



# H<sub>2</sub>Oregon

Spring 2024  
Vol. 46, No. 2

**46th Annual Management  
& Technical Conference  
Highlights**

**SUNRIVER, OREGON**

**30th Annual Summer  
Classic Conference  
coming up**

**AUGUST 19-22**

**SEASIDE, OREGON**

A publication of Oregon Association of Water Utilities  
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Spring 2024  
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Please mail your photo to our office. If we use your photo on the cover you will receive an official OAWU shirt and hat.

We are also seeking articles, clean jokes, Oregon trivia, letters and interesting stories.

Please send submissions (no more than two pages in length) to:

### Oregon Association of Water Utilities

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South Silver Falls by Diona Edwards

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**OAWU's mission is to provide  
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for Oregon water & wastewater  
utilities to meet the challenges  
of today & tomorrow.**



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# Association Growth

by Jason Green, Executive Director

The OAWU Board of Directors and Staff are excited to share with the Association Membership the conceptual plans below of the new OAWU Training Center. Twenty four years ago, the Association Board of Directors worked through and adopted the Association Long Range Plan that has guided us well for many areas. In that document were goals and plans to build a training center for the membership. Through the State Legislature and especially from support of the Oregon Water Caucus, we are excited to have received a \$1.6 million dollar grant that will make this long-range goal a reality. Currently, several of the Association staff have been involved in the old shop demolition; by mid-June we expect to have the old shop portion and its foundation/slab removed and site prepped for new construction to begin. We look forward to sharing this with you as we proceed. We hope to make this addition to the Association a great benefit to the membership for many years to come.

In addition to the training center, the Association also has added several new staff to the crew, increasing the total to 16 to better assist and serve the membership. We were also grateful recipients of one of the OHA-DWS Lead Service Line and the Small Water Operator Training (SWO) contracts, a grant program through Oregon to provide technical assistance and training targeting small water systems with 3,300 populations and less, and a new Oregon Apprenticeship two-year program. Thank you for your continued support! Wishing you a great and fruitful Summer! 💧





46TH ANNUAL

# Management & Technical Conference

SUNRIVER, OREGON



This year's conference was a great success, and we were blessed with a week of beautiful, cold weather. Many of the attendees were able to catch up with old friends and make new ones within the industry. OAWU staff enjoyed serving the members of the Association and providing assistance to those in need. Sunriver staff again provided genuine, friendly, excellent service, and great food.

The conference sessions were led off by Jason Green, OAWU Executive Director, Matt Johnson, OAWU Board President, and Russ Cooper, OAWU NRWA Director. They welcomed attendees, discussed the state of the Association, and provided an update on the issues the industry is facing at a national level. This was followed by Mark Landauer who presented an update of legislative issues at the state level.

The OAWU annual business meeting was held after class sessions ended on Tuesday. President Matt Johnson presided over the meeting as attending members heard committee updates and participated in board member elections. The slate of board members who were submitted by the Nomination and Development Committee and re-elected to the board were:

- Russ Cooper, City of Monmouth, Region 3, expires 2027
- Mike Edwards, City of Bend Region 1, expires 2027
- Joel Gehrett, Deschutes Valley Water Dist., Region 3, expires 2027
- Kriss Schneider, Schneider Equipment Inc., expires 2027
- Brad Jensen, City of Silverton, Region 3, expires 2027







At Wednesday's regular board meeting, annual officer elections for 2024 occurred. They are: Matt Johnson as President, Micah Olson as Vice President, and Craig Smith as Secretary/Treasurer. We would like to thank and recognize them for their leadership and service to OAWU.

Many attendees were present at the awards banquet on Wednesday evening, and several visiting attendee families joined us. The roast and salmon were great, we had a magician for entertainment and many good conversations could be heard throughout the Great Hall.

