

Total Maximum Daily Loads (TMDLs): Temperature TMDL Replacement project: **Willamette** **Subbasins**

Apr. 6, 2023, 1 p.m. PT

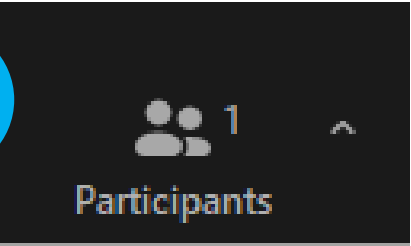
Rule Advisory Committee meeting #2

Agenda

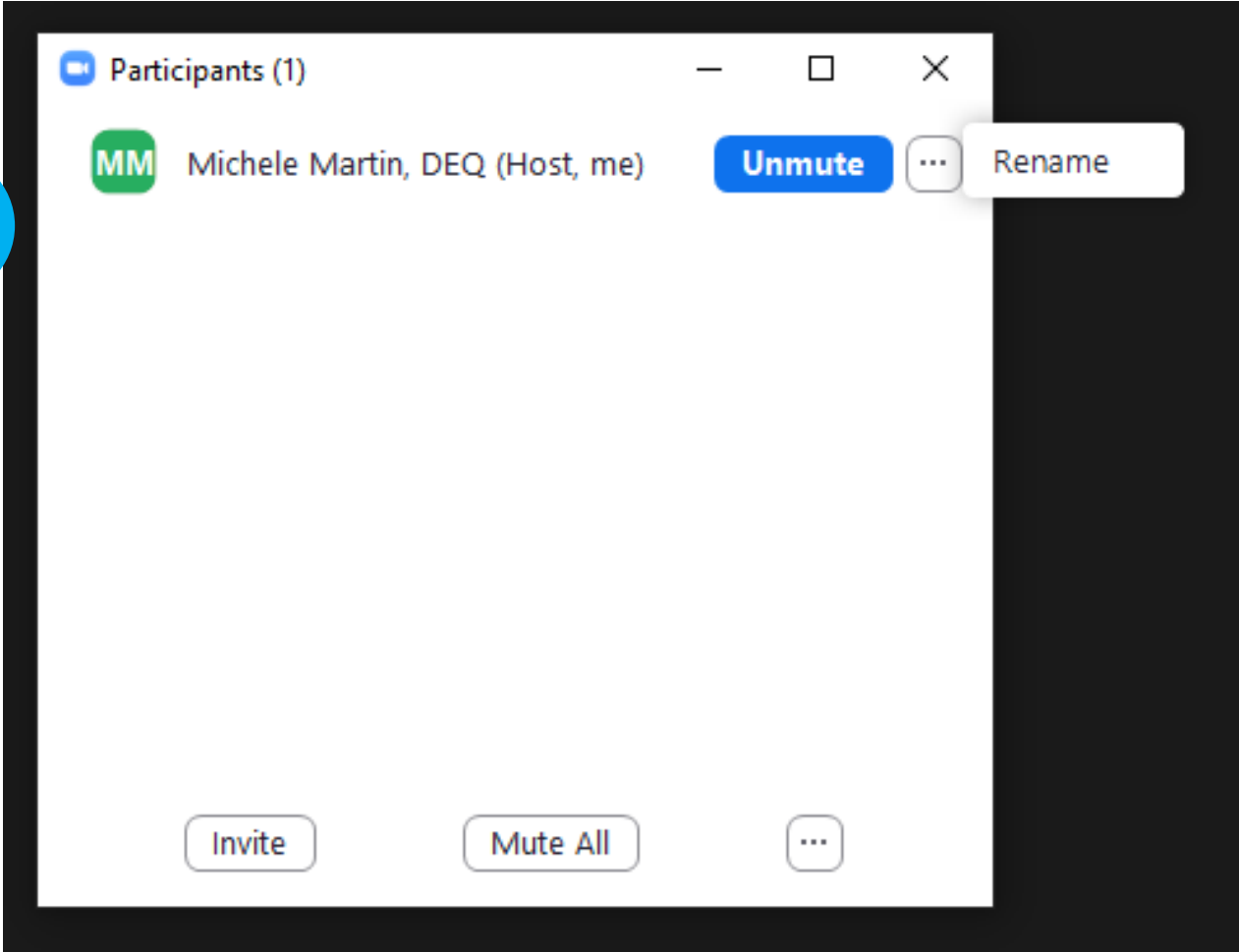
Time	Topic
1 p.m.	Welcome, introductions, meeting agenda
1:10 p.m.	Draft Total Maximum Daily Load rule, changes from meeting #1
2 p.m.	Draft Water Quality Management Plan, changes from meeting #1
2:50 p.m.	Break (5 min.)
2:55 p.m.	Draft Fiscal and Economic Impact Statement
3:25 p.m.	Wrap up, next steps
3:30 p.m.	Adjourn meeting

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

1



2



Zoom logistics and meeting ground rules



Raise hand to be recognized for questions or comments; please speak for yourself when recognized, let others speak without interruptions



Use chat to:

