Total Maximum Daily Loads (TMDLs) Temperature TMDL Replacement project: **Lower Columbia-Sandy Subbasin and Willamette Subbasins**

Rulemaking update to the Environmental Quality Commission

Presenting:
Jennifer Wigal, Water Quality Division Administrator
Gene Foster, Watershed Management Manager

July 20, 2023

Agenda

Topic
1. Brief description of a Total Maximum Daily Load (TMDL)
2. Rulemaking updates
3. Lower Columbia-Sandy Subbasin and Willamette Subbasins TMDLs and Water Quality Management Plans updates
4. Next steps

Temperature TMDL Replacement project litigation background

2012: NWEA vs. USEPA, NMFS, USFWS

- Lawsuit was seeking judicial review of the EPA's decision to approve Oregon's revised water quality standards (including the Natural Conditions Criteria) and the Services' "no jeopardy" BiOp.
- Judge found “the EPA was unable to articulate a rationale [sic] basis for its approval of the NCC”.
- Court’s judgment resulted in EPA’s disapproval of the Natural Conditions Criteria.

2019: NWEA vs. USEPA

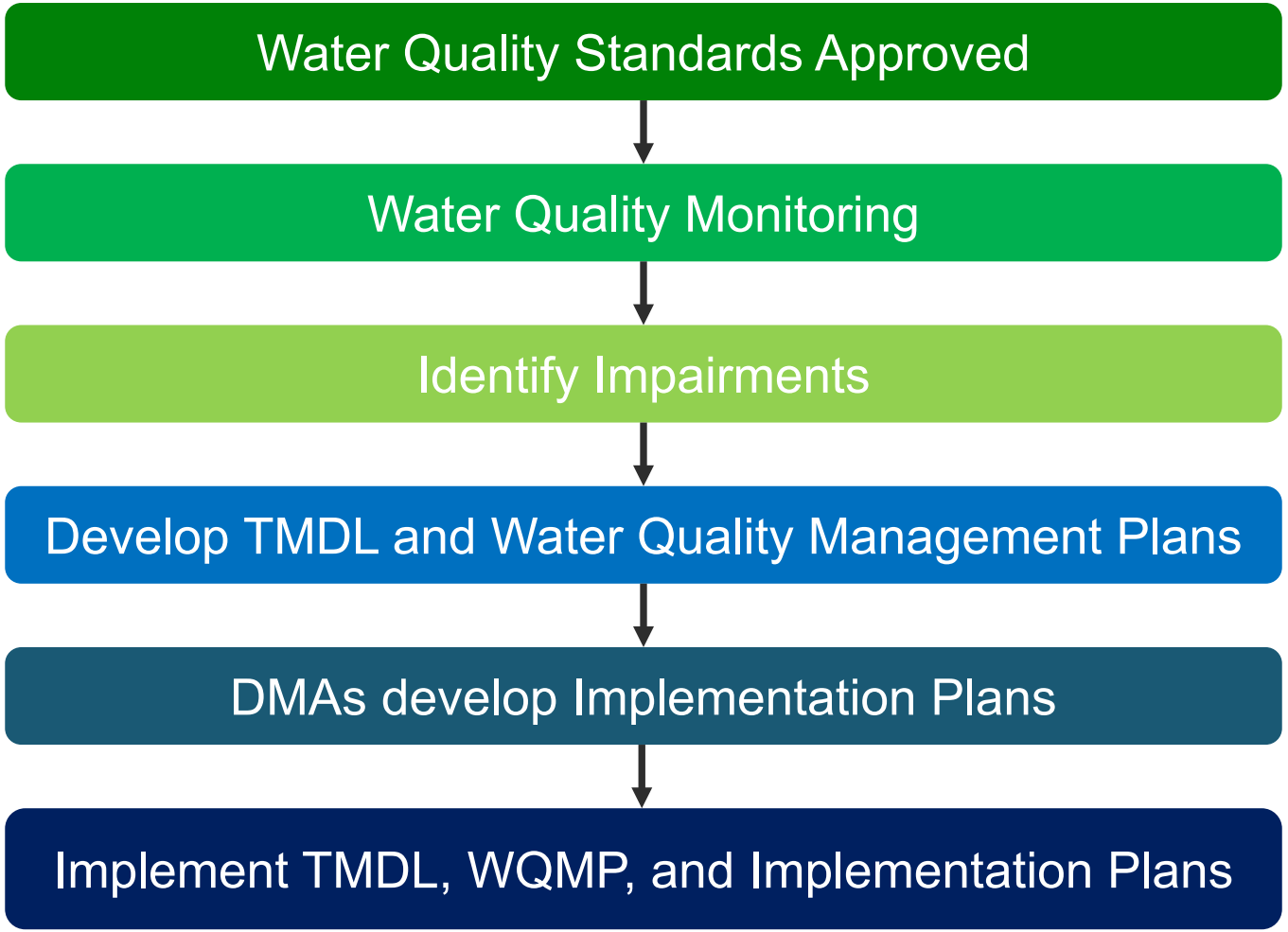
- Lawsuit asserted the EPA unlawfully approved TMDLs that were based on the now disapproved Natural Conditions Criteria.
- The court issued a judgment on Oct. 4, 2019, requiring DEQ and EPA to replace 15 Oregon temperature TMDLs that were based on the Natural Conditions Criterion and to reissue the temperature TMDLs based on the remaining elements of the temperature criteria.

TMDLs

Total Maximum Daily Loads (TMDLs) are science based clean water plans used for cleaning up polluted water to meet water quality standards.

TMDLs are developed for each water body on the state polluted waters list known as the 303(d) list; the Clean Water Act section for listing impaired and threatened waters.

