State of Oregon Department of Environmental Quality

Oregon Environmental Quality Commission Meeting

Sept. 26-27, 2024

Rulemaking Action Item K
Aquatic Life Toxics Criteria Rulemaking 2024

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DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission adopt the proposed rules in Attachment A as part of Chapter 340 of the Oregon Administrative Rules.

Language of Proposed EQC Motion:

"I move that the Environmental Quality Commission adopt the proposed rules, as shown in Attachment A, to amend Chapter 340, Division 41, Rule 8033, Table 30 and Table 31 of the Oregon Administrative Rules."

Introduction

Overview

DEQ proposes that the Environmental Quality Commission adopt amendments to the state's water quality standards. The amendments update Oregon's aquatic life toxics criteria based on the latest scientific information.

An additional amendment removes non-regulatory aquatic life guidance values from rule for consistency and clarity.

Short summary of proposed rule changes

The proposed amendments update Table 30 Aquatic Life Water Quality Criteria for Toxic Pollutants in OAR 340-041-8033. The proposed rules add or update aquatic life criteria for six toxic chemicals (acrolein, aluminum, cadmium, carbaryl, diazinon, and tributyltin) to protect fish and aquatic life beneficial uses in Oregon. These criteria updates are based on EPA's most recent criteria recommendations.

An additional proposed amendment removes Table 31 Aquatic Life Water Quality Guidance Values for Toxic Pollutants from OAR 340-041-8033 and corresponding references in OAR 340-041-0033. These values are non-regulatory and non-binding. Therefore, they do not need to be in rule and are being removed for clarity.

Background of reasons for doing this rulemaking

EPA periodically releases national recommendations for aquatic life criteria that States and Tribes may use to develop water quality standards. These recommendations are based on the latest science and are designed to protect the aquatic community from short and/or long term negative chemical effects. Once EPA publishes criteria recommendations for a chemical, states must either adopt the new criteria or justify not doing so during their Water Quality Standards Triennial Review.

Oregon's aquatic life criteria were last comprehensively reviewed and updated in 2004. As part of DEQ's 2021 Water Quality Standards Triennial Review, DEQ committed to reviewing several of EPA's new or updated aquatic life criteria recommendations and considering them for adoption. DEQ also decided to compare all of EPA's current aquatic life criteria recommendations with the state's criteria to keep Oregon's criteria up to date with EPA's most recent recommendations and the latest science.

DEQ is proposing to remove Table 31: Aquatic Life Water Quality Guidance Values for Toxic Pollutants from rule because these values are not regulatory criteria and are outdated. Removing Table 31 from rule will improve water quality standards rule clarity without causing a regulatory impact.

How this rulemaking addresses the reasons for doing the rulemaking

As a result of this comprehensive review, DEQ is proposing to adopt EPA's most up-to-date aquatic life criteria recommendations for six chemicals (listed above). Adding or updating these criteria in Oregon's water quality standards will provide increased protection for Oregon fish and aquatic life and ensure clarity, consistency, and certainty for entities regulated under the Clean Water Act. These numeric criteria values will be used in DEQ's water quality programs to determine waterbody impairment, pollution control measures, and permit limits.

Key policy and technical issues

1. A key technical issue for this rulemaking is that two of the pollutants with criteria are equation-based. Four of the pollutants with proposed criteria (acrolein, carbaryl, diazinon, and tributyltin) have a single criteria magnitude value and do not vary with water chemistry. In contrast, criteria magnitude values for freshwater aluminum and cadmium are equation-based and vary with water chemistry. Aluminum criteria magnitudes are calculated from pH, dissolved organic carbon, and total hardness measurements for a given site and time. Cadmium criteria magnitudes are calculated from water hardness for a given site and time. Oregon water quality standards already include examples of other equation-based criteria that vary with water chemistry (e.g., freshwater copper, other hardness-based metals).

2. Equation-based aluminum and cadmium criteria are currently implemented in Oregon waters as a result of past federal promulgations by EPA. Once proposed aluminum and cadmium criteria are adopted into Oregon rule and approved by EPA, these criteria will continue to be implemented in the same way.

Affected parties

The proposed rulemaking applies statewide to all Oregon waters with fish and aquatic life beneficial uses. The proposed new or updated numeric criteria values will be used in DEQ's water quality programs to determine waterbody impairment, pollution control measures, and permit limits. Affected parties could include entities that discharge wastewater under a general or individual NPDES permit. These criteria updates could require more investment in monitoring, investigation, and action to address the exceedances (education/outreach, source control, or other best management practices) for affected entities. Members of the public who rely on fish and aquatic life commercially, recreationally, or for Tribal use may benefit from the proposed rules because they ensure protection of fish and aquatic life in Oregon waters.

Outreach efforts and public and stakeholder involvement

DEQ announced the beginning of the rulemaking, and the first and second rulemaking advisory committee meetings via GovDelivery. Through the GovDelivery announcements, DEQ invited the public to virtually attend both of the rulemaking advisory committee meetings. DEQ also added advisory committee meeting announcements to DEQ's calendar of public meetings.

DEQ provided letters announcing the aquatic life toxics criteria rulemaking to all Oregon tribes in August 2023 and invited tribal governments to engage with the rulemaking process via DEQ's tribal liaison.

Brief summary of fiscal impact

The proposed rule amendments add or update aquatic life criteria for a limited number of toxic chemicals in Oregon water quality standards. Criteria for aluminum and cadmium are currently in effect in Oregon as a result of federal promulgations. In these cases, adopting the proposed criteria into state rule will have no fiscal impact. DEQ is proposing to add new or updated criteria for acrolein, carbaryl, diazinon, and tributyltin to Oregon's state rule. The proposed rule amendments may affect state agencies, local governments, and small and large businesses that discharge wastewater under general or individual NPDES permits or participate in activities that result in nonpoint source runoff of these pollutants into waterbodies. These entities may be required to monitor for additional toxic substances, meet permit limits, or engage in alternative best management practices to maintain compliance. Members of the public who rely on fish and aquatic life commercially, recreationally, or for Tribal use may benefit economically from the proposed rules because they ensure protection of health for fish and aquatic life in Oregon waters. Overall, the limited scope of the proposed rule amendments combined with generally low concentrations of these chemicals in Oregon waters makes a large fiscal and economic impact unlikely.

Statement of need

Proposed Rule or Topic	Discussion
Aquatic Life Toxics Criteria Update	
What need would the proposed rule address?	The aquatic life criteria for toxic substances protect fish and aquatic life beneficial uses in Oregon waters. The criteria were last comprehensively reviewed and updated by the state in 2004. Since that time, EPA has released new or updated criteria recommendations for several chemicals based on the latest science. Updating Oregon's aquatic life criteria based on the latest science will improve protection of fish and aquatic life beneficial uses in Oregon waters.
How would the proposed rule address the need?	The proposed rule contains new or updated aquatic life criteria for six toxic chemicals based on EPA's most recent recommendations.
How will DEQ know the rule addressed the need?	The new and updated criteria will be incorporated into Oregon water quality standards and utilized in Clean Water Act implementation programs.
Removal of Guidance Values for Toxic Pollutants from Rule	
What need would the proposed rule address?	The proposed rule will address the need for clarity and consistency for Clean Water Act implementation. The Table 31 Aquatic Life Water Quality Guidance Values for Toxic Pollutants are non-regulatory and should therefore not be included in rule language.
How would the proposed rule address the need?	The proposed rule would remove Table 31 values from rule language as well as corresponding references to Table 31.
How will DEQ know the rule addressed the need?	DEQ will know the rule addresses the need once the non-regulatory guidance values are removed from the Oregon water quality standards rule language and if it clarifies to other WQ programs and the public what pollutants DEQ regulates to protect aquatic life.

