

# Upper Yaquina River Watershed TMDLs

## Request for rule adoption - Dissolved oxygen and bacteria TMDLs and WQMP

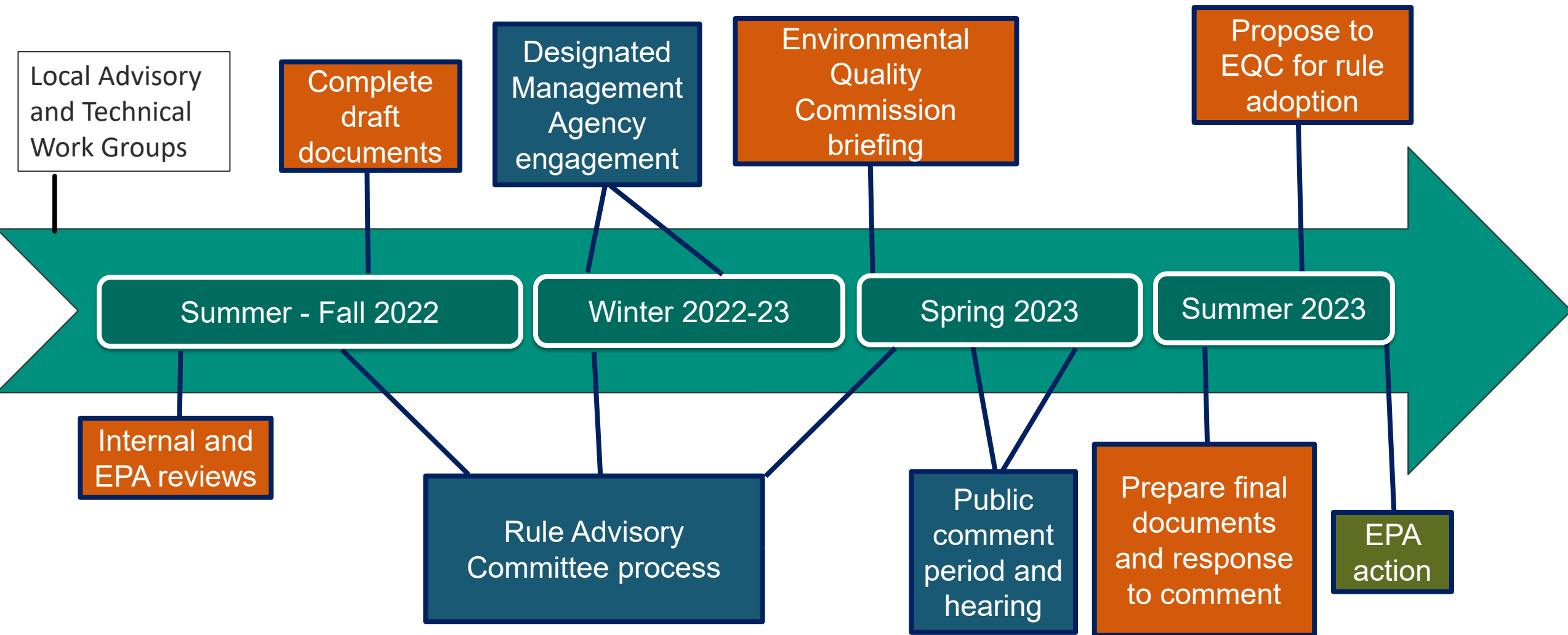
Jennifer Wigal, Water Quality Division Administrator  
Steve Mrazik, Watershed Management Manager  
Alex Liverman, Watershed Management Program Analyst