Oregon TMDL process and development



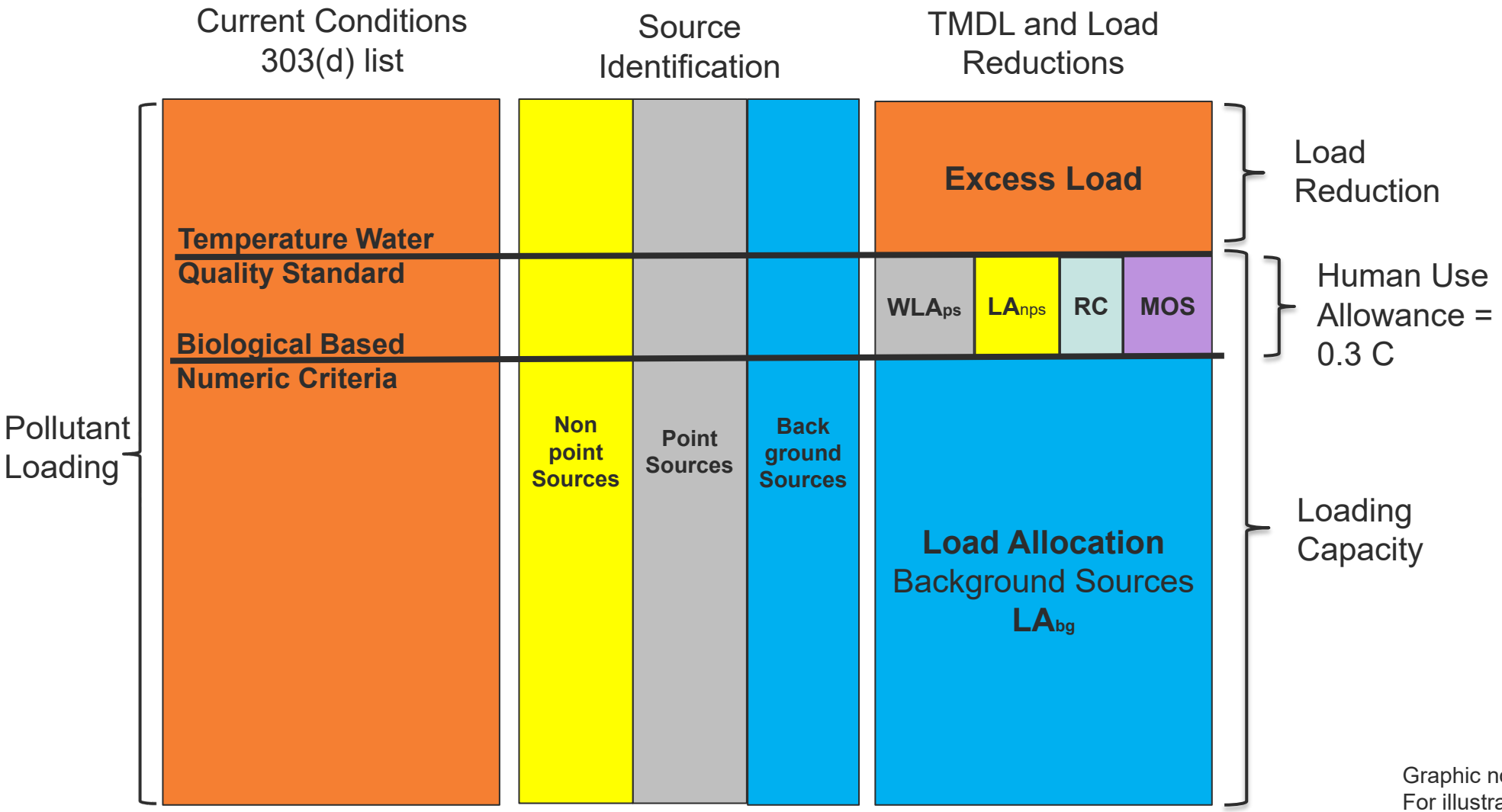
TMDLs include the following elements:

- Waterbody Name and Location
- Pollutant
- Water quality standard and beneficial uses
- Loading Capacity
- Excess Load / Load Reduction
- Sources or Source categories
- Allocations
  - Wasteload Allocations (WLA)
  - Load Allocations (LA)
  - Surrogate Measures
  - Reserve Capacity (RC)
  - Margin of Safety (MOS)
- Seasonal Variation
- Water Quality Management Plan

Reference: Oregon Administrative Rule 340-042-0040(4) and federal regulations: 40 CFR 130.2 and 40 CFR 130.7

