

Emergency Preparedness and Response



can help protect public water systems from:

Coliform contamination,
Wildfires,
Harmful algal blooms,
Flooding,
Earthquakes,
And more!

Oregon
Health
Authority

DRINKING WATER SERVICES
Public Health Division

Oregon
Health
Authority

Outline

- 2023 water-related emergencies
- Cybersecurity updates
- Winter weather preparedness
- Assessing PWS resiliency

2023 emergencies

PWB Bull Run reservoir wildfire

August 24 – lightning strike sparked a wildfire in Portland's Bull Run watershed.

- Fire grew up to 2,055 acres
- 1.9 miles from Headworks WTP
- If staff were to evacuate Headworks WTP then no treatment
- Increased turbidity monitoring with rain events
- Planning for emergency drinking water, advisories, and customer communications
- Coordination with wildfire responders, OHA-DWS, purchasing PWSs, healthcare facilities, and other organizations



2023 emergencies

Drought

- ◆ Tillamook Co. drought
 - ◆ September – Severe (D2) drought conditions
 - ◆ 8 PWSs reported drought impacts to DWS
 - ◆ County Commissioner declared drought but was later rescinded



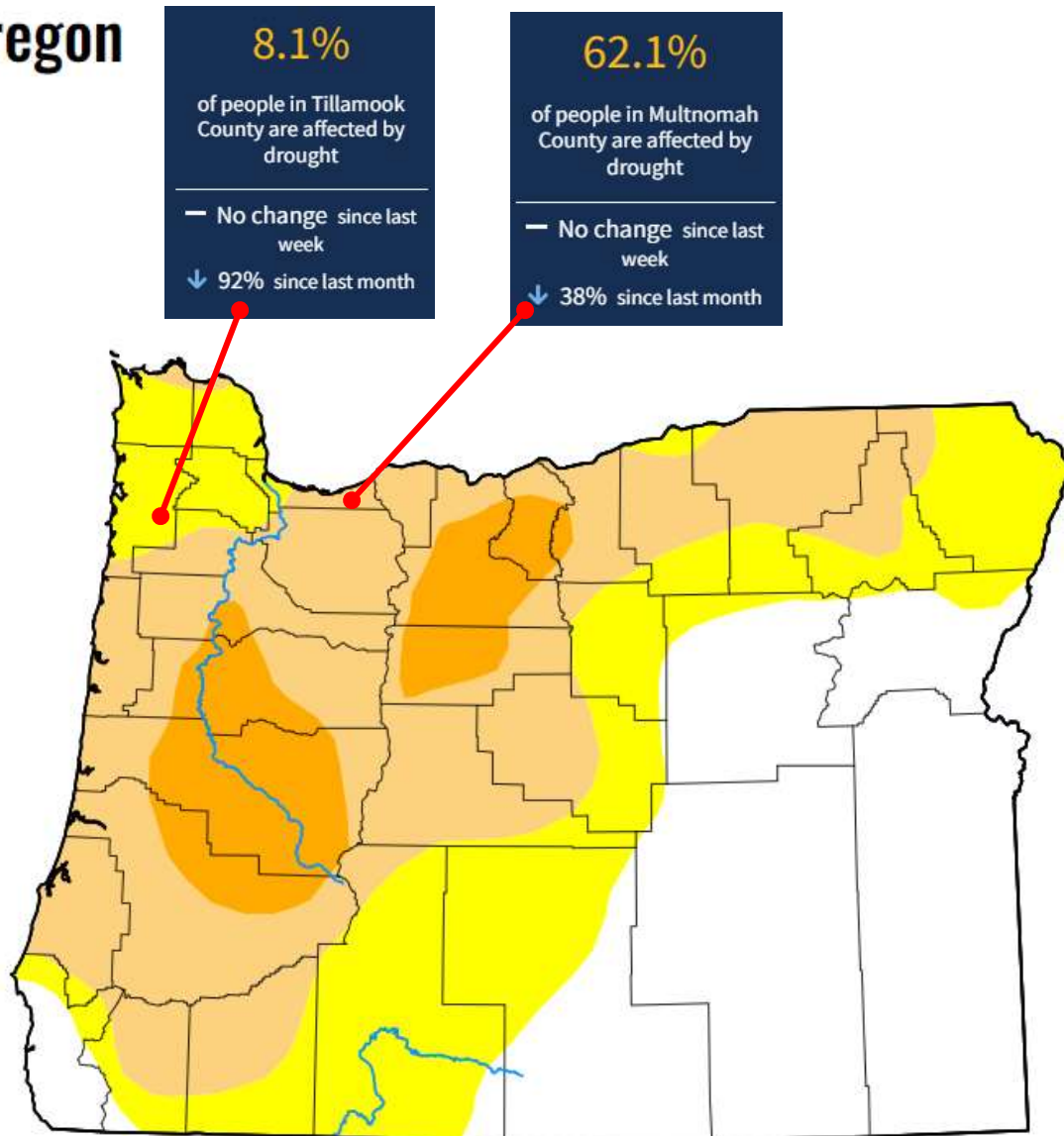
On Thursday, August 24, the Portland Water Bureau will begin adding groundwater from the Columbia South Shore Well Field to augment Portland's main drinking water source, the Bull Run Watershed.

