

Long-term Monitoring for Understanding Changes in Wildfire Impacts on Water Quality

Wildfire Impacts and Opportunities in Rogue Basin Drinking Water Supplies

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What do we mean by “long-term”?

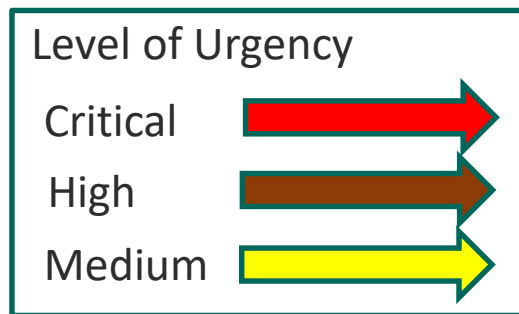


Public safety  0-1 year?

Public health  0 – 2 years?

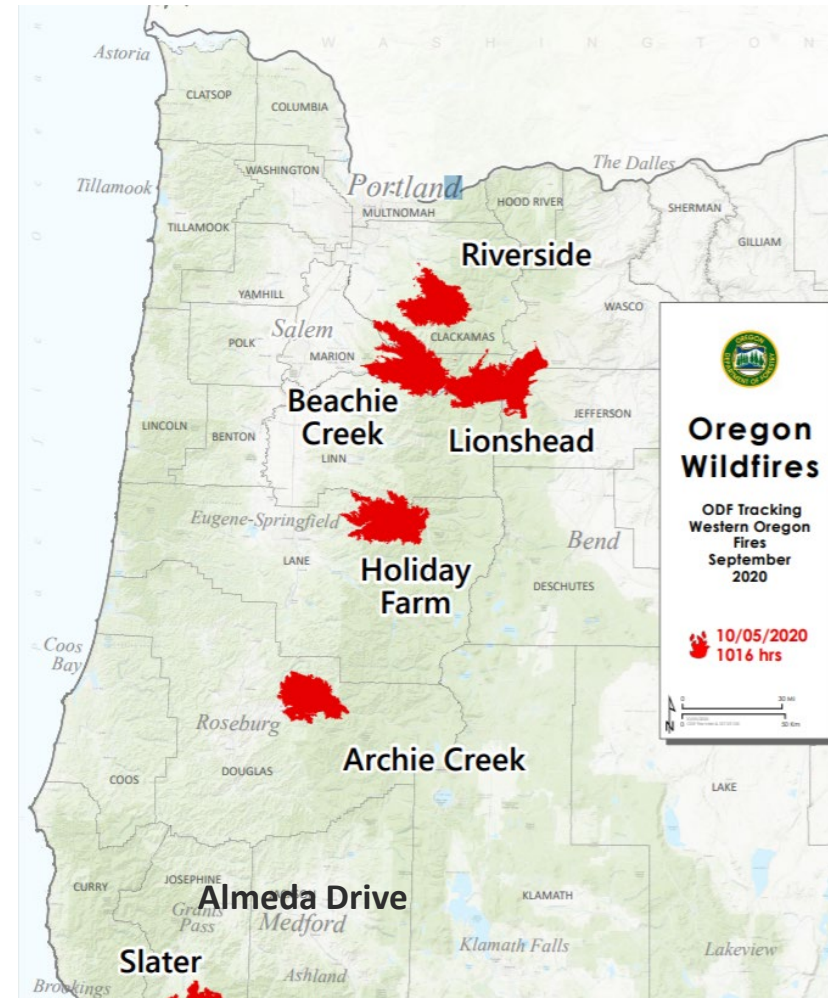
Mid-term water quality  3-6 months?

Long-term water quality  6 months – 2 years?



Long-term monitoring considerations

- What is the extent, severity and type of wildfire damage in the area?
- What do we know about water quality impacts from previous studies?
- What do initial water quality data collection results show?
- What are the potential long-term impacts to beneficial uses of water?
- What data collection and analytical resource do we have at our disposal?
- What are the information needs and who needs it?
- What other factors should be considered like weather effects?
- We can't forget about potential impacts to groundwater.



