

the Pipeline

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Oregon Drinking Water News

Oregon's Drinking Water Program

by David Emme

After living and working for many years in northern Nevada, I joined Drinking Water Services as manager in February 2017. It's been an interesting 11 months and I'd like to share some observations so far.

Public concern is high.

In many respects, public water supplies have never been safer. Yet, the failures in Flint, Michigan, and issues with lead in school drinking water have shaken the public trust on a national level. In a 2016 Kaiser Family Foundation poll, Americans ranked the top health issues facing the nation as cancer, heroin abuse and **contaminated drinking water**, which ranked higher than diabetes or heart disease! Only 36% of those polled think the federal government is doing a good job protecting the water supply. Confidence in state government is higher, with 54% thinking the state is doing a good job protecting water. Still, nearly half have a negative view.

We can only uphold the public trust if we all do our jobs competently, respond to public concerns quickly and, when there are

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Loss of water system pressure requires a boil water advisory

by Michelle Byrd

A loss of water system pressure from a waterline break, power outage or equipment failure can happen at any time. When waterlines are no longer pressurized, contaminants in the soil can enter the water supply through leaky pipes, valves or other components. If the water system experiences any loss of pressure, contact your regulating agency to discuss the extent of pressure loss, outage duration, customer notification process and when normal operation will resume.

If there is a water outage in a portion or the entire service area, the water supplier is required to issue a public notice instructing consumers to boil their water before use. The notice is sent to people served in the affected area as soon as practical within 24 hours of learning of the situation. You can download a template with suggested content and delivery instructions from the DWS website. Once water pressure is restored and other corrective measures are done, collect the necessary number of coliform bacteria samples to

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Visit Oregon Drinking Water Services at <http://healthoregon.org/dwp>

problems, share what we know, when we know it. Since I've been here, I have been truly impressed with the quality and dedication of our staff. This program attracts people who are committed to protection of public health. I have also been impressed with the accessibility of information about water systems through our public website and Data Online (<https://yourwater.oregon.gov>). Oregon does a good job of being responsive and transparent.

Partnerships are imperative.

Oregon has many public water systems, including 2,500 that meet the SDWA thresholds and 900 very small state regulated systems. Drinking water regulations are complex and the cost of compliance can be high, yet most of Oregon's public water systems are small, serving fewer than 500 people — this means the State staff can't do it alone. We rely heavily on partnerships with county health departments, the Department of Agriculture, Oregon DEQ, ORLAP, the Infrastructure Financing Authority, technical assistance contractors and operators of public systems. It's not always perfect, but these partnerships are essential to our program and our effort to ensure safe drinking water.

Sustainable resources are needed.

The drinking water program has been on a bit of roller coaster over the last decade. After staffing up in 2007 with an additional 11 positions and reaching a peak in 2009, the program has since lost 35% of its staff due to revenue constraints. Federal grants, which support two thirds of our costs, have been flat for many years and eroded by higher personnel costs. State general fund revenue faces many competing demands. Although fees were raised in 2015, these funds have not fully filled the gap. Survey fees only contribute 5% of our revenue. The strain on our staff, managers and county partners is noticeable and we can't continue this erosion. While we all recognize the need to prioritize and adapt to limited resources, we also need a sustainable base program.

In the near term, we have used DWSRF set-asides to stabilize the program. The EPA allows states to set aside up to 31% of DWSRF capitalization grants to fund specific program functions. In the past Oregon has not taken the full amount, resulting in "banked" set-aside authority that can be taken in future grants. This allows better program support, but reduces funds available for loans. Using banked set-aside authority provides a stop-gap, but it's not sustainable. Longer term, we will look to the 2019 legislative session to restructure survey fees to provide a more sustainable future for the program. We hope to earn the support of our many partners and of our citizens who depend on the integrity of our regulatory program to protect public health.

David Emme is manager of Drinking Water Services. Contact him at 971-673-0415 or david.h.emme@state.or.us.

Beef up your budget with better planning

Print our 6 online handouts to help organize your budget in 2018 at healthoregon.org/dwcapacity.

We worked with water system financial planning experts to organize the critical aspects of how to budget and plan your water system's future. A water system providing high quality water can't do so for long without good financial planning to assure sustainable service to the community. Don't lose your battle against time! Plan for tomorrow with these six easy handouts.

You can also call our financial experts at Business Oregon or visit our website to find a curated list of online resources. Plan today for your water system's future financial success!

Loss of water system pressure... continued from page 1

confirm the water is safe. It is important to consult with your regulating agency before lifting the boil water advisory to determine if further action is needed.