Ask questions

Provide informational resources

Second ideas/issues



Mute when not speaking



If using phone: press *9 to raise hand, *6 to mute/unmute

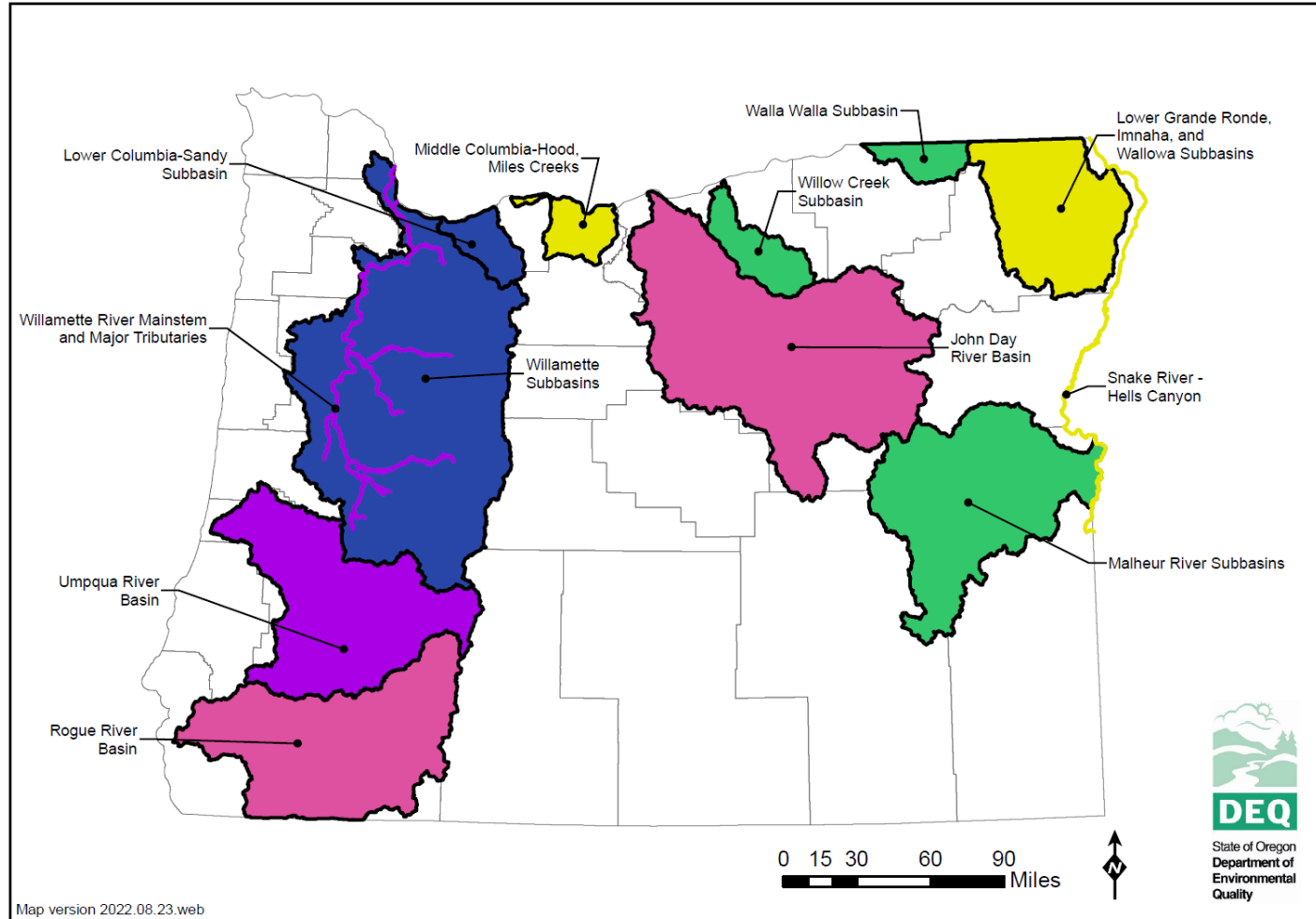
Rule advisory committee meeting materials

1. Agenda
2. **Rule** Draft Total Maximum Daily Loads for Willamette Subbasins, Temperature (clean copy and redline)
3. **Rule** Draft Water Quality Management Plan, Willamette Subbasins, Temperature (clean copy and redline)
4. Draft Fiscal and Economic Impact Statement, Willamette Subbasins (clean copy and redline)
5. Draft TMDL Technical Support Document (TSD)

Meeting materials are online:

<https://www.oregon.gov/deq/rulemaking/Pages/willamettetempTMDL.aspx>

Temperature TMDL Replacement project areas



Project website: <https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlreplacement.aspx>