Longer term parameters of concern

- Turbidity
- TOC,DOC
- TSS, SSC
- Nutrients
- Metals
- Sediment
- Water temperature
- HABS: Cyanotoxins
- Biomonitoring
- Flow
- Toxics
- 500 chemicals from nine chemical groups including current-use pesticides, consumer use products, combustion by-products, dioxins and furans, flame retardants, industrial chemicals, legacy pesticides, PCBs, and metals
- DEQ Rogue Basin Toxics Summary December 2020 available at:
<https://www.oregon.gov/deq/wq/Documents/wqtoxicsRogueReportF.pdf> and podcast at
<https://www.ijpr.org/podcast/the-jefferson-exchange>.



Matt Schult from DEQ's laboratory collecting a sample for cyanotoxin analysis.

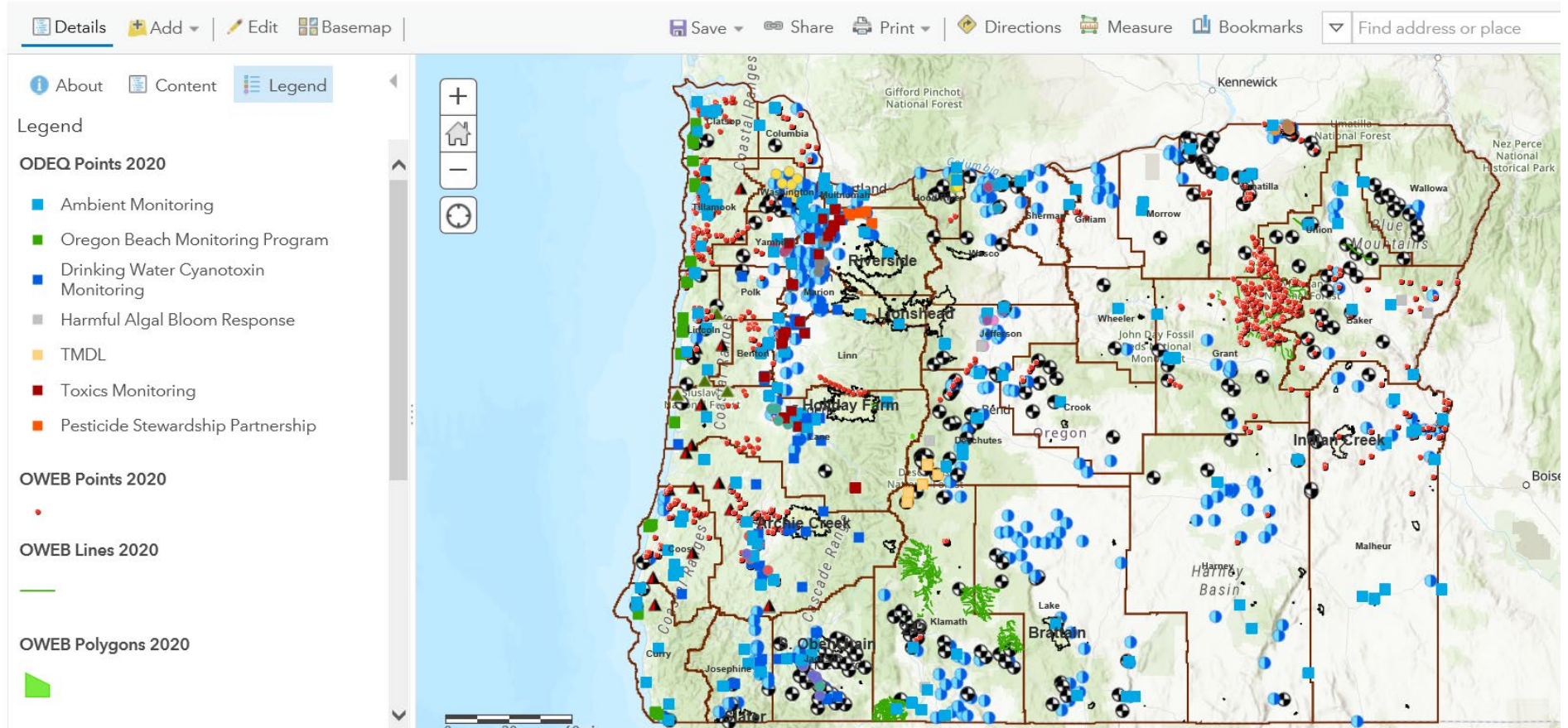
Leveraging existing programs and partnerships

- We may not need “more” but we may need more understanding of “how” in the context of long-term monitoring?
- What existing monitoring programs can be used to answers some of the question we have about the long-term impacts of wildfires on water quality?
- What baseline data do we have at water monitoring stations located in wildfire damaged zones?
- How do we work together to fill information gaps? (Cascade Collaboration calls USGS)
- Can we add needed indicators to existing programs?