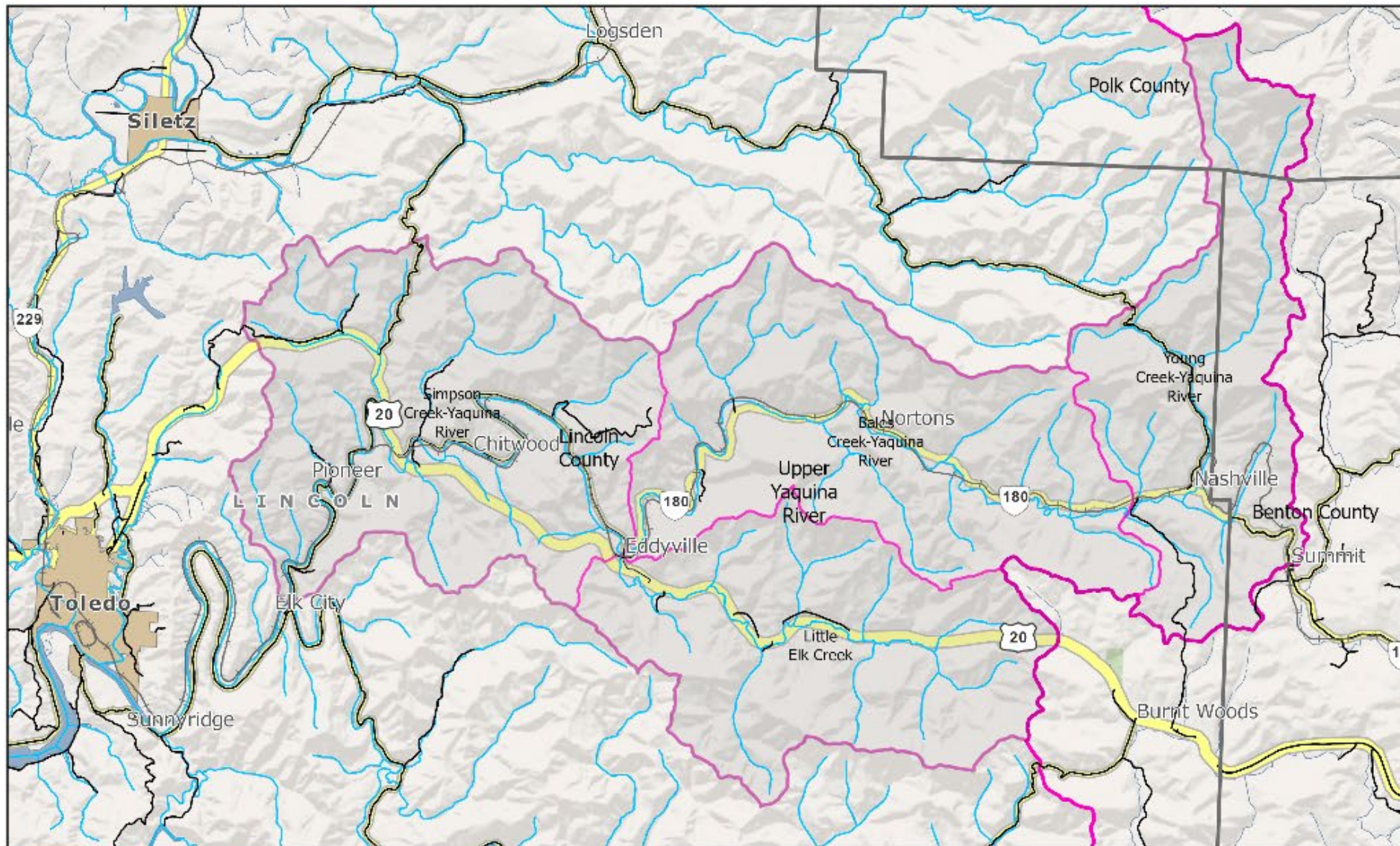
September 14, 2023

# Presentation Outline

- Upper Yaquina River Watershed TMDLs overview
  - Rulemaking process steps and status
  - Watershed setting, bacteria and dissolved oxygen impairments, land uses, TMDL determinations and implementation requirements
  - Discussion of public comments and DEQ revisions
- DEQ recommendation for EQC rule adoption

# Upper Yaquina Watershed TMDLs process



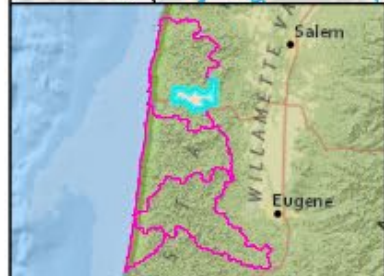


## Upper Yaquina Watershed

- OR\_County
- railroads\_2013
- Lincoln Co\_Rds
- Benton\_Rd\_2020
- Upper Yaquina\_HUC12
- NHD\_plus-flowline
- citylimits\_2012

### Subwatersheds

- Young Creek-Yaquina River
- Bales Creek-Yaquina River
- Little Elk Creek
- Simpson Creek-Yaquina River

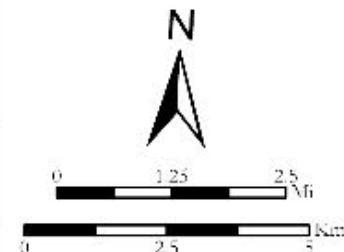


## Upper Yaquina River Watershed MidCoast Basin, Oregon

Oregon Department of Transportation, Oregon Department of Transportation, Geographic Information Services Unit, National Geographic, Esri, Garmin, HERE, UNEP WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Oregon DEQ,  
April 2022