The Drinking Water Advisory Committee has developed guidelines for water systems on best management practices (BMPs) for service outages due to reduced pressure events. The public notice template and BMPs are available on the water system operations page (<http://healthoregon.org/operations>).

Michelle Byrd is a field sanitarian in the Technical Services Unit for Drinking Water Services. Contact her at 971-673-0425 or michelle.p.byrd@state.or.us.

Operator certification corner

by Dottie Reynolds

Starting Jan. 1, 2018, the Small Water System Operator Application will only require you to designate the operator in direct responsible charge (DRC). Although we encourage owners of public water systems to have backup operators in case of emergencies, the application will not collect information on additional operators and the small water system certificate will list only the approved DRC. Please go to healthoregon.gov/opcert to find the revised SWS application, SWS FAQ sheet, rules and much more! Be sure to look ahead on the OAWU website for the SWS basic training class nearest you. Thank you!

The 2017 renewal notices have been mailed. Those with last name initial L-Z are required to renew and submit the Self-Certification Affidavit proving the training taken between January 2016 and December 2017. The due date is Dec. 31, 2017. If you have retired, submit the termination form and you will not receive additional mailings from operator certification.

Dottie Reynolds is the Operator Certification Unit coordinator for Drinking Water Services. Contact her at 971-673-0426 or dottie.e.reynolds@state.or.us

Low-cost funding for drinking water system improvements

by Adam DeSemples

The Drinking Water State Revolving Fund (DWSRF) provides low-cost loans to community and nonprofit, non-community public water systems for planning, design and construction of drinking water infrastructure improvements. In Oregon, the DWSRF is often called the Safe Drinking Water Revolving Loan Fund (SDWRLF).

Help with funding

In addition to low-cost financing and favorable repayment terms, all projects receive part of the loan as principal forgiveness.

Projects we can fund

- Water sources, treatment, finished water reservoirs, pumping and transmission/distribution mains;
- Aquifer, Storage and Recovery (ASR) projects;
- Instrumentation, telemetry, water meter, AMR/AMI, backflow device and pressure reducing valve projects;
- Safety, seismic and security improvements;
- Projects that increase redundancy and reliability of critical assets;
- Water system restructuring and/or consolidation to resolve noncompliance or technical, managerial and financial problems;
- Planning and design in support of an eligible project, such as feasibility studies, master plans, design and environmental documents.

We also fund service line replacements

Funding assistance is available for complete service line replacements, regardless of pipe material or ownership of the property where the service line is located. Funding assistance can be used for service line replacement from

the public water main to the point it connects with premise plumbing.

Grant and loan funds are also available for:

- Sustainable Infrastructure Planning Projects (SIPP).
- Drinking Water Source Protection (DWSP) efforts.

Public notice reminder

You can find all public notices for comments on our DWSRF web page at <http://healthoregon.org/srf>.

- Quarterly (October, January, April, and July) notices: For infrastructure and planning (SIPP) projects.
- Annual (June or July) notice: For DWSP projects and the Intended Use Plan.

For more detailed information:

Visit the DWSRF web page at <http://healthoregon.org/srf>

Or contact:

- Adam DeSemple, Drinking Water State Revolving Fund Program coordinator, at 971-673-0422 or by email at adam.desemple@state.or.us; or
- Jon Unger, Business Oregon's Safe Drinking Water Program and Policy coordinator, at 503-507-7107 or by email at jon.unger@oregon.gov.

Source water assessment updates

by Tom Pattee

OHA Drinking Water Services (OHA) and our partners at Oregon Department of Environmental Quality (DEQ) are preparing updates to Source Water Assessment (SWA) reports for all community (C) and non-transient non-community water systems (NTNC). The purpose of a Source Water Assessment is to provide information to help public water system owners, consumers and others protect drinking water sources. Source Water Assessment reports contain the mapped source water area(s) for the water supply, an inventory of potential contaminant sources, an evaluation of source area sensitivity and an analysis of susceptibility to contamination. We hope you will use this information to work with your community to develop strategies that protect or improve future water quality for your water system.

Of the 163 C and NTNC water systems that own and operate surface water intakes or groundwater intakes considered to be under the direct influence of surface water (GWUDI), DEQ has completed fully updated SWAs for 50 coastal communities. At the same time, OHA has been focusing on updating delineated drinking water source areas and potential contaminant source inventories for roughly 950 C and NTNC groundwater systems that own and operate wells and/or springs. OHA has obtained accurate locations for 294 C and NTNC wells and springs, completed 216 preliminary drinking water source area delineations and produced 200 assessment updates. Other work included obtaining accurate locations for 341 wells and/or springs that serve as groundwater sources for transient non-community water systems.

