



American Water Works Association
Pacific Northwest Section

T 503-760-6460
F 360-254-0695
www.pnws-awwa.org

2019 Excellence in Communication Awards Show & Tell

Goals of Show & Tell Session

- Honor award winners without distraction
- Learn from award winners
- Make time for a viewing of all submittals and celebrate afterward

Dance of the Day

- Intro of presenter
- Presentation from award winner
- Photos will be taken at the end of the session in our “photo booth” while guests are invited to look at all award submittals
- A short stand up committee meeting and bubbly 12noon – 12:30 p.m.

A Word About CEU Criteria

- Continuing Education Unit Criteria Matters
 - Not just for conferences, also for regulatory compliance
 - Make regulatory compliance a bullet point for pitching your communication project
 - Helps make your project relevant to management
 - Can be critical for securing funding for your project
 - Keeps your focus on delivering key regulatory messages
 - Serves utility customers better (regulated for a reason)
- Other public education “requirements” such as the Water Management and Conservation Plan or Oregon Resilience Plan or equivalent may serve a similar purpose and sometimes earn operator CEUs



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Pacific Northwest Section

2019
Excellence in
Communications
Award

Print Communication – Large Utility

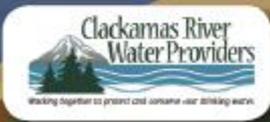
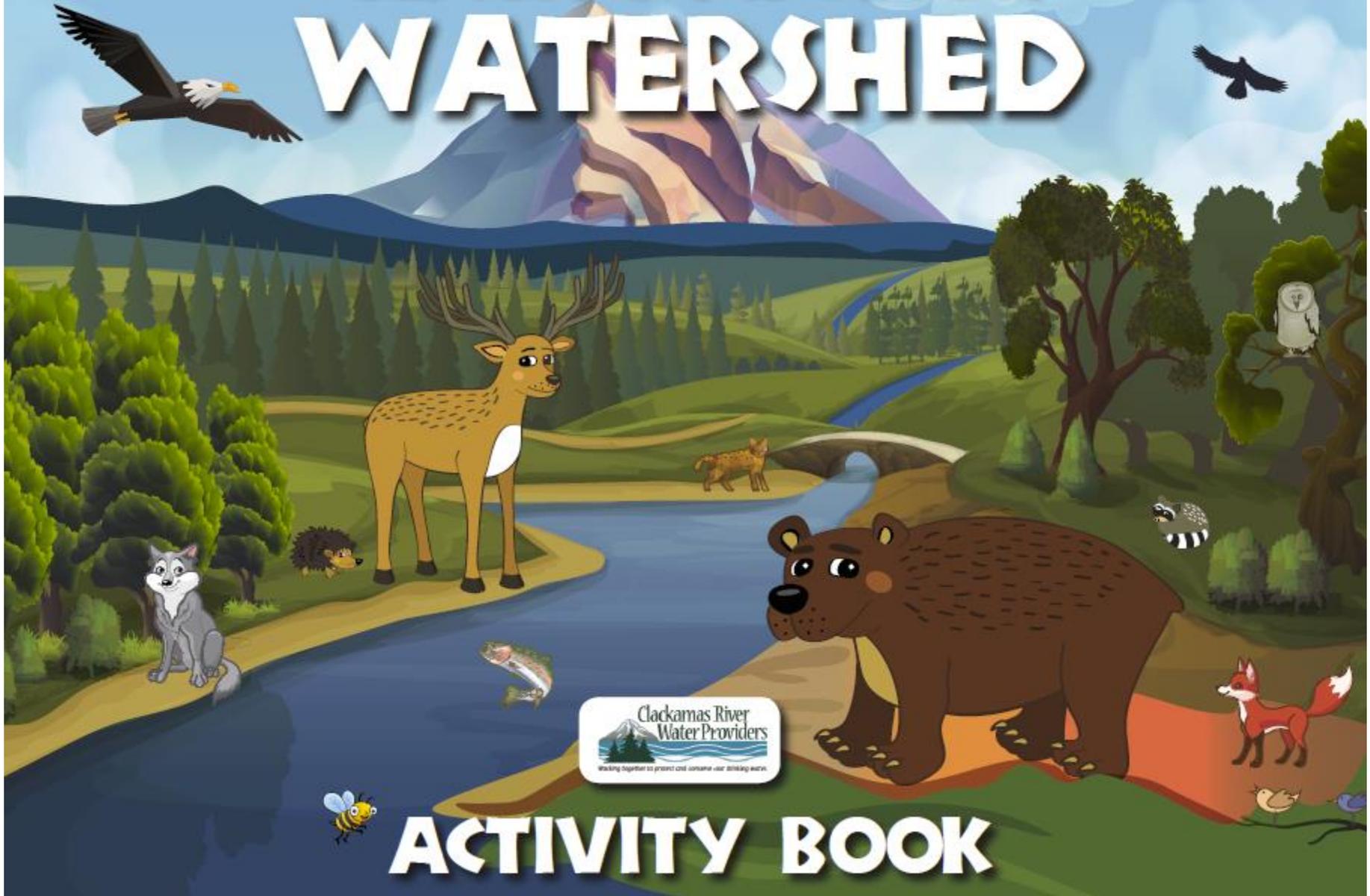
The Clackamas River Watershed Activity Book

Clackamas River Water Providers

Christine Hollenbeck

Activity book meets the “Public education about harmful algae blooms (HABs) and other water source concerns” continuing education unit (CEU) criteria.