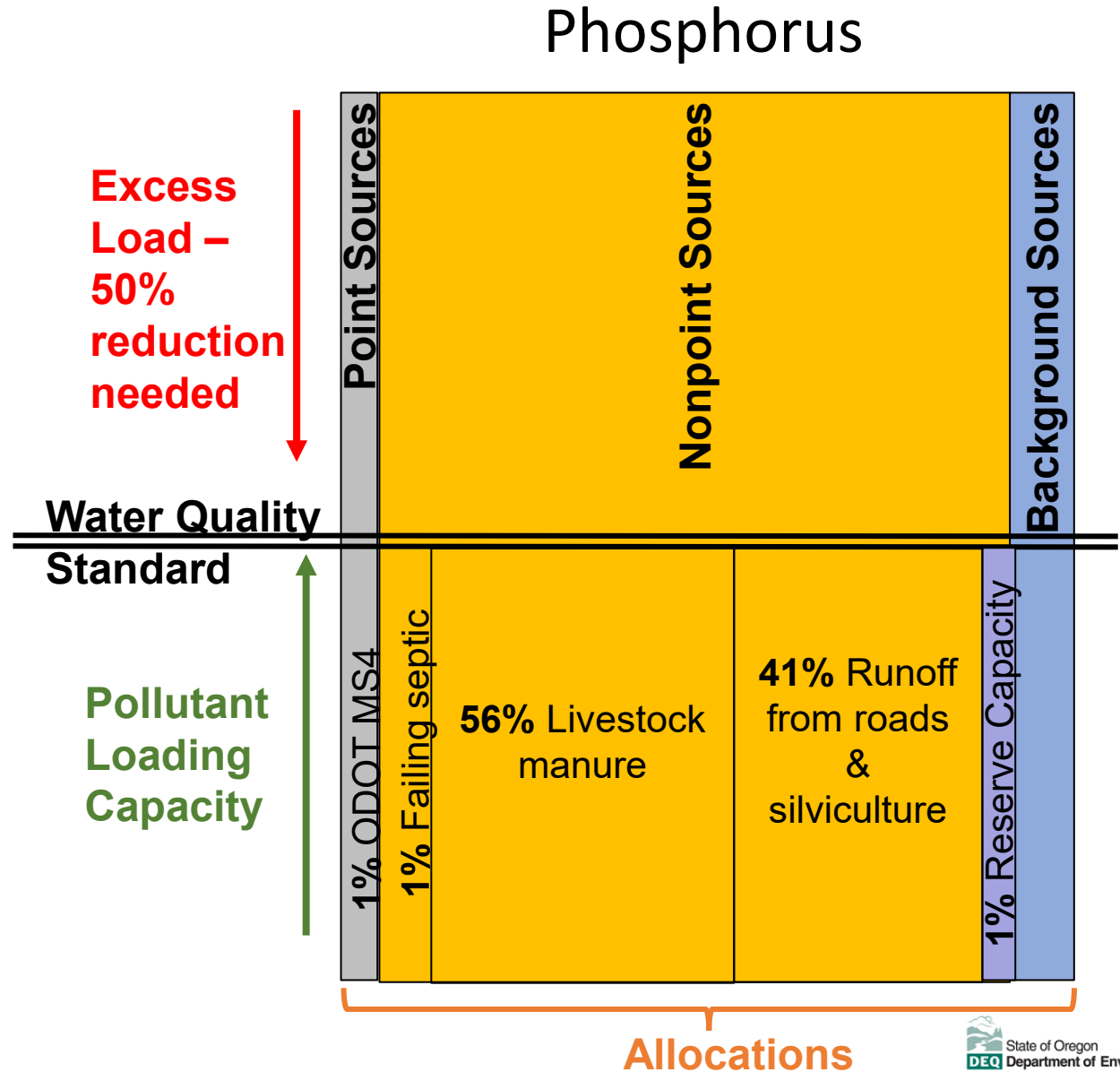
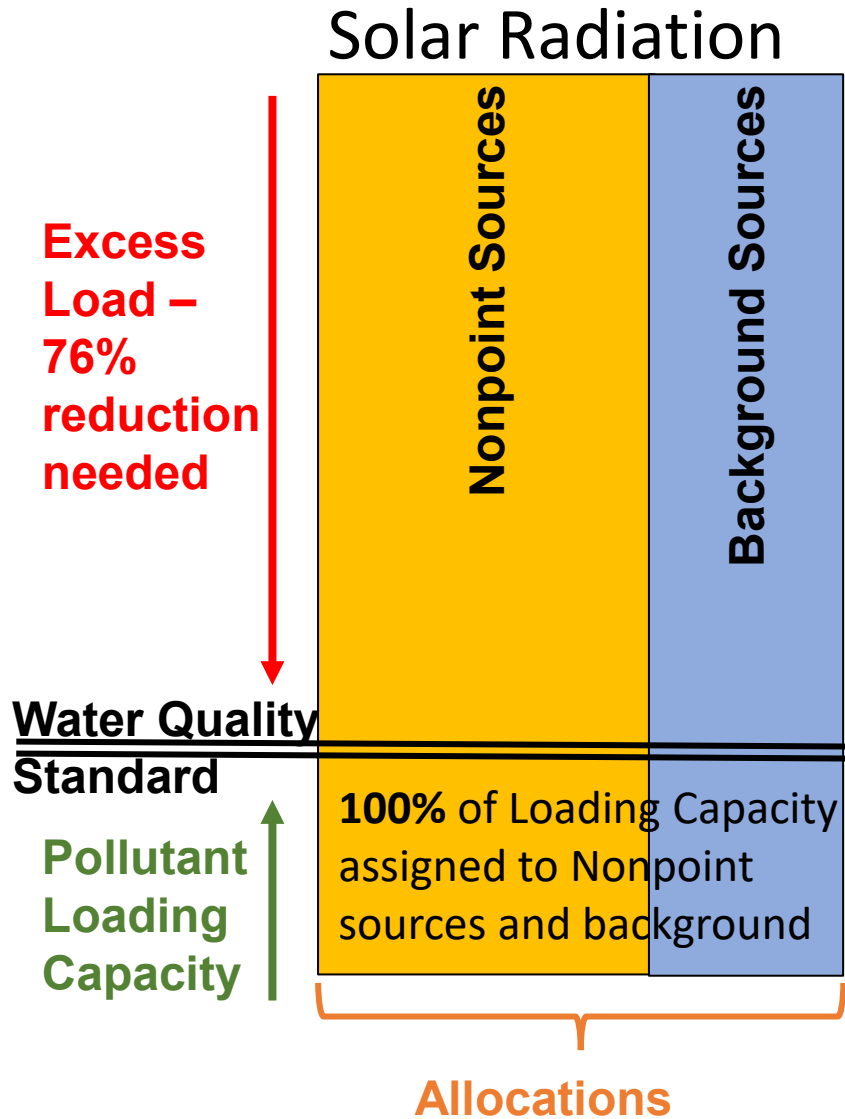
Coordinate System: NAD 1983 HARN Oregon Statewide Lambert Feet Intl