Federal relationship

ORS 183.332, 468A.327 and OAR 340-011-0029 require DEQ to attempt to adopt rules that correspond with existing equivalent federal laws and rules unless there are reasons not to do so.

The proposed rules would implement federal requirements in 40 CFR 131.11. Under the federal Clean Water Act, the state is required to adopt criteria to protect designated uses, including fish and aquatic life use. States are directed to use EPA 304(a) criteria recommendations or other scientifically defensible methods to establish numeric criteria values to protect designated uses. The proposed criteria are consistent with the EPA recommended criteria.

Rules affected, authorities, supporting documents

Lead division

Water Quality

Program or activity

Water Quality Standards

Chapter 340 action

Amend				
340-041-0033	340-041-8033			

Statutory Authority - ORS				
468.020	468B.030	468B.035	468B.048	

Statutes Implemented - ORS				
468B.030	468B.035	468B.048		

Documents relied on for rulemaking

Document title	Document location
Aluminum Aquatic Life Standard Missing Parameters Document, February 2024	Aquatic Life Rulemaking Page
Water Quality Standards Aquatic Life Toxics Criteria Update 2024 Issue Paper	Aquatic Life Rulemaking Page
Ambient Aquatic Life Water Quality Criteria for Acrolein, July 2009	EPA's WQC Acrolein web page
Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018, December 2018	Environmental Protection Agency website
Aquatic Life Ambient Water Quality Criteria Cadmium – 2016, March 2016	Environmental Protection Agency website

Final National Recommended Ambient Water Quality Criteria for Carbaryl, May 2012	Regulations.gov
Aquatic Life Ambient Water Quality Criteria Diazinon Final, December 2005	Environmental Protection Agency website
Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) – Final, December 2003	Environmental Protection Agency website
Federal Aluminum Aquatic Life Criteria Applicable to Oregon, March 2021	Federal Register
Aquatic Life Criteria for cadmium in Oregon, February 2017	Federal Register
Center for Biological Diversity v. United States Environmental Protection Administration, et al. Np. CV-22-00138-TUC-JCH	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Other documents referenced within Aluminum Aquatic Life Standard Missing Parameters Document, February 2024 and Water Quality Standards Aquatic Life Toxics Criteria Update 2024 Issue Paper	Aquatic Life Rulemaking Page

Fee analysis

This rulemaking does not involve fees.

Statement of fiscal and economic impact

The proposed rule includes new or revised aquatic life criteria for six chemicals. Adding these criteria will improve protections for fish and aquatic life and provide added clarity, consistency, and certainty for entities regulated under the Clean Water Act. Adopting the proposed criteria into Oregon's aquatic life criteria may trigger regulatory consideration for these chemicals in Clean Water Act program implementation, which includes determining water body impairment, permit limits, and pollution control measures. Initially, the primary direct economic impact of adopting these criteria may be additional monitoring costs for some regulated entities. Additional costs may also impact some regulated entities and could include capital investment needed for new treatments, implementation of best management practices, source control or other regulatory requirements. However, DEQ anticipates that the limited scope of the proposed new and revised criteria for these six toxic substances will cause few entities to be economically impacted by the proposed criteria changes. Not all of these chemicals are priority pollutants; meaning they are listed under 40 CFR Part 423, Appendix A and the EPA regulates and has developed analytical test methods for them. These chemicals also generally occur at low concentrations in Oregon according to the available surface water and discharge data. Furthermore, DEQ notes that adopting the proposed criteria will add protection for fish and aquatic life in Oregon waters, which may result in an economic (but sometimes non-monetizable) benefit for the public as groups that fish commercially, recreationally, or for Tribal use.

Fiscal and economic impact

The following section describes the fiscal and economic impact of adopting aquatic life criteria for six chemicals into Oregon Table 30 water quality standards and removing Table 31 from rule.

- No expected fiscal and economic impacts from adopting freshwater aluminum and acute cadmium criteria into Oregon rule because those criteria are already being implemented in Oregon for Clean Water Act purposes because of prior federal promulgation. DEQ intends to apply and implement these criteria in the same manner as it is now.
- A minimal increase in the resources required by DEQ's water quality program to assess and review attainment of these criteria within Oregon's waters under the Clean Water Act.
- A potential increase in the monitoring requirements for local governments and large and small businesses that hold individual NPDES permits. Estimated costs for initial additional monitoring for an industrial or major domestic discharger may range from: $0 to $8,300 over a five-year permitting cycle. Those costs could increase if DEQ finds that a facility has reasonable potential to discharge any of these pollutants at a level likely to cause a waterbody to exceed water quality standards, requiring establishment of a limit in the facility's permit, which would require additional monitoring by the facility. The need for and cost of any additional monitoring is not quantifiable at this time. Additional monitoring for

local governments holding stormwater or municipal storm sewer permits will not be directly triggered by the proposed criteria but may be required if these entities are contributing to water quality criteria exceedances. The cost of that monitoring cannot be determined at this time.

- The adoption of new criteria for carbaryl and diazinon may result in additional monitoring requirements for certain facilities, including major facilities or facilities with an approved pre-treatment program. The potential cost of that monitoring cannot be determined at this time because the cost of monitoring for these chemicals will be highly dependent on-site specific factors. Cost for monitoring should be estimated on a site-specific basis.
- A potential increase in capital investment needed for new treatments and/or implementation of new best management practices, source control implementation, or other approaches required to meet general and/or individual NPDES permit requirements for the proposed criteria. These costs could affect state agencies, local governments, and large and small businesses, but are not quantifiable at this time. However, the limited scope of aquatic life criteria addressed in this rulemaking, along with the limited regulatory requirements for dischargers to monitor pesticide concentrations in their wastewater may lessen the potential economic burden of compliance for affected entities.
- A potential economic benefit for the public and groups that rely on fish and aquatic life commercially, recreationally, or for Tribal uses.
- Additional costs to regulated parties beyond potential for additional monitoring are not possible to practicably estimate at this time given program and case-specific requirements for Clean Water Act implementation. Other factors, such as the effect of climate change on Oregon waters or population growth, may also impact the cost of implementation, but those costs cannot be practicably estimated at this time.
- No fiscal or economic impact from removing Table 31 aquatic life guidance values from Oregon water quality standards because these values are not regulatory criteria.

Statement of Cost of Compliance

State agencies

Oregon Department of Environmental Quality

The proposed criteria revisions will affect DEQ's water quality programs that implement water quality standards under the Clean Water Act. Effects on DEQ's water quality programs are discussed below.