Key dates for EPA approval or disapproval of Temperature TMDLs

Jan. 15, 2024

- Willamette Subbasins*
- Lower Columbia-Sandy Subbasin

Feb. 28, 2025

- Willamette River Mainstem and Major Tributaries*
- Umpqua River Basin

April 17, 2026

- Rogue River Basin
- John Day River Basin

June 4, 2027

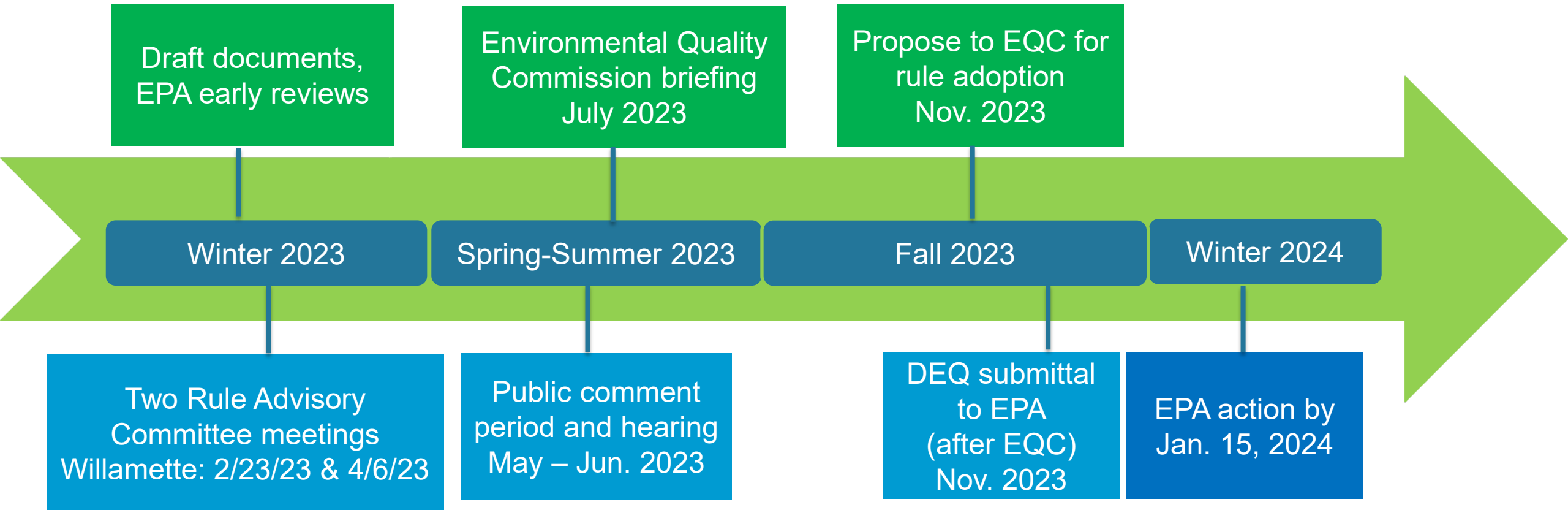
- Snake River - Hell's Canyon
- Lower Grande Ronde, Imnaha, and Wallowa Subbasins
- Middle Columbia-Hood, Miles Creeks

May 29, 2028

- Walla Walla Subbasin
- Willow Creek Subbasin
- Malheur River Subbasins

*The Willamette temperature TMDL replacement will occur in two waves: Jan. 15, 2024, and Feb. 28, 2025

Willamette Subbasins Temperature TMDL Replacement rulemaking milestones



Project website: <https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlreplacement.aspx>

Abbreviations – partial list

BLM – Bureau of Land Management

DMA – Designated Management Agency

DOGAMI – Dept. of Geology and Mineral Industries

DSL – Dept. of State Lands

FIS – Fiscal Impact Statement

HUA – Human Use Allowance

ODA – Oregon Dept. of Agriculture

ODF – Oregon Dept. of Forestry

ODFW – Oregon Dept. of Fish & Wildlife

OSMB – Oregon State Marine Board

OWEB – Oregon Watershed Enhancement Board

RAC 1 – rule advisory committee meeting 1

RAC 2 – rule advisory committee meeting 2

RP – Responsible Person

SWCD – Soil and water conservation district

TMDL – Total Maximum Daily Load(s)

USFS – U.S. Forest Service

WLA – waste load allocations

WQMP – Water Quality Management Plan

WWTP – waste water treatment plant

Total Maximum Daily Loads – Willamette Subbasins



Total Maximum Daily Load – changes from RAC 1

1. Addition of cool water species narrative criteria (Section 4, Table 4.2)
2. Overview of temperature water quality data evaluation (Section 6)
3. Clarification that human use allowance includes existing buildings and existing utility infrastructure (Section 9.1)
4. Updates to NPDES point source human use allowance (Section 9.1) and waste load allocations (Section 9.1.1)
5. Addition of dam and reservoir surrogate measure (Section 9.1.2.1.1)
6. Addition of equation to allow recalculation of site specific effective shade targets (Section 9.1.2.1.2)
7. Removal of Lower Columbia-Sandy TMDL table (hidden table reference). (Section 9.1.2.1.2)
8. Margin of safety narrative (Section 9.2)
9. Moved long effective shade tables to Section 12