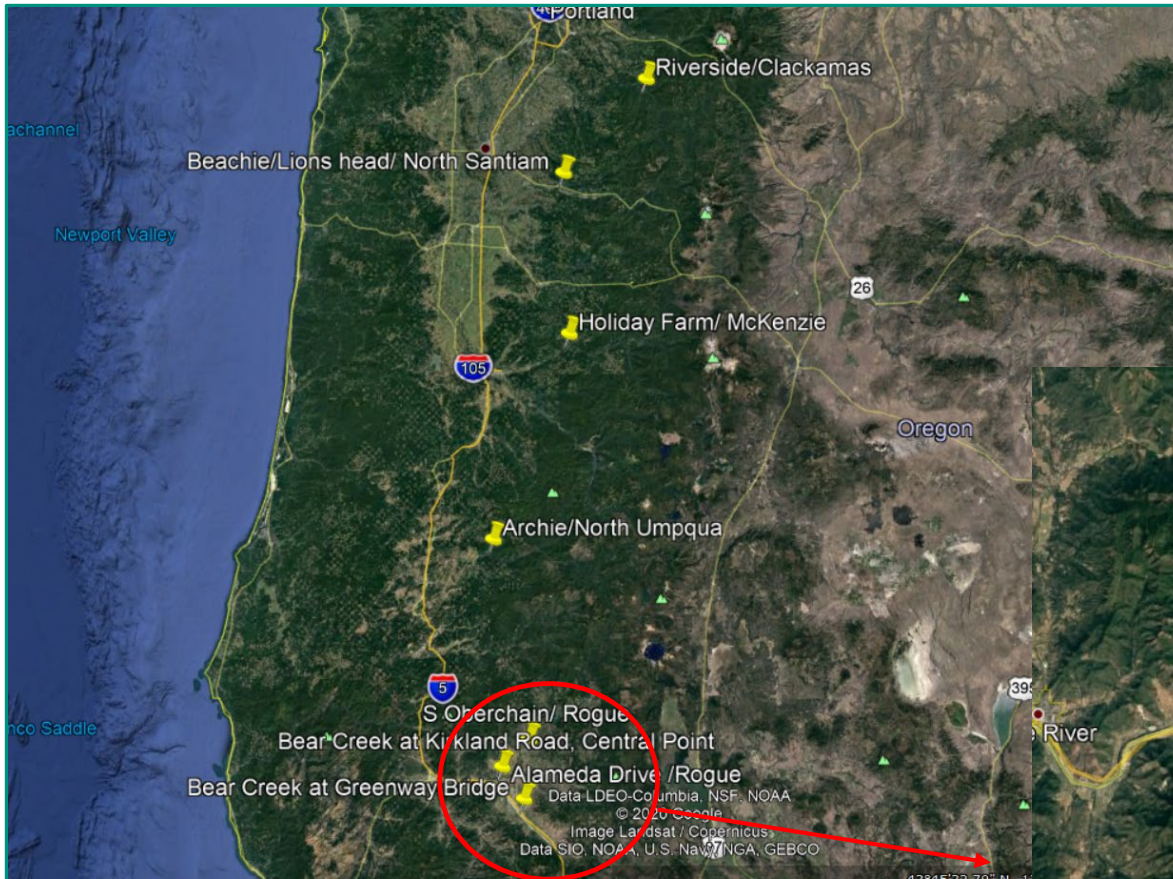
Stream Team Monitoring Map

Home ▾ StreamTeam Monitoring Map



STREAM Team monitoring map developed and updated by the team annually. Not available externally.

DEQ Toxics Monitoring Program: Sites added to characterize wildfire impacts



DEQ toxics monitoring locations added to help inform the 2020 wildfire impacts.