**The 2023 Manager and Operator award recipients are:**

**The Manager of the Year:** Steve (Shorty) Rolston, Perrydale Domestic Water Association

**The Wastewater Operator of the Year:** James Clifton, City of Molalla

**The Water Operator of the Year:** Tyson Keene, City of Lebanon

**The Associate Member of the Year:** Owens Pump & Equipment

**The Friend of Rural Water:** Dave Schluckebier, Oregon Meter Repair

**The Office Manager of the Year:** CaitLinn Perry, Roats Water System

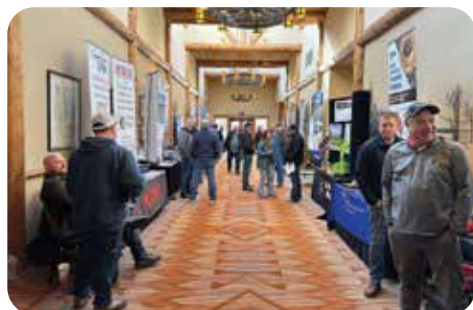
**The Rookie of the Year:** Savanna Martin, City of Dayville

**The Rookie of the Year:** Shad Bennett, City of Redmond

Congratulations to all of our award recipients. These awards recognize the dedication and commitment made by those who choose to serve the communities of Oregon every day. Don't forget, if you have an employee who you would like to nominate for next year's awards, submit the information to the OAWU office for consideration.

The Best Tasting Water award recipients this year were the City of Lebanon for Best Surface Water and Avion Water Company for Best Groundwater. The submissions are tested by 3 judges from the water community of Oregon, and they decide the best groundwater and surface water, then these winners go head-to-head for best overall water in Oregon. The 2024 winner of the Overall Best Water category is the City of Lebanon. Their water will be flown to Washington DC and submitted for judging in the Best Water in the Nation contest.

At the Exhibitors' Hospitality Night Thursday, there was good food and drink, many door prizes, raffles, and an auction. We wish to extend a special thank





you to all of those that took part in this year's auction. The money goes to support the Jeff Swanson Memorial Scholarship fund. The scholarship auction and raffle proceeds exceeded \$7,705. The selected candidates for this year's Jeff Swanson Memorial Scholarship of \$1,500 was: Shelby Goetz, whose father works for the City of Canby, Mia McFadden, whose father works for the City of Gearhart, and Daisy Woika, whose father works for the City of Seaside. The application for the 2024/25 academic year can be found on our website, please apply if you have a dependent that is currently attending or going to attend college.

Congratulations to our raffle winners. Raffled items were: A Henry Big Boy Dlx Eng .357 Mag/3 for WaterPac, a Vaquero MAG 4.62" SS for the Jeff Swanson Memorial Fund, a Samsung 55" Q60C QLED Smart Tizen TV, and a Salt Mafia 1 offshore fishing trip for 2 that was donated by Oregon Meter Repair.

The winners of the ping pong, Cornhole and cribbage tournaments were announced. First place in ping pong was Darryl Walker, Wyatt Martin came in second, and Gideon Cornelius came in third. Dan Bruce came in first for cribbage, receiving the championship board. Jason Devine came in second and Chad McMurry came in third. Shad Bennett came in first for the Cornhole tournament, Lee McGinnis came in second, and Scott Heide came in third. Find the Logo contest winner was Allan Gebhard from the City of Redmond.

We wish to thank our Associate Members for their donations, time, and support of this conference and of course to the members who continue to believe in and support the Oregon Association of Water Utilities. Additionally, we would like to especially thank this year's Diamond sponsors: TAG and Ferguson Waterworks; our Gold Sponsor: Core & Main; our Silver Sponsors: HD Fowler Company, Inc. and Owens Pump and Equipment; and our Bronze Sponsors: PACE. Be sure to sign up for the Annual Conference next year, the first full week of March 2025, as there will be a slate of new classes to attend, people in our industry to visit, food to eat, and fun to enjoy. See you there! Best wishes to you, our friends. 💧





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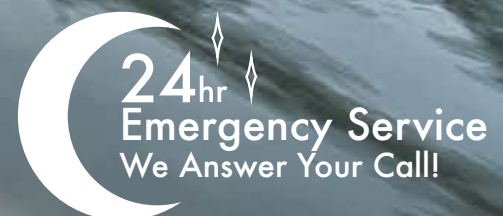
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# Microplastics in Wastewater: A Looming Environmental Challenge

by Jason Coker, EPA Wastewater Technician

The rapid growth of industrialization, urbanization, and consumerism in recent decades has come with its share of environmental repercussions. One such concern that has risen to the forefront of environmental discourse is the issue of microplastics in wastewater. These tiny plastic particles, usually less than 5mm in size, have emerged as a potent threat to ecosystems and human health.

