

Oregon DEQ Aquatic Life Toxics Criteria Rulemaking

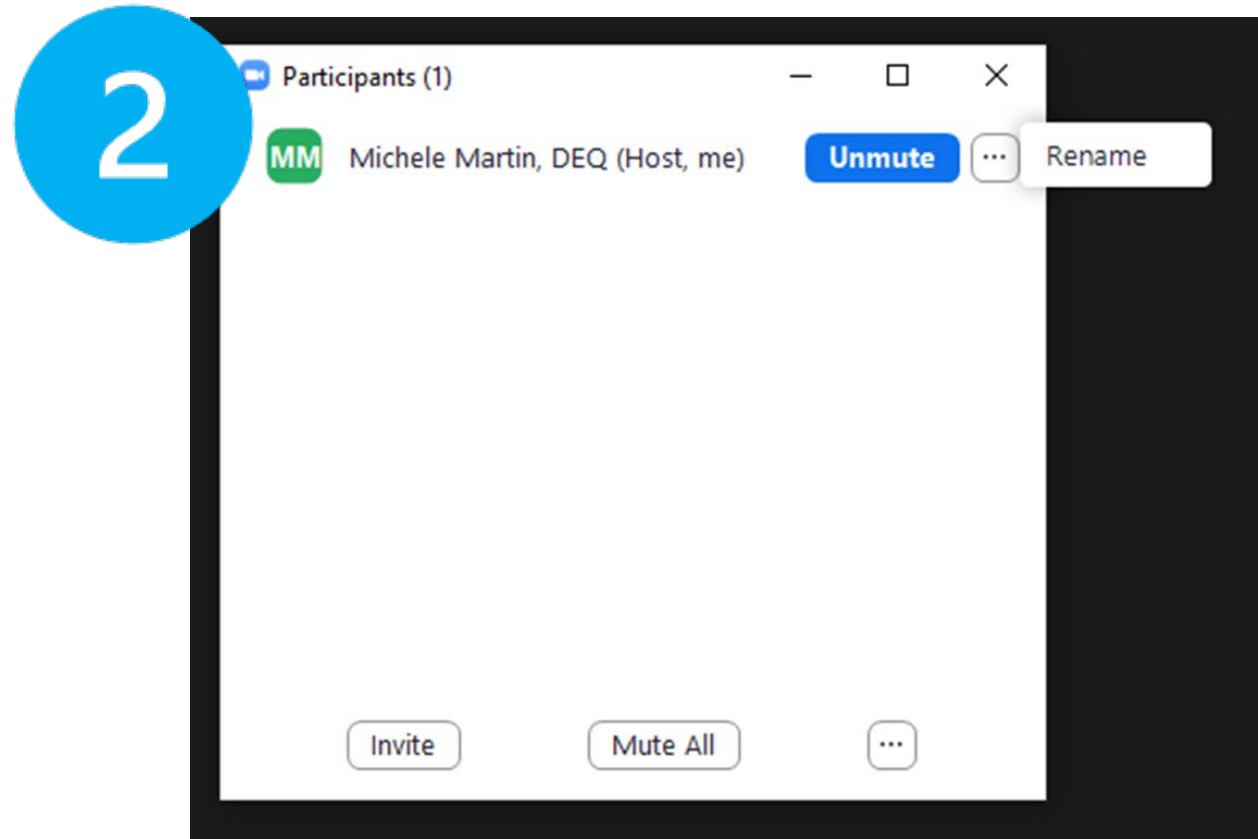
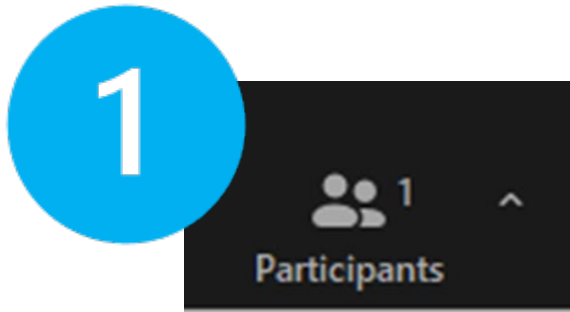
Rulemaking Advisory Committee Meeting #1

Tuesday, Sept. 12, 2023

Zoom meeting logistics

- Trina Mayberry – DEQ Admin. Support
- “Raise hand” to be recognized for questions or comments
- Feel free to post questions into the chat and we will respond
- If you are listening on the phone:
 - Press *9 To raise your hand
 - Press *6 Unmute/Mute your line
- Today’s meeting will be recorded