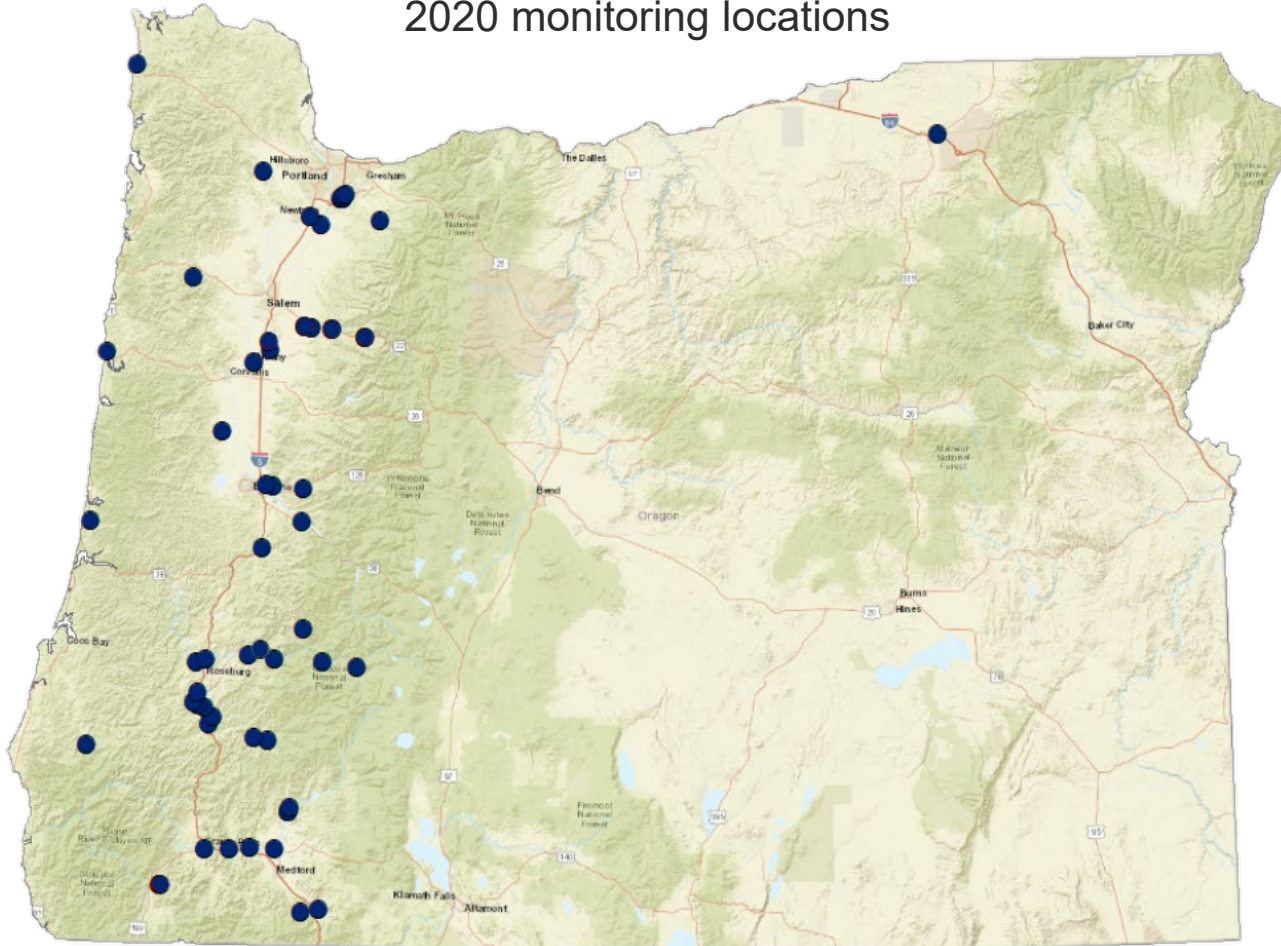
DEQ toxics monitoring locations to help inform the impacts of the Oberchian and Alameda