Human use allowance and waste load allocation changes from RAC 1

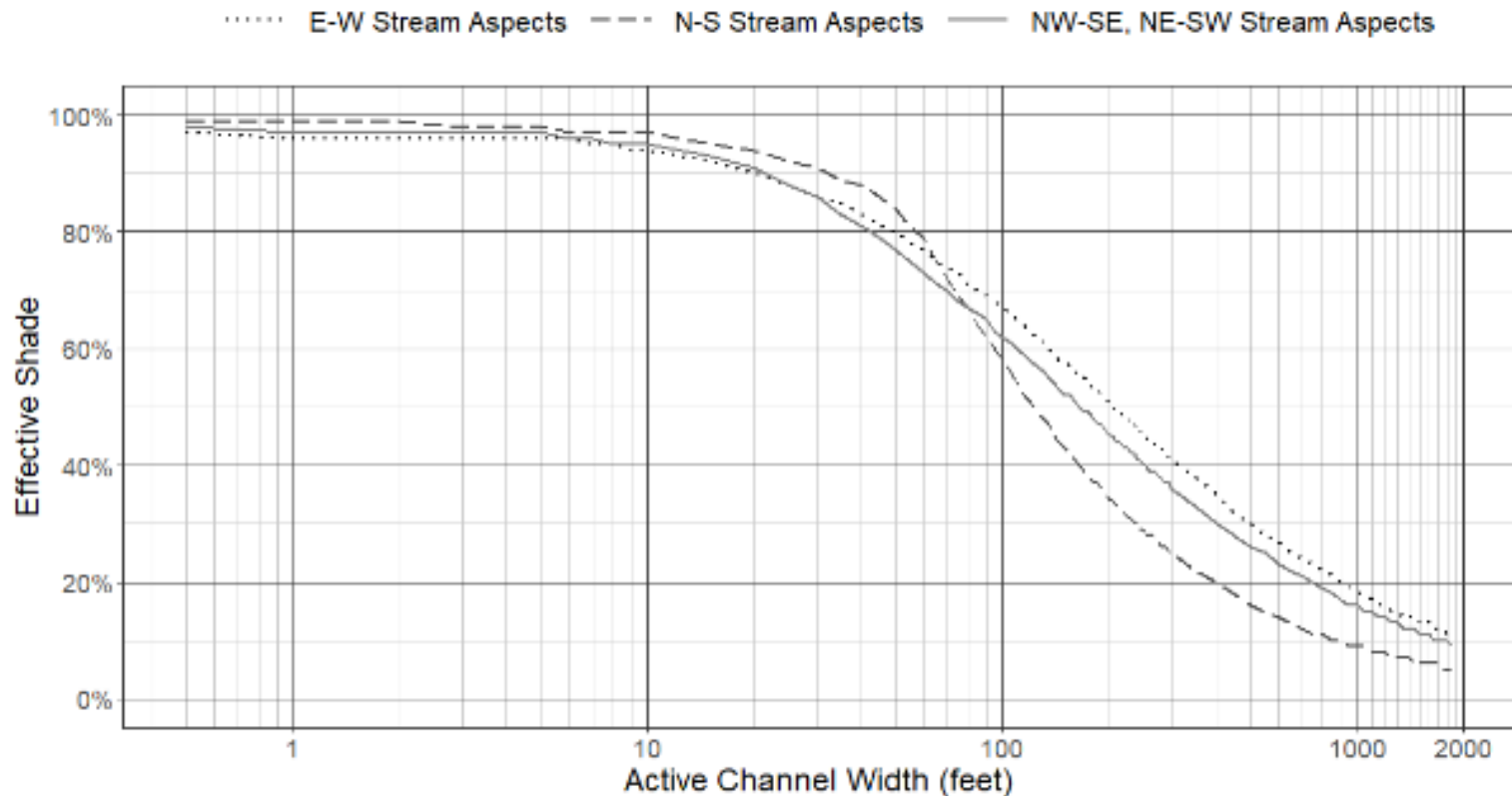
1. Updated HUA for some point sources from 0.10 to 0.075 deg-C. Consistent with allocations in 2006 TMDL and with NPDES permit limits.
2. Cumulative NPDES point source HUA increased to 0.15 deg-C for streams with two NPDES discharges. Reserve Capacity reduced to 0.08 deg-C. Addresses potential cumulative warming.
3. Added allocation for International Paper Springfield (outfall 003).
4. Removed allocations for some point sources that no longer hold an a NPDES permit.
5. All other allocations remain the same as presented in the draft at RAC 1.

Effective shade curve surrogate measure

Table 9.12. Vegetation height, density, overhang, and horizontal distance buffer widths used to derive generalized effective shade curve targets for each mapping unit.

Mapping Unit	Height (m)	Height (feet)	Density (%)	Overhang (m)	Buffer Width (m)
Qff1	40.7	134	70%	4.9	36.8

Qff1



TMDL section 9.1.2.1.1

Effective shade curve surrogate measure table

Table 12.1 Effective shade targets for stream sites in the Qff1 mapping unit.

