levels, have negative impacts on recreation, and reduce overall ecological and public health.

As part of this project, we'll review the EPA's final recommended criteria associated with nitrogen pollution in lakes and reservoirs, and any other up-to-date information to derive protective criteria for Washington's lakes.

#### Reason for priority

In 2021, the EPA published final recommended ambient water quality criteria to address nutrient pollution in lakes and reservoirs. These recommended criteria are for Total Nitrogen, Total Phosphorus, and Chlorophyll *a*, and protect aquatic life, recreation, and drinking water sources. In our 2021 Triennial Review, we noted that Ecology will consider these recommended criteria in future rulemakings. Further, it is the EPA Office of Water's goal to accelerate progress of state adoption of numeric nutrient water quality standards ([EPA National Nutrient Strategy](https://www.epa.gov/nutrientpollution/national-nutrient-strategy)<sup>8</sup>). These lake nutrient criteria would complement Washington's existing DO criteria for lakes to identify and address nutrient issues in these systems.

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<sup>8</sup> <https://www.epa.gov/nutrientpollution/national-nutrient-strategy>



#### **4. Performance-Based Approach Methodology Document – freshwater temperature**

##### **Description**

The performance-based approach methodology document, titled, *A Performance-Based Approach for Developing Site-Specific Natural Conditions Criteria for Aquatic Life in Washington*, details the methods Ecology will use to establish natural conditions criteria. Currently, our focus is finalizing the methods to determine natural conditions criteria for marine dissolved oxygen only. However, we are also exploring additional possible methods for other criteria that would be added to this document. One such future methodology would be a repeatable, scientific approach for calculating temperature criteria based on natural conditions in freshwater systems.

##### **Reason for priority**

In 2024, we provided a draft methodology document for calculating natural conditions as part of our Natural Conditions rule proposal packet for public review. This document is referenced in a newly adopted section of the water quality standards, [WAC 173-201A-470, Performance-based approach](#)<sup>9</sup> (adopted Nov. 2024). Based on feedback from the public and Tribes, we are revising this document and focusing first on the natural condition methodology for marine dissolved oxygen criteria. Once EPA approves the marine dissolved oxygen chapter, we plan to develop the next chapter focused on freshwater temperature criteria.

A methodology for freshwater temperature is a priority for Ecology as natural conditions were a key part of our updated temperature criteria adopted in 2003. Natural conditions criteria were a tool suggested by EPA to address areas with naturally warmer temperatures that would exceed the biologically-based numeric criteria, but still supported aquatic life designated uses

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<sup>9</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=173-201A-470>

## Project descriptions: Project group 1

(e.g., streams in eastern Washington). If we do not develop this methodology, Ecology would need to undergo site-specific rulemaking for determining protective natural conditions criteria for these naturally warmer systems, and each rulemaking would require separate EPA review and approval, including applicable consultation with the ESA-listing agencies.

For more information, visit the [natural conditions rulemaking webpage](#).<sup>10</sup>

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<sup>10</sup> <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/closed-rulemaking/wac-173-201a-natural-conditions>



## Project group 2



### 5. Respond to requests for rule-related actions

#### Description

We may initiate rulemakings in response to public requests to update the water quality standards as provided by these rules.

Examples of these kinds of projects include:

- **Proposing designations for outstanding resource waters that meet eligibility requirements under WAC 173-201A-330.** Outstanding resource waters (ORWs) are waterbodies with exceptional water quality, ecological and recreational value, or regionally unique characteristics that have a special designation by the state. This designation protects waters from actions that would lower water quality. Proposed activities that would result in permanent new or expanded sources of pollution in an ORW are prohibited, except in limited cases.

Any person can nominate a waterbody as an outstanding resource water. A nomination must include sufficient information to show that the waterbody meets the eligibility criteria listed in WAC 173-201A-330. Ecology then has 60 days after receiving a nomination to determine if the information submitted meets the eligibility criteria. During this time, Ecology notifies Tribes, local jurisdictions, and other stakeholders of the nomination. If Ecology determines that the waterbody is eligible, we schedule a rulemaking to review the nominated waterbody for designation as an outstanding resource water. The review includes a formal public comment period and consultation with Tribes.

