Harmful Algal Blooms After Wildfires: Monitoring and Remote Sensing Strategies

Wildfire Impacts and Opportunities in Rogue Basin Drinking Water Supplies
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Presenters: Dan Sobota, Yuan Grund, Erin Costello, and Brian Fulfrost
Cyanobacterial Harmful Algal Blooms in Oregon

- Excessive growth of specific algae capable of producing toxins

- Increasingly public and ecosystem health concerns across the state

- Impacts drinking water, recreational opportunities, agricultural production, fisheries, local economies, and aquatic habitats

Lake Billy Chinook
June 2019
Harmful Algal Blooms and Wildfire

• How might the wildfires affect freshwater harmful algal blooms in burned areas?

• What should DEQ and other agencies do to address wildfire impacts on harmful algal blooms?

• What are some tools and resources available to help predict and track harmful algal blooms?
How might the wildfires affect freshwater harmful algal blooms in burned areas?
What causes Harmful Algal Blooms?

- High nutrient inputs
- Warm temperatures
- Slow-moving, stagnant, or stratified water
- Alteration of aquatic food webs
Potential wildfire impacts

- Increased sediment erosion and ash runoff
- Runoff of urban and wildland fire fighting chemicals
- Loss of riparian shade
- Runoff and decomposition of organic debris
- As vegetation regrows, decreases in stream flow and water levels in lakes and reservoirs
- Exacerbate effects of climate change
What should DEQ and other agencies do to address wildfire impacts on harmful algal blooms?
Mitigation and Restoration Tools

• Implement stormwater BMPs to reduce nutrient loading
• Implement BMPs to stabilize streambanks and shorelines
• Technical assistance and/or grants:
  • SWCDs
  • OSU Extension for agricultural and family forestlands
  • Watershed councils
  • NRCS
  • OHA and DWPP for drinking water source areas
• Implement water quality monitoring to measure sediment, nutrients, and temperature based on prioritization
What are some tools and resources available to help predict and track harmful algal blooms?
Available and forthcoming resources

• Oregon DEQ Drinking Water Protection
  • https://www.oregon.gov/deq/wq/programs/Pages/DWPAssessments.aspx

• US EPA cyanoHABs resources:
  • https://www.epa.gov/cyanohabs

• Oregon DEQ harmful algal bloom mapping project (to be released in 2021)
Questions?

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Dan Sobota
Oregon DEQ
Sobota.daniel@deq.state.or.us
503-229-5138