Multnomah Co. drought

- ◆ September – Moderate (D1) to Severe (D2) drought conditions
- ◆ Portland Water Bureau activated groundwater well field to supplement SW supply

2023 emergencies

Oregon



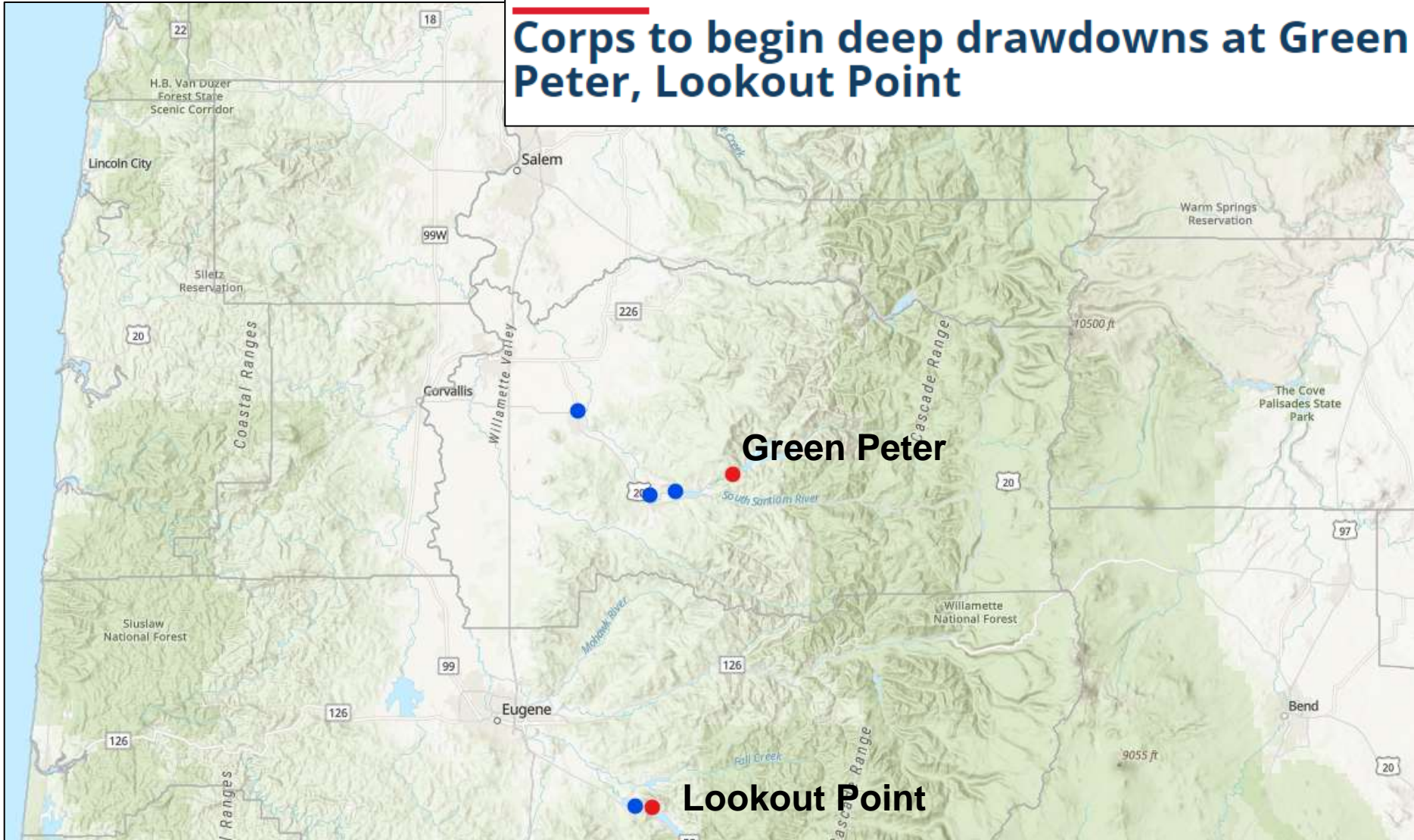
Map released: Weds. November 22, 2023

Data valid: November 21, 2023 at 7 a.m. EST

2023 emergencies

News Releases

Corps to begin deep drawdowns at Green Peter, Lookout Point



2023 emergencies

Why the drawdowns?

- Court ordered to increase juvenile spring salmon survival and passage through the dams.
- Projected to last until 12/15

November 7 – DWS started receiving reports of elevated raw water turbidity (up to 100 NTU) and total dissolved solids

- ✚ [City of Lowell](#)
- ✚ [City of Lebanon](#)
- ✚ [City of Sweet Home](#)



Water downstream of Green Peter dam on the South Santiam River, seen here on Nov. 3, turned muddy after a deep drawdown of the dam's reservoir.

Courtesy of Chase Benier / Courtesy of Chase Benier

2023 emergencies

DWS Area Wide Optimization Program (AWOP) to the rescue!



Foster Lake, the city of Sweet Home's water source, has turned the color of chocolate milk, filled at times with 14 times as much sediment as normal. *Abigail Dollins/Statesman Journal*

Systems have been able to treat and maintain drinking water standards, but there are challenges:

- ◆ Increase in discoloration and other complaints