# Yaquina River above Chitwood



# Dissolved Oxygen surrogates - contributions and allocations



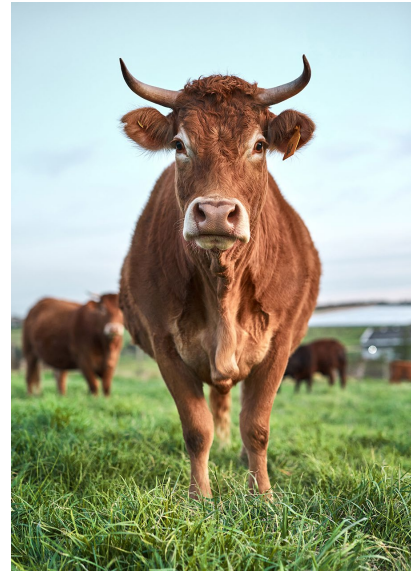
# Local stakeholder input on bacteria sources

Livestock



Stormwater runoff from...

Livestock pastures



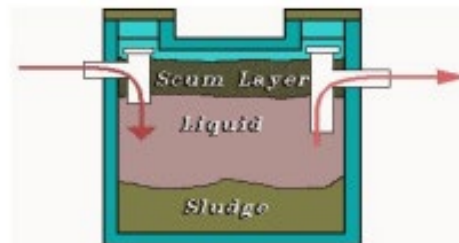
Transportation