## Origins of Microplastics in Wastewater

The introduction of microplastics into wastewater can be traced back to various sources. Personal care products, like exfoliating scrubs and toothpastes, once commonly contained microbeads, tiny spherical plastic particles. Similarly, the washing of synthetic textiles releases plastic fibers, which make their way into wastewater. Additionally, larger plastic debris break down over time due to mechanical and UV degradation, leading to the generation of secondary microplastics.

## Impacts on Aquatic Life

Once these microplastics are flushed into the wastewater systems, they often find their way into rivers, lakes, and eventually the ocean. Aquatic organisms, from plankton to larger marine animals, mistake these particles for food. Consuming microplastics can lead to physical harm, reduced nutrient absorption, and exposure to the chemicals and pathogens that microplastics carry. Over time, these microplastics bioaccumulate and bio-magnify up the food chain, with potential repercussions for human consumers of seafood.

## Implications for Human Health

Direct implications of microplastic consumption for human health are still under study. However, microplastics have the potential to carry toxic substances, either because of the chemicals they are made from or because they can absorb pollutants from the surrounding environment. When ingested, there's concern that these toxins could be released within the human body, leading to a variety of health issues.

## Wastewater Treatment: A Partial Solution

Conventional wastewater treatment plants are not specifically designed to remove microplastics. While some particles get filtered out during the treatment processes, a significant portion still gets released into the environment. Advanced wastewater treatments, such as tertiary treatments using advanced filtration methods or membrane bioreactors, have shown more promise in removing microplastics. However, these solutions are not universally applied due to the associated higher costs.

## The Way Forward

As laws and rules change wastewater systems may need to address microplastics this will require a two-pronged approach. On the one hand, there will be a need to innovate and upgrade wastewater treatment infrastructures to better capture and eliminate microplastics. On the other, at the source level, industries should be encouraged to reduce microplastic pollution, whether by reformulating products, improving product design, or through better waste management practices.

Microplastics in wastewater present a pressing environmental, treatment, and health challenge. While there are hurdles to overcome, with collaborative effort it should be possible to pave to meet the requirements if/when they come. 💧



# Operator Appreciation

by Hans Schroeder, Circuit Rider



It hit me after the last article printed that I missed giving credit where credit was due. The more that I thought about it, it made me aware of all the help we as operators provide to others in this industry. I wanted to make sure and recognize their assistance and sacrifice of their time to help me “dress up” my last article. Savanna Martin IS the Public Works Department for the city of Dayville. I’ve worked with her since she was hired about a year ago, assisting her in the operations of the system. Being brand new to the water/wastewater industry, Savanna has shown commitment, dedication, and passion for her new career. It has been exciting to watch her knowledge grow and expand in this industry. The “on the job” training has been a broad spectrum for her on both the water and wastewater side. She has learned that there is more to the job than just “keeping the park pretty.” She has learned the process of sampling procedures, pump maintenance, proper chlorine residual readings, locating lines, pulling samples, and the list goes on. Her time management is a balancing act.

OAWU’s Keith Bedell (Wastewater Tech) and myself have been available to assist Savannah in staying in compliance and meeting State/Federal deadlines. Keith has been able to assist Savannah with a recent on-site DEQ survey and discuss permit requirements with her. It truly has been a “team effort” giving the support and confidence to a new Operations Specialist to have the tools to succeed.

Savanna has shown her character by helping me with one of my articles, “New Faces.” She was a perfect candidate to share with me the struggles a new operator faces, especially being the only field employee. Thank You - Savanna for the insight for the article and for calling on OAWU for assistance! ♦

## WELCOME, NEW MEMBERS!

Drinking Water Providers Partnership	Ashley Fraijo	Drew Huebner	Josh Kelson	Pamela Malone
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	Danny Flannery	Jesse Oliver-Powers	Nicolas Aguilera	



# Customer Complaints

by Beth Myers, Water Lab



When customers complain about the water and don't feel they got an answer, they lose trust. So don't get defensive and just say "it's safe."

Start a conversation.....