- ◆ Increased demand on filtration and treatment
- ◆ Increased need for customer communications
- ◆ Increased distribution system sampling
- ◆ Potential issues with long term high turbidity events on filtration and treatment systems

2023 emergencies

Cybersecurity incidents in 5 PWSs in 4 different states

- ♦ USA designated foreign terrorist group Iranian Gov. Islamic Revolutionary Guard Corps (IRGC) actively targeted the Israeli-made Unitronics Programmable Logic Controllers (PLC) with defacement image
- ♦ Aliquippa, PA Municipal Water Authority reported booster station was hacked but had an alarm and the operator switched to manual ops



CISA alert:



Cybersecurity updates

WATER UTILITY MANAGEMENT

EPA withdraws cybersecurity survey requirement for water systems

After legal challenges from states and water associations, the U.S. EPA has withdrawn its memorandum to require states survey water system's cybersecurity during sanitary surveys.

March 3, 2023 –
cybersecurity in sanitary
surveys memorandum was
issued by EPA

October 11, 2023 – EPA
withdraws the memorandum
due to litigation ([state of
Missouri vs. EPA](#))



Oregon's cybersecurity rules - review

OAR 333-061-0064

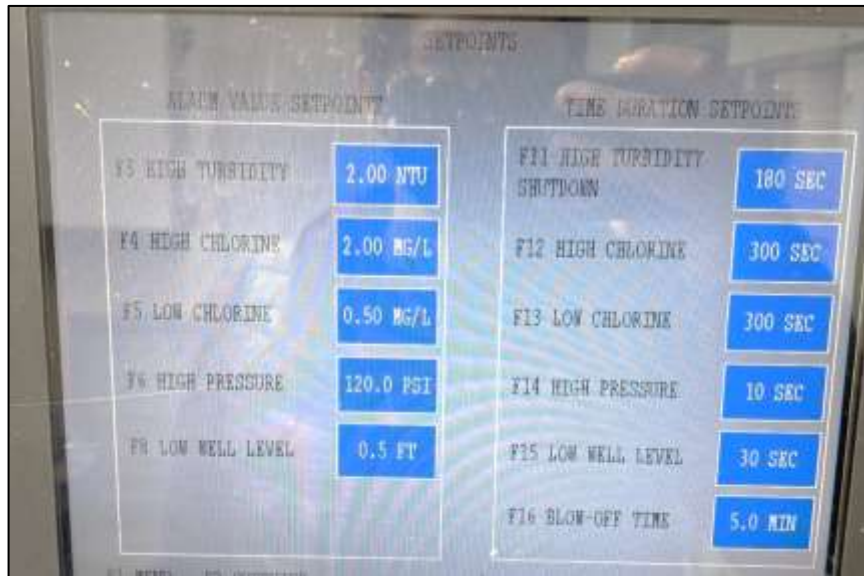
Community and NTNC water systems w/ populations 3,300 or less: the ERP must include procedures for reasonably anticipated emergencies.