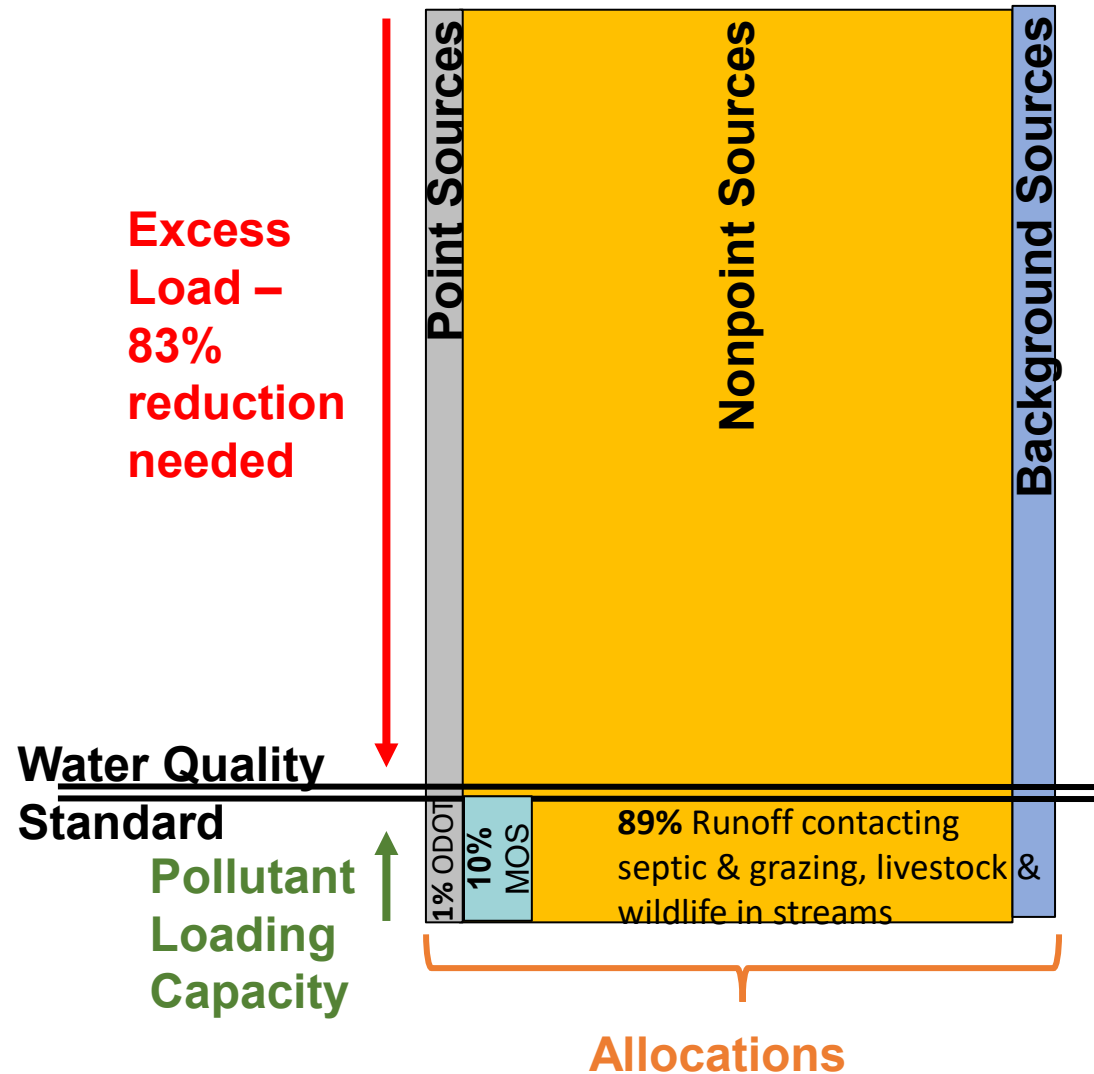
Wildlife



Failing septic systems

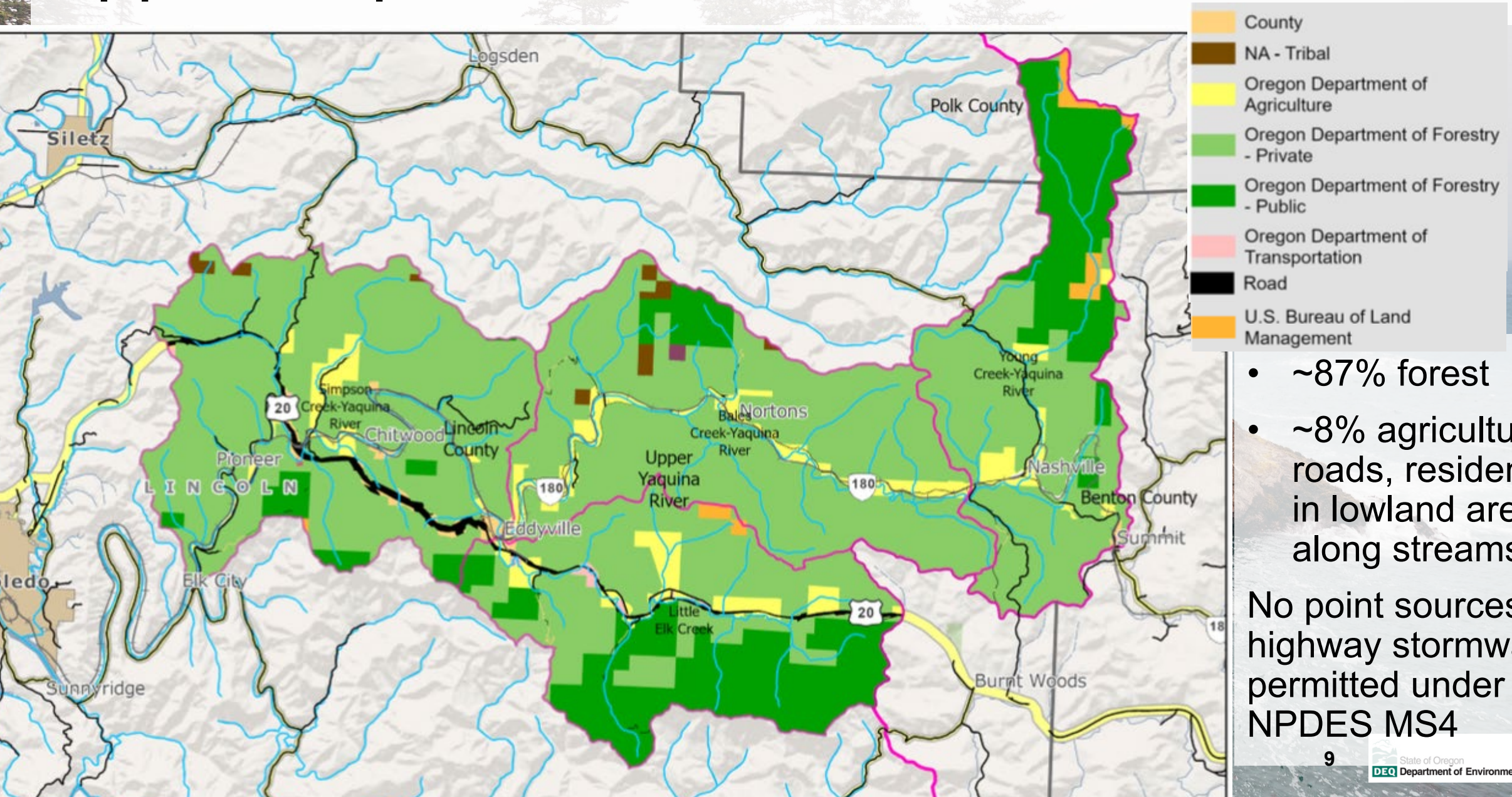


# Bacteria contributions and allocations





# Upper Yaquina River Watershed Land Use



- ~87% forest
- ~8% agriculture, roads, residential in lowland areas along streams