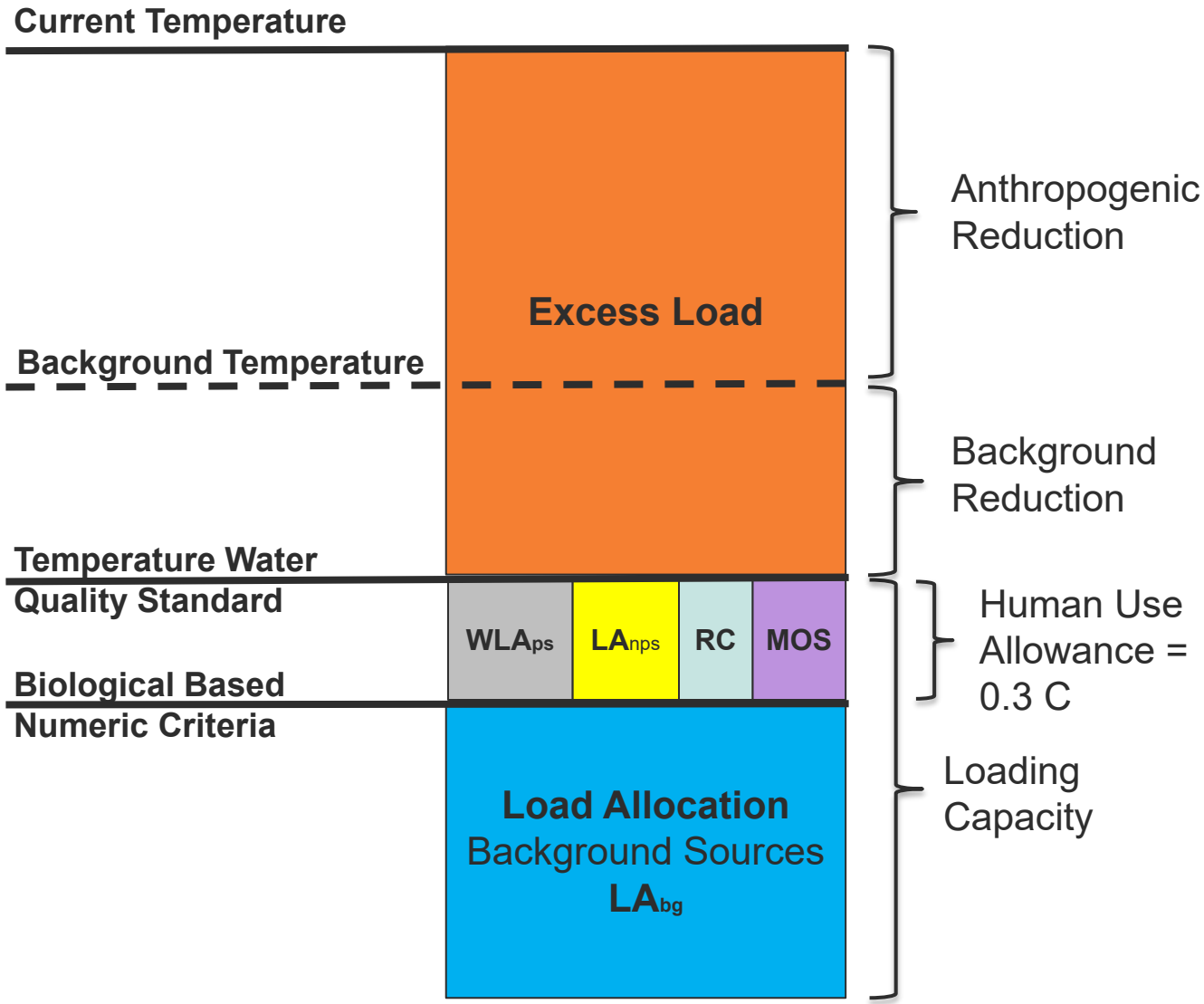
Temperature TMDL Equation

$$TMDL = WLA_{ps} + LA_{nps} + LA_{bg} + MOS + RC$$



Graphic not to scale.
For illustrative purposes only.