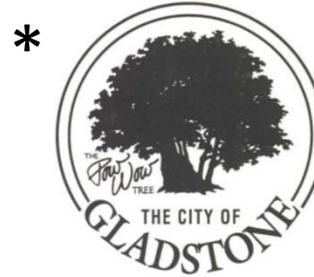
THE
CLACKAMAS RIVER
WATERSHED



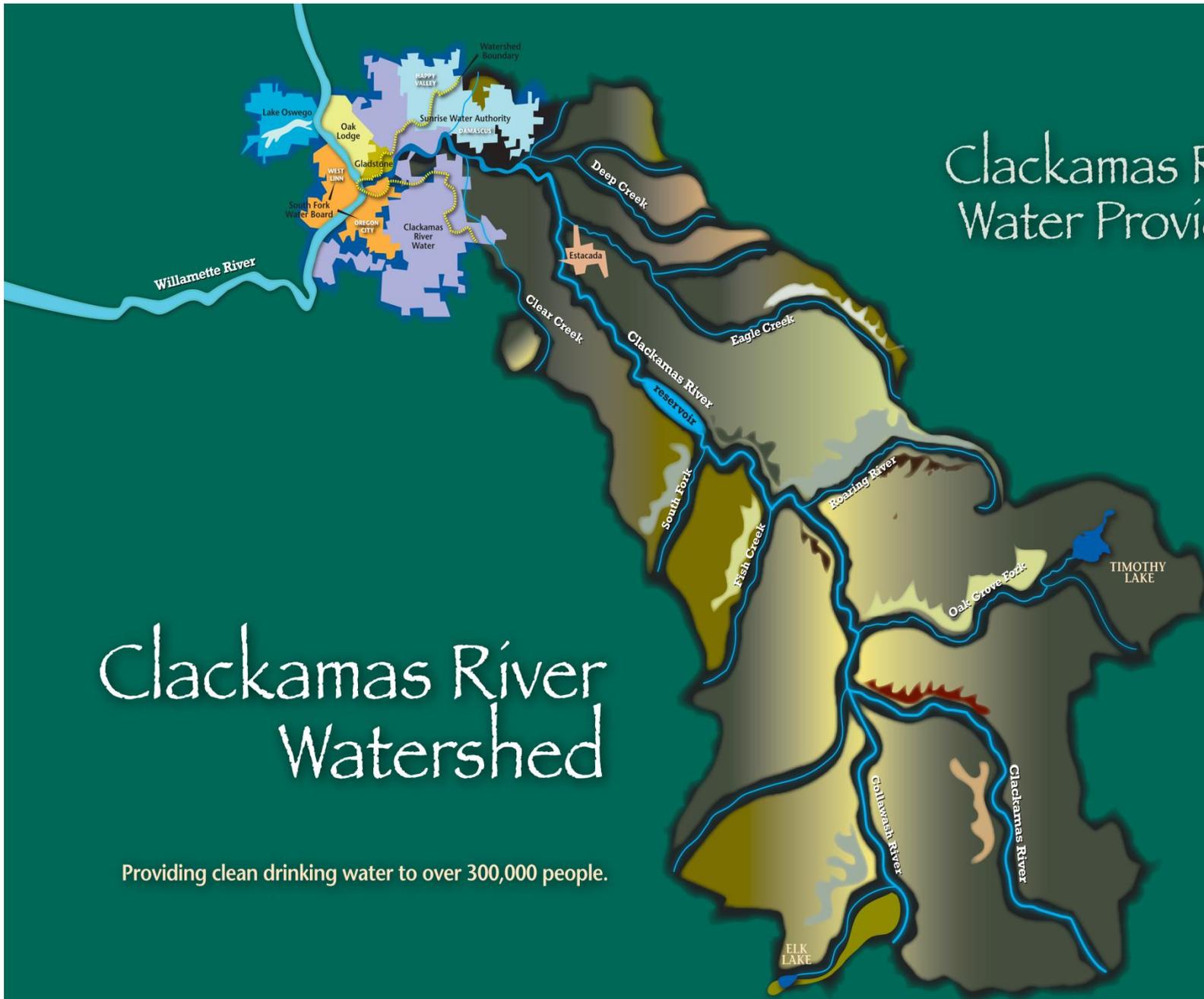
ACTIVITY BOOK

Clackamas River Water Provider Members

*Public Outreach & Conservation programs and services are provided to these members.



Clackamas River Water Providers



Clackamas River Watershed

Providing clean drinking water to over 300,000 people.



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Print Communication – Small Utility The City of Prineville is Conserving Water

City of Prineville
Mayor Steve Uffelman

Billing insert meets the “Public education or internal communication materials developed by/for operators” continuing education unit (CEU) criteria.

The City of Prineville is Conserving Water Billing Insert

Source of the Idea

- Recent water conservation achievements in Prineville's water distribution system
 - Reduced water system loss more than 20% since 2008
 - Won the Best Water Management and Conservation Plan Award in 2017
- We wanted these achievements to inspire customers to join our conservation efforts
- A billing insert reaches all customers in the mail with their water bill

The City of Prineville is Conserving Water Billing Insert

Communications Goals

- To demonstrate the City's dedication to water conservation
- To encourage customers to conserve water
- To convey to customers that they can be part of a community-wide conservation effort by:
 - Using free resources provided by the City
 - Lawn watering gauges, leak detection tablets, low-flow faucet aerators and showerheads, and more
 - Taking simple actions in their yards to conserve water

Front Page

- Describes how the City significantly reduced its water system inefficiencies
- Encourages new customers to join the City's conservation efforts
- Describes water conservation resources the City provides



The City has significantly reduced water lost to system inefficiencies over the past 10 years. Here's how we did it:

- We replaced old water distribution mainlines.
- We installed meters on unmetered connections.
- We compared water pumped from wells to water consumed by customers to find leaks.
- We improved tracking of water sales at our bulk water station, where water hauling trucks fill up with potable water.

With your help, we can save even more water. Here are some resources the City provides:

- Water conservation brochures
- Water conservation tips in your water bill
- Presentations to students and local community groups
- **FREE** water-saving resources, including:
 - Leak detection tablets
 - Lawn watering gauges
 - Faucet aerators
 - Low-flow showerheads

YOU CAN PICK THESE UP AT CITY HALL!

Did you know the City won the "Best Water Management and Conservation Plan" in 2017 for its water conservation efforts?

Back Page

- Emphasizes that efficient water use is important in the high desert
- Describes ways to save water when irrigating
- Describes how to help your soil retain moisture

Using water **efficiently** is important in the high desert, particularly during our **hot** and **dry** summers.

HERE'S HOW YOU CAN HELP CONSERVE WATER:

» Get Your Irrigation System Ready

- **Look for leaks** in irrigation lines, sprinkler nozzles, and valves. Turn the water on and inspect for damage.
- **Check the spray direction of your sprinkler heads.** Make sure you are watering close to the ground and not spraying the pavement.
- **Water in the mornings.** If you have a timer, make sure it's set properly.
- If hand watering, **use an automatic shut-off spray nozzle.**

» Get Your Soil Ready

- **Add organic matter**, such as compost, mushroom manure, peat moss, or chicken manure with sawdust. Organic matter helps to retain moisture.
- **Apply mulch around plants**, which helps reduce evaporation, fight weeds, moderate soil temperature, and prevent erosion. Types of mulch include bark, rocks, stones, and wood chips.
- **Leave grass clippings** behind when you mow. They add nutrients to the soil.