Add “AC” to your name in Zoom to identify you as an advisory committee member, e.g., AC Michele Martin



Introductions

DEQ Staff

Staff Name	Role	Contact
Trina Mayberry	Admin Support and Technical Assistance	trina.mayberry@deq.oregon.gov
Michele Martin	Meeting Facilitator	michele.martin@deq.oregon.gov
Kaley Major	Project Manager, Technical Lead	kaley.major@deq.oregon.gov
Debra Sturdevant	WQ Standards Program Lead	debra.sturdevant@deq.oregon.gov
Connie Dou	WQ Program Manager	connie.dou@deq.oregon.gov

Advisory committee membership

Committee Members

Name	Affiliation
Emily Bowes	Rogue Riverkeeper
Michael Campbell	Stoel Rives LLP
Catherine Corbett	Lower Columbia River Estuary Partnership
Mike Eliason	Oregon Forest & Industries Council (OFIC)
Raj Kapur Alternate: Julia Crown	Oregon Association of Clean Water Agencies (OR-ACWA)
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 (PCFFA)

Government Advisors

Name	Affiliation
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

Agenda

Time	Topic
1 p.m.	Welcome, introductions
1:20 p.m.	Purpose of project, review of RAC charter
1:50 p.m.	Background: water quality standards and aquatic life toxics criteria in Oregon
2:20 p.m.	Break
2:30 p.m.	Review of proposed aquatic life toxics criteria updates
2:50 p.m.	Questions from the public
3 p.m.	Break
3:10 p.m.	Request for information: Fiscal and Economic Impact Statement
3:30 p.m.	Discussion, question and answer session, comments from the public (as time allows)
4 p.m.	Adjourn meeting

Purpose of project, review of RAC charter

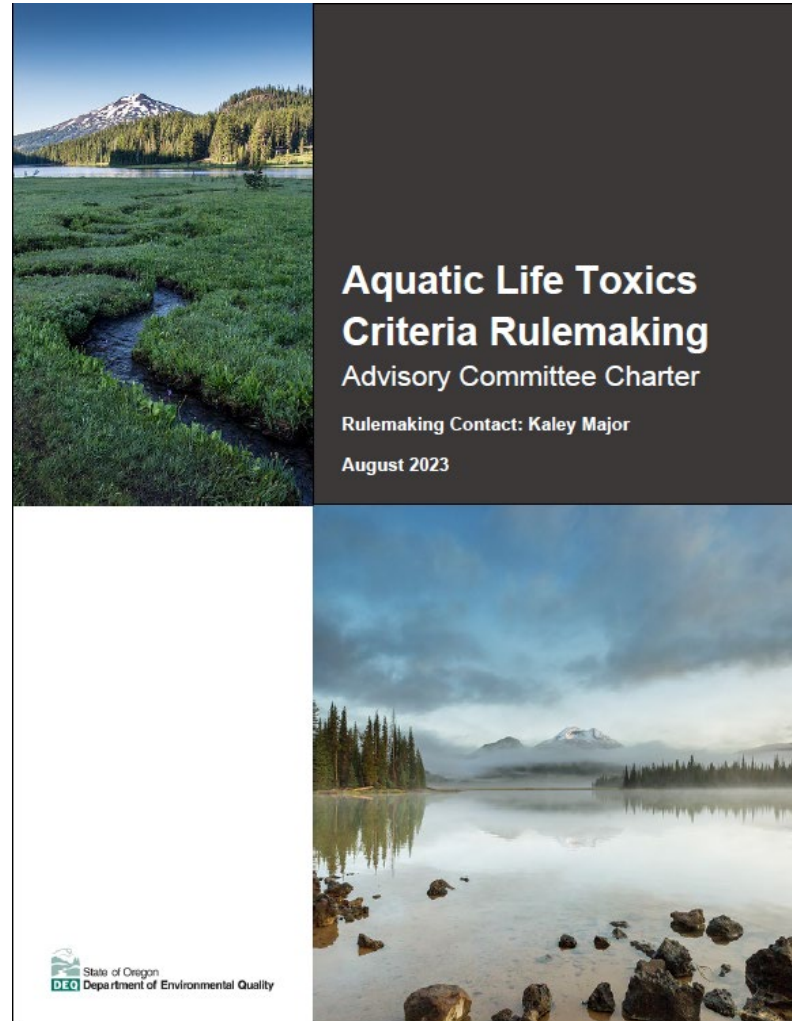
Policy objective

- To update Oregon's water quality standards for toxic substances for aquatic life
- Proposed criteria are EPA's most recent recommendations, based on the latest science

Why update aquatic life toxics criteria now?

