

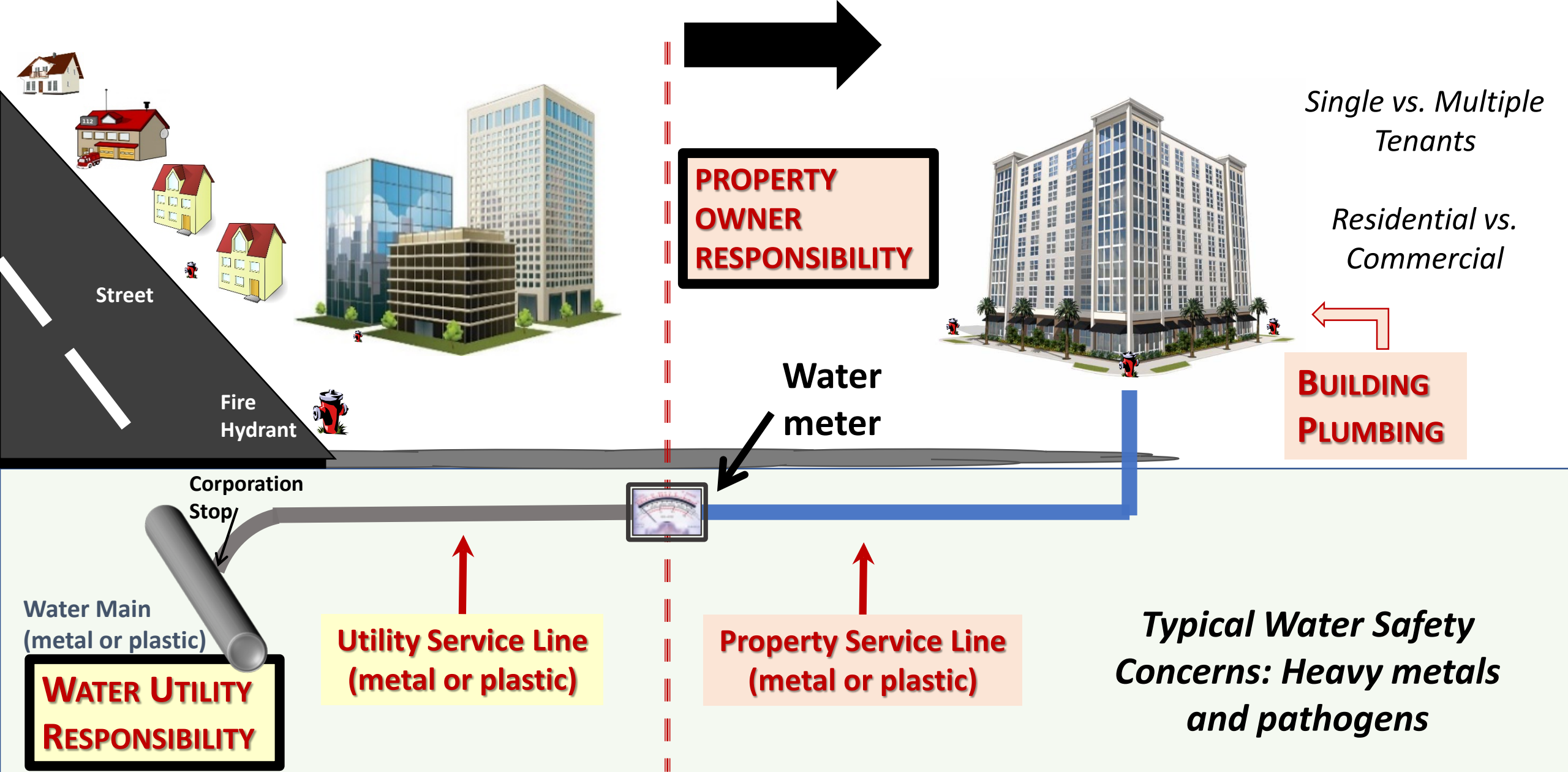


How to ensure the  
taps you are using  
are safe after being  
shutoff for so long?