Active Channel Width (m)	Active Channel Width (feet)	Effective Shade Target for E-W Stream Aspects	Effective Shade Target for NW-SE, NE-SW Stream Aspects	Effective Shade Target for N-S Stream Aspects
0.2	0.5	97%	98%	99%
0.3	1	96%	97%	99%
0.6	2	96%	97%	99%
0.9	3	96%	97%	98%
1.2	4	96%	97%	98%
1.5	5	96%	97%	98%
1.8	6	96%	96%	97%
2.1	7	95%	96%	97%
2.4	8	95%	95%	97%
2.7	9	94%	95%	97%
3	10	94%	95%	97%
4.6	15	92%	93%	95%
6.1	20	90%	91%	94%
7.6	25	88%	88%	92%

TMDL section 12

Vegetated buffer width literature review

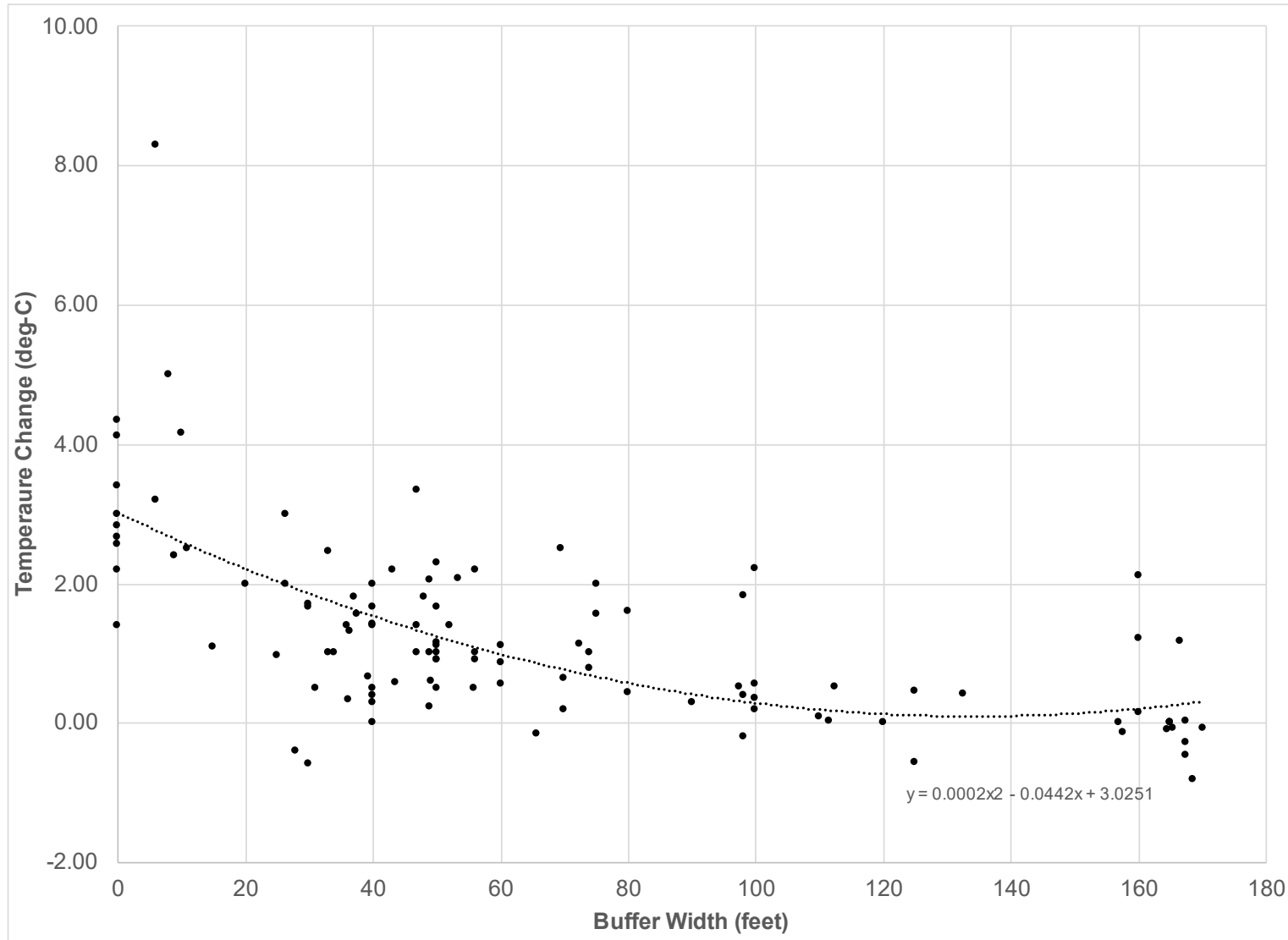
Question: What buffer width treatment minimizes stream temperature increases?

- Buffer treatment and temperature or shade response extracted from published articles or reports; or obtained directly from authors. See “**Temperature and Shade Values**” listed under technical support document <https://www.oregon.gov/deq/rulemaking/Documents/wstTMDLm2TSV.pdf>
- Temperature response from buffer width treatments
- Shade response from buffer width treatments
- Temperature response from shade reduction

Buffer recommendation of 120 feet based upon no increase in temperature or reduction in shade