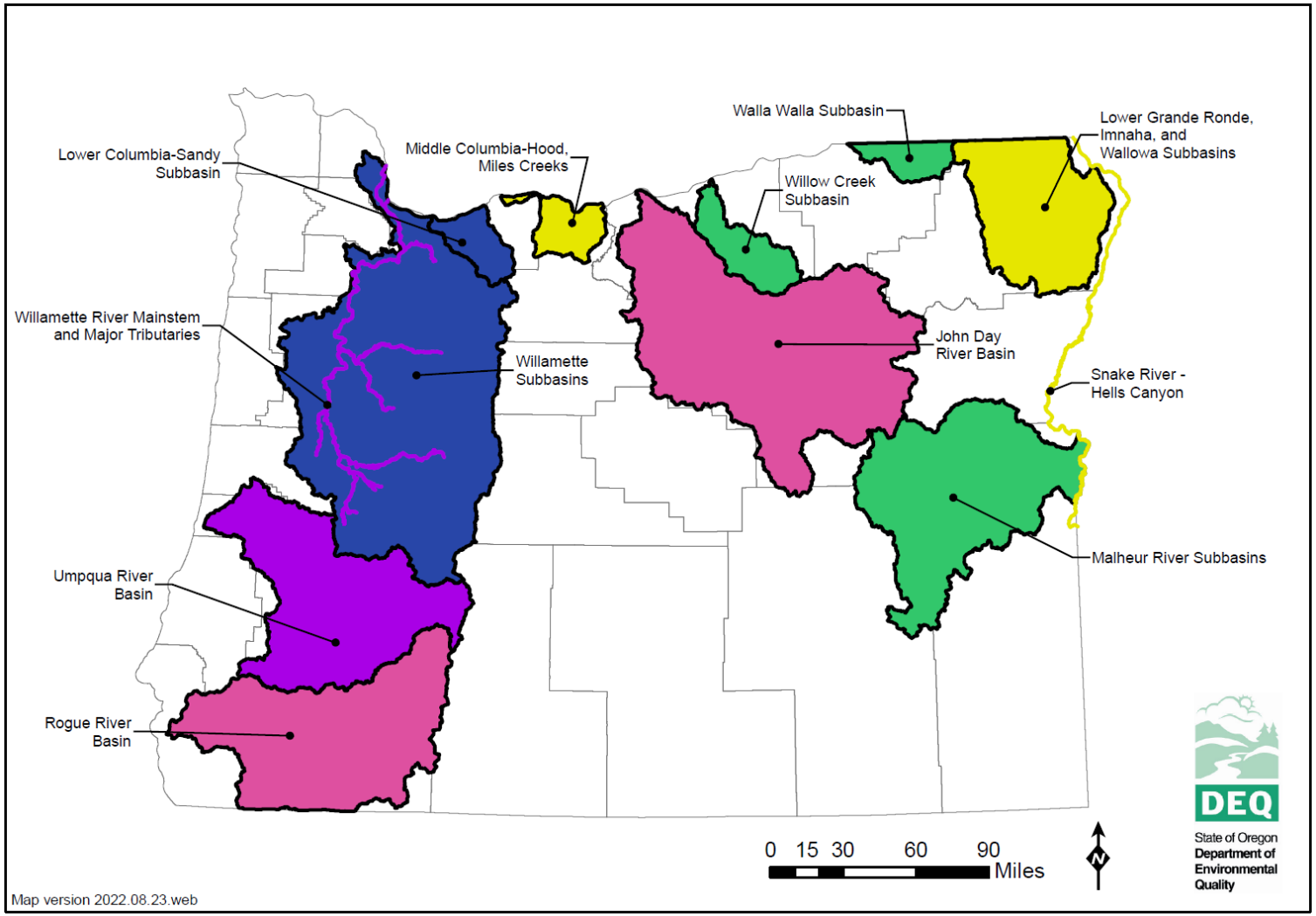
Temperature TMDL Equation



Graphic not to scale.
For illustrative purposes only.

The temperature TMDL attainment approach is described further in the Upper Klamath and Lost Subbasins Temperature TMDL (DEQ, 2019) section 1.1, page 2-4. https://www.oregon.gov/deq/wq/Documents/tmdlUpKLosttempTMDL.pdf

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 (court ordered schedule)

January 15, 2024
- Willamette Subbasins*
- Lower Columbia-Sandy Subbasin

February 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

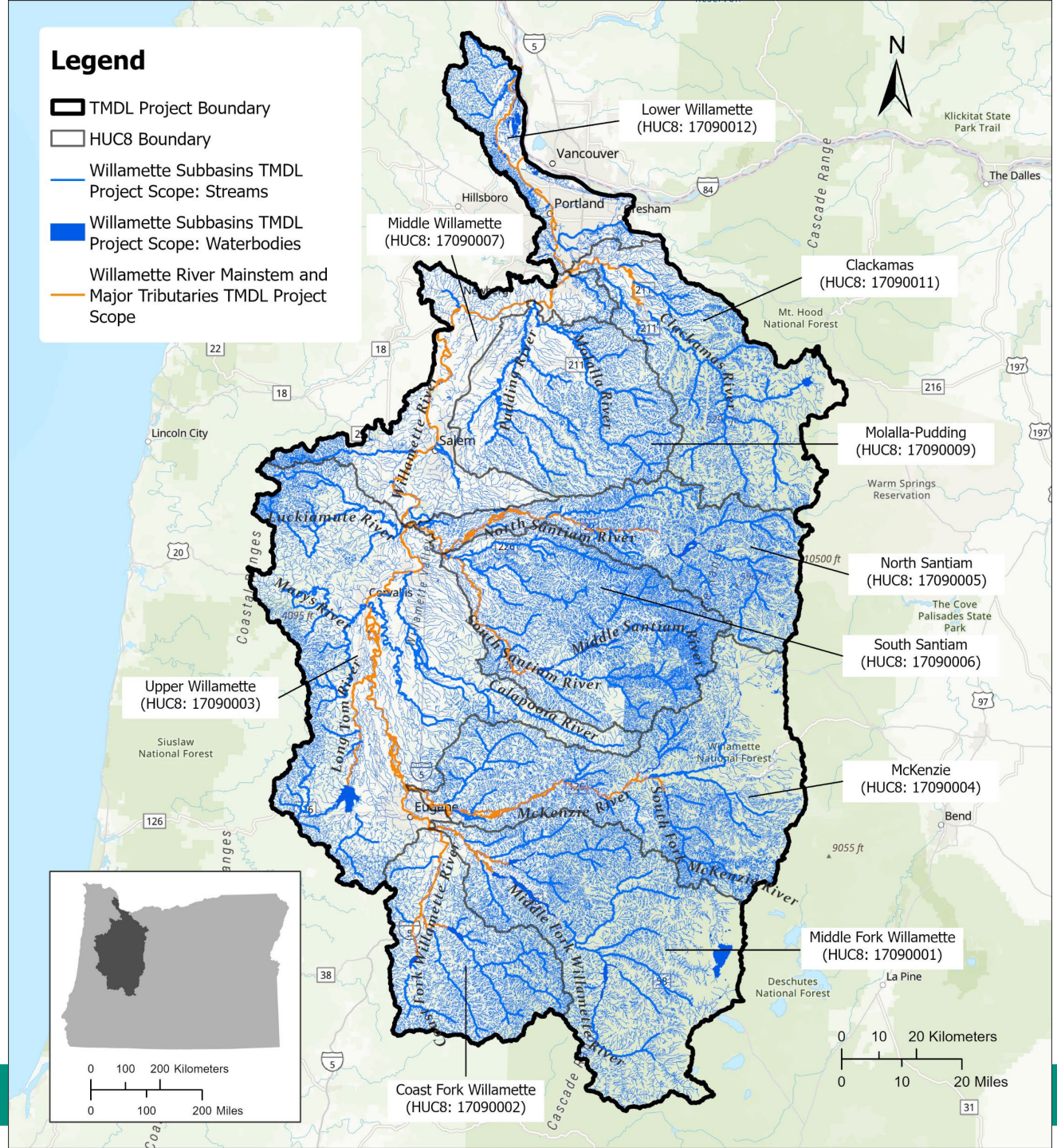
*The Willamette temperature TMDL replacement will occur in two waves: Jan. 15, 2024, and Feb. 28, 2025
Project website: https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlreplacement.aspx