Realize you – as a water system operator – know things about the water purvey-ance the customers don't. Talk to them while they are interested (angry qualifies as interested).

Use basic, easily understood language. Don't use big words or industry jargon.

Think about what you didn't know before working in water purveyance – that's a starting place.

Realize they may not know:

- ✓ Why you say it is "safe" when they feel they are having a problem.
- ✓ Lots of different types of tests are being performed on a specific schedule with more being added all the time. Give them your FULL list. I have people come into the lab who live in Salem and don't know the city drinking water is even tested at all.
- ✓ What you mean when you say the water system's testing has not had "hits" on any of the tests (but what are "hits"?).
- ✓ There are minerals that are not regulated. (what is the difference between regulated minerals/chemicals and the rest of what is in the water?) Do YOU know?
- ✓ Why are PFAS not on the list? And what ARE PFAS I'm hearing about anyway?
- ✓ Why do you say my water is soft, but it leaves minerals where it dries?
- ✓ Some problems are "after meter" problems, but a lot are from the water being served. So, it does not help to reiterate "my line/your line" distinction over and over.

Truly listening to customers means understanding why the question of the water was brought up. What prompted it?

You need to know exactly WHAT the issue is to be able to answer. Then after you answer, ask them "did I answer your question?" If not, clarify what the question is again and start again.

Is the family experiencing stomach issues, has someone just been diagnosed with cancer, did they just move into town and are having odor, mineral buildup issues, did they move from an unchlorinated water source to a chlorinated source? Did they do a test on their fish tank water or pool and the results are different from what the water system show?

(Some kits measure in different units than mg/l...)

A brush off is never good PR, although a long history of EPA rules is not helpful either.

A trained operator is a treasure of knowledge. You have developed major skills to keep drinking water plants running and keep up with the new rules just keep pouring in.

People don't know water operators take dirty turbid water and turn it into clear water.



People don't realize water operators provide a barrier from dysentery, parasites such as Giardia, Hepatitis A, Cholera, Salmonella, and E.coli for them. They take this for granted, yet safe drinking water is what separates the developed countries from third world countries.

Help grow trust in your water system. Answer your customers in words they can understand so they feel they did get an answer. When they have an answer, they are able to move forward, if need be, to the next steps of resolution for their problem.

Need a little more specifics? Here's an example of getting to the heart of a customer complaint.

Water system has one well that has a slight hydrogen sulfide odor.

A customer calls and says they have a stinky odor at a tap.

So you (aka Sherlock Holmes) ask:

- ✓ Have they noticed it at their neighbors' homes? No

- ✓ Is it noticeable in all the taps, hot and cold? Just one tap
- ✓ Where is that tap? The guest room bathroom
- ✓ Where is that bathroom located in the house? On the 2nd floor.
- ✓ Is it used often? No (you are on to it now....)
- ✓ Could it be the end of the home plumbing line? Probably, yes

Do you see the process I used? Get specific. That is where the answer usually lies.

*All of you know that any type of odor/gas will go into the headspace of the water lines when the water sits unused. And of course, it goes to the highest point and the dead-end line. (at the guests' bathroom upstairs).*

*This customer needed to run the guest room tap more often or place a tap carbon filter unit on the tap/shower, wherever they noticed the odor. Problem solved because the exact issue bothering the customer was ferreted out. This is a mutual water system/customer problem. 💧*

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# Corrosion

by Heath Cokeley, Programs Manager/Circuit Rider



We all know that corrosion takes a heavy toll on infrastructure and our water and wastewater systems are no exception. What may surprise you though is how high that cost actually is. It's estimated that corrosion costs the US economy \$276 billion dollars each year.



That is not just the cost to our water and wastewater systems, that includes the cost across the board for all the different types of infrastructure we have come to rely on in our modern world. That means every year corrosion is costing each and every American about \$831 dollars. We are not seeing those costs; they are hidden in our taxes and utility bills.

So, with how much corrosion is costing us, what can be done about it? I would say the first step is to identify it. Early in my career, I remember finding a report for one of my water tanks that said during the interior inspection it was estimated to have a 97 percent lining failure. Unfortunately, while I was reading that report, it was 5 years after it had been written. The problem now became much worse. By the time we got the tank off-line so it could be sand blasted and recoated, parts of the rafters had rusted and broken off of the roof. The contractor doing the work figured it cost us about 4 times as much as it would have if things had been repaired shortly after the lining began to fail.