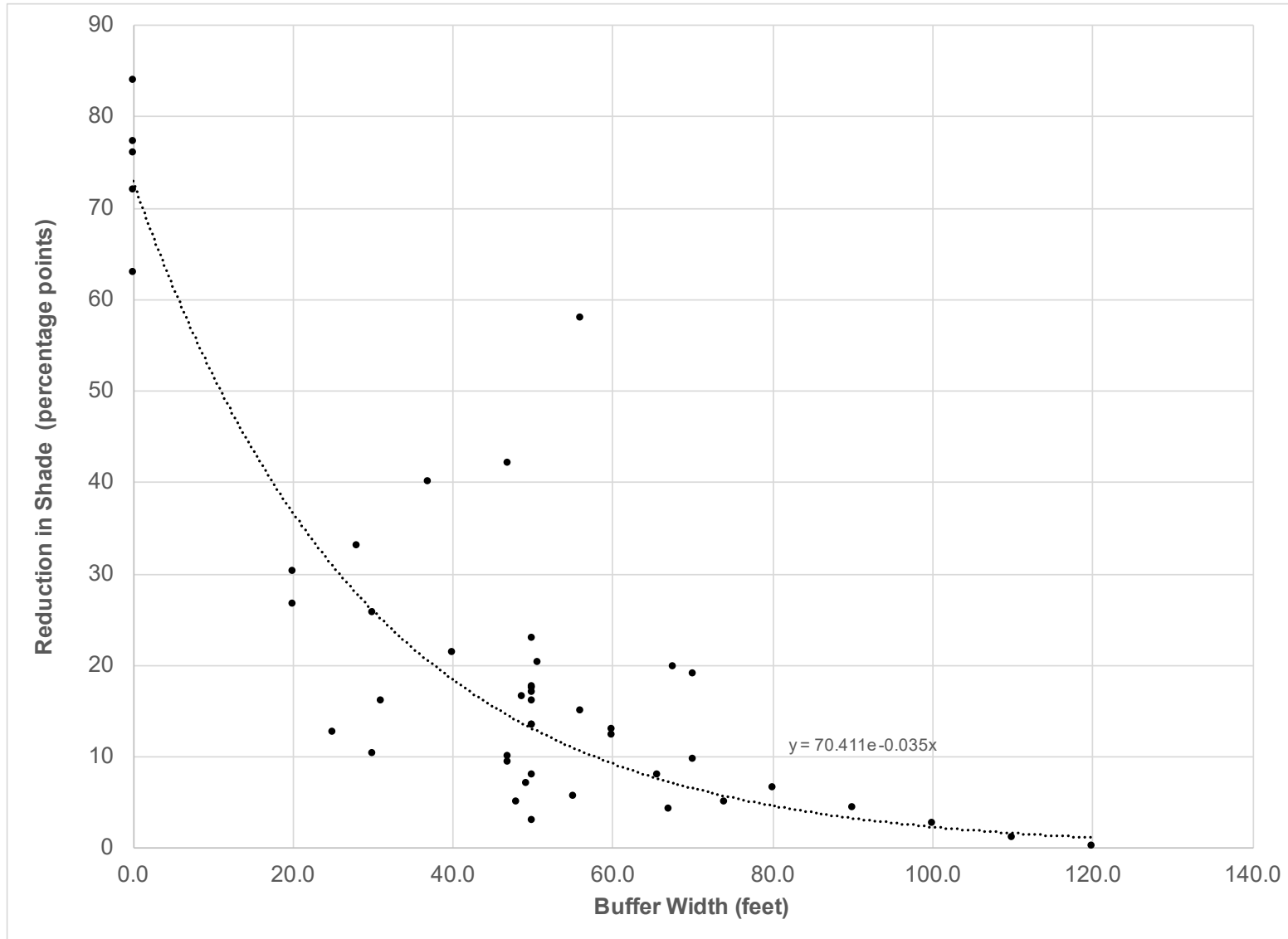
Acknowledgements: Cowan et al. 2019, Leinenback, 2013