- Plan for physical security measures
- If computer networks or automated control systems operate or monitor processes at the water system, cybersecurity measures must be implemented, including but not limited to:
 - Establishing a password policy based on current cybersecurity standards,
 - creating a software update plan,
 - monitoring for suspicious activity, and
 - installing and updating anti-virus or anti-malware software.

Cybersecurity Impacts

- Interruption or changes in supply, treatment, or distribution
- Overriding alarms or pump controls
- Theft of customer information
- Access to critical locations (GW or SW supplies)
- Loss of monitoring or automated processes

**Potential
public health
issues!**



Cybersecurity

CYBERSECURITY &
INFRASTRUCTURE
SECURITY AGENCY



AMERICA'S CYBER DEFENSE AGENCY



- ◆ Report cybersecurity incidents

- ◆ [CISA's cybersecurity incident reporting form](#)

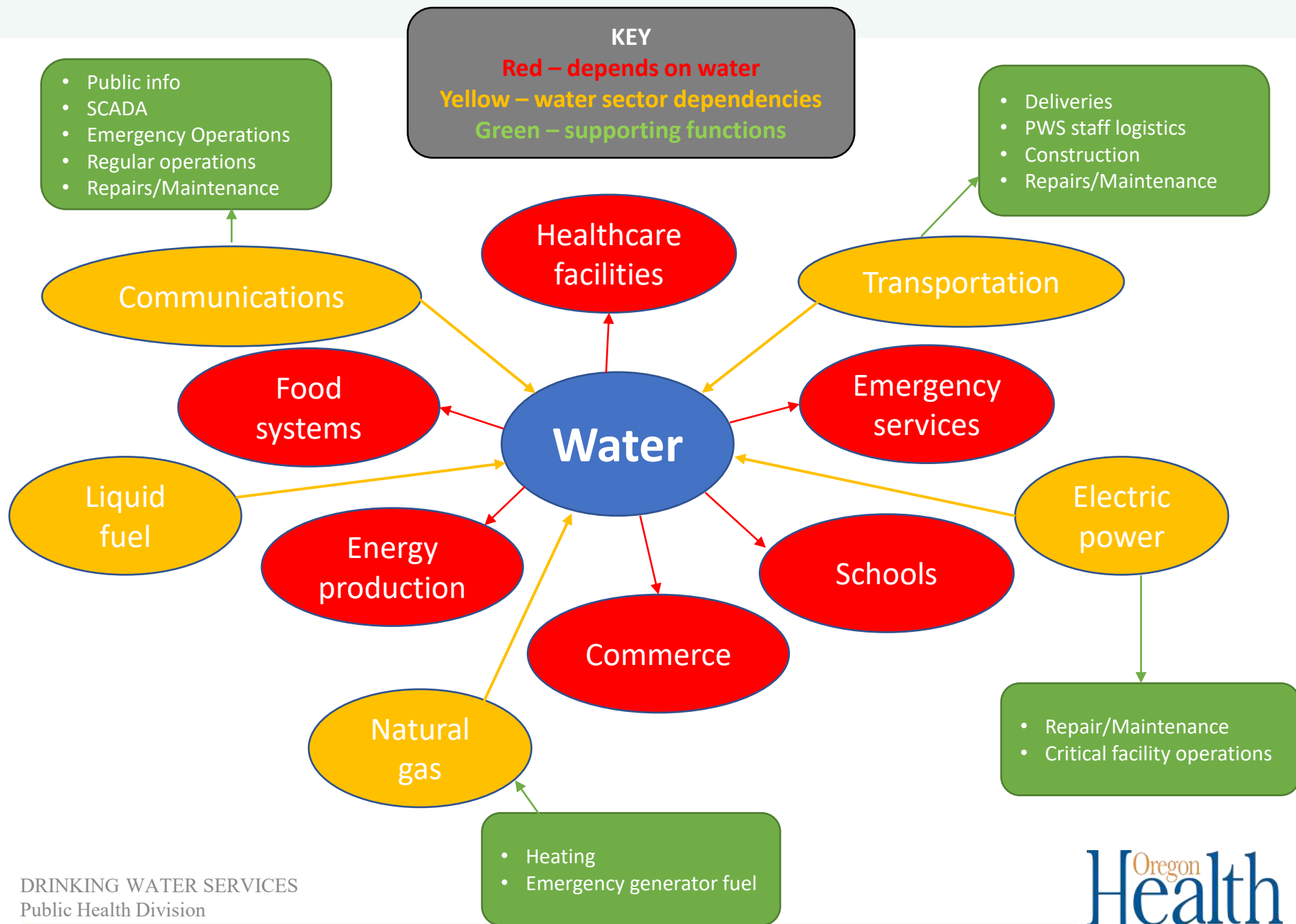


- ◆ Sign up for FREE cybersecurity risk assessments

- ◆ CISA Region 10: Leslie Ann Kainoa, leslie.kainoa@cisa.dhs.gov, (503) 462-5626 (self assessment and in person)
 - ◆ [EPA's cybersecurity risk assessment](#) (self assessment and third-party)
 - ◆ [Cyber Readiness Pilot Program](#) for PWSs serving 500-10,000 customers (PWSs must sign up)

Winter weather preparedness





Winter weather preparedness

‘Tis the season for water main breaks!



- ❄ Cast iron water mains tend to break during colder months
- ❄ Cold water causes pipes to become brittle
- ❄ Air temps at or below freezing can cause ground to freeze and thaw – water expands as it freezes and increases the external pressure on pipes
- ❄ Other factors: age of pipe, soil conditions, pipe corrosion, and ground movement



How PWSs can prepare for winter weather

Before winter weather is predicted:

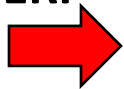
- ◆ Fill reservoirs
- ◆ Ensure communication protocols and alternative transportation routes for PWS staff