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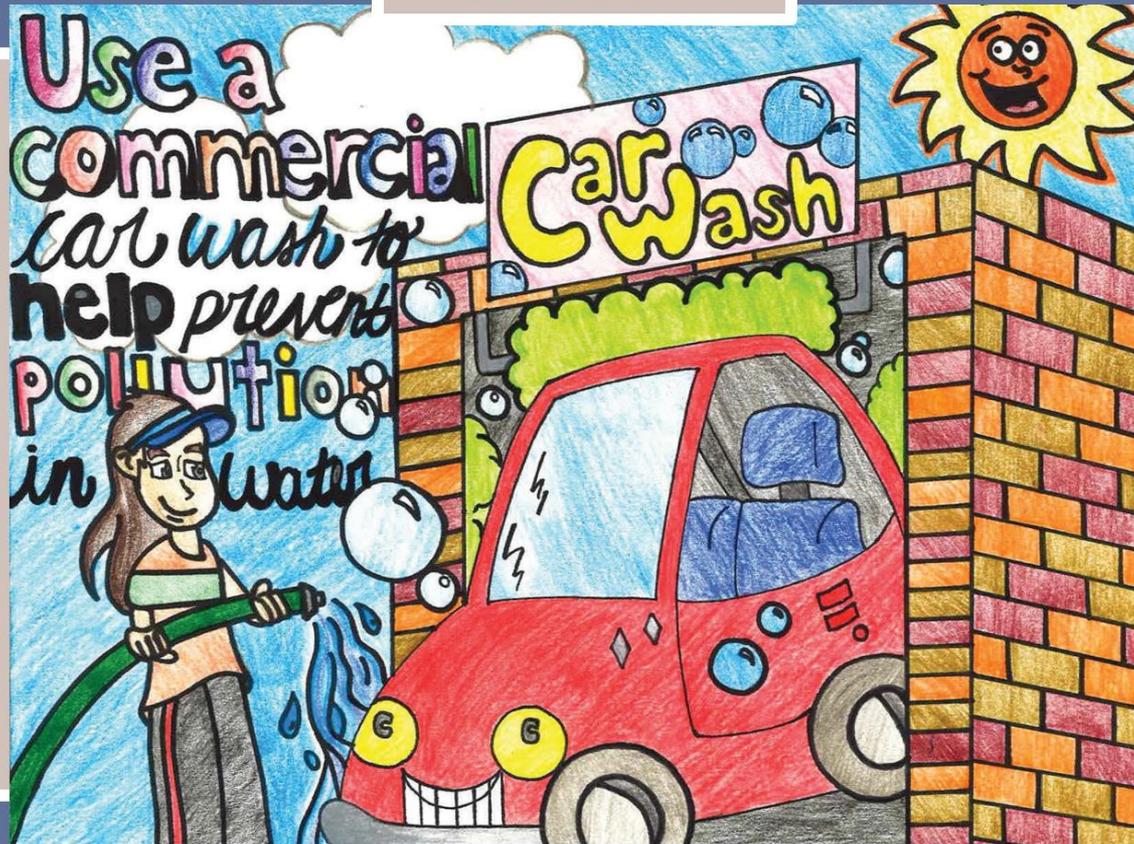
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Calendars – Large Utility

Water Resources Stewardship Through Art

Olympia (WA) Water & Stormwater
Erin Conine

2018 Calendar



Water Resources Stewardship Through Art

Stormwater Pollution Prevention & Water Conservation

Education & Outreach

- Partnership between the Drinking Water & Stormwater Utilities
 - Promote water conservation and stormwater pollution prevention best practices
- Developed 12 key messages
- Solicited entries from Olympia middle school students
- \$50 Amazon gift card, a pizza party and City Council recognition
- Distributed 500 calendars

Key Messages

1. Install high-efficiency toilets
2. Take shorter showers
3. Don't let the water run
4. Be a leak detector – find & fix
5. Water landscapes early or late
6. Install a rain barrel
7. Only rain down the storm drain
8. Use a commercial car wash
9. Scoop, bag & trash pet waste
10. Practice natural lawn care
11. Don't drip & drive – fix vehicle leaks
12. Report spills – call the spills hotline



» Artist: Carol Kamerath, Age 12, Grade 6, Washington Middle School



October

Install a Rain Barrel » Help reduce stormwater flow; you can collect about 55 gallons of water per rain barrel to use in your garden.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
»	1	2	3	4	5	6
7	8 <small>Columbus Day</small>	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31 <small>Halloween</small>	»		



City Council Recognition



olympiawa.gov/waterwise



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Video of Sound Production – Large Utility Game of Seasons

Tualatin Valley Water District
Andrea Watson

Game of Seasons



TVWD: Game of Seasons PSA

- Strengths

- Strong Message – customer engagement in winter preparedness
- Showcase talents of staff – Field Customer Service and Customer Service working with Communications (video script, cast and voiceover)
- Measurable distribution
- Customer engagement in social media channels
- <https://youtu.be/htlLxCjEb4I>



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Strategic Communication Plan – Large Utility (2nd Year in a row!)

Gold Plan: TVWD's Cross Connection Program

Tualatin Valley Water District - Frank Reed

Plan meets the “Public education required by drinking water regulations” and “Writing and executing strategic plans for regulatory compliance” continuing education unit (CEU) criteria.

TVWD: Gold Plan Program Communications Plan

- Increase the number of customers who comply with cross connection monitoring
- Reduce the number of customers who face consequences for failure to comply with cross connection monitoring

Thank you

for participating in
Tualatin Valley Water District's Gold Plan





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Strategic Communication Plan – Small Utility City of the Dalles Cyanotoxin & Communications Plan Consumer Confidence Report – Small Utility

City of The Dalles - Jill Hoyenga

Plan meets the “Public education about harmful algae blooms (HABs) and other water source concerns” and “Writing and executing strategic plans for emergency response” continuing education unit (CEU) criteria.

Both projects meet the “Public education required by drinking water regulations” continuing education unit (CEU) criteria.

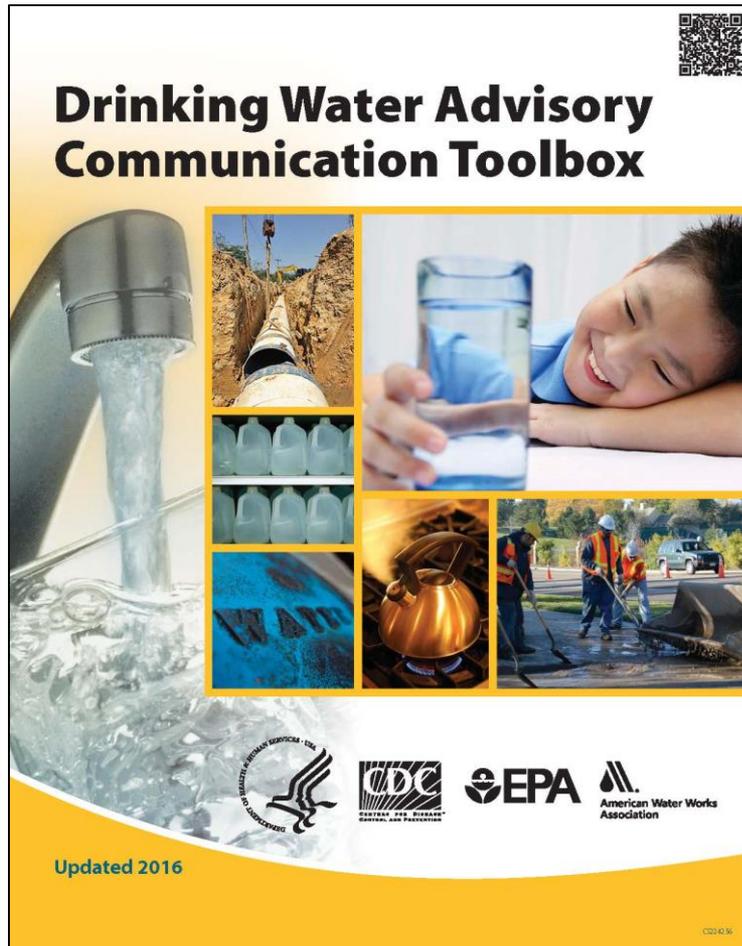
Yikes! Salem!