Temperature response from buffer width treatments



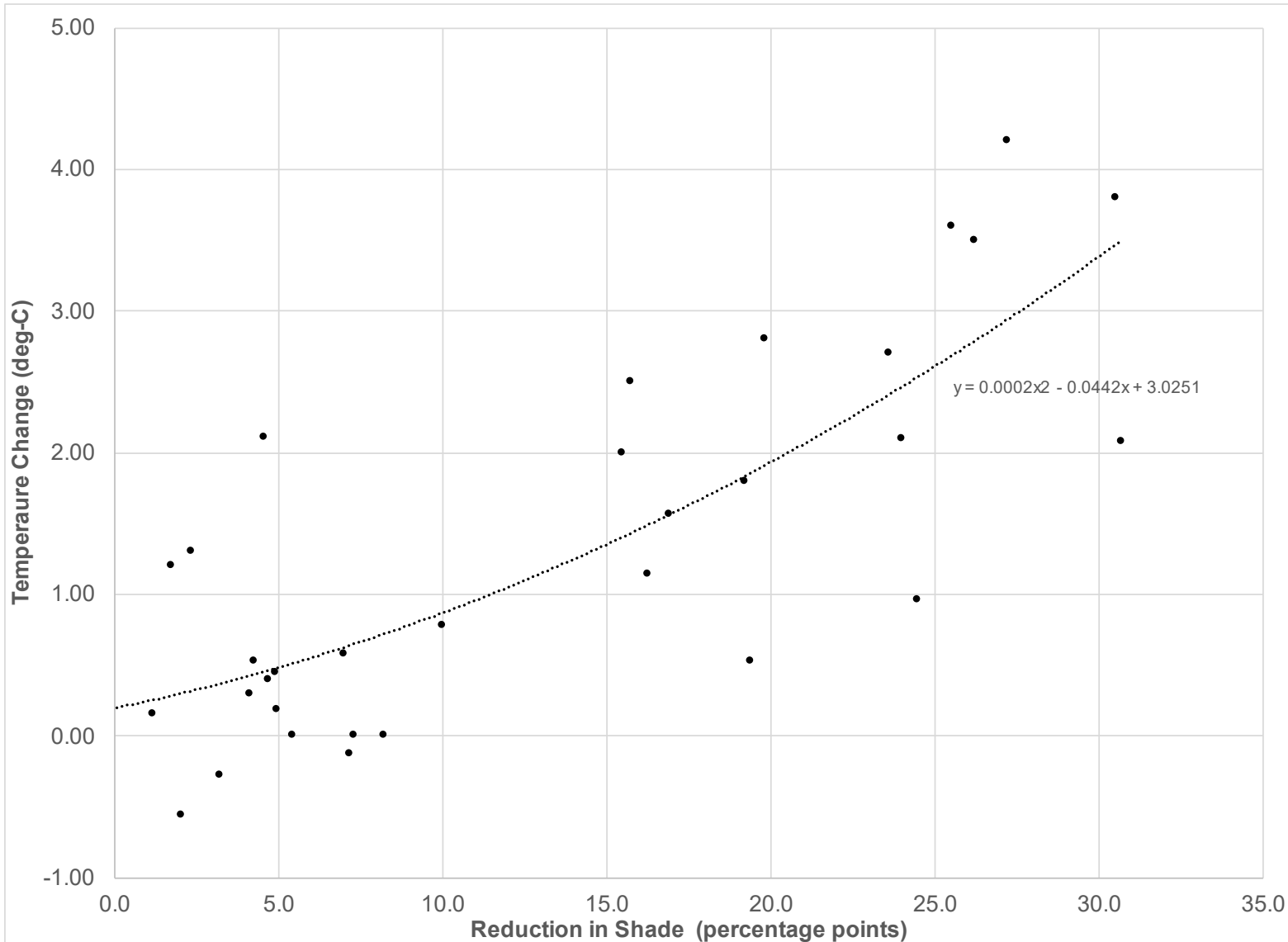
N = 112
studies = 12

Shade response from buffer width treatments



N = 80
studies = 7

Temperature response from shade reduction



N = 43
studies = 3

Total Maximum Daily Loads Willamette Subbasins

Questions?



Water Quality Management Plan – Willamette Subbasins



Water Quality Management Plan components

What the slides will cover...

1. Summary of responsible persons, including Designated Management Agencies
 - RPs and DMAs removed from WQMP following RAC 1
2. Responsible persons, including Designated Management Agencies not required to submit implementation plans
3. Management strategies responsible persons, including Designated Management Agencies will use to reduce pollutant loading and achieve load allocations
 - Shade assessment
4. Timeline for strategy implementation and a schedule for completing measurable milestones
5. Timelines for performance monitoring and Water Quality Standards

Water Quality Management Plan proposed Responsible Persons and Designated Management Agencies

Responsible person/ DMA Type	Count
Cities	70
Water Conveyance Entities	20
Counties	12
Railways	12
State Agencies	9
Federal Agencies	5
Public and Private Utilities	3
Special Districts	2
Transportation	2

Responsible persons and Designated Management Agencies removed from Appendix A

- Sovereign Tribal Nation
- Unincorporated cities
- Did not have ownership or jurisdiction of a streamside area within the TMDL project area
- The general ownership of a streamside area was identified but unable to identify the specific responsible person/ DMA



Upper Coast Fork Willamette River

Proposed Responsible persons and Designated Management Agencies removed from Appendix A

Responsible person/ DMA Type	Count
Cities	8
Water Conveyance Entities	3
Railways	3
State Agencies	4
Federal Agencies	2
Tribal Government	1

Responsible persons and Designated Management Agencies not required to submit an implementation plan



Amazon Creek, tributary to Long Tom River

- Unclear what measures they need to and can implement to address the TMDL shade measures
- Existing DMAs that implement another temperature TMDL throughout their jurisdiction
- Few riparian acres of jurisdiction or jurisdiction also under authority of another DMA, such as ODA or ODF
- May be required to submit implementation plan in future

Proposed Responsible Persons and Designated Management Agencies not required to submit an implementation plan

Responsible person/ DMA Type	Count
Cities	1
Counties	3
Water Conveyance Entities	20
Railways	12
State Agencies	4
Public Utility	2

Management strategies - minor edits based on RAC input

WQMP section 2.0

- Added identification and protection of cold water refuges to Table 2
- Noted permits are often needed for channel modification work
- Added that DMAs need to conduct site-specific evaluations of streams (rather than DEQ guidance in WQMP)



U.S. Fish & Wildlife staff re-seeding wetland
Photo credit: Johnson Creek Watershed Council

Prioritizing areas for restoration and protection

WQMP section 5.3.2, page 19

No changes from RAC 1

- Shade gap - percent difference between current effective shade and site potential effective shade (restored condition)
- Compare current riparian vegetation characteristics to a restored riparian condition