*Andrew J. Whelton, Ph.D.*

*awhelton@purdue.edu*  
*@TheWheltonGroup*







State Water Resources Control Board



### Information to Water Customers Regarding Water Quality in Buildings Located in Areas Damaged by Wildfire 8.9.19

#### In-building treatment options

Granular activated carbon (GAC) will effectively remove benzene and other organic contaminants from water. Point-of-use (POU) units containing GAC, or GAC combined with reverse osmosis (RO), are commonly available. They can be installed at faucets used for drinking water. These units must be maintained according to manufacturer's specifications.

This document includes information on potential health concerns, and advice on flushing pipes and testing the water.

#### **Background**

When a wildfire occurs, it can damage not only buildings, but also the pipes that deliver water to those buildings. Some damage is visible, like charring or melting, but other damage is less obvious, like contamination of the water or the pipes. After recent fires, at certain locations, contaminants such as benzene were detected in the water above drinking water standards. This problem was first documented during the 2017 Tubbs Fire in Santa Rosa, and subsequent investigation concluded that thermal decomposition (combustion, melting and/or pyrolysis) of plastics contributed to the contamination. Benzene can soak into the walls of plastic pipes and be slowly released over time. While water mains get flushed to some extent as water is used for clean-up and recovery activities, it is possible that some benzene may remain in the pipes and other materials connected to the standing buildings and in the water within those pipes. It is unknown without testing which pipes may be affected.

As a reference to the quantities of benzene anticipated from these events, consider a 100' water service line to a standing home that was contaminated initially with 100 micrograms/liter (ug/L) benzene (greater than what has been found to date in standing homes). That

Rev. 8.2019

## California 2019

## Oregon 2020



### **Customer Guidance Regarding Water Quality in Buildings Located in Areas Damaged by Wildfire** Oregon Drinking Water Services Revised October 23, 2020

*Disclaimer: This document was prepared by the California Water Resources Control Board, Division of Drinking Water, with input from other drinking water professionals. It has been adapted for Oregon. Information provided below is based on limited experience and understanding of how public drinking water systems are impacted by wildfires. This document summarizes what has been observed in wildfire-impacted areas and is intended to provide recommendations for building owners regarding how to perform a minimum baseline analysis of potential chemical contamination. Because of the many variables and unknowns regarding fire-damaged drinking water systems, it cannot be guaranteed that following the recommendations below will necessarily protect water system users from adverse health impacts associated with the water. Water customers are encouraged to work with their local water supplier and local health authorities.*

#### **Purpose**

The purpose of this document is to assist water customers (individuals, businesses, schools and others) receiving drinking water from water systems impacted by wildfires with addressing possible contamination of their drinking water and building plumbing.

#### **Background**

When a wildfire occurs, it can damage not only buildings, but also the pipes that deliver water to those buildings. Some damage is visible, like charring or melting, but other damage is less obvious, like contamination of the water or the pipes. After recent fires in California,

#### **In-building treatment options**

"Point-of-use" units using granular activated carbon (GAC) or reverse osmosis (RO) will remove low levels of benzene and other organic contaminants. They can be installed at faucets used for drinking water. Select a treatment unit certified by the National Sanitation Foundation, [NSF standard 53](#) for VOC removal. These units must be maintained according to manufacturer's specifications.