- Started the Cyanotoxin Communication and Action Plan in May 2018 due to Salem crisis
- Closed watershed 90% of The Dalles source water
 - No major nutrient sources
 - No recreational water testing
 - Active monitoring for algae for decades (taste and odor)
 - Powder activated carbon in stock for decades (unused)
 - Have budgeted for cyanotoxin testing for the last several years (not needed)



The Dalles Municipal Watershed –
Crow Creek Reservoir

No OHA Yet-Turned to CDC & EPA



- Past editions focused solely on boil water advisories
- 2016 edition included do not drink advisory FAQ
 - Mainly due to algal blooms in Ohio
- EPA Cyanobacteria and Cyanotoxins Fact Sheet
- OHA was aligned with CDC and EPA so minimal edits when rule became effective in December 2018

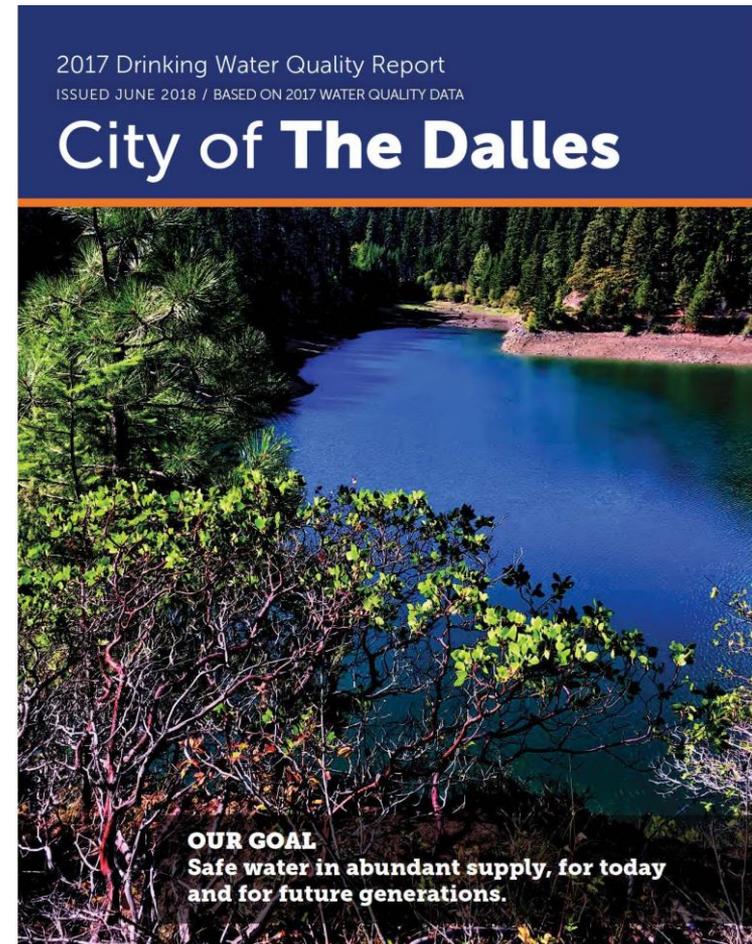
Outreach to Potential Partners

- The usual alphabet soup for any water emergency
 - OHA & DEQ
 - County Emergency Manager
 - Public Health Department
 - Department of Agriculture
 - Critical customers
 - Hospital
 - Dialysis center
 - Jail
 - Bottled water company
 - Ice making company
- MEDIA

- Vulnerable Populations
 - Seniors & People with Disabilities Statewide Safety Manager Office
 - Homebound individuals, foster care and nursing homes
 - Oregon Department of Education Early Learning Division – The Dalles
 - Childcare Resource & Referral CGCC
 - Family home childcare, childcare centers, preschool programs, Head Start, Oregon Childcare Coalition

2017 Water Quality Report

- All required content
- Short feature: Emergency preparedness
 - OEM 2 Weeks Ready Infographics
- Long feature: Natural Hazard Mitigation Plan
 - Water system resiliency
- Safe Water Partnership Director's Award





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Wild Card – Large Utility

How to Access Water from Your Water
Heater Doorhanger and How-to Video

Regional Water Providers Consortium

Bonny Cushman

How to Access Water From your Water in an Emergency

WILD CARD WINNER FOR OUTREACH MATERIALS



REGIONAL WATER PROVIDERS CONSORTIUM

Regional Water Providers Consortium

- Programs:
 - Regional Coordination
 - Conservation
 - Emergency Preparedness
- Serves:
 - Clackamas, Multnomah, and Washington Counties
 - 80% of drinking water
- 22 Water Provider Members
- Funding: Membership dues
- One vote per member



Emergency Preparedness Campaign

Entry included a how to video & accompanying print piece.

Other campaign elements:

- TriMet Bus Ads
- Television campaign
- Website, social media
- Other print materials



Emergency Preparedness Campaign

Stats:

- 11.8k views
- Print materials distributed by water provider members and local counties
- Translated into 10 languages

Hang on your water heater!

How to access water from your water heater during an emergency

In an emergency, such as a severe winter storm or an earthquake, your home's water service may be temporarily unavailable.

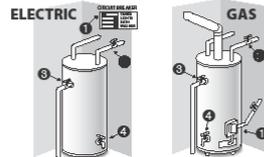
If that occurs, your home's water heater could provide you with 30-80 gallons of water for drinking, cooking, and hygiene. (Tankless heaters do not provide this option.)

Before accessing water from your water heater:

- **Locate your water heater:** Typically water heaters are located in the basement or garage of free-standing homes, and in closets of apartments and manufactured homes.
- **Determine what type of water heater you have:** Most water heaters are powered by electricity or natural gas. Natural gas water heaters typically have a vent on the top, a pilot light, and a gas line located at the bottom.