Ecology has designated four waterbodies as outstanding resource waters. Ecology will continue to prioritize the protection of high-quality waters such as those that provide critical habitat, unique value or cold water thermal refuge for the protection of aquatic life.

- **Reviewing the appropriateness of a designated use assigned to a waterbody, called a Use Attainability Analyses (UAA).** A UAA can be considered for specific waterbodies where the assigned water quality standards use designation is not existing nor attainable for a specific waterbody.

An example of a UAA rulemaking is the Chelan River UAA, which was adopted and submitted to EPA in 2021, and is currently under review. See the [rulemaking webpage](#)<sup>11</sup> for more information.

- **Considering requests for a temporary change to the water quality standards, called a variance.** A variance is a time-limited water quality standard that maintains the ultimate goal of meeting water quality criteria in a step-by-step process. Federal and state water quality regulations allow the use of variances under specific circumstances.

### **Reason for priority**

Washington's water quality standards include provisions that allow an entity to request an action where specified in the standards. Upon request, the agency will consider the request, and in some cases, a response to the request is required within a specified time. For example, Ecology must respond to a request for an outstanding resource water designation, or a Use Attainability Analysis, within 60 days of receipt.

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<sup>11</sup> <https://ecology.wa.gov/regulations-permits/laws-rules-rulemaking/closed-rulemaking/wac173-201a-chelan-uaa>



## **6. Develop aquatic life toxics criteria Iron, hydrogen sulfide, heptachlor epoxide, and alkalinity**

### **Description**

The EPA has recommended aquatic life criteria for iron, hydrogen sulfide, heptachlor epoxide, and alkalinity. EPA has not updated the recommended criteria for these pollutants since the 1980's and the criteria recommendations are based on limited scientific studies. The criteria recommended for these four pollutants do not follow EPA 1985 guidelines for the derivation of aquatic life criteria.

### **Reason for priority**

Tribes and the public expressed interest in the state considering aquatic life criteria for iron, hydrogen sulfide, heptachlor epoxide, and alkalinity. We intend to evaluate new scientific studies since EPA last updated their recommendations for aquatic life criteria. We will evaluate the scientific studies to determine if minimum data requirements are met to derive aquatic life criteria for these pollutants. Based on this evaluation, we will decide on whether to proceed with rulemaking to adopt aquatic life criteria for these pollutants.

## **7. Update aquatic life toxics criteria for PFOA and PFOS**

### **Description**

Washington adopted perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) aquatic life toxics criteria in August 2024. PFOA and PFOS criteria adopted by Washington were based on the EPA's 2022 draft recommendations. The EPA finalized their recommended criteria for PFOA and PFOS in September 2024 after we completed our rulemaking update to aquatic life toxics criteria. The EPA's final criteria values differ from the draft criteria proposed for PFOA and PFOS.

### **Reason for priority**

The EPA's final freshwater acute and chronic criteria for PFOS and freshwater acute for PFOA are significantly lower than their draft recommendations. Washington adopted EPA's draft recommendations for PFOS and PFOA. We will evaluate whether Washington's PFOA and PFOS criteria are protective of aquatic life, including endangered species, and if we should adopt EPA's final recommended criteria.

## Project group 3

### 8. Aquatic life toxics criteria for chemical mixtures

#### Description

The environment consists of complex mixtures of different chemicals, some of which are toxic. The EPA and the state of Washington currently regulate chemicals on an individual basis. In most cases, water quality criteria exist for the most toxic or prevalent chemicals within a chemical class, although several other chemicals are present in smaller amounts and their toxicity is unknown. Washington does not currently have a method to develop water quality criteria for chemical mixtures and EPA does not have national recommendations.

Chemicals that are detected less frequently or are less toxic are often less studied and thus, there are data gaps in toxicity information. Chemicals within the same class are often similar in their physiochemical characteristics but have minor deviations in structure that result in different toxicity and movement in the environment. Evaluating the toxicity of mixtures requires that we determine each individual chemical's contribution to the overall toxicity of a mixture. There are potential approaches to characterize mixtures of chemicals within the same class when toxicity data does not exist, such as relative potency factors, predictive models, and using physiochemical characteristics. These approaches need to be explored to determine their feasibility in developing water quality criteria for chemical mixtures.