The Willamette Subbasins (blue) and the Willamette Mainstem (orange)

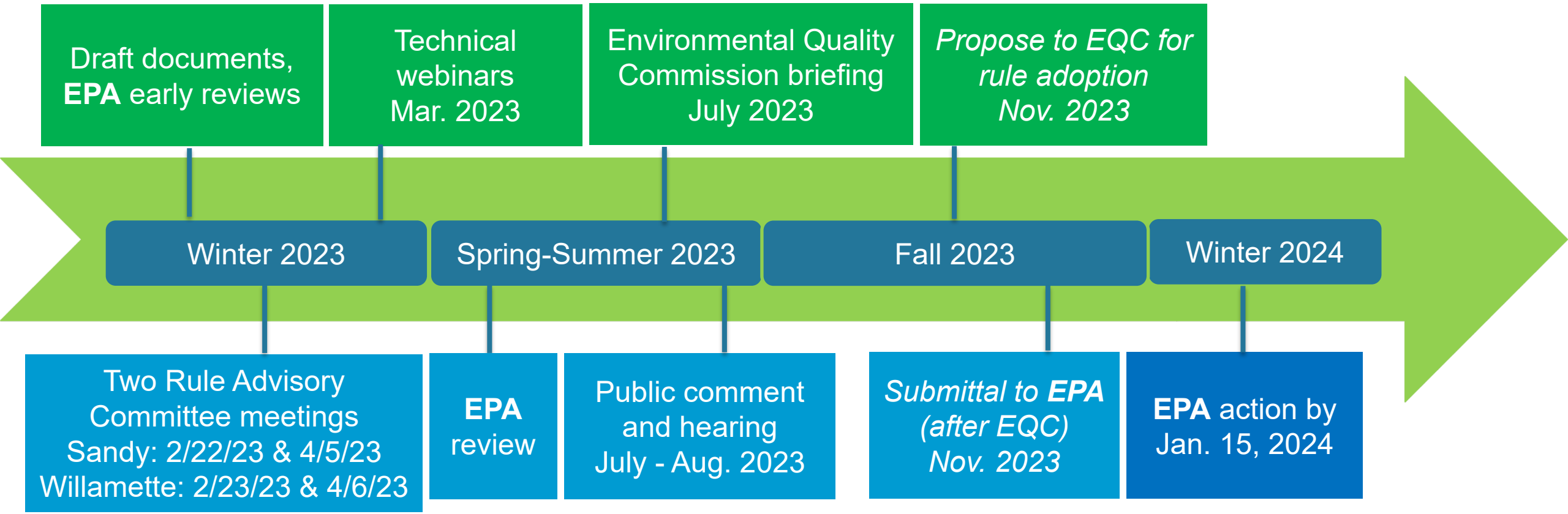
EPA approval/disapproval court ordered decision dates:

1. Willamette Subbasins: Jan. 15, 2024

2. Willamette Mainstem: Feb. 28, 2025

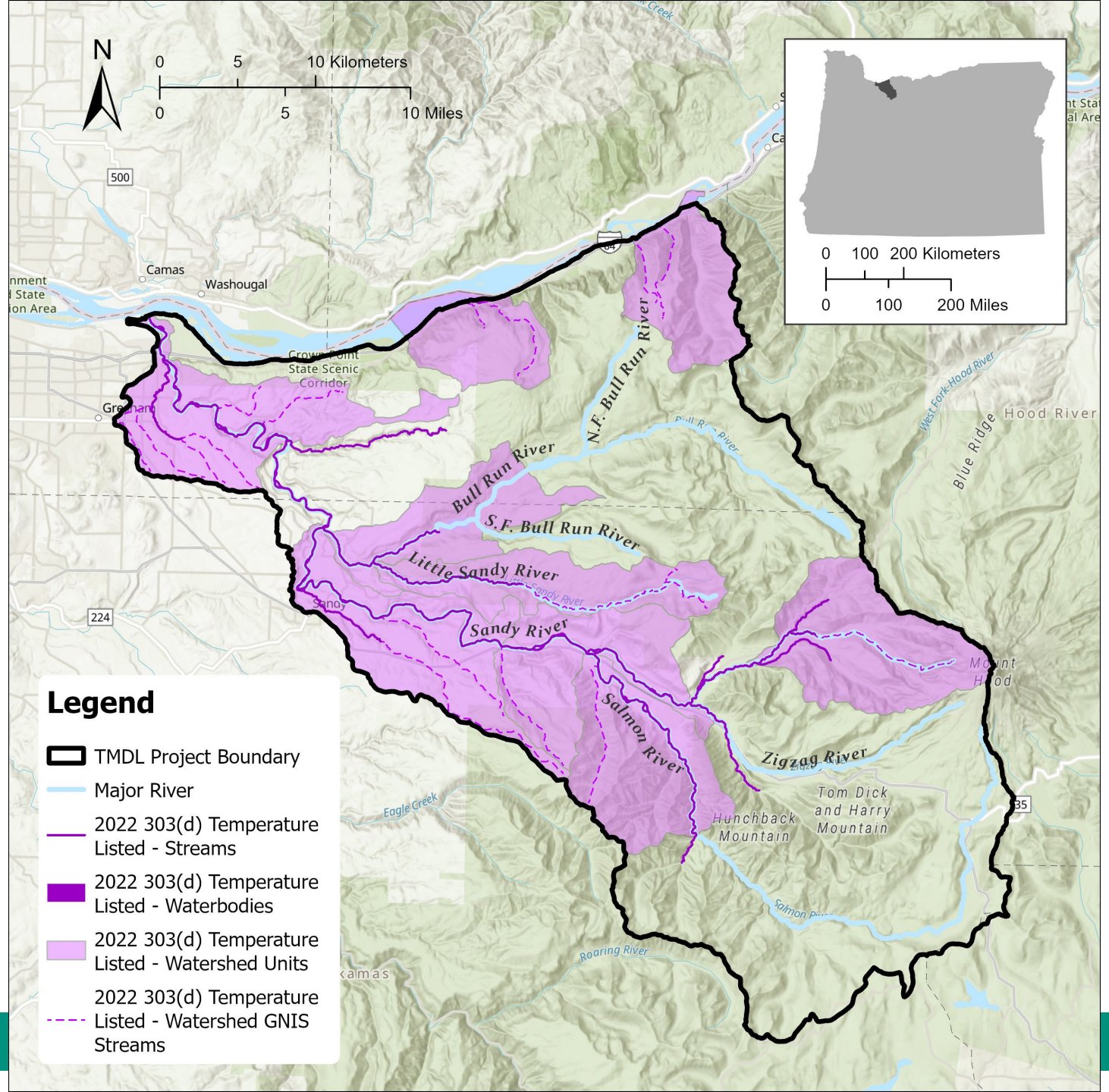


Lower-Columbia Sandy Subbasin & Willamette Subbasins Temperature TMDL Replacement rulemaking milestones

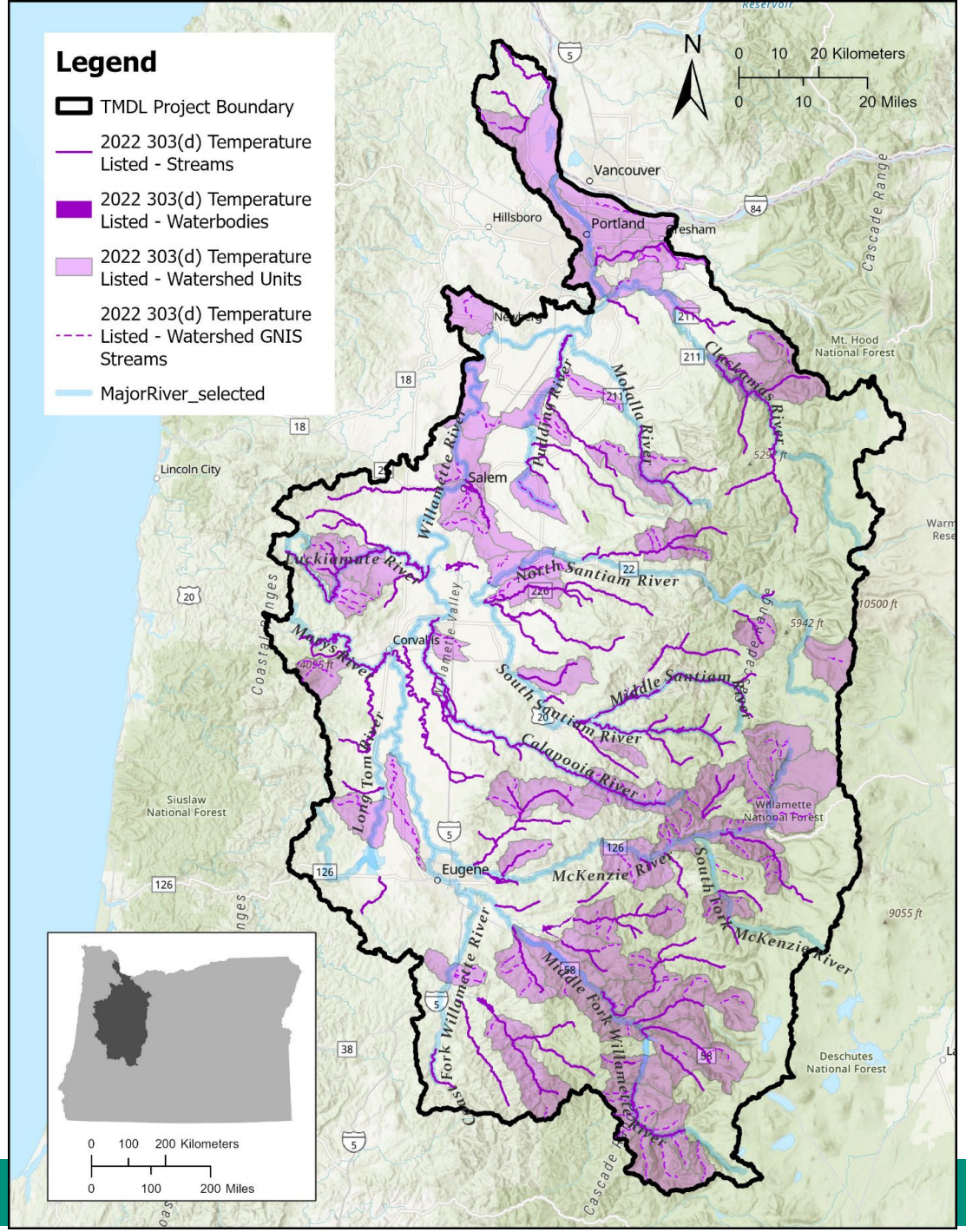


Project website: https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlreplacement.aspx

Lower Columbia-Sandy Subbasin Category 5 temperature impairments in the 2022 Integrated Report



Willamette Subbasins Category 5 temperature impairments in the 2022 Integrated Report



TMDL sources of water temperature warming

The TMDL concluded that major sources of temperature warming include:

- Disturbance or removal of streamside vegetation
- Dam and reservoir management
- Activities that modify flow rate or volume
- Channel modification and widening
- Climate change
- Background sources (including natural sources)
- Point source discharges

TMDL development for temperature

- Changes to allocation distributions and Human Use Allowance.
- Updated the point source operation details.
- Added clarifications to TMDL components such as the surrogate measures.
- Met with point sources and Designated Management Agencies affected by the TMDL changes, including state and federal agencies, to review allocations and incorporated any changes that came from those conversations, as applicable.
- Clarified language to the Technical Support Document about TMDL elements and to explain in more detail *how* the TMDL was developed.