- DEQ's last comprehensive update of aquatic life toxics criteria in 2004
- EPA has released several new aquatic life criteria recommendations
- This project was rated as a high priority in the 2021 Triennial Review, which included a public process

Advisory Committee Charter



Advisory committee role

- To provide input on DEQ's proposed rule revisions
- To provide information on the fiscal and economic implications for stakeholders impacted by the proposed aquatic life criteria updates
- To provide input on racial equity impacts
- To provide input that will be used by DEQ in forming draft rule

Each committee member:

- Provides DEQ staff with copies of relevant research and documentation cited during the meeting
- Stays focused on the specific agenda topics for each meeting
- Comments constructively and in good faith

Each committee member (cont'd):

- Consults regularly with constituencies to inform them on the process and gather their input
- Is courteous by not engaging in sidebar discussions
- Avoids representing to the public or media the views of any other committee member or the committee as a whole

DEQ support and website

[Aquatic Life Toxics Criteria 2024](#)

The rulemaking web page will include:

- advisory committee charter
- committee roster
- meeting agenda and Zoom link
- meeting summaries
- other meeting materials

Committee meetings

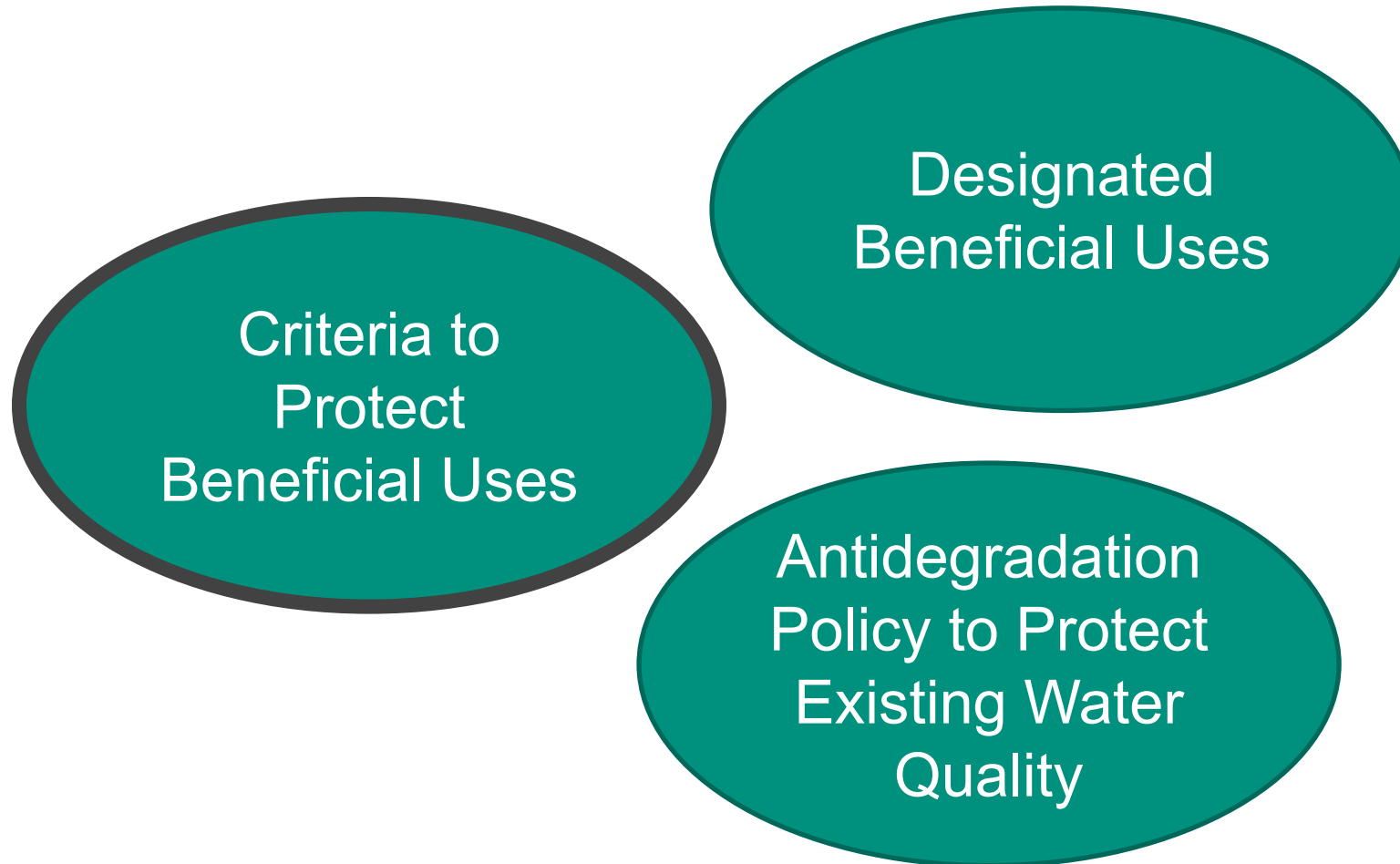
- Open to the public, virtual, accessible via call-in number
- Advertised on the DEQ Event Calendar
- Noticed by email GovDelivery

