

Trees to Tap Drinking Water Provider Survey

Welcome!

This survey is intended to obtain the perspectives of Oregon's community drinking water suppliers about their operations, surface raw water supplies, and potential land management activities in their source watersheds. The survey is part of the Trees to Tap research project (<http://inr.oregonstate.edu/treestotap>) conducted by researchers at Oregon State University's Institute for Natural Resources and College of Forestry, and is funded by the Oregon Forest Resources Institute (OFRI). Your participation in the survey is completely voluntary, but it is critically important that we hear from you about perspectives on how land management in your source watersheds affects water quality and quantity at your intake.

Important notes:

- The survey does not ask about some watershed characteristics for which there are existing data from the Oregon Health Authority (OHA) and Department of Environmental Quality (DEQ).
- We understand that your utility may have multiple sources of raw water. Please answer the questions for your primary surface supply watershed.
- We are seeking only one response per utility. Community water supply managers should coordinate with their staff to prepare answers (if needed) and one person should enter them.
- You can download the survey for printing and to gather information prior to completing the survey online. If you prefer to submit a paper copy, please mail it to Jon Souder at 280 Peavy Hall, Oregon State University, Corvallis, OR 97331 no later than May 30th, 2018.

While we prefer that you respond to all questions, if this is not possible, please respond to the ones you can, and then submit the survey. If you agree, we may contact you with follow-up questions or request your participation in an in-depth case study. If you have questions, please contact Jon Souder at 541-404-7356 or jon.souder@oregonstate.edu.

Thank you for your time.

What is the name of your drinking water utility?

Please provide a contact name, phone number, and email address:

What is your primary raw surface water supply watershed called?

What percent of your annual water supply comes from this primary source?

Do you have other sources (i.e., groundwater wells, inter-connects, etc.) and/or backup raw water supply watersheds?

For the remainder of the survey, all questions should be answered with reference to your raw surface water source watershed only.

What kind of public access is allowed onto your primary source watershed?

- Open access to the public at all times
- Limited (seasonal) access to the public
- Access by special permit only
- No public access allowed
- Don't know/unsure
- Other (explain) _____

Do you have an updated Source Water Assessment (USWA)? *If yes, please explain how you use it.*

- Yes _____
- No
- Don't know/unsure

Do you have an approved Drinking Water Source Protection (DWSP) plan?

If yes, please explain how you use it.

If no, please explain the main reason you don't have an approved DWSP.

- Yes _____
- No _____
- Don't know/unsure

Do you fund or participate in any forest health, fuels reduction, or other restoration work in the watershed for source water protection? *If yes, please explain.*

- Yes _____
- No
- Don't know/unsure

Of the partners you work with in your source watershed, which FIVE do you interact with most closely/are the most involved in your management in order of their importance to your operations, with # 1 being most important?

- #1 _____
- #2 _____
- #3 _____
- #4 _____
- #5 _____

Do you work together with other landowners in your watershed? *If yes, please explain any plans, mechanisms, or other means for working with them.*

- Yes _____
- No
- Don't know/unsure

Do you collect optional raw water quality data beyond what is required by law? If yes, what type of data, and how do you use this data in your operations?

- Yes _____
- No
- Don't know/unsure

Now we are going to ask you some questions about management activities in your primary surface water source supply watershed.

Please rank the following general activities/issues from 1 to 10 in order of current concern to your raw water source supply. 1 will be the most concerning and 10 will be the least concerning.

- _____ Forest harvest and management
- _____ Climate change
- _____ Agricultural land management
- _____ Cannabis cultivation
- _____ Public access and use of the watershed
- _____ Ability of watershed to meet supply demands
- _____ Residential and commercial development in the watershed
- _____ Rural residences and septic tanks
- _____ Stormwater runoff
- _____ Other: please describe
- _____ Other: please describe
- _____ Other: please describe

Please rank your **LEVEL OF CONCERN** about each of the following source water protection issues as they may affect your raw water supply.