Permitting

Adopting the proposed aquatic life criteria could require additional resources from the permitting program to apply the criteria and/or evaluate reasonable potential for a discharge to cause a waterbody to exceed the criteria. Both general and individual NPDES permits require staff resources to review water quality criteria and determine what limits should apply. However, the full fiscal impact of reviewing and implementing additional criteria cannot be fully estimated until permits are renewed, and each permittee's application is reviewed with knowledge of their processes and site-specific information.

The proposed acrolein, tributyltin and saltwater cadmium criteria are not expected to require additional permitting resources to implement because Oregon has existing aquatic life criteria (saltwater cadmium and tributyltin) and human health criteria (acrolein) for these chemicals, and they are already regularly considered in permits.

For the proposed new pesticide criteria (carbaryl and diazinon), additional permitting resources may be required on a case-by-case basis.

Assessment

Adopting the proposed aquatic life criteria are not expected to significantly impact the assessment program. The criteria will be assessed in the same manner as other aquatic life toxics criteria and will therefore not require development of a new assessment methodology to address the changes.

It is unlikely that the proposed saltwater criteria will cause additional impairment listings for saltwater cadmium. The proposed criteria are only slightly lower than the current effective criteria in saltwater. A limited data analysis of 110 saltwater cadmium measurements from Oregon waters revealed that the ambient measurements were consistently below the proposed criteria (*Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper, Discussion Draft*). However, the effect of the proposed cadmium criteria cannot be fully evaluated until they are considered during the assessment process.

Oregon currently has fresh and saltwater criteria for tributyltin. Only the proposed saltwater chronic criterion will become more stringent, which could lead to identifying some waters as impaired under CWA section 303(d). Currently, there are no 303(d)

listings for tributyltin, and because the existing and proposed saltwater chronic criteria are similar in magnitude, the proposed criteria are not expected to result in 303(d) listings for tributyltin.

For acrolein, carbaryl, and diazinon, which will be new aquatic life criteria in Oregon, it is possible that the criteria would trigger new listings to the 303(d) list of impaired waters for these parameters. However, a preliminary analysis (*Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper*) by the Water Quality Standards program found that carbaryl was only definitively measured in ambient waters above the proposed criteria in one sample out of over 6,000 samples. For diazinon, only 36 ambient water quality samples of more than 8,000 across the state were definitively above the proposed freshwater criteria, and none of the fifty-six saltwater samples collected to date exceeded the proposed saltwater diazinon criteria. For acrolein, none of the 91 ambient measurements in Oregon freshwaters were definitively higher than criteria. Although a full assessment must be completed to understand the impact of adopting these criteria into Oregon rule, preliminary data show that it is unlikely that adding these criteria will trigger additional 303(d) listings.

Total Maximum Daily Load

It is unlikely that adopting the proposed aquatic life criteria lead to additional 303(d) listings. However, if additional 303(d) listings do occur, the TMDL program may be affected. As with other programs, it is not possible to quantify the effect of adopting these criteria at this time.

Oregon Department of Agriculture

Adopting the proposed aquatic life criteria could affect the Oregon Department of Agriculture if it impacts how ODA manages and implements pesticide and agricultural water quality programs to regulate pollution from acrolein, cadmium (near saltwater), carbaryl, diazinon, and/or tributyltin. There is potential for the proposed rule changes to affect ODA regulatory programs, or other fiscal and economic impacts. The full fiscal impact of any potential impacts are not practicably quantifiable at this time. However, a preliminary analysis by DEQ revealed that for most of the chemicals with proposed criteria, concentrations were generally below criteria levels in ambient surface waters and discharges (see *Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper*).

Oregon Department of Transportation

Adopting the proposed aquatic life criteria could affect the Oregon Department of Transportation. ODOT uses pesticides to manage roads and adjacent areas which potentially includes acrolein, carbaryl, diazinon, and/or tributyltin. There is potential for the proposed rule changes to affect ODOT costs, operations, or other fiscal and economic impacts. However, there is not sufficient information to identify or quantify potential impacts at this time.

Oregon Department of Forestry

Adopting the proposed aquatic life criteria could affect the Oregon Department of Forestry. ODF may use pesticides in the management of state forest lands and also implements a forest water quality program that regulates pesticide use by private landowners, which could include pollution from acrolein, cadmium (near saltwater), carbaryl, diazinon, and/or tributyltin. There is potential for the proposed rule changes to affect ODF costs, operations, regulatory programs, or other fiscal and economic impacts. However, there is not sufficient information to identify or quantify potential impacts at this time.

Oregon Department of Fish and Wildlife

Adopting the proposed aquatic life criteria could affect the Oregon Department of Fish and Wildlife. ODFW may use pesticides which potentially include acrolein, carbaryl, diazinon, and/or tributyltin, in the management of state lands. ODFW also holds NPDES discharge permits for some facilities (fish hatcheries). There is potential for the proposed rule changes to affect ODFW costs, operations, or other fiscal and economic impacts. However, there is not sufficient information to identify or quantify potential impacts at this time.

Additionally, adopting the proposed aquatic life criteria will provide an added benefit to protection of fish and aquatic life, which serves ODFW's mission "to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations." However, the economic impact of any potential costs or benefits is not quantifiable at this time.

Local governments

Local governments that hold general permits and/or individual NPDES permits may be required to improve best management practices or wastewater treatment methods if they discharge the pollutant and have reasonable potential to exceed the new or more stringent aquatic life criteria. Major domestic dischargers may be responsible for additional monitoring costs ranging from $0 to $8,300 every 5 years to provide data to DEQ for reasonable potential analysis. If DEQ determines there is reasonable potential for discharge of a pollutant to cause a waterbody to exceed one of the new criteria being proposed, then individual dischargers may be required to monitor their discharge more frequently, which will result in increased monitoring costs, although it is not possible to reasonably estimate additional costs at this time. If a limit is applied as the result of the proposed rule and can't immediately be achieved, then major domestic dischargers may incur additional costs to invest in new treatment processes to achieve compliance. Local governments that hold individual municipal separate storm sewer system (also called MS4) permits may not initially be required to monitor for the pesticides with proposed criteria but are required to consider these chemicals in their monitoring plans. If the MS4 permittee is found to be contributing to the exceedance of water quality standards, they may be required to implement source control measures,

alter best management practices or conduct additional monitoring. However, it is not possible to estimate the cost of those measures at this time.

Nearly all local governments with an individual major domestic NPDES permit are already required to monitor acrolein and tributyltin in their wastewater. Major domestic dischargers are not yet required to monitor carbaryl and diazinon. Available data in Oregon show carbaryl and diazinon levels are typically below the proposed criteria in ambient waters and industrial and domestic discharges. Individual permittees that discharge cadmium into saltwater are rare, and the proposed criteria are only slightly more stringent than existing criteria in Oregon. Thus, the cost of compliance is not expected to significantly increase due to the proposed saltwater cadmium criteria.