Information sharing, public records, and confidentiality

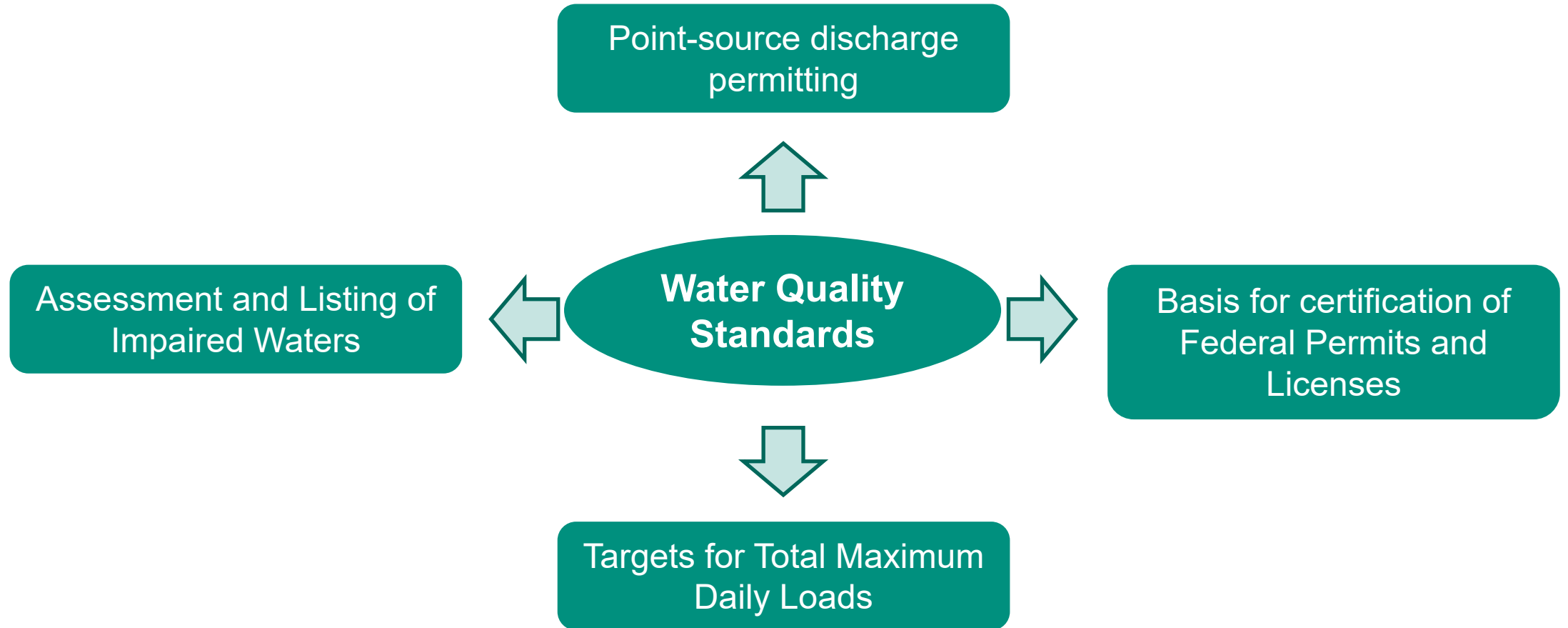
- Committee members are expected to provide information for meetings as early as possible
- Any communications and documents shared with DEQ are a part of the public record
 - DEQ does not assume responsibility for protecting proprietary or confidential business information shared
 - Private documents of individual committee members generally are not considered public records if DEQ does not have copies

Background: water quality standards and aquatic life toxics criteria in Oregon

Water Quality Standards



Foundation for other programs



Adopting aquatic life criteria: process overview



Oregon's water quality standards for toxic substances

[OAR 340-041-0033](#)

[OAR 340-041-8033](#)

Oregon Secretary of State

Home Business Voting Elections State Archives Audits

Department of Environmental Quality

Chapter 340

Division 41
WATER QUALITY STANDARDS: BENEFICIAL USES, POLICIES, AND CRITERIA FOR OREGON

340-041-0033
Toxic Substances

(1) Toxic Substances Narrative. Toxic substances may not be introduced above natural background levels in waters of the state in amounts, concentrations, or combinations that may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare or aquatic life, wildlife or other designated beneficial uses.