Water tanks obviously aren't the only parts of your system that could experience corrosion, but they are definitely one of the bigger assets so inspecting them routinely for lining failure is important. If any of your infrastructure has cathodic protection, checking those systems and making sure they are still in place and functioning will help save money in the long run as well. If you're seeing cracking or spalling in concrete that is an indication that the rebar inside is corroding. All these things are important to be aware of and looked at because it is so much easier to deal with if it is caught early. Don't be afraid either, if you do catch something and get it resolved before it becomes a bigger issue, point that out to your supervisor, board, or council. It's important that they recognize when you have saved them money and doing preventative maintenance is a great way to save money. Enjoy your corrosion inspections, or feel free to give a Circuit Rider or Wastewater Tech a call. We would be happy to help and with that I'll see you down the road. 💧



# UPCOMING CONFERENCES



30th Annual Summer  
Classic Conference  
Seaside, Aug 19-22

Registration Information:



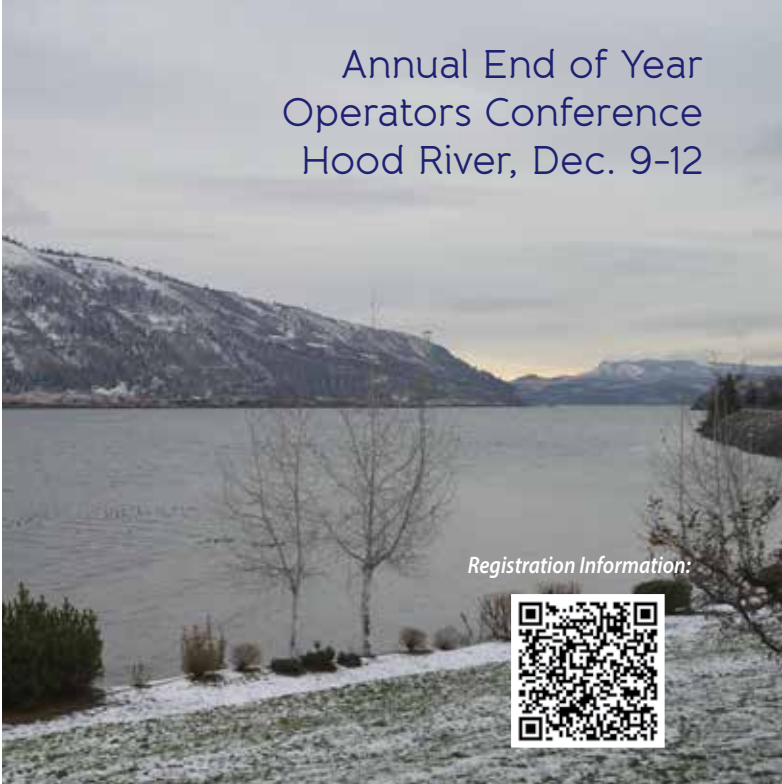
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Registration Information:



Spirit Mountain  
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Registration Information:



Annual End of Year  
Operators Conference  
Hood River, Dec. 9-12

Registration Information:



# MARK YOUR CALENDAR!





# Is Your Well... Well?

by Sam Waller, Circuit Rider

Having access to clean and reliable water is essential for our daily lives. For those systems who rely on well water, it is crucial to be able to identify the signs of a failing well. There are various indicators that can help us determine if our well is going bad. By being vigilant and proactive, we can take the necessary steps to address any issues and ensure the continued supply of clean water for your customers.

## 1. Change in Water Quality:

One of the first signs of a failing well is a noticeable change in the quality of water. If you observe a sudden change in taste, odor, or color, it may indicate a problem. For instance, a metallic taste might suggest high levels of iron or other minerals.

## 2. Decreased Flow:

A significant drop in water flow can be a clear indication of a problem with your well. If you notice that your wells are not producing the same flow as before, it could be due to issues such as a blocked or damaged well pump, a clogged pipe, or a lowering water table.