Although the effects of the proposed rule on local governments holding general permits cannot be fully assessed until each general permit is evaluated, the impact of the proposed rule on compliance with several general permits may be estimated. Local governments that hold general permits for stormwater discharge (1200-Z, 1200-A, 1200-C) are not likely to be affected by the proposed criteria because acrolein, carbaryl, diazinon, and tributyltin are not included in those permits, and the small change in saltwater cadmium criteria is unlikely to significantly impact general permit holders. Local governments with municipal separate storm sewer general permits (MS4) or general permits for pesticide application (2000-J, 2300-A) may be required to conduct monitoring, investigate instances of elevated pollutant concentrations in surface waters and stormwater, and take necessary action to address any exceedances of water quality criteria through education/outreach, source control, or other best management practices. While available industrial and domestic point source discharge and surface water data are generally below the proposed criteria levels, concentrations of these chemicals in Oregon industrial stormwater and municipal storm sewers represent significant data gaps. While these data gaps make it difficult to estimate the full fiscal and economic impacts of the proposed criteria on local governments, the adoption of these criteria will not automatically trigger required water quality monitoring costs for local governments holding general or individual MS4 permits. The cost of any future investigation and remediation to address potential exceedances cannot be practicably estimated at this time.

Public

The public will benefit from the proposed criteria through increased fish and aquatic life beneficial use protection. The criteria will provide a regulatory mechanism to prevent an increase in the discharge of pollutants that could impact the health of fish, shellfish, and other aquatic life in Oregon. This may protect ecosystem function and contribute to healthier fisheries overall. Members of the public who rely on fish and aquatic life commercially, recreationally, or for Tribal use may benefit economically from the proposed rules.

The proposed rules may also generally provide increased social benefits, such as increased aquatic ecosystem health, which are difficult to monetarily quantify, but are essential for the maintenance and success of the salmon fisheries natural resource in

the Pacific Northwest and the general health of aquatic organisms in Oregon water bodies.

Members of the public may incur increased indirect costs through the increase of sewer rates if treatment upgrades are required by municipal wastewater treatment facilities. However, upgrades resulting from these criteria are not expected to be common, and the cost is not quantifiable at this time.

Large businesses - businesses with more than 50 employees

Large businesses may incur increased costs due to application of the revised criteria if their wastewater discharge permits must be modified to require upgraded wastewater treatment systems and additional monitoring of effluent discharges. Large businesses may also be affected if their business activities are covered under a general permit, and they are required to implement additional monitoring or treatment to comply with the conditions of the permit. The effects of the proposed rule on large businesses are generally the same as those described for local governments with major individual permit monitoring requirements.

Small businesses – businesses with 50 or fewer employees

Small businesses may incur increased costs due to application of the revised criteria if their wastewater discharge permits must be modified to require upgraded wastewater treatment systems and additional monitoring of effluent discharges. Small businesses may also be affected if their business activities are covered under a general permit, and they are required to implement additional monitoring or treatment to comply with the conditions of the permit. The effects of the proposed rule on small businesses are generally the same as those described for local governments and large businesses.

However, small businesses may be less likely to hold individual NPDES permits, and they are more likely to discharge directly into municipal sewer collection systems. Small businesses may incur increased indirect costs through the increase of fees if treatment upgrades are required by municipal wastewater treatment facilities. However, upgrades resulting from these criteria are not expected to be common or significant, and the cost is not quantifiable at this time.

ORS 183.336 Cost of Compliance Effect on Small Businesses

a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.

It is not possible to estimate the number of small businesses that would be subject to new limits in permits until those permits are fully evaluated at the time of renewal. However, only small businesses that hold individual NPDES permits may be subject to direct monitoring and treatment costs for wastewater discharges. Small businesses with

general permits may be subject to increased implementation of best management practices to remain compliant with the permit.

Small businesses that produce or make significant use of the pesticides included in this rulemaking (acrolein, carbaryl, diazinon, tributyltin) would potentially be affected by increased regulatory requirements. Small businesses that rely heavily on combustion processes could be subject to increased regulatory requirements for discharging acrolein, although Oregon's existing human health criteria for acrolein are likely already considered in those permits. Further, any small business that is involved in mining or battery production and discharged cadmium waste into saltwater could be affected by new regulatory requirements. DEQ is not aware of any facility currently meeting this description. However, it is not possible to estimate the number of small businesses that would be affected at this time.

b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.

Small businesses that hold individual NPDES permits may be required to monitor for the proposed chemicals in their discharges and regularly report those data to DEQ which could result in additional administrative costs. However, small businesses meeting those permit conditions are likely to already be monitoring for acrolein and cadmium because they are priority pollutants with existing criteria. Those small businesses would only be required to monitor and report carbaryl, diazinon, and tributyltin if knowledge of process indicates they are expected to discharge those chemicals. The increase in administrative costs associated with this rule are not quantifiable at this time, but they are anticipated to be low and/or only apply to a limited number of small businesses.

c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.

If equipment, supplies, labor, or increased administration is required, it would be only for select small businesses likely to have these chemicals in their discharge at levels with the potential to exceed the criteria in their receiving water. This is expected to be rare and the costs for these businesses to comply is not quantifiable at this time.

d. Describe how DEQ involved small businesses in developing this proposed rule.

DEQ included representatives from the Pacific Coast Federation of Fishermen's Associations, the Oregon Farm Bureau, the Oregon Forest & Industries Council, Oregon Business & Industry as rulemaking advisory committee members to provide input on the fiscal and economic impacts of the proposed rules as relevant to the sectors represented by those organizations.

Documents relied on for fiscal and economic impact

Document title	Document location
Water Quality Standards Aquatic Life Toxics Criteria Update *2024: Issue Paper,* Discussion Draft	Issue Paper, Discussion Draft
Email Communication and Virtual Meetings, DEQ's Water Quality Permitting Program employees	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Email and Phone Communication with private laboratories to determine cost of chemical analysis in wastewater. • Apex Laboratories, LLC in Tigard, OR • Pacific Agricultural Laboratory in Sherwood, OR • Eurofins Calscience, LLC in Irvine, CA	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Email Communication and Attached Comment on: • Draft Fiscal and Economic Impact Statement, From the Cow Creek Band of Umpqua Tribe of Indians	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Email Communication and Attached Comment on: • Draft Fiscal and Economic Impact Statement, • Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper, Discussion Draft From the Oregon Association of Clean Water Agencies (OR-ACWA)	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Email Communication and Attached Comment (two letters) on: • Draft Fiscal and Economic Impact Statement, From the Pacific Coast Federation of Fishermen's Associations.	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100
Email Communication containing information for the Draft Fiscal and Economic Impact Statement from Oregon Department of Transportation	Oregon DEQ 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100

Advisory committee fiscal review

DEQ appointed an advisory committee for the aquatic life toxics rulemaking. Meeting summaries are available on DEQ's website. A summary of rulemaking advisory committee comments can also be found in *Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper.*

As ORS 183.33 requires, DEQ asked for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and
- Whether the proposed rules would have a significant adverse impact on small businesses; if so, then how DEQ can comply with ORS 183.540 reduce that impact.

The committee reviewed the draft fiscal and economic impact statement and its findings are summarized in the approved meeting summary dated Nov. 13, 2023.