McKenzie River, Oregon

Proposed shade assessment tools requirement

WQMP section 5.3.2, page 19

- Measure effective shade at the stream surface using standard stream monitoring equipment, such as the Solar Pathfinder™, or advanced methods using hemispherical imagery. Determine vegetation type, canopy density, stream width and stream orientation.
- Confirm and protect or establish overstory, woody vegetation in a 120-foot width buffer zone from the stream bank.
- Conduct modeling using the Heat Source model (as used in this TMDL) or another method approved by DEQ through the implementation plan approval process.
- Assessment to be completed by:
 - Year 3 of implementation for Federal and State agencies that must submit an implementation plan
 - Year 5 of implementation for all other DMAs

Designated Management Agency required performance monitoring and water quality monitoring

WQMP sections 5.3 and 6.1

- All Responsible Persons, including DMAs are required to track and monitor implementation
- DEQ monitors and assesses stream temperatures overtime to determine status of water quality and landscape conditions
- DEQ anticipates developing a temperature monitoring plan to assess attainment of temperature standards over time that will also include DMA monitoring data. **ODA, ODF, BLM** and **USFS** are required to work with DEQ in developing and implementing this plan.



HOBO Tidbit temperature logger

Oregon Watershed Restoration Inventory

Should responsible persons and DMAs be required to enter restoration data into OWRI?

- The RAC 2 version of the WQMP proposes to require DMAs to enter temperature related restoration activities into OWRI, or other DEQ-approved publicly accessible databases (Section 5.3.4, page 20)
- It is DEQ's expectation that DMAs would enter project information, rather than landowners
- Privacy concerns: DMA/OWEB can attribute a project to a public entity, such as a SWCD, rather than a specific landowner if needed
 - More specific location information increases DEQ's ability to report on restoration and implementation actions

Schedule for implementation plan submittal

WQMP section 5.4, page 24

Plans proposed to be due 18 months after EQC adoption of the Willamette Mainstem Temperature TMDL and must include:

- Management strategies that the entity will use to achieve load allocations and reduce pollutant loading
- Timeline for strategy implementation and a schedule for completing measurable milestones
- Performance monitoring and a plan for periodic review and revision of implementation plans; annual and Year Five reporting
- Shade Assessment and timeframe to complete



Soap Creek, tributary to Luckiamute River

Timeline for attaining water quality standards

- A required element in the WQMP
- Modeling used in some TMDLs to quantify and literature reviews in other TMDLs for the relationships between the implementation of management strategies to achieve allocations and water quality standards
- Water quality monitoring required to determine progress toward meeting water quality standards
- Adaptive management will be used to develop effective implementation plans and achieve water quality standards

Water Quality Management Plan Willamette Subbasins

Questions?



Break – back at 2:50



Fiscal impact analysis

Oregon APA (ORS Chapter 183)

- Public notice must include a Statement of Fiscal Impact
- DEQ must solicit input from a rule advisory committee on:
 - Whether the rule has fiscal impact
 - The extent of that impact
 - Whether the rule will have a significant adverse impact on small businesses
- Racial equity statement ORS 183.335(2)(b)(F)
https://www.oregonlegislature.gov/bills_laws/ors/ors183.html
- Environmental justice consideration ORS 182.545
https://www.oregonlegislature.gov/bills_laws/ors/ors182.html
- Land use compatibility statement

Fiscal impact analysis: updates from RAC 1

1. Added acknowledgement of potential monitoring costs for the USFS, BLM, ODA, and ODF
2. Updated percent land adjacent to stream managed by BLM, ODA, and ODF
3. "May" to "will" require TMDL implementation plans for ODA and ODF
4. Added comment from one RAC member that acknowledges financial incentive programs can be challenging for individual landowners or operators to navigate
5. Removed DSL, DOGAMI, and OSMB from FIS since DEQ proposes these agencies will not need to develop a TMDL implementation plan
6. Updated city and county numbers to reflect updated DMA list
7. Added comment from RAC member about significant adverse impact on small businesses
8. Environmental Justice considerations: recommend bilingual and physical educational materials be provided to the public

Fiscal impact analysis, questions for feedback

1. Will the draft rule have a significant adverse impact on small businesses?
2. If a significant impact is identified, how could DEQ reduce the fiscal impact on small business (ORS 183.333 and 183.450)
3. Will the proposed rule impact racial equity?
4. What are additional considerations for environmental justice for this draft rule?
5. What types of entities will be impacted by the proposed rule?
6. How and to what extent will the proposed rule have a positive, negative, or no impact on these entities?

Questions and discussion



Next steps

Rule advisory committee input - meeting #2
email

Willamette.TemperatureTMDL@DEQ.oregon.gov

Due Apr. 14, 2023

Public notice (45 days)

May 2023 – Jun. 2023

Environmental Quality Commission meeting

Nov. 2023

EPA approval / disapproval due date

Jan. 15, 2024



Contacts and resources

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Web pages (links to rulemaking pages, Quality Assurance Project Plans, more)

Project page:

<https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlRwillamette.aspx>

Rulemaking page:

<https://www.oregon.gov/deq/rulemaking/Pages/willamettetempTMDL.aspx>

Committee input and rulemaking email:

Willamette.TemperatureTMDL@DEQ.oregon.gov

Title VI and alternative formats

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