Instructions for accessing water from your water heater:

- 1 **Turn off your water heater's power source.** This step is crucial to ensuring your safety. You may want to keep a flash light, safety goggles, gloves, and a screw driver in a location that is easily accessible.
 - **Electric water heaters:** Shut off your water heater's power by flipping the correct switch on your electrical panel. (Taking the time to correctly identify the correct circuit breaker beforehand is recommended.)
 - **Natural gas water heaters:** Locate the on/off switch on the water heater and turn the knob to the pilot setting – do not turn it completely off.
- 2 **Turn off your water heater's water supply.** Locate the water shut-off valve and turn it clockwise until it stops. This valve is typically located on the top of the water heater.



Steps 3 and 4 on reverse side.





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Internal Communications – Large Utility COB 2016/17 Annual Report

City of Bend
Julie Price

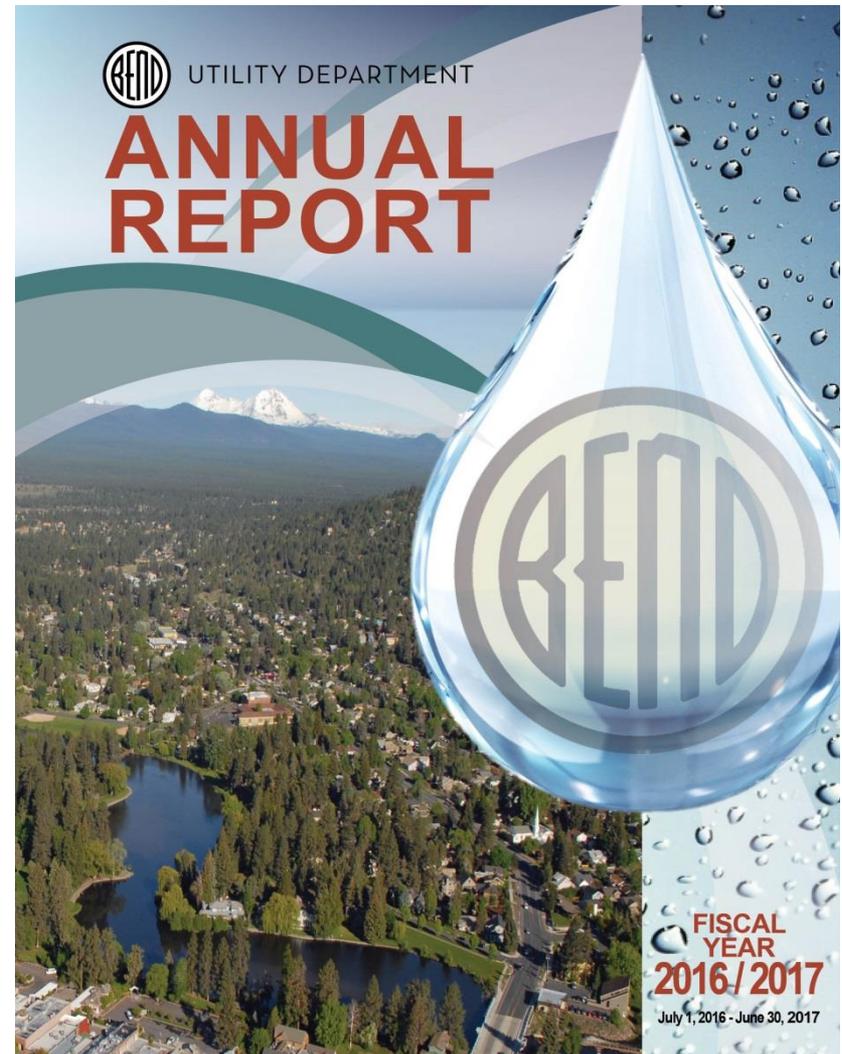
Annual report meets the “Public education or internal communication materials developed by/for operators” continuing education unit (CEU) criteria.

IMPLEMENTING CITY GRAPHIC STANDARDS WITH CREATIVE DESIGN



- Our Target Audience
 - City Council
 - City Manager
 - Senior Management Team
 - Colleagues
 - Other City Department
 - Internal Customers

Designing to our audience's taste and appeal





MAKING INFO FLUID

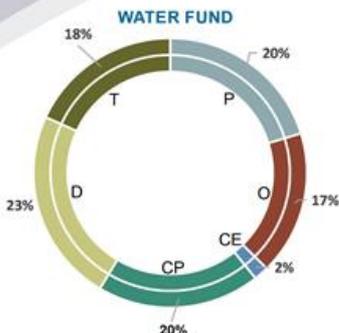
- Water theme
- Graphic standards
- Circle graphs
- Action art
- Pictures and ambiance

WHO WE ARE | SERVICE AREAS, DIVISIONS & PROGRAMS

Within the City of Bend Utility Department, there are nine divisions: Water Resources, Water Operations, Repair and Replacement, Collection System, Water Reclamation and Treatment, Environmental Compliance, Instrumentation Controls and Electrical, Project Management and Support Services. These nine divisions incorporate four service areas of the utility: Water, Wastewater, Stormwater and Administration.



Together these programs are part of one utility, providing services that help Bendites take care of their lives, families and jobs.



- **Personnel (P):** Direct salaries and benefits for Utility employees
- **Operating Supplies (O):** Non-capital supplies and services needed to maintain the existing Utility infrastructure
- **Capital Equipment (CE):** Equipment, parts or vehicles over \$5,000
- **Capital Projects (CP):** Replacement or new infrastructure that extends the life, expands the capacity and/or meets regulatory requirements of the system
- **Debt Service (D):** Annual principal and interest payments on the debt issued to fund major capital projects
- **Transfers (T):** Money transferred to internal services within the City that support the Utilities (Engineering, Finance, HR, IT, etc.)