## 3. Air or Sediment in Water:

The presence of air bubbles or sediment in your water is another red flag. Air bubbles could be a sign of a damaged well casing or a faulty pump, while sediment might indicate a problem with the well screen or the accumulation of debris in the well.

## 4. Unusual Sounds:

Pay attention to any unusual sounds coming from your well system. If you hear strange noises like grinding, rattling, or clicking, it may suggest mechanical issues with the well pump or motor. These sounds could also be an indication that the pump is struggling to draw water from the well.

## 5. Fluctuating Water Levels:

Monitoring the water levels in your well is crucial. If you notice a consistent decline in water levels, it may indicate a problem with the water table or a leak in the well casing. Conversely, an abnormally high-water level might suggest a blockage in the well or a faulty check valve.

## 6. Contaminated Surroundings:

Keep an eye out for any changes in the area surrounding your well. If you observe pooling water, sinkholes, or sudden vegetation growth, it could be a sign of a leaking well or a compromised casing. Additionally, the presence of bacteria, insects, or rodents near the well may indicate a potential contaminant source.

## 7. Increased Energy Consumption:

A failing well may cause your pump to work harder, leading to increased energy consumption. If you notice a significant spike in your electricity bill without any other explanation, it is worth investigating the possibility of a malfunctioning well system.

Recognizing the signs of a failing well is crucial for maintaining a safe and reliable water supply. By being attentive to changes in water quality, pressure, and appearance. As well as, monitoring for unusual sounds and surroundings, we can identify potential issues early on. Remember, regular maintenance and professional inspections are essential to ensure the longevity and functionality of our well. 💧



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# How are you Managing the Lead Service Inventory?

by *Scott Berry, Operations Manager*



There has been a lot of buzz at most of my stops about the Service Line Inventory lately, and for good reason. Most of you have probably started completing the inventory but for those that are having trouble beginning, the following information should help you get started. Most of the information used for this article comes straight from the OHA DWS website which I believe every operator responsible for collecting this data should review prior to starting.

## Who has to complete the Inventory?

The service line inventory and annual update applies to **all Community (C) and Non-Transient Non-Community (NTNC) water systems**. Transient Non-Community (TNC) and Oregon Very Small (OVS) PWSs are not required to provide inventories.

## What needs to be documented?

All services need to be documented. For the purposes of this rule, a service line is everything between the mainline and the foundation of the home or business. There are 2 acceptable formats to use for completion of the Service Line Inventory: the Excel spreadsheets provided by OHA (be sure to use the template appropriate for your system classification) and the 120Water online portal that, when ready, will have a link on the OHA website.

## What are the basic requirements for the service line inventory?

Public water systems must conduct an inventory of all service lines, on both the water system side and the homeowner side of the meter, and **submit the results to OHA—Drinking Water Services (DWS) by October 16, 2024**. Service line materials must, at a minimum, be classified as one of the following:

- Lead, where the service line is made of lead;
- Non-lead, where there is evidence to support this determination;
- Galvanized requiring replacement (GRR), where a galvanized service line is downstream of a current or former lead service line; or
- Lead status unknown, where there is no documentation or evidence to classify the material type.

## What methodologies are acceptable to categorize service lines?

The following sources of information (methodologies) can be used for classification of service lines in the initial inventory.

- Records. All construction and plumbing codes, permits, and existing records and other documentation that indicate the service line materials used to connect structures to the distribution system such as distribution system maps and drawings, historical records on each service connection, and meter installation records.
- Installation date. Any piping installed after January 1, 1986, can be categorized as non-lead. If the water supplier has a documented construction standard established prior to that date that did not allow lead to be used for service lines, any service installed after that date can be categorized as non-lead.
- Service line size. Any service line with a diameter of 2 inches or greater can be categorized as non-lead.

- Customer data. The water supplier may choose to have customers submit documentation as to the lead status of their service line, from a location just inside their building. The water supplier must provide instructions to the building owner and must receive photo documentation clearly showing the service line material. If material cannot be visually confirmed, a scratch test on the pipe material can be performed and documented.
- Statistical analysis. If no lead service lines have been identified using the above methodologies (with customer supplied data being optional), a random sampling of a portion of the remaining unknown service lines that provides a 95% confidence level can be physically inspected. If no lead service lines are found in the randomized pool, all remaining unknown service lines can be categorized as non-lead. The statistical approach guidance document can be found here: [www.oregon.gov/lcrr](http://www.oregon.gov/lcrr)

Statistical analysis is allowed for community water systems only (CWS).