#### Reason for priority

Interested public have expressed interest in addressing mixtures of chemicals within chemical classes (e.g., polycyclic aromatic hydrocarbons, polybrominated diphenyl ethers, polychlorinated biphenyls, pesticides) known to be detrimental to aquatic life. We aim to review the current toxicity data for individual chemicals within chemical classes known to be prevalent in the environment and determine if there are approaches to develop water quality criteria that can address mixture toxicity. This work will be useful in identifying toxicity data gaps for chemicals and will outline potential approaches to water quality criteria for chemical mixtures. We have prioritized this as a Group 3 project because we intend to begin informational gathering and there is uncertainty regarding a pathway forward that would result in a future rulemaking.

## 9. Tracking water quality standard developments

### Description

EPA intermittently takes action to update national recommendations and guidance for water quality standards. We plan to actively participate in opportunities to evaluate and comment on EPA's work. We will evaluate whether Washington should update water quality standards based on this new information. Items that may be of interest and that will need to be evaluated in the next three years may include but are not limited to:

- Human health criteria for perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and perfluorobutane sulfonic acid (PFBS).
- New bioavailability models for metals criteria
- Inclusion of EPA's Office of Pesticide Programs aquatic life benchmarks as CWA 304(a)(1) criteria or 304(a)(2) benchmarks, and
- Criteria development efforts for ions, mercury, cyanide, arsenic, and selenium aquatic-dependent wildlife.

### Reason for priority

We continually evaluate new water quality standard developments that can improve protection of Washington's waters and evaluate how we can integrate new tools to address water quality issues.



## 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. The EPA recommends water quality criteria that are categorized as aquatic life criteria, human health criteria (including protection for recreation), or organoleptic effects (such as taste and odor). EPA’s current national criteria recommendations for water quality are available on their [Water Quality Criteria page](#).<sup>12</sup>

### State Evaluation of CWA 304(a) Criteria Recommendations

The tables below list Ecology’s evaluation of nationally recommended CWA section 304(a) criteria. For each parameter, we provide the source of the recommended criteria and Ecology’s determination. Our determinations are described as follows:

- **Future Action:** Ecology will consider adoption of these recommended criteria in upcoming rulemaking efforts or EPA may promulgate these criteria for the State.
- **Optional action: non-priority:** Ecology may consider adoption of these non-priority pollutant criteria, but we are not required to develop criteria for these parameters.
- **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.

### Human health criteria

We currently have no actions related to updating the human health criteria for toxic substances planned for this Triennial Review. In November 2024, Ecology updated the human health criteria in Washington Administrative Code (WAC) 173-201A-240, Toxic substances, to:

- Remove 143 human health criteria that had been disapproved by the EPA; and
- Adopt 146 human health criteria that the EPA put in place for Washington under 40 CFR 131. 45, Revision of certain Federal water quality criteria applicable to Washington.

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<sup>12</sup> <https://www.epa.gov/wqc>

Appendix A: Evaluation of CWA 304(a) criteria recommendations

The EPA also publishes recommended human health recreational criteria, such as for certain cyanotoxins associated with harmful algal blooms. As indicated in this 2025 draft workplan, Ecology is considering addressing certain cyanotoxin criteria in the next three years.

Table A-1 Evaluation of human health CWA section 304(a) criteria recommendations

\*Priority pollutants are identified using “(P)” following the parameter name.