WATER

Water Operations and Maintenance

- Water Treatment
- Water Sampling
- Reservoir Maintenance
- Hydrant Flushing
- Data Collection
- Membrane Filtration Rack Maintenance
- Pressure Regulating Valve Inspection

Water Resources

- Water Rights
- Watershed Management
- Water Supply Planning and Partnerships

WATER

Water Resources/Conservation (WaterWise Program)

- Sprinkler Inspection
- Large Landscape
- Water Waste Prevention
- Curbing the Flow
- Indoor Water Conservation

Water Quality

- Safe Drinking Water/Backflow

Wastewater

- Treatment
- Biosolids Management
- Recycled Water Use
- Groundwater Monitoring Plan

WASTEWATER

Collection System

- Flow Monitoring
- Line Cleaning and Pipe Inspection
- Odor Control
- Lift Station Operations & Maintenance

Industrial Pretreatment (IPP)

- Industry Monitoring
- Brewery Monitoring
- Fats, Oils and Grease
- Auto Shop Monitoring
- Extra Strength
- Special Projects - Local Limits - pollutants into the WRF



STATS AND NUMBERS



LIFECYCLE OF OUR WATER START TO FINISH

WE ARE ONE WATER



Photo Credit - Cascade Mountains - ©2008 Dustin Mitsch / Alpen Exposure



Heidi Lansdowne Intake Facility on Bridge Creek



Water Filtration Facility



Water Control Center



Water Reclamation Facility

WATER

Water Operations

- **4.7 billion** gallons of high quality drinking water produced*
- **2,908** fire hydrants inspected and maintained
- **776** meter boxes installed for new construction

Safe Drinking Water

- **29,720** backflow assemblies on City water connections
- **23,156** backflow tests received*
- **454** residential meters were upgraded and premise isolation backflow assemblies were added

Water Conservation

- **238** indoor water conservation kits sent to utility customers
- **212** sprinkler inspections
- **86** customer water waste complaints investigated

ADMINISTRATION

Customer Service

- **9,067** line locates performed
- **4,288** calls to the Utility Call Center

Safety & Training

- **29%** reduction in on the job accidents

COMBINED SERVICE AREAS

Laboratory



STORMWATER

Stormwater Operations

- **502** yards of stormwater debris removed from catch basins and UICs
- **12,203** storm drains cleaned and inspected
- **5,848** drywells cleaned and inspected
- **18** drill holes reconditioned to solve flooding issues in troubled areas



WASTEWATER

Collections

- **61** miles of gravity sewer main cleaned
- **20** miles of sewer main Closed Circuit Television (CCTV) inspected

WRF Recycled Water

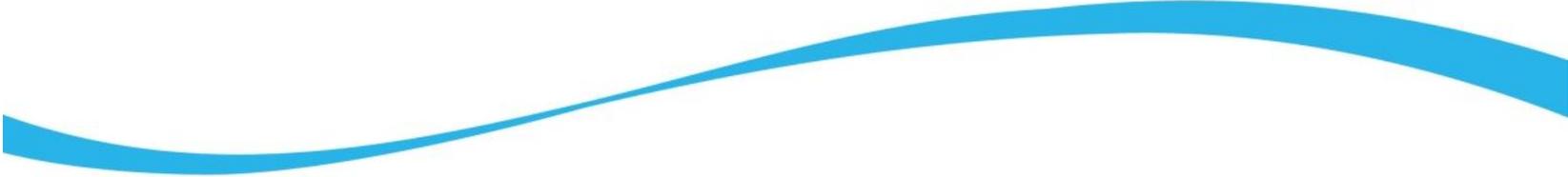
- **2.2** billion gallons of wastewater treated
- **106** million gallons recycled water produced for irrigation
- **2,318** cu. yds. of biosolids produced for soil amendments on local farms crops

- Designed to show we were busy
- Color compliments
- Consistent messaging
- Vibrancy and variety



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Best of Show!

Consumer Confidence Report – Large Utility

City of Gresham
Robin Pederson

The 2018 Drinking Water Quality Report meets the “Public education required by drinking water regulations” continuing education unit (CEU) criteria.



2018

Drinking Water
Quality Report



CITY OF GRESHAM, OREGON GOING BEYOND

Message from Your Water Provider

In March, people around the world observed World Water Day, a United Nations effort engaging citizens to speak up about why clean, safe, reliable water is important in our daily lives. The drought in Cape Town, South Africa serves as a clear warning to other cities across the world on the importance of water conservation.

Like Oregon, Cape Town experiences warm, dry summers and relies on capturing winter rains behind dams in the nearby mountains to replenish its supply. In 2018, three consecutive years of drought forced Cape Town officials to announce plans for “Day Zero,” which was the day the water supply was predicted to run out. Thanks to mandatory conservation measures, daily usage was reduced, and if drought conditions persist, Day Zero will occur in April 2019.

Gresham takes our responsibility to provide an abundant supply of clean and safe water seriously. While we’re fortunate, through

the Bull Run Watershed and Columbia South Shore and Cascade Wellfields, to enjoy an abundance of quality drinking water, we remain mindful that several years of drought would stress those supplies.

And so, we continue to implement important water conservation efforts such as free water-saving kits, including efficient showerheads and faucet aerators. Residents can order free leak detector dye tablets and may qualify for cash rebates when replacing old toilets with high-efficiency, water-saving toilets. I encourage you to visit GreshamOregon.gov/Water-Conservation for details and tips on how you can conserve water.

Thank you for helping us protect and conserve this precious resource for future generations.

Andrew C. Degner
Water Resources Operations Manager
 City of Gresham
 503-618-2525

Resiliency Projects

In 2016, the City of Gresham applied for and was awarded Urban Area Security Initiative grant funds to purchase a Portable Water Pipeline System for temporary water system connections.

In a state of emergency, a portable water pipeline would enable a quick response to bridge water system breaks to hospitals, staging areas, shelters, and other designated facilities, ensuring that even though a section may be shut down, water could and would still be delivered. The pipe is stored on trailer-mounted, motorized hose reels for easy transport and rapid deployment.



Drinking Water Sources

The Bull Run Watershed

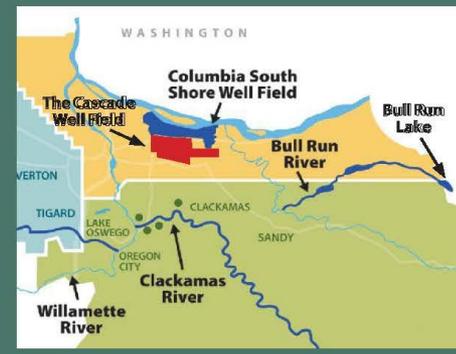
is Gresham’s primary source of drinking water, located in the Mt. Hood National Forest. This federally-protected watershed is carefully managed by the Portland Water Bureau to sustain and supply clean drinking water to a quarter of Oregon’s population. Rain and snow, averaging 135 inches per year, flow into the Bull Run River and then into two reservoirs that store 10 billion gallons of drinking water. The Bull Run is an unfiltered drinking water source. Portland Water Bureau is currently working to construct a drinking water filtration plant by September 2027. A Source Water Assessment completed in 2003 is available at www.portlandoregon.gov/water/sourcewaterassessment or call 503-823-7525.