(2) Aquatic Life Numeric Criteria. Levels of toxic substances in waters of the state may not exceed the applicable aquatic life criteria as defined in Table 30 under OAR 340-041-8033.

(3) Human Health Numeric Criteria. The criteria for waters of the state listed in Table 40 under OAR 340-041-8033 are established to protect Oregonians from potential adverse health effects associated with long-term exposure to toxic substances associated with consumption of fish, shellfish and water.

(4) To establish permit or other regulatory limits for toxic substances without criteria in Table 30 under OAR 340-041-8033 or Table 40 under 340-041-8033, DEQ may use the guidance values in Table 31 under 340-041-8033, public health advisories, and published scientific literature. DEQ may also require or conduct bio-assessment studies to monitor the toxicity to aquatic life of complex effluents, other suspected discharges or chemical substances without numeric criteria.

OAR 340-041-8033 Table 30 Aquatic Life Water Quality Criteria for Toxic Pollutants							
No.	Pollutant	CAS Number	Human Health Criterion	Freshwater (µg/L)		Saltwater (µg/L)	
				Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
23	Heptachlor	76448	y	0.52 ^A	0.0038 ^A	0.053 ^A	0.0036 ^A
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
24	Heptachlor Epoxide	1024573	y	0.52 ^A	0.0038 ^A	0.053 ^A	0.0036 ^A
^A See expanded endnote A at bottom of Table 30 for alternate frequency and duration of this criterion.							
25	Iron (total)	7439896	n	--	1000	--	--
26	Lead	7439921	n	See C , F	See C , F	210 ^C	8.1 ^C
^C Criterion is expressed in terms of "dissolved" concentrations in the water column.							
^F The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. To calculate the criterion, use formula under expanded endnote F at bottom of Table 30.							
27	Malathion	121755	n	--	0.1	--	0.1

Aquatic life criteria

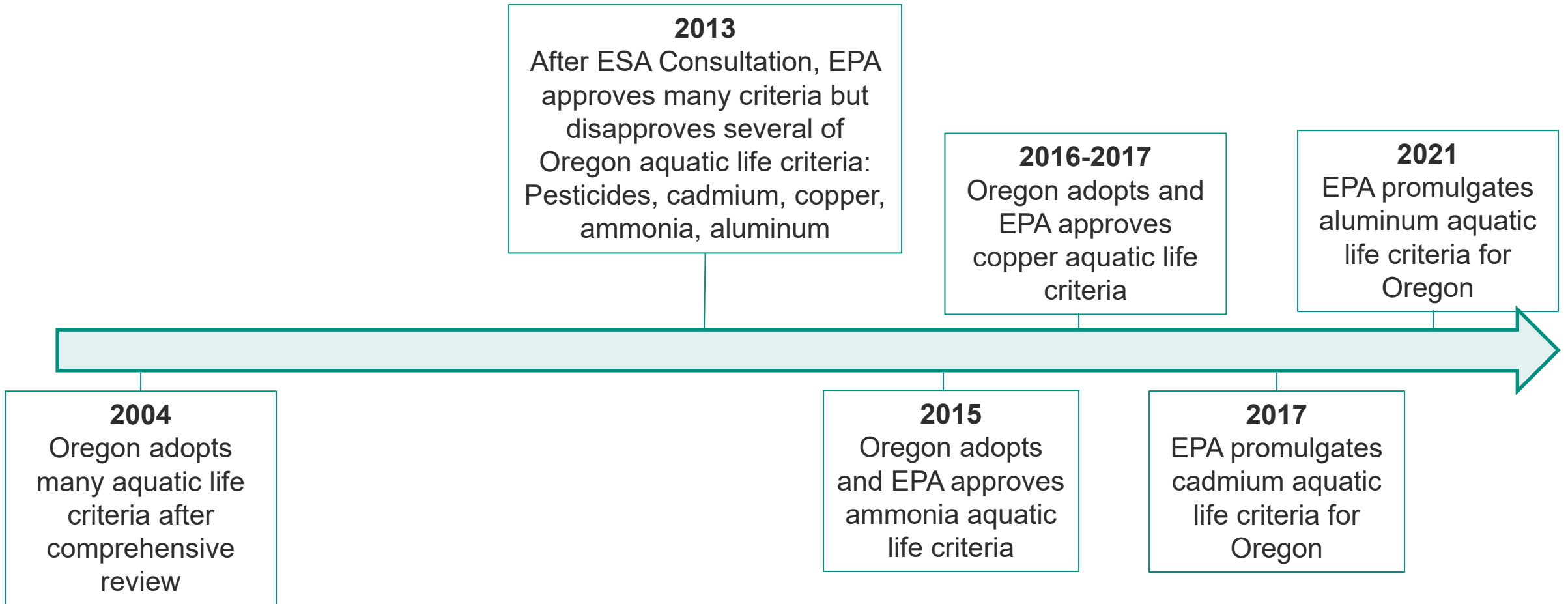
	Freshwater		Saltwater	
	Acute	Chronic	Acute	Chronic
Chemical	[Numeric value]	[Numeric value]	[Numeric value]	[Numeric value]