Assessment updates for groundwater systems differ from updated SWA reports for surface water systems in that groundwater SWA updates focus on providing updated information on the potential contaminant

sources present inside the drinking water source area. Sensitivity and susceptibility are not updated but can be obtained from OHA upon request. The groundwater assessment update can be used with the original SWA report (which includes sensitivity and susceptibility evaluations) or as a stand-alone document. In addition to the updated potential contaminant source inventory, groundwater assessment updates identify what we (OHA and DEQ) believe may be higher priority potential contaminant sources within the drinking water source area and provide risk reduction management strategies for these. We also provide a series of useful maps, fact sheets and guides for creating and implementing protection strategies. You can find additional resources, including an internet-based drinking water protection interactive viewer, on DEQ's website: <http://www.oregon.gov/deq/wq/programs/Pages/dwp.aspx>.

Grant and loan funds for developing and implementing drinking water source protection strategies are available through the OHA Drinking Water Source Protection (DWSP) fund. Each year \$200,000 is available to help finance source protection projects. Loans to fund activities such as land purchases within highly sensitive drinking water source areas are available for up to \$100,000 and grants to fund development and implementation of protection strategies are available for up to \$30,000 per water system (see <http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/SRF/Pages/spf.aspx>).

Water systems have used DWSP grant funds for projects such as riparian area restoration work, public education about drinking water protection, water quality monitoring, heating oil tank removals, household waste collection events and refinement of drinking water source areas. Successful examples include:

- Clackamas River Water Providers used funds to install signs at parks and boat ramps in the lower Clackamas River to educate river users about how their actions

can affect water quality and what they can do to protect the drinking water source. They also used funds to hire a consulting firm to develop a GIS/Geodatabase tool to assess drinking water threats within their drinking water source area. See <http://www.clackamasproviders.org/watershed-programs/>.

- Columbia City refined their drinking water source area based on new groundwater pumping patterns and developed a state-certified drinking water source protection plan. See <http://www.columbia-city.org/menupages/departments/water.html>.
- City of Creswell used funds to work with the Coast Fork Willamette Watershed Council to develop a Drinking Water Protection Plan. See <http://www.ci.creswell.or.us/planning/page/drinking-water-protection-plan-public-comment>.

Letters of Interest can be submitted for 2018 Drinking Water Source Protection loans and grants in early 2018. Please see our website for more details: <http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/SRF/Pages/spf.aspx>.

Tom Pattee is the Groundwater Coordinator for Drinking Water Services. Contact him at 541-726-2587 ext. 24 or tom.pattee@state.or.us.

Make sure there are no bypasses around treatment plants

by James Nusrala

Some surface water and groundwater systems are designed for raw, untreated water to bypass the water treatment plant. Bypass transmission lines around surface water filtration, disinfection and chemical treatment plants are not allowed. A treatment bypass is a cross connection between non-potable, non-treated water and potable, treated water. Valves can leak without obvious signs. If you want the ability to bypass the treatment plant, there must be a physical separation in the bypass line (e.g., a cut and capped pipe with a removable pipe spool) to prevent non-potable water from being served to your customers. Closed valves or double block and bleed valves are not an acceptable form of physical separation and are not allowed for treatment plant bypasses.

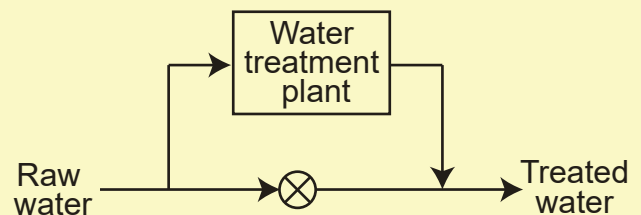
Bypasses are not allowed around the following:

- Filtration or any of the unit processes (coagulation, flocculation, sedimentation or filtration) or alternate treatment for surface water or groundwater under the direct influence of surface water (GWUDI)
- Ultraviolet light for pathogen inactivation
- Disinfection contact time chambers (clearwell or pipeline), if using for disinfection CT (Chlorine residual x contact Time), for any of the following:
 - All surface water or GWUDI sources
 - Confirmed *E. coli*-positive groundwater sources (wells or springs) requiring 4-log treatment or inactivation of viruses
- Treatment for maximum contaminant level exceedances for any of the following primary health-based contaminants:
 - Nitrate
 - Arsenic