- ◆ Discuss with local/county EMs on resources needs (bulk water hauling, safe transportation routes, customer notifications, etc.)
- ◆ Ensure PWS is priority when determining plowing and road salting/sanding operations
- ◆ Discuss with local electric utility to ensure critical infrastructure is prioritized for power restoration
- ◆ [Inclement Weather Preparedness for Oregon's PWSs](#)



Assessing PWS resiliency

- ◆ Number of systems with more than one source type (GW, SW, GWUDI, P): 111
- ◆ Number of county regulated systems that don't have a complete ERP:
 - ◆ Community: 25
 - ◆ Non-Transient Non-Community : 9
- ◆ Number of DWS regulated systems that don't have a complete ERP:
 - ◆ Community: 25
 - ◆ Non-Transient Non-Community: 3

Don't forget the ERP requirements!



333-061-0064

Emergency Response Plan Requirements

Water suppliers must maintain an emergency response plan for every community and NTNC water system. Water system staff must be instructed and trained in the use of the plan and the plan must be accessible at all times to all water system staff for use during emergencies.

ERPs help protect public health

- ◆ Procedures for routine and non-routine emergencies
- ◆ Each emergency has unique effects on different system components
 - ◆ What equipment, chemicals, etc. does each component need to deliver water?
- ◆ Reduces mistakes during emergencies and high stress situations
- ◆ Clear guidance for under-certified operators
 - ◆ Who assess the system's infrastructure?
 - ◆ Who handles repairs?



WATER IS LIFE

- ◆ Customer notification protocols
 - ◆ Who handles the media or questions from the public?
- ◆ Protocols for who and when to contact partners
- ◆ How to get water to customers during DND advisory

THANK YOU!

Any suggestions for assessing resiliency?
Questions? Feedback?

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DWS Emergency Response & Preparedness Resources

- ERP templates
- BMPs
- Guidance docs