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>Antimony (P)</b>	EPA 2002	Already Addressed
<b>Arsenic (P)</b>	EPA 2002	Already Addressed
<b>Asbestos (P)</b>	EPA 2002	Already Addressed
<b>Copper (P)</b>	EPA 2002	Already Addressed
<b>Methylmercury (P)</b>	EPA 2001	Already Addressed
<b>Nickel (P)</b>	EPA 2002	Already Addressed
<b>Selenium (P)</b>	EPA 2002	Already Addressed
<b>Thallium (P)</b>	EPA 2003	Already Addressed
<b>Zinc (P)</b>	EPA 2002	Already Addressed
<b>1,1,1-Trichloroethane (P)</b>	EPA 2015	Already Addressed
<b>1,1,2,2-Tetrachloroethane (P)</b>	EPA 2015	Already Addressed
<b>1,1,2-Trichloroethane (P)</b>	EPA 2015	Already Addressed
<b>1,1-Dichloroethylene (P)</b>	EPA 2015	Already Addressed
<b>1,2,4,5-Tetrachlorobenzene</b>	EPA 2015	Optional action: Non-priority
<b>1,2,4-Trichlorobenzene (P)</b>	EPA 2015	Already Addressed
<b>1,2-Dichlorobenzene (P)</b>	EPA 2015	Already Addressed
<b>1,2-Dichloroethane (P)</b>	EPA 2015	Already Addressed
<b>1,2-Dichloropropane (P)</b>	EPA 2015	Already Addressed
<b>1,2-Diphenylhydrazine (P)</b>	EPA 2015	Already Addressed
<b>1,2-Trans-Dichloroethylene (Trans-1,2-Dichloroethylene) (P)</b>	EPA 2015	Already Addressed
<b>1,3-Dichlorobenzene (P)</b>	EPA 2015	Already Addressed
<b>1,3-Dichloropropene (P)</b>	EPA 2015	Already Addressed
<b>1,4-Dichlorobenzene (P)</b>	EPA 2015	Already Addressed



Appendix A: Evaluation of CWA 304(a) criteria recommendations

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>2,3,7,8-TCDD (Dioxin) (P)</b>	EPA 2002	Future Action
<b>2,4,5-Trichlorophenol</b>	EPA 2015	Optional action: Non-priority
<b>2,4,6-Trichlorophenol (P)</b>	EPA 2015	Already Addressed
<b>2,4-Dichlorophenol (P)</b>	EPA 2015	Already Addressed
<b>2,4-Dimethylphenol (P)</b>	EPA 2015	Already Addressed
<b>2,4-Dinitrophenol (P)</b>	EPA 2015	Already Addressed
<b>2,4-Dinitrotoluene (P)</b>	EPA 2015	Already Addressed
<b>2-Chloronaphthalene (P)</b>	EPA 2015	Already Addressed
<b>2-Chlorophenol (P)</b>	EPA 2015	Already Addressed
<b>2-Methyl-4,6-Dinitrophenol (4,6-dinitro-o-cresol) (P)</b>	EPA 2015	Already Addressed
<b>3,3'-Dichlorobenzidine (P)</b>	EPA 2015	Already Addressed
<b>3-Methyl-4-Chlorophenol (parachlorometa cresol) (P)</b>	EPA 2015	Already Addressed
<b>4,4'-DDD (p,p'-Dichlorodiphenyldichloroethane) (P)</b>	EPA 2015	Already Addressed
<b>4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene) (P)</b>	EPA 2015	Already Addressed
<b>4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane) (P)</b>	EPA 2015	Already Addressed
<b>Acenaphthene (P)</b>	EPA 2015	Already Addressed
<b>Acrolein (P)</b>	EPA 2015	Already Addressed
<b>Acrylonitrile (P)</b>	EPA 2015	Already Addressed
<b>Aldrin (P)</b>	EPA 2015	Already Addressed
<b>Alpha-BHC (alpha-Hexachlorocyclohexane; HCH) (P)</b>	EPA 2015	Already Addressed
<b>Alpha-Endosulfan (P)</b>	EPA 2015	Already Addressed
<b>Anthracene (P)</b>	EPA 2015	Already Addressed
<b>Barium</b>	EPA 1986 Gold Book	Optional action: Non-priority
<b>Benzene (P)</b>	EPA 2015	Already Addressed