Allocation framework

- All NPDES **permitted sources** will receive a numeric or narrative Wasteload allocation (WLA)
- Nonpoint source sectors, entities, or activities that have potential to contribute to stream warming will receive a Load Allocation (LA)
- Shade and other surrogate measures will be allocated

Water Quality Management Plan

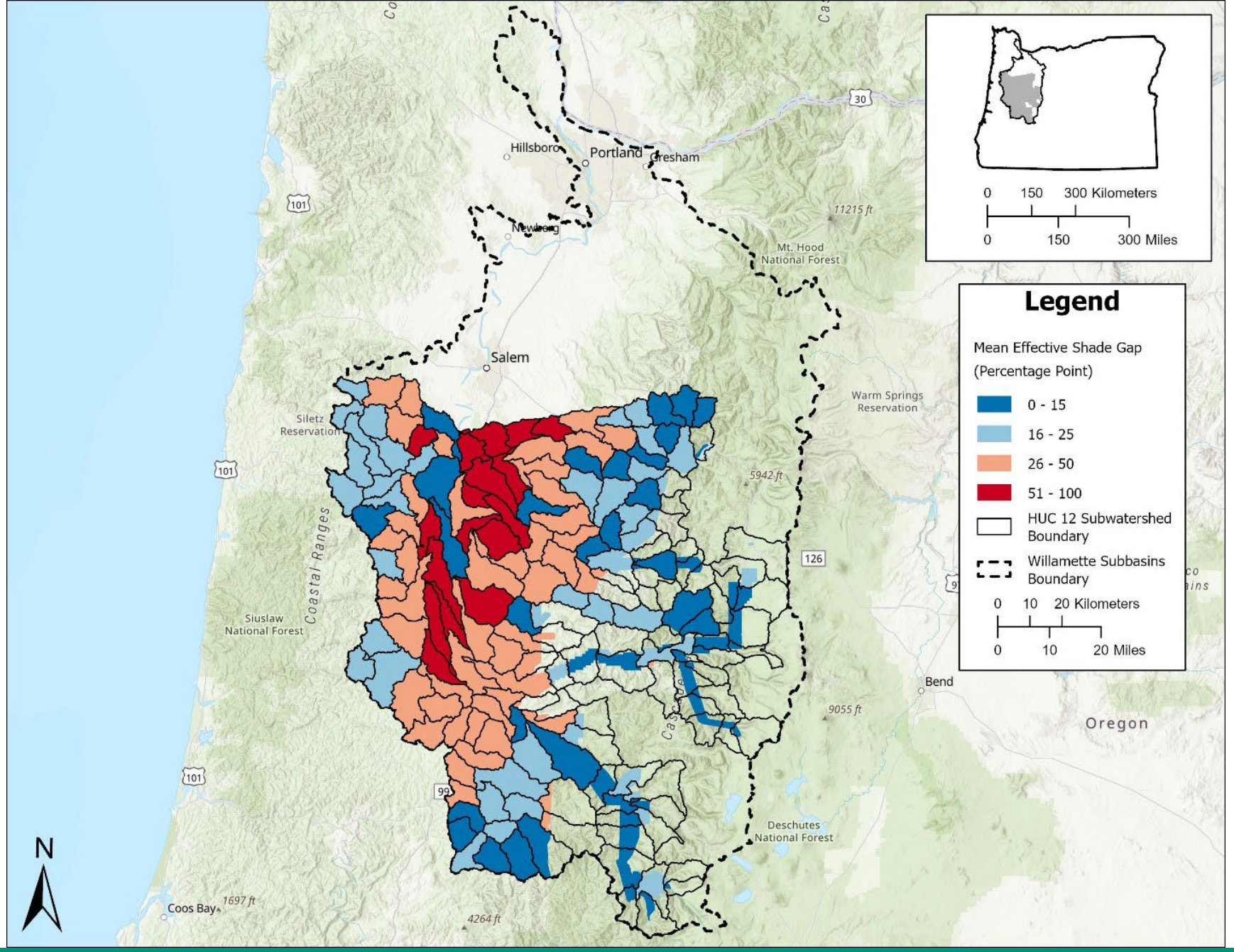
"Water Quality Management Plan (WQMP)" means **the required element of a TMDL describing strategies to achieve allocations** identified in the TMDL to attain water quality standards.