The committee reviewed the draft fiscal and economic impact statement and provided comment to DEQ via online Zoom meeting. DEQ also asked the committee to provide written comments to DEQ regarding the draft fiscal and economic impact statement and whether the rules would have a significant fiscal impact on small businesses. During the Zoom meeting, committee members offered the following comments:

- Members of the committee agreed that the proposed new or revised criteria represented a minor change to Oregon's existing water quality standards.
- Members of the committee highlighted an environmental and regulatory benefit of adopting the proposed criteria.
- The economic value of the benefits of the proposed criteria were underrepresented by DEQ in the fiscal and economic impact statement.
- Meeting the conditions of MS4 general and/or individual permits affected by these criteria updates could require more resource investment in monitoring, investigation, and action address the exceedances (education/outreach, source control, or other best management practices) than DEQ acknowledged in the first draft.
- Whether the effects of climate change might impact the fiscal and economic impact statement.

In written comments, the Oregon Association of Clean Water Agencies suggested amendments to DEQ's assessment of impacts to individual and domestic discharges and provided additional language for stormwater and municipal storm sewer (MS4) permittee impacts. OR-ACWA also reviewed *Water Quality Standards Aquatic Life Toxics Criteria Update 2024: Issue Paper, Discussion Draft* and highlighted data gaps, particularly for stormwater and municipal storm sewers.

The Pacific Coast Federation of Fisherman's Associations provided written comment highlighting the net economic benefits (both monetizable and non-monetizable) of water quality protection through the lens of salmon restoration from adopting the proposed criteria into rule. PCFFA generally agreed with DEQ's assessment of the cost of

compliance for the proposed criteria. However, PCFFA indicated that by primarily focusing on the cost of compliance of the rule, DEQ over-emphasizes monetary costs, and under-values or ignores both monetary benefits as well as social benefits.

The Cow Creek Band of Umpqua Tribe of Indians provided written comment that adopting the proposed criteria would protect aquatic life natural and cultural resources to the benefit of the Tribe.

The Oregon Department of Transportation provided a written summary of the potential effects and considerations that would need to be made to assess whether the proposed aquatic life criteria would have a fiscal impact on state agencies.

The committee did not suggest or provide evidence that there would be a significant adverse impact on small businesses in Oregon.

Housing cost

As ORS 183.534 requires, DEQ evaluated whether the proposed rules would have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel. DEQ determined the proposed rules would have no effect on the development costs because the aquatic life criteria proposed for adoption are not likely to be used or discharged during housing construction and will not have an expected impact on general permit holders for construction activities (1200-C).

Racial equity

ORS 183.335(2)(a)(F) requires state agencies to provide a statement identifying how adoption of this rule will affect racial equity in this state.

Applying and implementing the proposed aquatic life criteria statewide will provide additional protection for fish and aquatic life and regulatory pollution control mechanisms in Oregon under the Clean Water Act. Given that racial minority groups have been historically marginalized and relegated to live and work in the most polluted areas, near industrial discharges or areas with significant use of pesticides, this rulemaking will take a step to improve racial equity in Oregon by providing Clean Water Act protections that reduce pollution in these areas.

By adopting the proposed criteria, fish, shellfish, and other aquatic species will receive increased protection, which is expected to increase the health of fisheries. This may in turn provide benefits to communities that rely on healthy fish populations and ecosystems culturally and for food.

Environmental justice considerations

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, education or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. DEQ is committed to incorporating environmental justice best practices into its programs and decision-making, to ensure all people in Oregon have equitable environmental and public health protections.

ORS 182.545 requires natural resource agencies to consider the effects of their actions on environmental justice issues. DEQ considered these effects by:

- Inviting community groups with different cultural, economic, or recreational interests in fish and aquatic life resources to participate in the rulemaking advisory committee and provide input on economic impact and rule development.
- Scheduling a public hearing in a virtual setting so that members of the public from across the state may attend and give input.

The proposed rule amendments apply statewide and will provide increased protection for aquatic life in Oregon. Protecting fish and aquatic life beneficial uses will contribute to healthy aquatic ecosystems and fisheries in Oregon. Adopting the proposed criteria would protect aquatic life and natural and cultural resources to the benefit of the Tribes.

Land use

Land-use considerations

In adopting new or amended rules, ORS 197.180 and OAR 340-018-0070 require DEQ to determine whether the proposed rules significantly affect land use. If so, DEQ must explain how the proposed rules comply with statewide land-use planning goals and local acknowledged comprehensive plans.

Under OAR 660-030-0005 and OAR 340 Division 18, DEQ considers that rules affect land use if:

- The statewide land use planning goals specifically refer to the rule or program, or
- The rule or program is reasonably expected to have significant effects on:
- Resources, objects, or areas identified in the statewide planning goals, or
- Present or future land uses identified in acknowledge comprehensive plans

DEQ determined whether the proposed rules involve programs or actions that affect land-use by reviewing its Statewide Agency Coordination plan. The plan describes the programs that DEQ determined significantly affect land use. DEQ considers that its programs specifically relate to the following statewide goals:

Goal	Title
5	Natural Resources, Scenic and Historic Areas, and Open Spaces
6	Air, Water and Land Resources Quality
11	Public Facilities and Services
16	Estuarine Resources
19	Ocean Resources

Statewide goals also specifically reference the following DEQ programs:

- Nonpoint source discharge water quality program – Goal 16
- Water quality and sewage disposal systems – Goal 16
- Water quality permits and oil spill regulations – Goal 19

Determination

DEQ determined that these proposed rules do not affect land use under OAR 340-018-0030 or DEQ's State Agency Coordination Program.

The proposed rule amendments may contribute to increased ecological health for aquatic communities, which supports Oregon's land-use planning goals.

EQC prior involvement

DEQ shared information about this rulemaking with the EQC through a director's report at their meeting in September 2023, January 2024, and May 2024.

Advisory committee

Background

DEQ convened the Aquatic Life Toxics Criteria Rulemaking Advisory Committee, which met twice between September and November 2023. The committee included representatives from EPA, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Oregon Department of Transportation, Oregon Department of Forestry, Oregon Department of Agriculture, Oregon tribes, fishing and sport fishing industries, business and industry, agriculture, local governments, and environmental organizations. The committee's web page is located at: Aquatic Life Toxics Criteria 2024 Rulemaking.

The committee members were:

Aquatic Life Toxics Criteria Rulemaking Advisory Committee	
Name	**Representing**
Emily Bowes	Rogue Riverkeeper
Michael Campbell	Stoel Rives LLP
Catherine Corbett	Lower Columbia Estuary Partnership
Mike Eliason	Oregon Forest & Industries Council
Raj Kapur Alternate: Julia Crown	Oregon Association of Clean Water Agencies
Hannah LaGassey Alternate: Marnie Keller	Cow Creek Band of the Umpqua Tribe of Indians
Sharla Moffett	Oregon Business & Industry
Lauren Poor	Oregon Farm Bureau
Glen Spain	Pacific Coast Federation of Fishermen's Associations
Becky Anthony	Oregon Department of Fish and Wildlife
Jeremy Buck	U.S. Fish and Wildlife Service
Cory Engel	Oregon Department of Transportation
Michelle Maier	U.S. Environmental Protection Agency
Rebecca McCoun	Oregon Department of Forestry
Kathryn Rifenburg Alternate: Gilbert Uribe	Oregon Department of Agriculture
Greg Sieglitz	NOAA – National Marine Fisheries Service

Meeting notifications

To notify people about the advisory committee's activities, DEQ:

- Sent GovDelivery bulletins, a free e-mail subscription service, to the following lists:
  - Rulemaking
  - DEQ Public Notices
  - Water Quality Standards
- Posted meeting information and materials on the web page for this rulemaking
- Added advisory committee announcements to DEQ's calendar of public meetings at DEQ Calendar.