Appendix A: Evaluation of CWA 304(a) criteria recommendations

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>Benzidine (P)</b>	EPA 2015	Already Addressed
<b>Benzo(a) Anthracene (P)</b>	EPA 2015	Already Addressed
<b>Benzo(a) Pyrene (P)</b>	EPA 2015	Already Addressed
<b>Benzo(b) Fluoranthene (P)</b>	EPA 2015	Already Addressed
<b>Benzo(k) Fluroanthene (P)</b>	EPA 2015	Already Addressed
<b>Beta-BHC (beta-hexachlorocyclohexane; HCH) (P)</b>	EPA 2015	Already Addressed
<b>Beta-Endosulfan (P)</b>	EPA 2015	Already Addressed
<b>Bis(2-Chloroethyl) Ether</b>	EPA 2015	Already Addressed
<b>Bis(2-Chloro-1-Methylethyl) Ether</b>	EPA 2015	Already Addressed
<b>Bis(2-Ethylhexyl) Phthalate</b>	EPA 2015	Already Addressed
<b>Bis(Chloromethyl) Ether</b>	EPA 2015	Optional action: Non-priority
<b>Bromoform (P)</b>	EPA 2015	Already Addressed
<b>Butylbenzyl Phthalate (P)</b>	EPA 2015	Already Addressed
<b>Carbon Tetrachloride (P)</b>	EPA 2015	Already Addressed
<b>Chlordane (P)</b>	EPA 2015	Already Addressed
<b>Chlorobenzene (P)</b>	EPA 2015	Already Addressed
<b>Chlorodibromomethane (P)</b>	EPA 2015	Already Addressed
<b>Chloroform (P)</b>	EPA 2015	Already Addressed
<b>Chlorophenoxy Herbicide (2,4,5-TP) (Silvex)</b>	EPA 2015	Optional action: Non-priority
<b>Chlorophenoxy Herbicide (2,4-D)</b>	EPA 2015	Optional action: Non-priority
<b>Chrysene (P)</b>	EPA 2015	Already Addressed
<b>Cyanide (P)</b>	EPA 2015	Already Addressed
<b>Dibenzo(a,h) Anthracene (P)</b>	EPA 2015	Already Addressed
<b>Dichlorobromomethane (P)</b>	EPA 2015	Already Addressed
<b>Dieldrin (P)</b>	EPA 2015	Already Addressed
<b>Diethyl Phthalate (P)</b>	EPA 2015	Already Addressed

Appendix A: Evaluation of CWA 304(a) criteria recommendations

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>Dimethyl Phthalate (P)</b>	EPA 2015	Already Addressed
<b>Di-n-Butyl Phthalate (P)</b>	EPA 2015	Already Addressed
<b>Dinitrophenols</b>	EPA 2015	Optional action: Non-priority
<b>Endosulfan Sulfate (P)</b>	EPA 2015	Already Addressed
<b>Endrin (P)</b>	EPA 2015	Already Addressed
<b>Endrin Aldehyde (P)</b>	EPA 2015	Already Addressed
<b>Ethylbenzene (P)</b>	EPA 2015	Already Addressed
<b>Fluoranthene (P)</b>	EPA 2015	Already Addressed
<b>Fluorene (P)</b>	EPA 2015	Already Addressed
<b>Hexachlorocyclohexane (gamma-BHC; Lindane) (P)</b>	EPA 2015	Already Addressed
<b>Heptachlor (P)</b>	EPA 2015	Already Addressed
<b>Heptachlor Epoxide (P)</b>	EPA 2015	Already Addressed
<b>Hexachlorobenzene (P)</b>	EPA 2015	Already Addressed
<b>Hexachlorobutadiene (P)</b>	EPA 2015	Already Addressed
<b>Hexachlorocyclohexane (HC) – Technical</b>	EPA 2015	Optional action: Non-priority
<b>Hexachlorocyclopentadiene (P)</b>	EPA 2015	Already Addressed
<b>Hexachloroethane (P)</b>	EPA 2015	Already Addressed
<b>Indeno(1,2,3-cd) Pyrene (P)</b>	EPA 2015	Already Addressed
<b>Isophorone (P)</b>	EPA 2015	Already Addressed
<b>Methoxychlor</b>	EPA 2015	Optional action: Non-priority
<b>Methyl Bromide (P)</b>	EPA 2015	Already Addressed
<b>Methylene Chloride (P)</b>	EPA 2015	Already Addressed
<b>Nitrates</b>	EPA 1986 Gold Book	Optional action: Non-priority
<b>Nitrobenzene (P)</b>	EPA 2015	Already Addressed
<b>Nitrosamines</b>	EPA 1980c	Optional action: Non-priority