The elements of a WQMP are described in OAR 340-042-0040(4)(l)

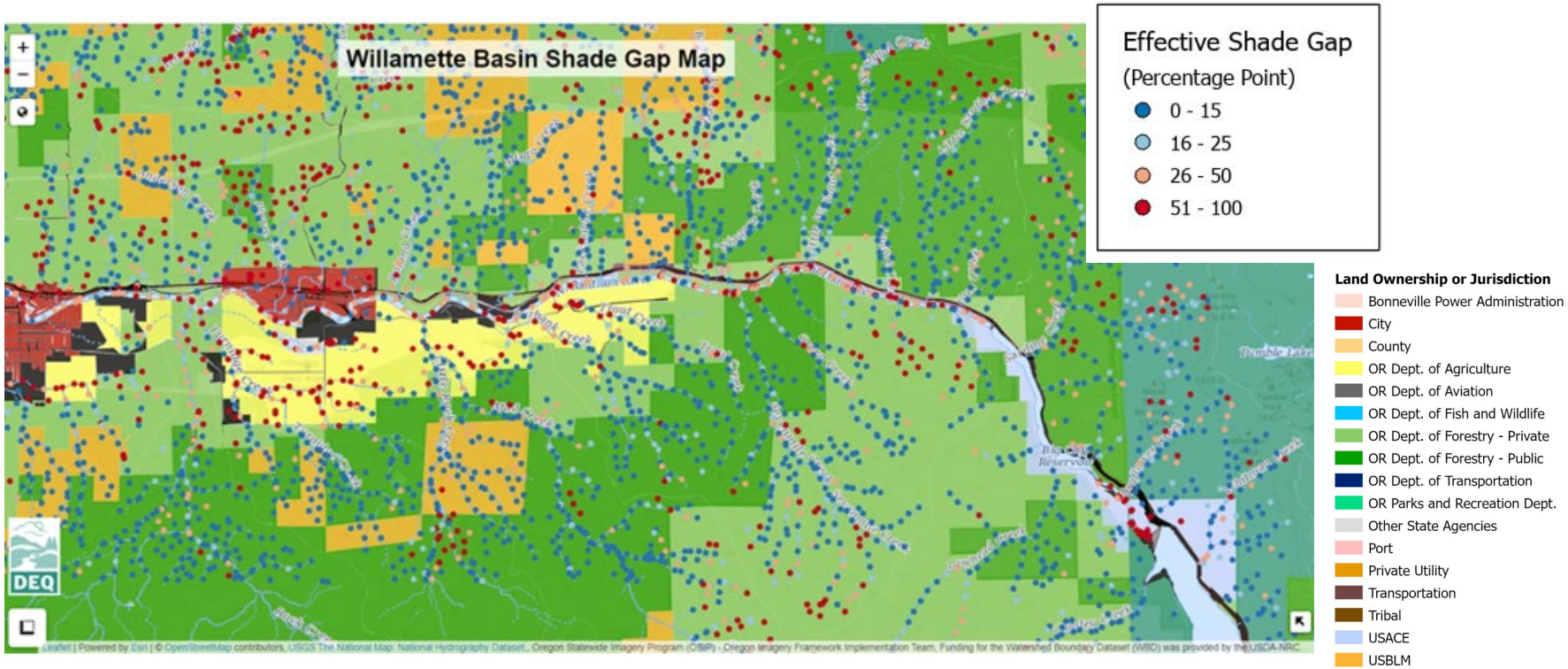
Watershed and riparian area jurisdiction

Landowner or Jurisdiction Willamette Subbasins	**Classification**	**Total (Acres)**	**Total (%)**	**Riparian area (Acres)**	**Riparian area (%)**
U.S. Forest Service	Federal Agency	2,201,650	34	549,817	39
Oregon Department of Forestry - Private	State Agency	1,647,131	26	436,466	31
Oregon Department of Agriculture	State Agency	1,296,224	20	191,935	13
U.S. Bureau of Land Management	Federal Agency	351,840	6	110,202	8
Lane County	County	121,090	2	19,241	1
Clackamas County	County	79,838	1	13,597	1
Oregon Department of Forestry - Public	State Agency	73,959	1	20,103	1
City of Portland	Municipality	73,674	1	9,339	1
Marion County	County	43,290	1	5,978	0
Linn County	County	35,141	1	5,962	0
City of Eugene	Municipality	31,614	0	3,019	0

Implementation Tools: Shade gap maps locations for the Southern Willamette



Example: Static shade gap map – North Santiam River near Gates, Oregon



WQMP draft requirements

1. ODA, ODF, BLM, USFS and other Designated Management Agencies required to develop TMDL implementation plans with annual reports and 5-year reviews of TMDL implementation

2. Riparian prioritization framework for restoration and protection

3. Shade allocations:
   - Riparian shade assessment by DMA
   - Riparian shade assessment, or alternatively a 120-foot riparian buffer

4. Lower Columbia-Sandy Subbasin WQMP includes bacteria management strategies from the existing WQMP (no changes to allocations)

5. Assessment and Monitoring Strategy for adaptive management

Public process

- Three informational and technical webinars
- Two advisory committee meetings for each of the TMDLs

  Draft documents discussed:

  - Fiscal and economic impact analysis
  - Environmental Justice and Racial Equity statements
  - TMDLs, WQMPs, Technical Support Documents, rule language

Next steps

1. Public comment period and hearing in **July – Aug. 2023**
2. Proposal to EQC in **Nov. 2023**
3. If EQC rule adoption, then EPA submittal in **Nov. 2023**
4. EPA approval/disapproval by **Jan. 15, 2024**

Resources

Lower Columbia-Sandy Subbasin:

- Project page: https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlRlc-sandy.aspx
- Rulemaking page: https://www.oregon.gov/deq/rulemaking/Pages/sandytempTMDL.aspx

Willamette Subbasins:

- Project page: https://www.oregon.gov/deq/wq/tmdls/Pages/tmdlRwillamette.aspx
- Rulemaking page: https://www.oregon.gov/deq/rulemaking/Pages/willamettetempTMDL.aspx