Most common structure of numeric criteria

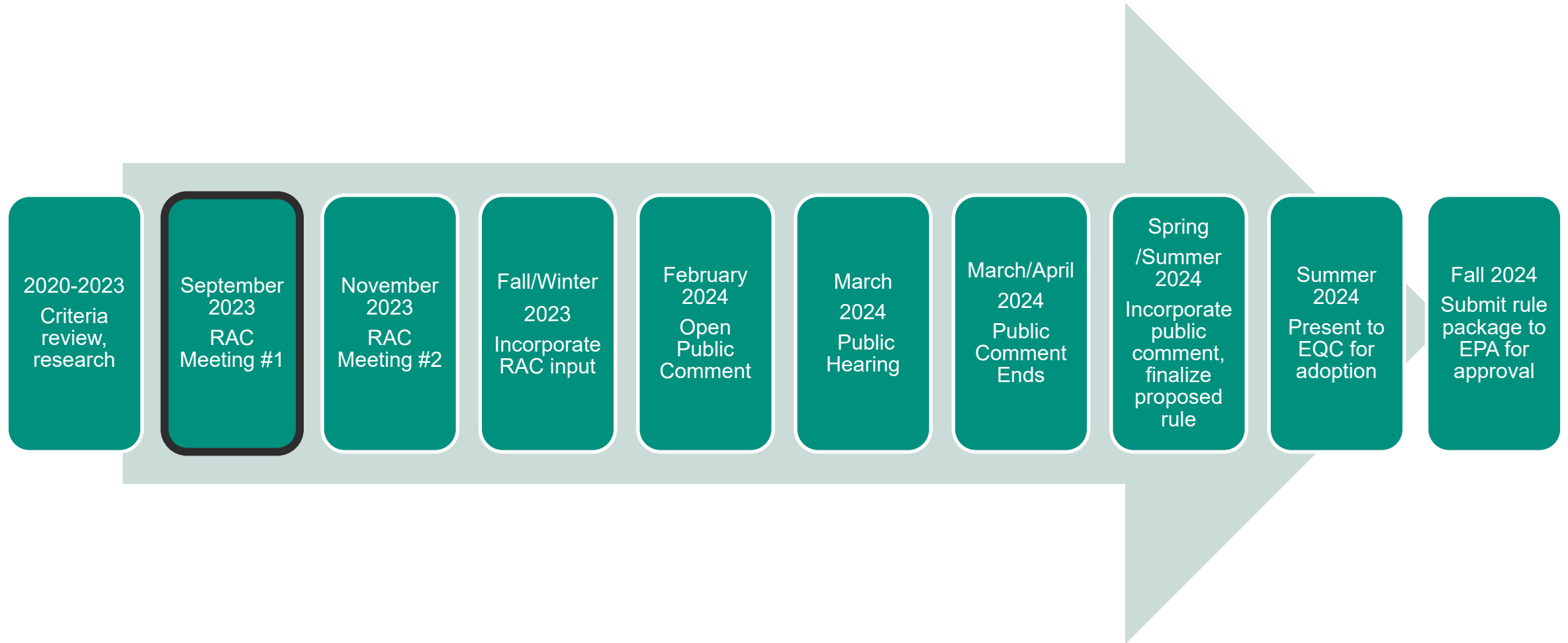
Criterion Protection Type	Duration	Numeric Value*	Frequency
Acute	one-hour average concentration	does not exceed [Y] µg/L	more than once every three years on the average
Chronic	four-day average concentration	does not exceed [Z] µg/L	more than once every three years on the average