Appendix A: Evaluation of CWA 304(a) criteria recommendations

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>Nitrosodibutylamine</b>	EPA 2002	Optional action: Non-priority
<b>Nitrosodiethylamine</b>	EPA 2002	Optional action: Non-priority
<b>Nitrosopyrrolidine</b>	EPA 2002	Optional action: Non-priority
<b>N-Nitrosodimethylamine (P)</b>	EPA 2002	Already Addressed
<b>N-Nitrosodi-n-Propylamine (P)</b>	EPA 2002	Already Addressed
<b>N-Nitrosodiphenylamine (P)</b>	EPA 2002	Already Addressed
<b>Nutrients Lakes and Reservoirs</b>	EPA 2021	Future Action
<b>Pentachlorobenzene</b>	EPA 2015	Optional action: Non-priority
<b>Pentachlorophenol (PCP) (P)</b>	EPA 2015	Already Addressed
<b>Phenol (P)</b>	EPA 2015	Already Addressed
<b>Polychlorinated Biphenyls (PCBs) (P)</b>	EPA 2002	Already Addressed
<b>Pyrene (P)</b>	EPA 2015	Already Addressed
<b>Tetrachloroethylene (P)</b>	EPA 2015	Already Addressed
<b>Toluene (P)</b>	EPA 2015	Already Addressed
<b>Toxaphene (P)</b>	EPA 2015	Already Addressed
<b>Trichloroethylene (P)</b>	EPA 2015	Already Addressed
<b>Vinyl Chloride (P)</b>	EPA 2015	Already Addressed

**Table References**

EPA. 1980a. Ambient Water Quality Criteria for Beryllium. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-024.

EPA. 1980b. Ambient Water Quality Criteria for Chromium. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-035.

EPA. 1980c. Ambient Water Quality for Nitrosamines. Office of Water, Regulations and Standards, Criteria and Standards Division. Washington, D.C. EPA 440/5-80-064.

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

EPA. 2001. Water Quality Criterion for the Protection of Human Health: Methylmercury Final. Office of Water, Office of Science and Technology. Washington, D.C. EPA-823-R-01-001.

## Appendix A: Evaluation of CWA 304(a) criteria recommendations

EPA. 2002. National Recommended Water Quality Criteria: 2002. Office of Water, Office of Science and Technology. Washington, D.C. EPA-822-R-02-047.

EPA. 2003. National Recommended Water Quality Criteria for the Protection of Human Health. OW-FRL-7605-2. Published document: 03-32211 (68 FR 75507).

EPA. 2015. Final Updated Ambient Water Quality Criteria for the Protection of Human Health. EPA-HQ-OW-2014-0135; FRL-9929-85-OW. Published document: 2015-15912 (80 FR 36986).

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

EPA. 2025. National Recommended Water Quality Criteria – Human Health Criteria Table. Available at: <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>.

Table A-2 Evaluation of recreational CWA section 304(a) criteria recommendations.

Parameter	304(a) Criteria Document	Ecology Determination
Cylindrospermopsin	EPA 2019	Future Action
Microcystins	EPA 2019	Future Action
Nutrients Lakes and Reservoirs	EPA 2021	Future Action
Pathogen and Pathogen Indicators ( <i>Enterococci spp.</i> and <i>E. coli</i> )	EPA 2012	Already Addressed
Pathogen and Pathogen Indicators (Shellfish only)	EPA 1986	Already Addressed

### Table References

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

EPA. 2012. Recreational Water Quality Criteria. Office of Water. Washington, D.C. EPA 820-F-12-058.

EPA. 2019. Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin. Office of Water. Washington, D.C. EPA 822-R-19-001.

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

EPA. 2025. National Recommended Water Quality Criteria – Human Health Criteria Table. Available at: <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>.

## Organoleptic Criteria

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

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

### Aquatic life criteria

In August 2024, Ecology adopted updates to Washington’s aquatic life toxics criteria under WAC 173-201A-240 and submitted our rule package to EPA for federal approval. Washington’s rule did the following:

- Add aquatic life toxics criteria for 14 new toxic substances
- Update aquatic life toxic criteria for 16 toxic substances that Washington had existing criteria for

As part of the 2024 aquatic life toxics rulemaking, we reviewed 45 pollutants for consideration, including 16 chemicals recommended by the EPA for which we did not previously have criteria. Due to limited data available for deriving criteria, we decided not to add three chemicals to our water quality standards that were recommended by the EPA: iron, heptachlor epoxide, and sulfide-hydrogen sulfide. We also adopted criteria for one pollutant (6-PPDQ) for which the EPA does not have 304(a) recommended criteria.