The Columbia South Shore Well Field

provides high-quality drinking water from 26 active wells located in three different aquifers. This second largest water source in Oregon can produce up to 95 million gallons of water per day and is used to supplement, or as an alternative to, the Bull Run supply during routine maintenance, turbidity events, emergencies, and when the Portland Water Bureau needs additional summer supply. In collaboration with Portland and Fairview, we work with businesses in the well field area to prevent hazardous material spills that could seep into the ground and impact groundwater. To learn more about this joint protection program, visit www.portlandoregon.gov/water/groundwater or call 503-823-7473.

The Cascade Well Field

is jointly owned and operated by Gresham and Rockwood Water People’s Utility District. The wells are primarily used during the summer months to supplement our supply from Portland. This groundwater is from the Sand and Gravel Aquifer, located approximately 600 feet below the surface. Access to groundwater helps Gresham to manage both water expenses and water quality. The City works with Gresham and Fairview businesses to protect this important investment. For more information about the Cascade Well Field or our Groundwater Protection Program, contact the City at 503-618-2525.



Map provided by Regional Water Providers Consortium.



Emergency Preparedness

People can survive for weeks without food, but only a few days without water. Following a disaster, clean drinking water may not be available. Your regular water source could be cut off or compromised through contamination. Prepare yourself by building a supply of water that will meet your family's needs during an emergency. Store a minimum of one gallon per person for three days, for drinking, cooking and sanitation. Try to store a two-week supply, if possible.

The City of Gresham will be selling three-gallon water bottles for \$5 each (cash only) to residents from 11 a.m.-4 p.m. during the City Fest event at Gresham City Hall on September 8, 2018.

For more information visit GreshamOregon.gov/Emergency-Preparedness



The City of Gresham

is a member of the Regional Water Providers Consortium.

The Consortium and its 20 water provider members have worked together for

more than 20 years on projects that increase the resiliency of the region's water systems.

For example, last fall, Consortium members participated in an exercise that tested a regional interconnections mapping tool to see how water could be moved between water systems during an emergency. Find out more about how the Consortium provides leadership in the planning, management, stewardship, and resiliency of drinking water in the region at www.regionalh2o.org.



Learn More

You'll find information about these topics and more at GreshamOregon.gov/Water-Resources

- Emergency Resilience
- FREE Testing for Lead
- Groundwater Protection
- Toilet Rebates
- Utility Billing and Rates
- Water Conservation
- Water Quality

Special Notice to Immuno-Compromised People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about

drinking water from their health care providers. Environmental Protection Agency Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the **Safe Drinking Water Hotline at 800-426-4791. See page 9 for more information on *Cryptosporidium*.**

Translation

Do you need this document translated into another language? Please call 503-618-2525.

Public Participation

Interested in opportunities for public participation?

Please visit GreshamOregon.gov/Council-Meetings

GreshamOregon.gov/Council-Citizen-Advisory-Committees



Untreated Source Water from the Bull Run Watershed

Regulated Contaminant	Minimum Detected	Maximum Detected	Maximum Contaminant Level (MCL), Treatment Technique (TT) or Maximum Residual Disinfectant Level (MRDL)	Maximum Contaminant Level Goal (MCLG) or Maximum Residual Disinfectant Level Goal (MRDLG)	Sources of Contaminant
Turbidity (NTU)	0.20	3.06	5	N/A	Erosion of natural deposits
Fecal Coliform Bacteria (% > 20 colonies/100mL for 6 months)	Not Detected	1.6%	10%	N/A	Animal wastes
Giardia (#/1L)	Not Detected	0.27	TT	N/A	Animal wastes

Treated Drinking Water from Bull Run Watershed and the Columbia South Shore Well Field and Cascade Well Field Entry Points to Distribution System

Regulate d Contaminant	Minimum Detected	Maximum Detected	Maximum Level (MCL)(MRDL)	Maximum Level (MCLG)(MRDLG)	Sources of Contaminant
Arsenic(ppb)	<0.50	0.94	10	0	Found in natural deposits
Barium (ppm)	0.00073	0.016	2	2	
Copper(ppm)	<0.00050	0.00101	N/A	1.3	
Fluoride (ppm)	<0.025	0.160	4	4	
Lead (ppb)	<0.05	0.11	N/A	0	
Nitrate Nitrogen (ppm)	0.013	0.140	10	10	Natural aquifer deposits; Animal wastes

Treated Drinking Water from Points Throughout the Distribution System of Reservoirs, Tanks and Mains

Haloacetic Acids (1 Site /ppb)	16.7	50.9	60	N/A	Byproduct of drinking water disinfection
Locational Running Annual Average (All Sites/ppb)	31.8				
Total Trihalomethanes (1 Site /ppb)	14.4	47.4	80	N/A	Byproduct of drinking water disinfection
Locational Running Annual Average (All Sites/ppb)	30				
Total Chlorine Residual (ppb)	0.01	2.19	4	4	Chlorine/ammonia disinfection

Untreated Source Water from Bull Run Watershed and the Columbia South Shore Well Field and Cascade Well Field

Deregulated Contaminant	Minimum Detected	Average Detected	Maximum Detected	Sources of Contaminant
Radon (pCi/L)	<50	165	530	Found in natural deposits
Sodium (ppm)	3.3	3.3	12.0	



Definitions

Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level or MRDL - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal or MRDLG - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Nephelometric Turbidity Units or NTU - The unit of measurement of turbidity or cloudiness in water as measured by the amount of light passing through a sample.

Part per Million (ppm) - One part per million corresponds to one penny in \$10,000 or approximately one minute in two years. One part per million is equal to 1,000 parts per billion.

Part Per Billion (ppb) - One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2,000 years.

Picocuries Per Liter - Measurement of radioactivity. One picocurie is one trillion times smaller than one curie.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation.

Notes On Contaminants

Arsenic, Barium, Fluoride and Vanadium – These metals are elements found in the earth's crust. They can dissolve into water that is in contact with natural deposits. At the levels found in Gresham's drinking water, they are unlikely to contribute to adverse health effects.

Disinfection Byproducts – During disinfection, certain byproducts form as a result of chemical reactions between chlorine and naturally occurring organic matter in the water. These byproducts can have negative health effects. Trihalomethanes and haloacetic acids are regulated disinfection byproducts that have been detected in Gresham's water. Adding ammonia to chlorine results in a more stable disinfectant and helps to minimize the formation of disinfection byproducts.

Fecal Coliform Bacteria – The presence of fecal coliform bacteria in source water indicates that water may be contaminated with animal wastes. The Portland Water Bureau uses chlorine to kill these bacteria.

Giardia – Wildlife in the watershed may be hosts to Giardia, the organism that causes giardiasis. The Portland Water Bureau uses chlorine to control these organisms.

Lead and Copper – There is no maximum contaminant level (MCL) for lead and copper at the entry point to the distribution system. The main source of lead and copper is the corrosion of building plumbing. Lead and copper are tested at customers' taps where levels are the highest. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. For more information, see Reducing Exposure to Lead on page 10.