*Some criteria are equations instead of singular numeric values

Highlights of recent aquatic life toxics criteria action in Oregon



Project timeline (estimated)



Break

Review of proposed aquatic life toxics criteria updates

Discrepancies between Oregon Rule and EPA recommendations

- Acrolein
- Aluminum
- Cadmium
- Carbaryl
- Diazinon
- Endosulfan
- Lindane
- Mercury
- Nonylphenol
- Selenium
- Silver
- Tributyltin

Decision whether to update aquatic life criteria

Chemicals that will be updated during this rulemaking:

Acrolein, Aluminum, Cadmium, Carbaryl, Diazinon, Tributyltin

Chemicals that will not be updated at this time:

Selenium, Endosulfan, Lindane, Silver, Mercury, Nonylphenol

Chemicals proposed for criteria adoption

Acrolein

- Restricted use pesticide, may also be produced naturally
- Used in irrigation canals to prevent algal and bacterial growth
- Acrolein typically measured below criteria in Oregon waters

Acrolein Criteria	Aquatic Life Criteria			
	Freshwater (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	-	-	-	-
EPA (2009)	3.0	3.0	-	-

Aluminum

- Aluminum is the most abundant metal in Earth’s crust and can enter aquatic environment through natural processes and human activities
- EPA promulgated the 2018 freshwater aquatic life criteria in Oregon in 2021
- The criteria values are calculated using Aluminum Criteria Calculator (v 2.0) with site-specific hardness, pH, and dissolved organic carbon
- Important consideration: ‘bioavailable’ aluminum, (the toxic sample fraction). Not all aluminum in the environment causes toxicity. Oregon wishes to be explicit about bioavailable aluminum.

Aluminum Criteria	Example Aquatic Life Criteria based on select Aluminum Criteria Calculator (v 2.0) input values			
	Freshwater (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	-	-	-	-
Effective in Oregon	980	380	-	-
EPA (2018)	980	380	-	-

Cadmium

- Cadmium is a naturally occurring metal that can be moved into waters from many human activities
- EPA promulgated the 2016 freshwater acute aquatic life criteria in OR in 2017; OR's remaining criteria are based on EPA's 2001 recommendations
- The freshwater criteria values are calculated via a hardness-based equation
- **A recent court case has vacated EPA's 2016 freshwater chronic recommendation and remanded the freshwater acute and saltwater recommendations. DEQ is evaluating the best path forward.**

Cadmium Criteria	Aquatic Life Criteria			
	Example freshwater values based on default hardness (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	3.9	0.25	40	8.8
Effective in Oregon	1.8	0.25	40	8.8
EPA (2016)	1.8	0.72	33	7.9

Carbaryl

- Carbaryl is a man-made insecticide used in urban and agricultural settings.
- Used on orchards and grapes, vegetables and fruits, alfalfa, wheat, and other crops as well; also used residentially
- Carbaryl most often measured below criteria in Oregon

Carbaryl Criteria	Aquatic Life Criteria			
	Freshwater (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	-	-	-	-
EPA (2012)	2.1	2.1	1.6	-

Diazinon

- Diazinon is a man-made restricted use insecticide
- Used on orchards and grapes, vegetables and fruits, corn and other crops as well ; limited use residentially
- Diazinon most often measured below criteria in Oregon

Diazinon Criteria	Aquatic Life Criteria			
	Freshwater (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	-	-	-	-
EPA (2005)	0.17	0.17	0.82	0.82

Tributyltin

- Tributyltin a man-made compound that is used as a biocide in paints for the bottoms of ship hulls
- Federal and state regulation has restricted tributyltin in marinas and estuaries, where the greatest environmental impacts were noted in the 1980s
- Tributyltin criteria were finalized after Oregon adopted draft values in 2004 – updating would be a slight change

Tributyltin Criteria	Aquatic Life Criteria			
	Freshwater (µg/L)		Saltwater (µg/L)	
	Acute Criterion (CMC)	Chronic Criterion (CCC)	Acute Criterion (CMC)	Chronic Criterion (CCC)
Oregon	0.46	0.063	0.37	0.01
EPA (2003)	0.46	0.072	0.42	0.0074

Chemicals that will not be updated at this time

- Mercury – active litigation in the PNW, wait until settled
 - Nonylphenol – ESA concerns, wait until settled
 - Selenium – Complex implementation beyond the timeline of this rulemaking
 - Endosulfan
 - Lindane
 - Silver
- EPA has withdrawn recommendations, but DEQ elected to keep criteria in 2004