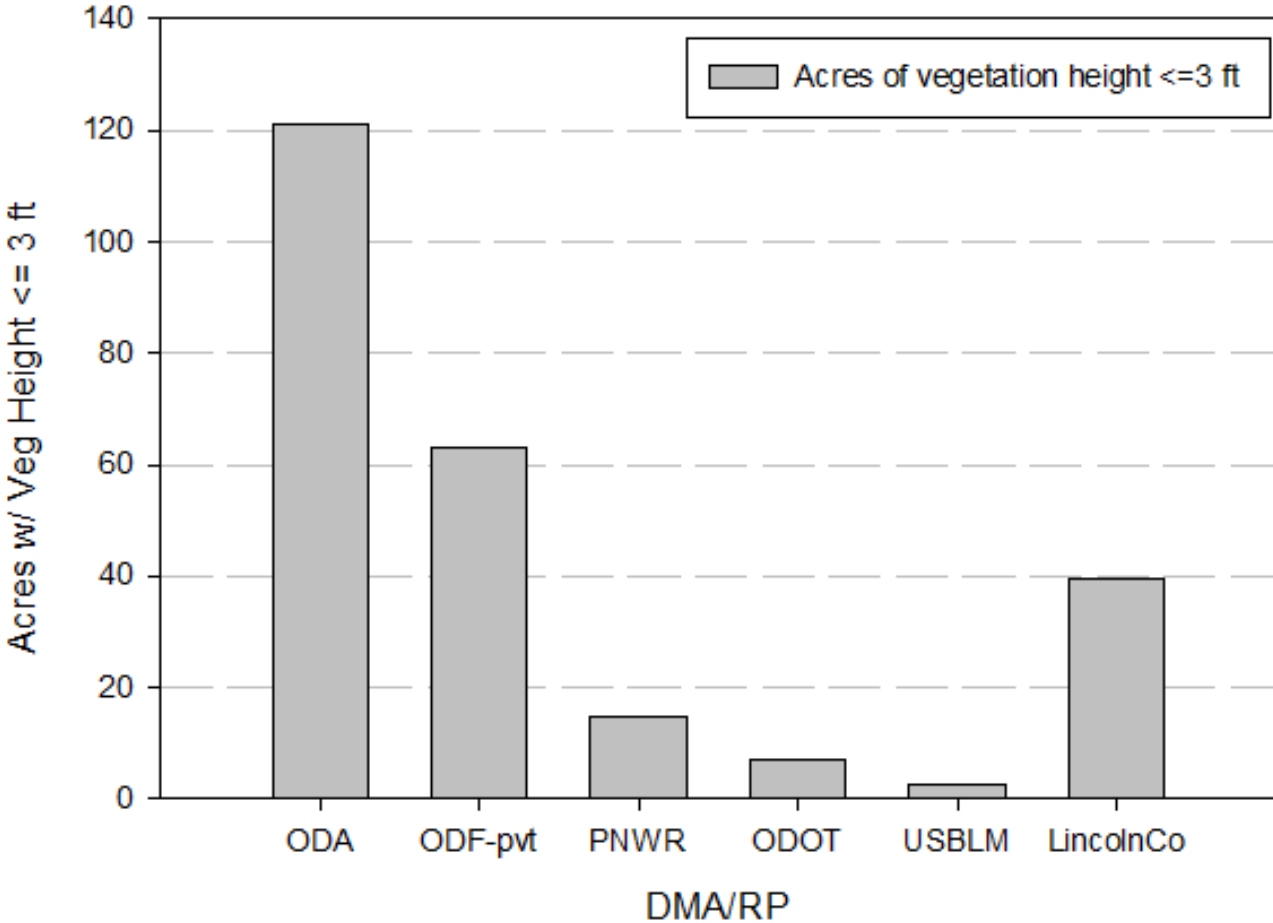
No point sources but highway stormwater permitted under NPDES MS4

# Riparian area jurisdiction and condition

Responsible Person	Approximate riparian acreage within 100-feet of Yaquina River	Approximate Percentage of Area
Oregon Department of Agriculture	336	41.2%
Oregon Department of Forestry - Private	315	38.6%
Lincoln County	90	11.0%
Portland & Western Railroad	50	6.1%
Oregon Department of Transportation	20	2.4%
U.S. Bureau of Land Management	6	0.7%
Total	816	100.0%