Nitrate /Nitrogen – Nitrate, measured as nitrogen, can support microbial growth (bacteria and algae). Nitrate levels exceeding the standards can contribute to health problems. At the levels found in Gresham's drinking water, nitrate is unlikely to contribute to adverse health effects.

Radon – Radon is a naturally occurring radioactive gas that cannot be seen, tasted or smelled.



Radon can be detected at very low levels in the Bull Run water supply, and at varying levels in Portland's groundwater supply. Based on the historical levels of radon in groundwater combined with the limited amount of groundwater used, radon is unlikely to contribute to adverse health effects. For information about radon, visit www.epa.gov/radon or call the EPA's Radon Hotline at 800-SOS-RADON.

Sodium – There is currently no drinking water standard for sodium. Sodium is an essential nutrient. At the levels found in drinking water, it is unlikely to contribute to adverse health effects.

Total Chlorine Residual – Total chlorine residual is a measure of free chlorine and combined chlorine and ammonia in our distribution system. Chlorine residual is a low level of chlorine remaining in water and is designed to maintain disinfection through the entire distribution system.

Total Coliform Bacteria – Coliforms are bacteria that are naturally present in the environment. They are used as an indicator that other potentially-harmful bacteria may be present. The Portland Water Bureau uses chlorine to kill these bacteria.

Turbidity – Turbidity is a measure of the water's clarity. Increased turbidity is typically caused by large storms that suspend organic material in our source water. This can interfere with disinfection and provide an environment for microbial growth. When turbidity rises, Gresham has two groundwater supply options.

What the EPA Says About Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's (EPA) Safe Drinking Water Hotline** at 800-426-4791 or at www.epa.gov/safewater.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in drinking water sources may include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from wildlife or septic systems.
- **Inorganic contaminants**, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources, such as farming, urban stormwater runoff, and home or business use.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive contaminants**, which can occur naturally.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and requires monitoring for these contaminants.

Monitoring for *Cryptosporidium*

The Portland Water Bureau (PWB) does not currently treat for *Cryptosporidium*, but is required to do so under the drinking water regulations. PWB is working to install filtration by 2027 under a compliance schedule with Oregon Health Authority. In the meantime, PWB is implementing interim measures such as watershed protection and additional monitoring to protect public health. Consultation with public health officials has concluded that at this time, customers do not need to take any additional precautions.

Exposure to *Cryptosporidium* can cause cryptosporidiosis, a serious illness. Symptoms can include diarrhea, vomiting, fever, and stomach pain. People with healthy immune systems recover without medical treatment. According to the Center for Disease Control and Prevention (CDC), people with severely weakened immune systems are at a higher risk. Symptoms may be more severe and could lead to serious life-threatening illness. Examples of people with weakened immune systems include those with AIDS, those with inherited diseases that affect the immune system, those with cancer, and transplant patients who are taking certain immunosuppressive drugs.



The Environmental Protection Agency has estimated that a small percentage of the population could experience gastrointestinal illness from *Cryptosporidium* and advises that customers who are immunocompromised and receive their drinking water from the Bull Run Watershed consult with their health care professional about the safety of drinking tap water.

Reducing Exposure to Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. These materials include lead-based solder used to join copper pipe—commonly used in homes built or plumbed between 1970 and 1985—brass components, and faucets.

The City of Gresham is responsible for providing high quality drinking water to more than 70,000 people, but cannot control the variety of materials used in plumbing components. The City removed all known lead service connections from the water distribution system and has never used lead service lines.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking.

If you are concerned about lead in your water, the City encourages you to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from

• **Leadline, 503-988-4000,**
www.leadline.org

• **Safe Drinking Water Hotline,**
1-800-426-4791, www.epa.gov/safewater/lead

**FREE
LEAD TEST
KITS**

FREE LEAD TEST KITS, and steps you can take to minimize exposure are available from **Leadline, 503-988-4000,** www.leadline.org

2017 Results of *Cryptosporidium* Monitoring at the Raw Water Intake

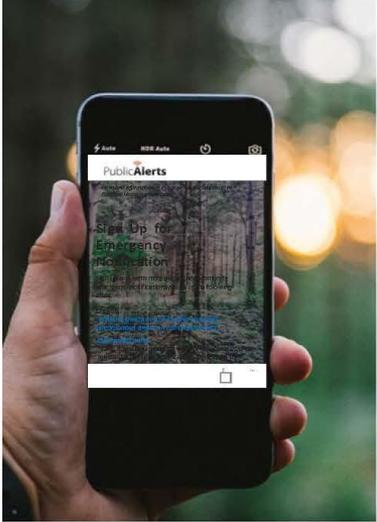
Number of Samples	Total Volume (L)	Detections (ooocysts)
378	11,511.9	48



Lead and Copper Sampling at High-Risk Residential Taps

90th% Values	# Sites Over Action Level (AL)	Rule Exceedance	MIG	Typical Source
Lead 16 ppb	8 of 70 samples (11.4%) exceeded AL (15 ppb)	Over 10% of homes tested had levels > 15 ppb	0 ppb	Corrosion of household and commercial plumbing systems
Copper 0.25 ppm	0 of 70 samples 0%	Over 10% of homes tested had levels > 1.3 ppm	13 ppm	





Sign Up For PublicAlerts

PublicAlerts is a communication system connecting residents to real-time information. The system can reach any number of Multnomah County residents when fast, effective communication is essential to their safety.

Most landline phone users with published numbers are already included in the system.

Cell phone users who wish to receive notifications must register their numbers at PublicAlerts.org.

Here are some examples of emergencies that may activate the PublicAlerts notification system:

Earthquake | Water main breaks or other service outages | Major landslide | Flooding
Large fire | Public health emergency | Boil water notice | Severe weather event | Volcanic eruption
Hazardous material spill | Hostage or terrorist event

PublicAlerts Frequently Asked Questions

What types of emergency notifications can I expect to receive?

The telephone number(s) you register will receive notification only when their associated addresses are impacted by an emergency.

Are there others ways to receive emergency notifications?

Yes, PublicAlerts is one among several methods of emergency communication. City and County officials still work closely with traditional broadcast and print media to reach the public.

For more information about the City of Gresham's efforts regarding emergency resilience, visit our website at

[GreshamOregon.gov/
Emergency-Management](http://GreshamOregon.gov/Emergency-Management)



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Christine Blystone
City of Gresham



American Water Works Association
Pacific Northwest Section

2019
Excellence in
Communications
Award

**Winners! Please step to the
“photo booth” for your picture.**

**Guests! Please step over to the table to get your next
great idea from all of our award submittals.**

**Stand up committee meeting and bubbly
12noon – 12:30 p.m.**