	1 Not at all a concern (1)	2 A slight concern (2)	3 Somewhat of a concern (3)	4 A moderate concern (4)	5 An extreme concern (5)	Not applicable	Unsure
Turbidity/ suspended sediment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forest chemicals (pesticides, fertilizers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other point source pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dissolved organic carbon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Temperature levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pH levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nutrient levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased wildfire risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Potential wildfire impacts (e.g., erosion, loss of cover)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire response impacts (e.g., retardants, pumping)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Riparian buffer blow- down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Future water quantity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landslides and slope instability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homeless /unhoused people using watershed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Potential fecal contamination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation- related fuel and hazardous material spills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Off Highway Vehicle (OHV) impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Now, please rank your LEVEL OF CONTROL over each of the same following source water protection issues as they may affect your raw water supply.

	1 Have no control at all (1)	2 Have slight control over (2)	3 Have some control over (3)	4 Have a moderate level of control over (4)	5 Have a lot of control over (5)	Not applicable	Unsure
Turbidity/ suspended sediment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forest chemicals (pesticides, fertilizers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other point source pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dissolved organic carbon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Temperature levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
pH levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nutrient levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased wildfire risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Potential wildfire impacts (e.g., erosion, loss of cover)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire response impacts (e.g., retardants, pumping)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Riparian buffer blow-down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Quantity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landslides and slope instability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General public access effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Homeless/unhoused people using watershed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Potential fecal contamination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation-related fuel and hazardous material spills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Off Highway Vehicle (OHV) impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please describe and indicate level	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Of all of the management issues above, which are your top two concerns? Please select only two.

- Turbidity/suspended sediment
- Forest chemicals (pesticides, fertilizers)
- Other point source pollution
- Dissolved organic carbon
- Temperature levels
- pH levels
- Nutrient levels
- Increased wildfire risk
- Potential wildfire impacts (e.g., erosion, loss of cover)
- Wildfire response impacts (e.g., retardants, pumping)
- Riparian buffer blow-down
- Quantity
- Landslides and slope instability
- Flood events
- Invasive species
- General public access effects
- Homeless/unhoused people using watershed
- Potential fecal contamination
- Transportation-related fuel and hazardous material spills

The Oregon Department of Forestry e-Notification (FERNS) online system allows users to search, query, and subscribe to receive notifications of proposed forest operations upstream of your raw water intake (see <https://ferns.odf.oregon.gov/e-notification>). **How do you use this system?** Please check all that apply.

- I have a subscription
- I have searched for forest operations
- I have done queries of forest operations
- I am aware of this service but do not use it
- I am not aware of this service
- Other: please describe _____

Have you received any information about forest operations upstream of your raw water intake from any sources *other than ODF e-Notification* in the past four years? Please check all that apply.

- Newspaper
- Online other than e-Notification (Facebook page, website, etc.)
- Email list serve
- Upstream forest landowners or operators
- Personal or professional contacts
- Other: Please describe _____
- I have not received information from any other sources

To close, we will ask you a few questions about how your utility is managed.

How is your utility organized?

- Department or unit of municipal government
- Joint entity of multiple governments (i.e., regional)
- Department or unit of county/tribal government
- Special District (under ORS Chapter 198)
- Nonprofit (under IRS 501c3)
- Private for profit

How many staff does your utility employ in drinking water provision?

- Full time _____
- Part time _____
- Seasonal _____
- Other _____

What's been your utility's average annual operating budget for the past four years for drinking water supply?

- Under \$100,000/year
- \$100,000 to \$500,000/year
- \$500,001 to \$2,000,000/year
- \$2,000,001 to \$10,000,000/year
- \$10,000,000/year

What has been a key lesson learned for your utility about managing a forested watershed for drinking water supply? What would you tell someone else in your position?

Is there anything else you would like to share with us?

Would you be willing to be contacted if we have follow up questions?

- Yes
- No
- No, but I would like to receive the final science synthesis

Thank you for taking the time to complete this survey. Your perspective is important!