Stakeholder input on vegetation types and height

## Yaquina River riparian acreage with vegetation < 3 feet high



# Grazing impacted riparian areas



**Yaquina River near Chitwood**

# Shade and shade gaps

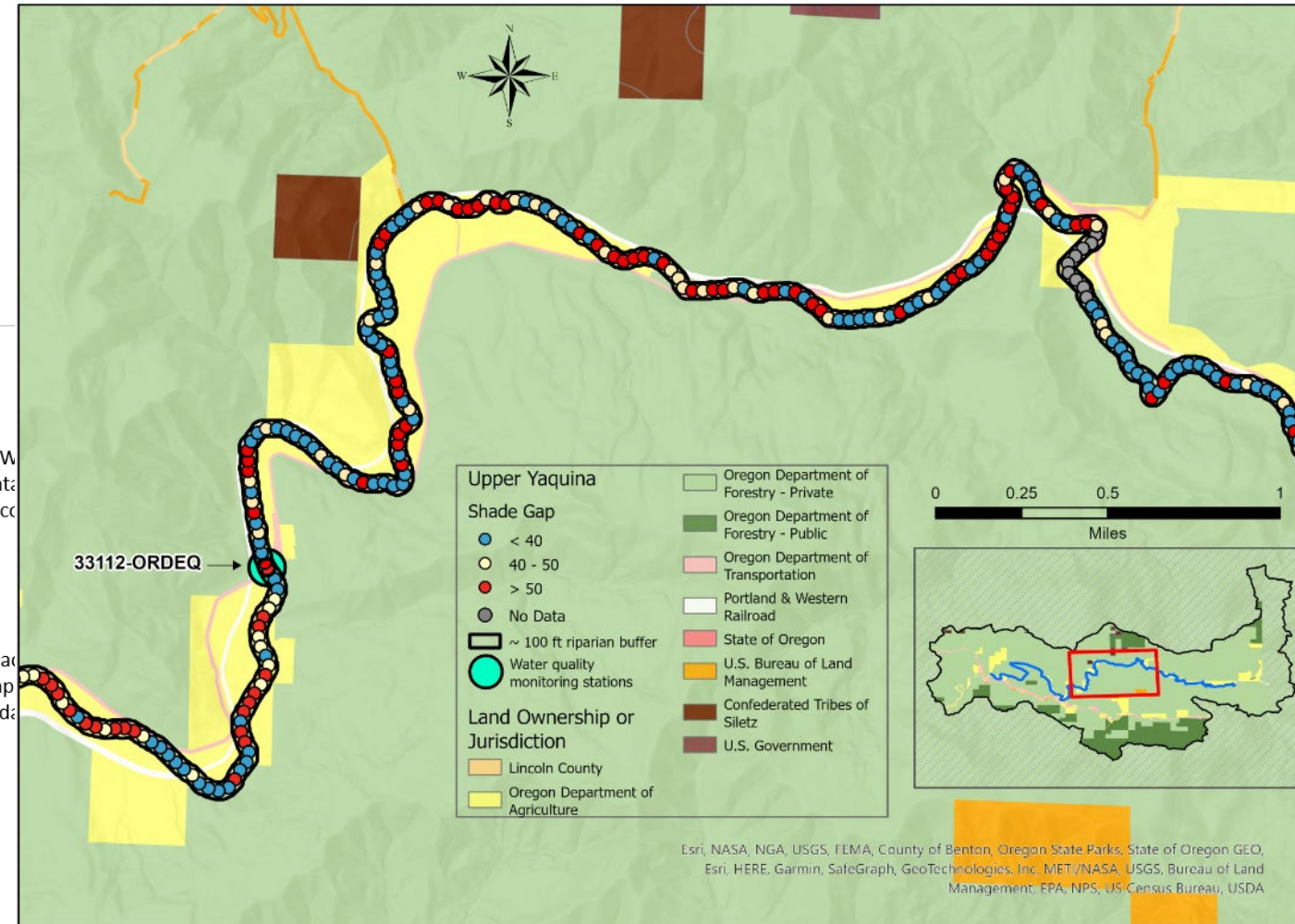
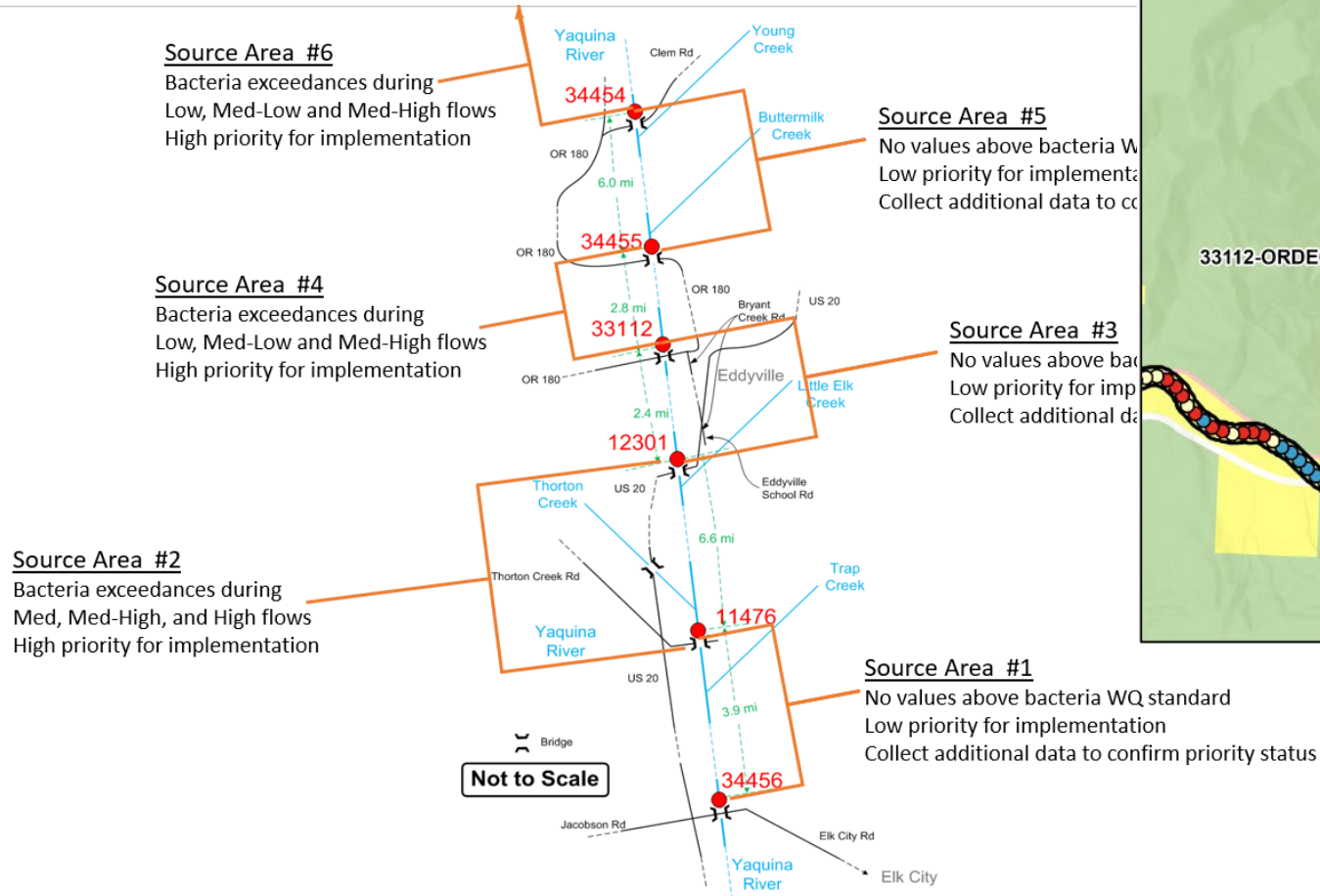