Committee discussions

In addition to the recommendations described under the Statement of Fiscal and Economic Impact section above, the committee was informed about the scientific and policy basis for DEQ's proposal to adopt new or updated aquatic life criteria for six toxic chemicals. At the first meeting, DEQ reviewed the committee charter, the policy objective for the rulemaking, and general background information on water quality standards and criteria. DEQ presented the results of a comprehensive review of Oregon's aquatic life criteria and the list of proposed aquatic life criteria for adoption as well as justification for DEQ's choice not to update some criteria at this time. The committee discussed the basis for the proposed aquatic life criteria, potential sources of additional information that might be useful to DEQ's analysis, and the reasons behind DEQ's decision not to update select criteria at this time. At the end of the first meeting, DEQ asked the committee to provide any known information that may be used in drafting the fiscal and economic impact statement. DEQ provided committee members with background information drafts (issue paper, fact sheet), draft rule language, and a draft fiscal and economic impact statement for committee review before the next meeting.

At the second meeting, DEQ presented the first draft of the red-lined rule language for the proposed amendments and described the intent of detailed footnotes. The RAC generally supported adoption of the federal criteria for the proposed toxics substances into Oregon's administrative rules. The committee also discussed the implications of removing the non-regulatory guidance values for toxic pollutants from rule language, and generally supported the removal of those values from rule language. DEQ also presented and summarized the major points of the draft fiscal and economic impact statement. The committee discussed the regulatory benefit of adopting numeric criteria values and generally agreed that the proposed rule amendments represented a minor change to Oregon water quality standards but noted that the potential economic benefit was not adequately represented in the draft fiscal and economic impact statement. Further, the committee recommended additional clarification, consistency, and data be incorporated regarding the cost of compliance for some entities (i.e. MS4 permittees). More detailed information can be found in the Statement of Fiscal and Economic Impact section.

Public engagement

Public notice

DEQ provided notice of the proposed rulemaking and rulemaking hearing by:

- On March 15, 2024 filing notice with the Oregon Secretary of State for publication in the April 1, 2024 Oregon Bulletin
- Notifying the EPA by email
- Posting the notice, invitation to comment and draft rules on the web page for this rulemaking, located at: Aquatic Life Toxics Criteria 2024 Rulemaking
- Emailing approximately 23,933 interested parties on the following DEQ lists through GovDelivery:
    - Rulemaking
        - DEQ Public Notices
        - Water Quality Standards
- Emailing the following key legislators required under ORS 183.335:
    - Senator Jeff Golden, Chair, Senate Committee on Natural Resources
    - Senator Fred Girod, Vice-Chair, Senate Committee on Natural Resources
    - Representative Ken Helm, Chair, House Committee on Agriculture, Land Use, Natural Resources and Water
    - Representative Mark Owens, Vice-Chair, House Committee on Agriculture, Land Use, Natural Resources and Water
    - Representative Annessa Hartman, Vice-Chair, House Committee on Agriculture, Land Use, Natural Resources and Water
    - Representative Pam Marsh, Chair, House Committee on Climate, Energy and Environment
    - Representative Emerson Levy, Vice-Chair, House Committee on Climate, Energy and Environment
    - Representative Bobby Levy, Vice-Chair, House Committee on Climate, Energy and Environment
- Emailing advisory committee members,
- Posting on the DEQ event calendar: DEQ Calendar

Public hearing

DEQ held a public hearing by online webinar on April 23, 2024, at 4 p.m. DEQ received 2 comments at the hearing. Later sections of this document include a summary of the 9 comments received during the open public comment period, DEQ's responses, and a list of the commenters. Original comments are on file with DEQ.

Presiding officers' record

Hearing 1

Date	April 23, 2024
Place	Zoom Webinar
Start Time	4 p.m.
End Time	4:36 p.m.
Presiding Officer	Michele Martin

Presiding officer

The presiding officer convened the hearing, summarized procedures for the hearing, and explained that DEQ was recording the hearing. The presiding officer asked people who wanted to present verbal comments to sign the registration list, or if attending by phone, to indicate their intent to present comments. The presiding officer advised all attending parties interested in receiving future information about the rulemaking to sign up for GovDelivery email notices.

As Oregon Administrative Rule 137-001-0030 requires, the presiding officer summarized the content of the rulemaking notice.

Seventeen people attended the hearing by zoom. Two people commented orally, and no one submitted written comments at the hearing.

Summary of public comments and DEQ responses

Public comment period

DEQ accepted public comment on the proposed rulemaking from March 15, 2024, until 5 p.m. on May 3, 2024. The Public Hearing was held April 23, 2024. An advanced notice of Public Hearing was sent through GovDelivery on Feb. 21, 2024.

This summary of public comments addresses comments and questions DEQ received regarding the proposed Aquatic Life Toxics Criteria and supporting documentation. The individuals and organizations shown in the List of Commenters table provided comments on the proposed rules during the Public Comment Period. All comments received during the public comment period have been reviewed by DEQ and addressed in this document. Comments which resulted in modifications to the rules or supporting documents are noted. In total there were 9 unique comments from 8 entities. DEQ made modifications to the report based on 4 of the comments. The following is a summary of changes made based on comments:

1. DEQ included a sentence in the Fiscal Impact Statement stating that the adoption of new criteria for carbaryl and diazinon may need additional monitoring requirements for certain facilities, including major facilities or dischargers with an approved pre-treatment program. While the cost is unknown, there may be additional costs associated with monitoring in the future.

2. DEQ modified the proposed rule language in Endnote O, Paragraph 1 regarding preference for the Aluminum Criteria Calculator (ACC) criteria values calculated from measured input parameter data.

3. DEQ revised the proposed language of Endnote O(4)(a) to state the exact language that was included in the Footnote 1 of the federally promulgated aluminum rule for Oregon. DEQ amended the proposed rule language in Endnote O, 4(b) to state that these are more accurate values than the estimated or default values.

4. DEQ revised the proposed rule language in Endnote F to correct a typo in the note below the table of conversion factors.

DEQ changed the proposed rules in response to comments as described in more detail in the response sections below.

The summary includes cross references to the source of the comment in the ID # from the table of commenters below. Original comments are on file with DEQ.

List of Commenters			
ID#	**Name**	**Affiliation or Organization**	**Method of Providing Comment**
1	Karen Ashikeh LaMantia		Online submittal
2	David Stone		Online submittal
3	Nikki Dennis		Online submittal
4	Sandy Ericson		Online submittal
5	Jerry Linder	Oregon ACWA	Online submittal
6	Rebecca Garnett	U.S. EPA	Online submittal
7	Raj Kapur	Oregon ACWA, West Yost Associates	Oral testimony
8	Robert Baumgartner	Clean Water Services, OR	Oral testimony

Suggested Change ID # 1

Comment: In support of proposed rule

Commenter: #1, 2, 4

Description: In support of proposed rule.