PSP and OWRD and USACE

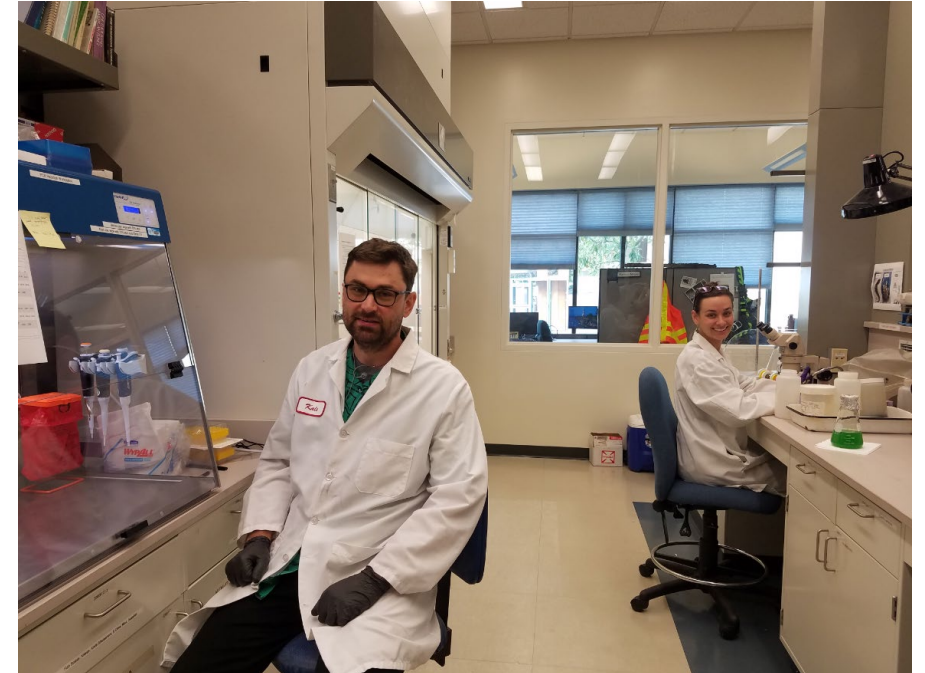
- Additional pesticide samples collected after the fire along Bear Creek.
- Work with Trevor Smith, WRD Southwest Region Assistant Watermaster to get two data sondes deployed Little Butte Creek below the Obenchain fire https://cloud.xylem.com/hydrosphere/public-sites/OWA_AEF99DA79CB44B86B34E4020FE7D511E
- BJBO Bear Creek at Jackson St. Bridge, Medford, OR https://cloud.xylem.com/hydrosphere/public-sites/OWA_AEF99DA79CB44B86B34E4020FE7D511E?customerId=OWA_AEF99DA79CB44B86B34E4020FE7D511E&siteId=LittleButteCr
- Potential collaboration with the Corps doing metals analysis above Detroit Reservoir.

OHA/DEQ and public water facilities partners monitoring cyanotoxins

2020 monitoring locations



Map courtesy of [Alison Minerovic](#): DEQ Harmful Algal Bloom Monitoring Coordinator



Kale Clausen DEQ Cyanotoxin Analyst and
Alison Minerovic DEQ's HABs Monitoring Coordinator

OHA/DEQ VOC sampling assistance for small public water facilities

- McKenzie Palisades
Wyatt Water Works
Cottage Grove, OR
- Hiland WC – Echo Mountain
- Hiland WC – Riverbend
Hiland Water Corp
Newberg, OR
- Panther Creek WD
Otis, OR
- Taylors Grove PWS
Sublimity, OR
- City of Gates
Stayton, OR
- Lyons Mehama Water District
Lyons, OR
- Cedarhurst Improvement Club
Estacada, OR



Public water facilities monitoring cyanotoxins in Rogue Basin

Subbasin	Facility Name	Waterbody Name
Illinois	<ul style="list-style-type: none"> • Josephine County Parks – Lake Selmac 1 • Josephine County Parks – Lake Selmac 2 	<ul style="list-style-type: none"> • Lake Selmac • Lake Selmac
Middle Rogue	<ul style="list-style-type: none"> • Ashland Water Department • City of Gold Hill • City of Grants Pass • Jackson County Parks – Emigrant Lake • Medford Water Commission • City of Rogue River 	<ul style="list-style-type: none"> • Ashland Creek • Rogue River • Rogue River • Emigrant Lake • Rogue River • Rogue River
Upper Rogue	<ul style="list-style-type: none"> • Anglers Cove/SCHWC • Hiland WC – Shady Cove 	<ul style="list-style-type: none"> • Rogue River • Rogue River

Identifying information gaps and trying to fill them

- Once we have clearly defined our long-term questions and are coordinated we can plan how to fill data gaps.
- We need to stay connected with our monitoring partners and identify ways to work together.
- We will need figure out how to bring our data and information together, from various monitoring partners, in a timely fashion, so we can make adjustments to protect public health and other beneficial uses of our waterways.
- Cascade Collaboration Call, Post 2020 Wildfire Science team

Thank you and wishing everyone impacted by the terrible 2020 wildfires a speedy recovery.