**Yaquina River at bridge on Highway 180 upstream of Eddyville**

# Summary of priority management strategies by sources

Pollutant	Source	Reduction needed	Management Strategies
Solar Radiation	Insufficient height and density of riparian vegetation; altered bank and channel topography	76%	Riparian tree and vegetation planting and retention Riparian vegetation management Riparian invasive plant control Riparian livestock exclusion methods Placement of large wood Reestablishment of beaver
Total Phosphorus	Poorly functioning or failing septic systems	50%	Septic system assessment and repairs/upgrades
	Livestock grazing and management		Livestock management and exclusion methods Erosion control techniques
	Runoff from roadways, silviculture and background*		
Bacteria	Runoff* in contact with roadways, poorly functioning septic systems and livestock grazing areas	83%	Stream crossing and livestock access improvements Livestock water gaps and off channel watering/shade Livestock sacrifice/heavy use area improvements Elk management for natural seasonal movements
	Livestock and wildlife* in and around streams		Incorporate nutrient loading and nutrient management plans into Agricultural Area Plan

# Implementation Planning Tools: Shade Gap Maps and Pollutant Source Areas



# Commenters

<b>Commenter Name</b>	<b>Organization</b>	<b>Comment Number(s)</b>
Jennifer Wu	US EPA - Region 10	1-6
Paul Engelmeyer	Wetlands Conservancy	7
Suzanne Fouty	retired USDA Forest Service	

# Summary of comments and responses

Comment # and Topic	Comment Description	Revisions?
1. Protection plan section needed	Create a new section in the TMDL document delineated as the protection plan that refers to analysis with the documents that satisfies the core elements of a protection plan, as described on EPA's website and Protection Plan FAQ.	yes
2. Reasonable Assurance	Include a clarified federal definition of Reasonable Assurances in the TMDL document or reference to it in the WQMP	yes
3. Assessment Unit status error	OR_SR_1710020401_02_105953 Little Elk Creek to Sloop Creek for year-round DO is Category 2 on the 2022 Integrated Report, but is listed as Category 3 in the TMDL documents	yes
4. Monitoring strategy surrogates	All surrogates to support monitoring strategies should be identified in the WQMP	no
5. ODF data collection	Section 5.1.1 of the WQMP should require ODF to collect data to demonstrate the effectiveness of bacteria, phosphorus, and solar reduction.	no
6. Units omission	Add units for riparian buffers in WQMP, pg 19, Table 5.1.2a. The TMDL column reads "For Riparian Areas (within 100 of stream bank)."	yes
7. Beaver reestablishment	Add beaver watershed roles, impacts and reestablishment articles to the administrative record	yes



# Fiscal impacts analysis

- On-going costs of water quality impairment (without TMDL implementation) cannot be quantified
- Economic impacts are anticipated for some farms/ranches, forestlands, railroad and road rights-of-way and county, state and federal lands that contribute to impaired DO and bacteria
- DEQ/RAC did not find significant, adverse impacts to small businesses

# Environmental justice and racial equity

- Communities with potential disadvantages related to age, low income and minority status are present in the watershed, but not disproportionately impacted by TMDL implementation
- DEQ engaged extensively with tribal, agricultural, forestry, fishery and conservation communities through the local advisory and technical work groups and the Rule Advisory Committee
- Improvements to water quality as a result of TMDL implementation will improve opportunities for fishing, recreating and livestock watering, which may have increased economic and health benefits.

# DEQ Recommendation for EQC action:

*I move that the commission adopt the proposed rules as seen in Appendix A as part of Chapter 340, Division 42 of the Oregon Administrative Rules and to incorporate, by reference, the Upper Yaquina Total Maximum Daily Loads (Appendix B) and Water Quality Management Plan (Appendix C) for bacteria and dissolved oxygen.*