Ecology also adopted criteria for PFOA and PFOS as part of the 2024 rulemaking. These criteria reflect the EPA’s draft 304(a) recommended criteria, which were finalized by the EPA shortly after Washington’s criteria were adopted. As stated in this draft workplan, we will review the EPA’s final 304(a) recommended criteria for these two pollutants.

As indicated in this draft work plan for 2025-2027, we will consider adopting aquatic life toxics criteria for iron, heptachlor epoxide, and sulfide-hydrogen sulfide following an evaluation of new scientific studies since EPA last updated their recommendations for these pollutants. We will also review new scientific information to consider adopting aquatic life criteria for alkalinity. Finally, we will consider adopting nutrient criteria for lakes and reservoirs.

We have not identified any other 304(a) recommended aquatic life criteria that are not currently in Washington’s water quality standards.

Table A-3 Evaluation of aquatic life CWA 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	Already Addressed
Aesthetic Qualities	EPA 1986 Gold Book	Already Addressed
Aldrin (P)	EPA 1980a	Already Addressed
Alkalinity	EPA 1986 Gold Book	Optional action: Non-priority

Appendix A: Evaluation of CWA 304(a) criteria recommendations

<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>alpha-Endosulfan (P)</b>	EPA 1980b	Already Addressed
<b>Aluminum</b>	EPA 2018	Already Addressed
<b>Ammonia, Fresh Waters</b>	EPA 2013	Already Addressed
<b>Ammonia, Salt Waters</b>	EPA 1989	Already Addressed
<b>Arsenic</b>	EPA 1995	Already Addressed
<b>Atrazine</b>	EPA Criteria Table	Already Addressed
<b>beta-Endosulfan (P)</b>	EPA 1980b	Already Addressed
<b>Boron</b>	EPA 1986 Gold Book	Already Addressed
<b>Cadmium (P)</b>	EPA 2016	Already Addressed
<b>Carbaryl</b>	EPA 2012	Already Addressed
<b>Chlordane (P)</b>	EPA 1980c	Already Addressed
<b>Chloride</b>	EPA 1988	Already Addressed
<b>Chlorine</b>	EPA 1986 Gold Book	Already Addressed
<b>Chlorpyrifos</b>	EPA 1986 Gold Book	Already Addressed
<b>Chromium (III) (P)</b>	EPA 1995	Already Addressed
<b>Chromium (VI) (P)</b>	EPA 1995	Already Addressed
<b>Color</b>	EPA 1986 Gold Book	Not Scheduled For Adoption**
<b>Copper (P)</b>	EPA 2007	Already Addressed
<b>Cyanide (P)</b>	EPA 1984a	Already Addressed
<b>Demeton</b>	EPA 1986 Gold Book	Already Addressed
<b>Diazinon</b>	EPA 2005a	Already Addressed
<b>Dieldrin (P)</b>	EPA 1995	Already Addressed
<b>Endrin (P)</b>	EPA 1995	Already Addressed
<b>gamma-BHC (Lindane) (P)</b>	EPA 1995	Already Addressed
<b>Gases, Total Dissolved</b>	EPA 1986 Gold Book	Already Addressed
<b>Guthion</b>	EPA 1986 Gold Book	Already Addressed
<b>Hardness</b>	EPA 1986 Gold Book	Already Addressed