Clarifying questions from the public

(10 minutes)

Break

Request for information: Fiscal, economic and racial equity impacts

Fiscal and Economic Impact Statement

DEQ must generate a Statement of Cost of Compliance

- State agencies
- Local governments
- Public
- Large businesses - businesses with more than 50 employees
- Small businesses – businesses with 50 or fewer employees

Advisory committee fiscal review

DEQ is asking for the committee member input on:

- Whether the proposed rules would have a fiscal impact
- The extent of the impact
- Whether the proposed rules would have a significant adverse impact on small businesses
 - If so, then how DEQ can reduce impact

Additional advisory committee review

DEQ is also asking for the committee member input on:

- How the proposed rules would affect racial equity in Oregon

RAC meeting goals and schedule

September 2023
RAC Meeting #1

October 2023

November 2023
RAC Meeting #2

Before Meeting #1

- RAC Charter
- Appointment Letter
- Agenda

After Meeting #1

- Meeting #1 Summary
- Presentation
- Draft Issue Paper
- Fact sheet
- Example of Fiscal Impact Considerations

Between-Meeting

- Review meeting summary
- Provide information about fiscal/economic impact and racial equity

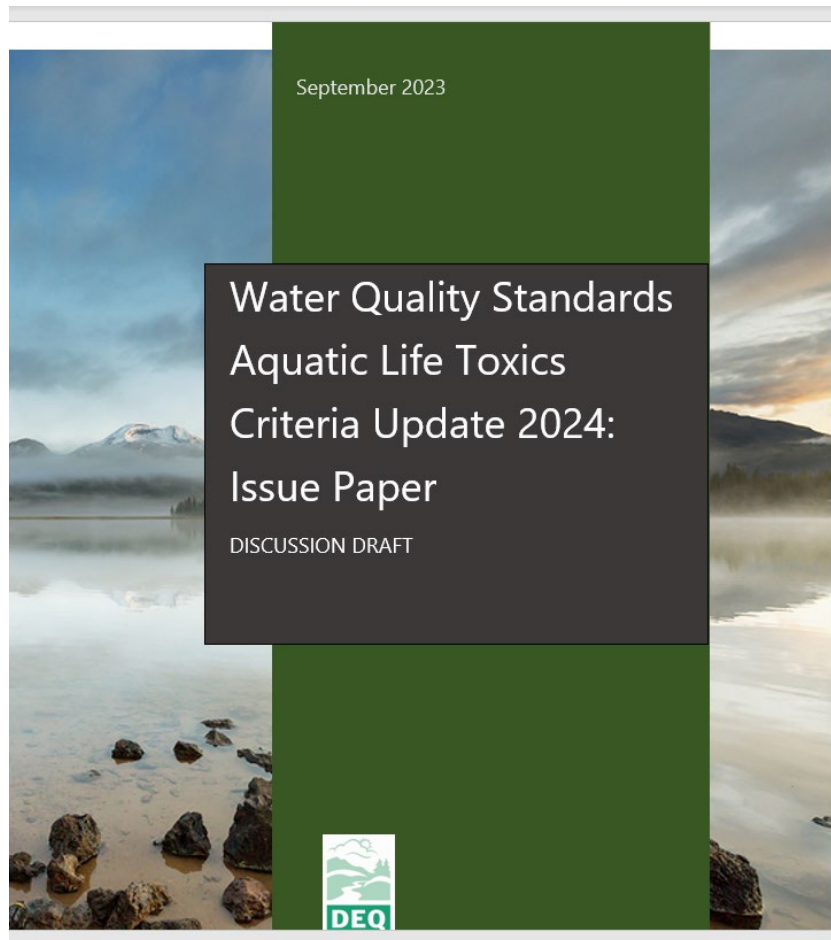
Before Meeting #2

- Draft Fiscal and Economic Impact Statement
- Draft Rule Language

After Meeting #2

- Meeting #2 Summary
- Presentation
- Draft Rule Language
- Final Fiscal and Economic Impact Statement

Next steps



Item	Advisory Committee Action
Presentation Slides	Informational
Draft Issue Paper	Informational
Fact Sheet	Informational
Meeting Summary	Review ~Sept 29
Example Fiscal and Economic Impact Statement Input	Review and Input ~Sept 29

Discussion, question and answer session

Comments and questions from the public as time allows

DEQ staff contacts

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Rulemaking web page: [Aquatic Life Toxics Criteria 2024](#)

Title VI and alternative formats

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