



Wildfires and Water Quality

SDIRWM Regional Advisory Committee
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Wildfires and Water Quality

- Increase in wildfires due to climate change
 - Season length, frequency and burned area
 - Increased temperatures and drought
- Wildfires impact water quality and quantity
- Impacts to water utilities treatment and distribution



Smoke from the Harris Fire over Sweetwater Reservoir. Photo by Michael S. Majewski, USGS, October 2007.

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Sources of Contamination



- Fire Itself



- Firefighting Activity



- Environment

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Areas of Impact for Water Systems

- Water Supply
 - Contamination of surface waters
 - Reduced capacity due to sedimentation
- Treatment Facilities
 - Damage to infrastructure
 - Adjustments to treatment process
 - Staffing safety and shortages (during fire)
- Distribution and Service Area
 - Damage to infrastructure
 - Water quality degradation
 - Pressure changes



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Contaminants Associated with Wildfire

- Physical/Chemical Parameters
 - pH, alkalinity, TDS, conductivity, hardness, DO, turbidity
- Metals
 - Aluminum, iron, manganese, mercury
- Inorganics
 - Nitrate, nitrite, ammonia, sulfate, phosphorus
- Nutrients and Organics
 - TOC, DOC, UV absorbance
- Aesthetics
 - Taste and odor, color



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CUWA Mitigation and Response Resources

FACT SHEETS AND REPORTS · JUNE 11, 2021

CUWA Resources on Wildfire Mitigation and Response

by California Urban Water Agencies

DOWNLOAD THE WILDFIRE INCIDENT CHECKLISTS

DOWNLOAD THE SUMMARY OF WILDFIRE IMPACTS ON DRINKING WATER QUALITY

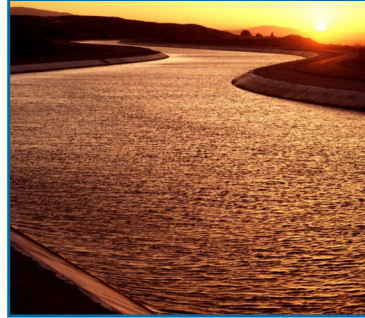
READ THE FULL ARTICLE IN AWWA'S OPFLOW (REQUIRES AWWA LOGIN)

<https://www.cuwa.org/pubs/rej7t8lsf8y33njd6g274j5ywn2bl>

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CUWA Mitigation Strategies for Water Utilities

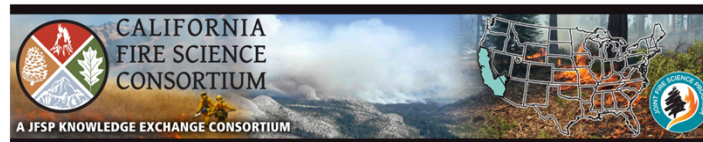
- Maintain year-round water quality protections
- Prepare to face wildfires emergencies
- Enhance response actions to wildfire events
- Continuously improve future wildfire response



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Additional Information and Research

- [California Fire Science Consortium](#)
- [U.S. Geological Survey](#)
- [U.S. Environmental Protection Agency](#)
- [University of California Agriculture and Natural Resources](#)
- [Water Research Foundation study](#)
 - Post-Wildfire Distribution System Water Quality Impacts and Potential Responses (2024)



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