Response: DEQ thanks your support of the proposed rule. DEQ appreciates your interest and your attention to the science and rationale DEQ developed as the basis for this proposed revision.

Suggested Change ID # 2

Comment: Comment meant for the Integrated Report Public Comment

Commenter: #3

Description: Comment was submitted to incorrect public comment Email. Commenter was notified.

Response: DEQ acknowledges your comment was received and the comment was forwarded to DEQ's Integrated Report team. Thank you for your interest.

Suggested Change ID # 3

Comment: Priority pollutant status and Publicly Owned Treatment Works (POTWs)

Commenter: #5

Description: For the proposed new pesticide criteria (carbaryl, diazinon, and tributyltin), additional permitting resources may be required on a case-by-case basis, although permittees will not typically be required to monitor for those chemicals in discharges because they are not priority pollutants and unlikely to be present in most facilities' discharges. This may soon be false. DEQ is proposing a policy of requiring POTWs to monitor all pollutants with Water Quality standards, regardless of priority pollutant status or likelihood of presence. DEQ's conclusions regarding the pesticides and their recent decision to include monitoring for these constituents in the NPDES permit require DEQ to rethink how this rule will be applied and its potential impact to municipal wastewater treatment facilities. DEQ should update its conclusions in the rulemaking documents.

The Senate Bill (SB) 737 data was reviewed and provide the basis for the following conclusions:

•Carbaryl was detected and concentrations were quantified at low levels at a few municipal wastewater treatment facilities; the detectable levels were below the proposed water quality criteria. Thus, it is likely that carbaryl is not a pollutant of concern at municipal wastewater treatment facilities.

•Diazinon was not detected in the SB 737 monitoring efforts at municipal wastewater treatment facilities. However, the quantitation level was higher than the proposed water quality criteria. Thus, a conclusive determination regarding diazinon at municipal wastewater treatment facilities cannot be made.

•Tributyltin was not detected in the SB 737 monitoring efforts at municipal wastewater treatment facilities. However, the quantitation level was higher than the proposed water quality criteria. This pollutant is likely not a concern at municipal wastewater treatment facilities based on its use, however, a conclusive determination cannot be made based on the SB 737 data. DEQ must revise the conclusions regarding these pollutants based on the proposed DEQ policy that requires monitoring for pesticides. This is necessary given that during the rulemaking process, this was not the policy of DEQ and the Rule Advisory Committee, and DEQ staff did not discuss or consider this new development.

Response: According to Federal Regulations at 40 CFR § 122.21(j)(4)(iv), all Publicly Owned Treatment Works (POTWs) with a design flow rate equal to or greater than one million gallons per day or that have approved pre-treatment programs, are required to monitor for all pollutants on the EPA priority pollutant list, or for which Oregon has established or EPA has promulgated, water quality standards for the state. The toxic substances addressed in this rulemaking for which there are no currently established criteria in Oregon are carbaryl, and diazinon. Acrolein is an EPA priority pollutant and Oregon has previously adopted human health criteria for it. Aluminum, cadmium, and tributyltin are criteria that Oregon had previously adopted, or were promulgated for Oregon by the EPA, and are therefore already part of monitoring requirements under 40 CFR § 122.22(j)(4)(iv). The federal NPDES monitoring requirements for pollutants are not strictly within the scope of this rulemaking. However, the adoption of new criteria for carbaryl and diazinon may result in additional monitoring requirements for certain facilities including major facilities or dischargers with an approved pre-treatment program. DEQ will revise the Fiscal Impact Statement to include this additional cost for monitoring at eligible POTWs.

Suggested Change ID # 4

Comment: Procedure for when measured data is unavailable- Language clarification

Commenter: #5

Description: Procedure for when measured data is not available. If measured data for one or more of the Aluminum Criteria Calculator (ACC) input parameters is not available, the procedures in section (1), (2), or (3) of this endnote will be used as specified to substitute an estimated or a default value for the missing input parameter or to apply default criteria derived using ecoregional data."

ACWA suggests one clarification to this language. It should be made explicit that the stated procedures will be preferentially applied in order, as noted in the endnote O(4)(b).

Response: DEQ has stated a policy to give preference to calculated criteria derived from site-specific and concurrent measurement of input parameter values for water quality-dependent criteria that are based on models or calculators for Clean Water Act implementation when there is sufficient measured data available. This is consistent with the way DEQ has applied similar criteria such as for hardness-based metals and copper.

For clarity, DEQ will revise the proposed rule language in Endnote O, Paragraph 1 stating preference for ACC criteria values calculated from measured input parameter data and that estimates shall be applied in the order listed.

Suggested Change ID # 5

Comment: Application of the Bioavailable Method to Stormwater Discharges- Include Additional Language

Commenter: #5, 7, 8

Description: Application of aluminum criteria to Stormwater Discharges. For stormwater discharges, it may be necessary to use the bioavailable method not just for ambient but also to characterize stormwater discharges to demonstrate compliance with water quality criteria. This is likely to be an issue given the “cause and contribute” language in the MS4 permits that requires corrective action. ACWA members can provide DEQ with bioavailable aluminum data for stormwater discharges if DEQ would like further information regarding this issue. Without an allowance for the use of the bioavailable method for stormwater discharges, unintended consequences could result. We recommend that DEQ include additional language in the implementation guidance for the aluminum criteria that enables the use of the bioavailable method for stormwater discharges.

Response: Federal regulations require that EPA approved analytical methods identified in 40 CFR part 136 be used for certain Clean Water Act purposes. DEQ understands the use of an EPA approved method is required for (1) Applications for NPDES permits, specifically, measurements of effluents, (2) reports required from dischargers, and (3) certifications issued by states under CWA Section 401. At this time, analytical methods to measure bioavailable aluminum are not an EPA approved analytical method. Until then, analytical methods to measure total recoverable aluminum shall be used for implementing Clean Water Act programs where required by federal regulations.

The implementation guidance for the aluminum criteria referred to in the comment is an implementation procedure previously developed for the currently applicable and federally promulgated aluminum criteria for Oregon. In that implementation guidance document, DEQ stated a preference to use analytical methods for bioavailable aluminum to measure the aluminum concentration in ambient waters and for purposes of water quality assessment, permitting, TMDLs and other water quality protection purposes that rely on ambient aluminum concentration data. DEQ will clarify that its preference includes use of analytical methods that measure bioavailable aluminum for MS4 purposes that rely on ambient aluminum concentration data, where allowed by federal statute, when it prepares implementation guidance for the state's newly adopted rules. However, that guidance document is not part of this rulemaking.

Suggested Change ID # 6

Comment: Freshwater Aluminum Aquatic Life Criteria Endnote O- Language change

Commenter: #6

Description: The state is proposing to adopt the EPA’s 2018 CWA section 304(a) recommended freshwater aquatic life criteria for aluminum which was the basis for the

federally promulgated aluminum criteria in Oregon fresh waters that went into effect on April 19, 2021. As described in the preamble to the final federal rule, “The 2018 national recommended criteria are based upon Multiple Linear Regression (MLR) models for fish and invertebrate species that use site specific pH, dissolved organic carbon (DOC), and total hardness inputs to quantify the effects of these water chemistry parameters on the toxicity of aluminum to aquatic organisms. […]. The numeric outputs of the 2018 national recommended criteria calculator for a given set of conditions vary depending on the site-specific pH, DOC, and total hardness entered into the calculator. The calculator outputs (CMC and CCC) for a given set of input conditions are numeric values that would be protective for that set of input conditions (i.e., water-chemistry condition-specific CMC and CCC outputs).”