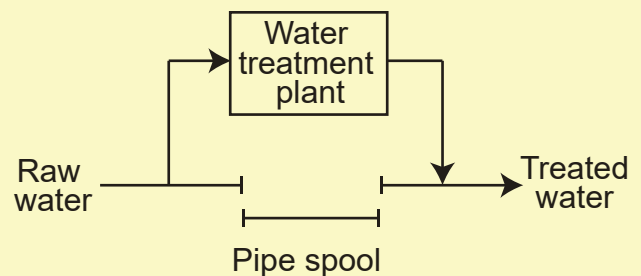
- Inorganic compounds
- Synthetic organic compounds
- Volatile organic compounds
- Radionuclides

See the illustration below of unacceptable and acceptable types of physical separation:

Not allowed: any number of valves



Allowed: physical separation



James Nusrala is a regional engineer in the Technical Services Unit of Drinking Water Services. Contact him at 971-673-0459 or james.b.nusrala@state.or.us.

Congratulations to our outstanding performers!

Jobs well done by the operators of these systems:

Water system name	County served
Alder Creek Barlow Water District	Clackamas
Arlington City Water Supply	Gilliam
Ashland Country Estates	Jackson
Avion Water Company – Chaparral	Deschutes
Avion Water Company – Cinder Butte Estates	Deschutes

Avion Water Company – Odin Falls Ranch	Deschutes	Ni-Lah-Sha Village Homeowners Association	Deschutes
Avion Water Company – South Redmond Heights	Deschutes	Oakwood Water System Inc.	Linn
Avion Water Company – Tetherow Crossing	Deschutes	Odell Water Company	Hood River
Bay Aire Mobile Home Park	Tillamook	Oregon City	Clackamas
Christmas Valley Domestic Water System	Lake	Parkdale Water System	Josephine
City Of Millersburg	Linn	Pioneer Mobile Home Park	Clackamas
Condon, City of	Gilliam	Pleasant Valley Water Company	Tillamook
Corvallis, City of	Benton	Ponderosa Pines Water Company	Deschutes
Deerhorn Community Water Association	Lane	Port Of Tillamook Bay	Tillamook
Eden Park Homeowners	Linn	Rainbow Park Mobile Home Park	Lane
Enterprise, City of	Wallowa	Raleigh Water District	Washington
Garibaldi Water System	Tillamook	Rogue Lea Estates – North/South	Josephine
Grand Prairie Water Supply Company	Linn	Siegler Cove Marina	Multnomah
Grants Pass, City of	Josephine	South Hills Water System	Washington
Green Oaks Mobile Ranch	Marion	Spray, City of	Wheeler
Halsey, City of	Linn	Springfield Utility Board	Lane
Heceta Water Peoples Utility District	Lane	Sublimity, City of	Marion
Highland Subdivision Water District	Crook	SW Lincoln County Water Public Utility District	Lincoln
Hiland Water Company – Fryer Hill	Yamhill	Union Gap Water District	Douglas
Idaho Power – Oxbow Village	Baker	Wamic Water Association	Wasco
Independence Water System	Polk	Western Wagon Village	Marion
Keizer, City of	Marion	Weston, City of	Umatilla
Kilchis Water District	Tillamook	Willow Glen Subdivision	Josephine
Klippel Water Inc.	Deschutes	Wilsonville, City of	Clackamas
Knoll Terrace Park	Benton	Woodland Mobile Home Park	Linn
Lamontai Improvement Water District	Lane		
Lazy Days Mobile Home Park	Lane		
Lone Oak Estates	Linn		
Long Butte Water System Inc.	Deschutes		
Long Prairie Water District	Tillamook		
Lowell, City of	Lane		
Malin Municipal Water	Klamath		
Milton-Freewater, City of	Umatilla		
Neahkahnie Water District	Tillamook		

These public water systems have most recently met the established criteria for outstanding performance (Nov. 17, 2016 – Dec. 27, 2017). Outstanding performers are systems with no significant deficiencies identified, as well as no unresolved violations. All systems are evaluated during their routine Water System Survey and those that meet the outstanding performer criteria have their survey frequency (and fee) reduced from every three years to every five years. To find out how to qualify, visit [http://public.health.oregon.gov/Healthy Environments/DrinkingWater/Operations/Pages/osp.aspx](http://public.health.oregon.gov/Healthy_Environments/DrinkingWater/Operations/Pages/osp.aspx).



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The following websites provide links to upcoming meetings and trainings related to drinking water.

Meeting calendar

Drinking Water Advisory Committee

▶ <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/members.aspx>

Cross Connection Advisory Board

▶ <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/CrossConnection/Pages/advisoryboard.aspx>

Training calendar

▶ <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/OperatorCertification/Pages/training.aspx>