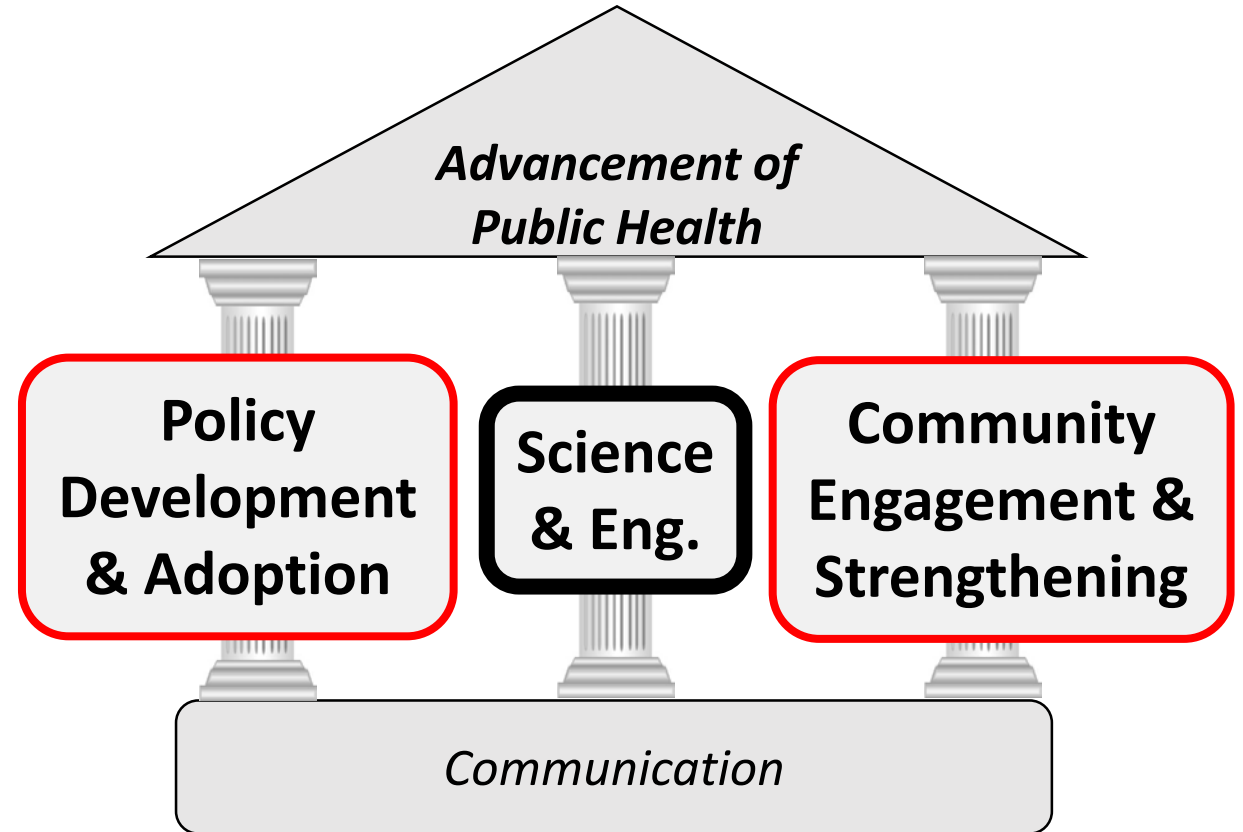
water delivered to the users of a public water system. This level, the Maximum Contaminant Level (MCL), for benzene is 5 micrograms per liter, or parts per billion. For water customers, OHA Drinking Water Services Oct 2020



**Public Health (n):** promotes and protects the health of people and the communities where they live, learn, work and play.

***A few challenges that may be***

- ❖ Policy sometimes detached from science
- ❖ Policymakers lack technical expertise
- ❖ Building owners lack technical expertise
- ❖ Hired consultants(!) lack technical expertise
- ❖ Industry standards detached from the world
- ❖ Water safety cannot be predicted
- ❖ Smart plumbing technology lacking
- ❖ Disasters lack water safety requirements
- ❖ Small and/or underserved communities lack resources and representation





**CHICO  
STATE**



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UNIVERSITY**



**Berkeley**  
UNIVERSITY OF CALIFORNIA



*Proctor et al. 2020. Considerations for large building water quality after extended stagnation. AWWA Water Science.*  
*Proctor et al. 2020. Wildfire caused widespread drinking water distribution network contamination. AWWA Water Science.*  
*Rhoads et al. 2020. Responding to water stagnation in buildings with reduced or no water use. AWWA.*  
*Rose et al. 2019. Management of Legionella in Water Systems. National Academies of Science, Engineering, and Mathematics.*

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**More Information at [www.PlumbingSafety.org](http://www.PlumbingSafety.org)**

## Cross-Disciplinary Collaborations Are Critical to Advancing Public Health

Polymer Science	Media Communication
Architecture	Journalism
Health Policy	Anthropology
Toxicology	Epidemiology
Occupational Health	Risk Assessment
Risk Communication	Chemistry
Manufacturing	Political Science
Medicine	Economics
Nursing	Environmental Science
Polymer Engineering	Atmospheric Science
Mechanical Engineering	Data Science
Construction Engineering	And more...

*Thank You*