To clarify that criteria values will protect the water body over the full range of water chemistry conditions, the EPA recommends that in Endnote O(4)(a) the state use the exact language that was included in Footnote 1 of the federally promulgated aluminum rule for Oregon, as stated below: “To apply the aluminum criteria for Clean Water Act purposes, criteria values based on ambient water chemistry conditions must protect the water body over the full range of water chemistry conditions, including during conditions when aluminum is most toxic.”

Response: DEQ agrees that our intent is to adopt the EPA’s 2018 CWA section 304(a) recommended freshwater aquatic life criteria for aluminum. DEQ generally agrees with the wording of Footnote 1 of the federally promulgated rule and will revise the proposed language of Endnote O(4)(a) as suggested.

Suggested Change ID # 7

Comment: Freshwater Aluminum Aquatic Life Criteria Footnote P

Commenter: #6

Description: Footnote P states that “Oregon will use analytical methods that measure the bioavailable fraction of aluminum unless total recoverable aluminum measurements are required by Federal regulations.” The federally promulgated freshwater aquatic life criteria for aluminum for Oregon included a similar footnote but specified that “Oregon may utilize total recoverable analytical methods to implement the criteria. For characterizing ambient waters, Oregon may also utilize, as scientifically appropriate and as allowable by State and Federal regulations, analytical methods that measure the bioavailable fraction of aluminum. […].” The EPA would like to reiterate that certain federal regulations require the use of the EPA approved methods for total recoverable aluminum. As stated in the preamble to the federal rule, “The contexts where use of an EPA approved method is required are: (1) Applications for NPDES permits, specifically, measurements of effluents, (2) reports required from dischargers, and (3) certifications issued by states under CWA Section 401. 40 CFR 136.1(a). NPDES permit limits for metals must be expressed as “total recoverable” metals with the exception of

circumstances that would not apply for the aluminum criteria in this rule. 40 CFR 122.45(c)."

The EPA also notes that the use of analytical methods that measure the bioavailable fraction of aluminum is limited to characterizing ambient waters only, as a method appropriate for other media, such as wastewater, has not been published yet.

Response: DEQ thanks the EPA for the comment. DEQ acknowledges and understands that federal regulations require states to use approved analytical methods listed under 40 CFR § 136. DEQ understands that these are 1) measurements of effluent for NPDES permit applications, 2) reports required from dischargers, and 3) certifications issued by states under CWA Section 401. At this time the only 40 CFR § 136 approved methods for aluminum are measures of total recoverable or dissolved aluminum. DEQ's intention is to use measurements of bioavailable aluminum for assessing ambient water quality and other eligible Clean Water Act implementation wherever allowed by federal regulations.

Suggested Change ID # 8

Comment: Freshwater Aluminum Aquatic Life Criteria Missing Parameters Document

Commenter: #6

Description: In Section 2 of the Aluminum Missing Parameters Document, it states that "DEQ intends to use data from the most recent 20-year period whenever updating the analyses in this document, in part to incorporate the anticipated lowering quantitation limits of data measurements as analytical methods improve." The EPA recommends that the state evaluate all available data that are determined to be of high quality when updating analyses and not preemptively restrict the dataset to the most recent 20-year period unless it is determined that the data are representative of conditions across the state. In addition, as was done in the Aluminum Missing Parameters Document, the state should verify the protectiveness of the criteria any time analyses are updated.

Response: In Chapter 2, Section 2.1 of the draft Missing Parameters Document for the Aluminum Aquatic Life Standard, DEQ explained that it used the last 20 years of data because it considered these to represent the current conditions for purposes of evaluating the range of ambient concentrations of aluminum, organic carbon, hardness, pH, and other associated water quality parameters in Oregon. There is no widely accepted guideline as to what time frame of water quality data represents current environmental conditions. Considerations can include the age and amount of data available, the data quality, and trends or variability in the data. For instance, in 2016 DEQ selected 15 years of data to evaluate DOC for development of Oregon's copper standards based on availability of data with adequate reporting limits and representativeness of the water quality condition.

For the aluminum analysis, DEQ evaluated most data in the 20-year period was from regularly sampled, long term monitoring programs. However, DEQ understands EPA's concern to be that if much data in the initial 20-year dataset is from one-time studies and monitoring events that are not repeated over the next 20 years. Therefore, data from certain waterbodies or regions of the state could be lost in future updates such that the resulting data set could inadvertently become less representative of the state over time.

Using a 20-year period to represent current conditions is not a requirement and was based on evaluation of the data available at this time. If and when DEQ re-evaluates estimates of missing input parameters or to calculate default values for applying the freshwater aluminum standard in Oregon, DEQ can consider retaining data that is older than 20 years if necessary to ensure data are representative of current conditions.

Suggested Change ID # 9

Comment: Endnote F Cadmium typo- need to correct in rule language

Commenter: #6

Description: There is a typo ("mB" is used instead of "bA") in the note below the table of conversion factors in Endnote F. The note states that "Cadmium values mA, mB, and the…" where it should state "Cadmium values mA, bA, and the…".

Response: Thank you for your comment. DEQ has made the correction indicated to the note in OAR 340-041-8033 Table 30, Endnote F.

Implementation

Notification

The proposed rules become effective upon approval by the U.S. EPA. DEQ will notify affected parties by:

• Posting on DEQ's website.
• Email interested parties on the following DEQ lists through GovDelivery:
• Water Quality Standards
• Rulemaking
• DEQ public notices
• Water Quality Permits
• Posting notices on Facebook and Twitter
• Email all DEQ water quality program staff

Compliance and enforcement

Affected parties- The proposed rule could affect the ability of some NPDES permittees to meet new permit limits. In most cases the uses will not change. The permittee remains responsible for meeting their current permit limits and any applicable criteria revisions will be incorporated upon permit renewal.

DEQ staff- In general, the proposed rule will not impact DEQ staff.

Measuring, sampling, monitoring and reporting

The proposed rule amendments do not generate additional measuring, sampling, monitoring and reporting requirements.

Systems

The proposed rule amendments do not require changes to DEQ systems.

Training

The proposed rule amendments do not require additional training for DEQ or affected parties.

Five-year review

Requirement

Oregon law requires DEQ to review new rules within five years after EQC adopts them. The law also exempts some rules from review. DEQ determined whether the rules described in this report are subject to the five-year review. DEQ based its analysis on the law in effect when EQC adopted these rules.

Exemption from five-year rule review

The Administrative Procedures Act exempts all of the proposed rules from the five-year review because the proposed rules would:

- Amend or repeal an existing rule. ORS 183.405(4).

Supporting documentation

Attachment B: Issue Paper: Water Quality Standards Aquatic Life Toxics Criteria Update 2024
Attachment C: Missing Parameters Document: Aluminum Aquatic Life Standard

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age or sex in administration of its programs or activities.

Visit DEQ's Civil Rights and Environmental Justice page.