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<b>Parameter*</b>	<b>304(a) Criteria Document</b>	<b>Ecology Determination</b>
<b>Heptachlor (P)</b>	EPA 1980d	Already Addressed
<b>Heptachlor Epoxide (P)</b>	EPA 1986 Gold Book	Future Action
<b>Iron</b>	EPA 1986 Gold Book	Optional action: Non-priority
<b>Lead (P)</b>	EPA 1984b	Already Addressed
<b>Malathion</b>	EPA 1986 Gold Book	Already Addressed
<b>Mercury (P)</b>	EPA 1995	Already Addressed
<b>Methoxychlor</b>	EPA 1986 Gold Book	Already Addressed
<b>Methyl Tertiary-Butyl Ether (MTBE)</b>	EPA 2006 Update	Already Addressed
<b>Mirex</b>	EPA 1986 Gold Book	Already Addressed
<b>Nickel (P)</b>	EPA 1995	Already Addressed
<b>Nonylphenol</b>	EPA 2005b	Already Addressed
<b>Nutrients, Lakes and Reservoirs</b>	EPA 2021a	Future Action
<b>Nutrients, Rivers and Streams</b>	EPA 2000a	Not Scheduled For Adoption**
<b>Oil and Grease</b>	EPA 1986 Gold Book	Already Addressed
<b>Oxygen, Dissolved Fresh Waters</b>	EPA 1986 Gold Book	Already Addressed
<b>Oxygen, Dissolved Salt Waters</b>	EPA 2000b	Already Addressed
<b>Parathion</b>	EPA 1995	Already Addressed
<b>Pentachlorophenol (P)</b>	EPA 1995	Already Addressed
<b>Perfluorooctane Sulfonate (PFOS)</b>	EPA 2024a	Future Action
<b>Perfluorooctanoic Acid (PFOA)</b>	EPA 2024b	Future Action
<b>pH</b>	EPA 1986 Gold Book	Already Addressed
<b>Phosphorus Elemental</b>	EPA 1986 Gold Book	Future Action
<b>Polychlorinated Biphenyls (PCBs) (P)</b>	EPA Criteria Table	Already Addressed
<b>Selenium (P), Fresh Waters</b>	EPA 2021b	Already Addressed
<b>Selenium (P), Salt Waters</b>	EPA 1999	Already Addressed
<b>Silver (P)</b>	EPA 1980e	Already Addressed



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Parameter*	304(a) Criteria Document	Ecology Determination
<b>Solids Suspended and Turbidity</b>	EPA 1986 Gold Book	Already Addressed
<b>Sulfide-Hydrogen Sulfide</b>	EPA 1986 Gold Book	Optional action: Non-priority
<b>Tainting Substances</b>	EPA 1986 Gold Book	Already Addressed
<b>Temperature</b>	EPA 1986 Gold Book	Already Addressed
<b>Toxaphene (P)</b>	EPA 1986 Gold Book	Already Addressed
<b>Tributyltin (TBT)</b>	EPA 2003	Already Addressed
<b>Zinc (P)</b>	EPA 1995	Already Addressed
<b>4,4'-DDT (P)</b>	EPA 1980f	Already Addressed

### 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>.

## Appendix A: Evaluation of CWA 304(a) criteria recommendations

- 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. 2024a. Freshwater Aquatic Life Ambient Water Quality Criteria and Acute Saltwater Aquatic Life Benchmark for Pefluorooctane Sulfonate (PFOS). Office of Water. Washington, D.C. EPA-842-R-24-003.
- EPA. 2024b. Freshwater Aquatic Life Ambient Water Quality Criteria and Acute Saltwater Aquatic Life Benchmark for Perfluorooctanoic Acid (PFOA). Office of Water. Washington, D.C. EPA-842-R-24-002.
- EPA. 2025. 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 criterion 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](#);<sup>13</sup> 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

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<sup>13</sup> <https://www.epa.gov/sites/default/files/2018-10/documents/quality-criteria-water-1986.pdf>.

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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 contain 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.”<sup>14</sup> 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 systems by setting the secondary maximum contaminant limit (MCL) to 15 color units ([WAC 246-290-310](https://app.leg.wa.gov/wac/default.aspx?cite=246-290-310)<sup>15</sup> and [WAC 246-291-170](https://app.leg.wa.gov/wac/default.aspx?cite=246-291-170)<sup>16</sup>).

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

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<sup>14</sup> EPA. 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

<sup>15</sup> <https://app.leg.wa.gov/wac/default.aspx?cite=246-290-310>

<sup>16</sup> <https://app.leg.wa.gov/wac/default.aspx?cite=246-291-170>

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.

### Nutrients for Rivers and Streams

Nutrient criteria for rivers and streams are found in a [series of documents released by EPA](#)<sup>17</sup> 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 25<sup>th</sup> percentiles only:

Table A-4 EPA recommendations for nutrient criteria based on aggregate reference conditions

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 <i>a</i> (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.”

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.”

<sup>17</sup> <https://www.epa.gov/nutrient-policy-data/ecoregional-nutrient-criteria-rivers-and-streams>

## Appendix A: Evaluation of CWA 304(a) criteria recommendations

Ecology has previously evaluated the feasibility and benefits of establishing nutrient criteria for rivers and streams.<sup>18</sup> 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.

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<sup>18</sup> 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.