**Do I have to identify the material type of every service line by October 16, 2024?**

A system can use all available documentation to categorize service lines and consider those without documentation as lead status unknown in the initial inventory. However, unknowns must eventually be categorized. A public notice must be sent to customers of those service lines designated as lead, GRR, or unknown 30 days after inventory submission then annually after that or until the service line has been replaced or determined to be non-lead. The water system must supply filter pitchers to the customer if the service line is disturbed or in the event of a partial or full lead service line replacement.

There may be additional information posted in the form of EPA's Lead and Copper Rule Improvements soon so keep checking the OHA DWS website at: [www.oregon.gov/lcrr](http://www.oregon.gov/lcrr). 💧



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# Water Shutoffs for Non-Payment to Limit Liability

by Laura A. Shroeder and Max Jones

*The following article contributed by Schoeder Law Offices, P.C. predominately applies to privately owned water systems that are being required to meet PUC regulations, but the direction can be used by non PUC regulated systems as an example.*

To operate efficiently, water delivery organizations require customer payment as a fee for service. Due to the societal importance of the crucial service they provide, collecting delinquent customer accounts is challenging. Disconnection cannot be the first course of action without creating substantial liability. This article will discuss the rules promulgated by the Oregon Public Utility Commission (“PUC”) regarding delinquent customer accounts. Accordingly, it should be considered by unregulated utilities, quasi-municipal districts, and municipalities to aptly navigate delinquent accounts before disconnection.

Numerous grounds exist for involuntary disconnection from water services. Regardless of the reason, a water delivery organization should adopt a policy and procedure that provides notice before disconnecting. Under PUC rules, a

water utility must provide two written notices in advance of disconnection: a 15-calendar and a 7-calendar day disconnection notice. The notices must either be hand-delivered in person to the customer or adult at the premises or sent by U.S. Mail. However, mailed notices are considered served two calendar days after being deposited in the U.S. Mail. The notices must include the utility’s contact information, state the proposed disconnection date, provide grounds for disconnection, note how the customer may avoid disconnection; and provide the PUC’s contact information for the customer to contact if they wish to dispute the grounds for disconnection.

Under PUC rules, if nonpayment is the grounds for disconnection, then the notice requirements are expanded. The PUC regulated water utility must provide the amount the customer must pay to avoid disconnection and state that if service is disconnected the utility will solely reconnect service after the customer reapplies for service and pays all applicable charges. Further, the notice must inform the residential customer regarding potential eligibility for a

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time-payment agreement. Plans must be offered to current residential customers with past-due amounts and customers whose service was voluntarily disconnected but reappplied within 20 days of disconnection. These plans must either be a levelized-pay arrearage plan, an equal-pay arrearage plan, or an alternate time-payment plan developed by the utility and agreed to by the delinquent customer. However, if the customer fails to abide by the time-payment plan this is grounds for disconnection with solely a 7-calendar day notice required.

The PUC approved rule revisions in 2022 may now only disconnect service between the hours of 8 a.m. and 2 p.m. and must postpone disconnection should a temperature of less than 32 degrees is forecasted, a winter storm warning is in effect, the customer is under a wildfire evacuation notice, or when the air quality index is at or above 100. Further, qualifying low-income customers may have their late payment charges and deposits waived. These recent rule changes were not passed to remove the ability for utilities to

terminate services but to ensure disconnection occurs when only absolutely necessary.

While these PUC rules are not binding on non-regulated water utilities, they provide a framework that if followed would be defensible in situations where a disconnected, non-paying customer brings a counter suit against the water delivery organization for damages related to disconnection.

### Conclusion

Operating a water delivery organization is a challenge. Managing thin margins with delinquent customers compounds the difficulty. It is imperative that water delivery organizations legally and responsibly disconnect non-paying customers. At Schroeder Law Offices, P.C. we can assist water organizations in navigating the ever-multiplying laws that complicate their service delivery. 💧

*Please contact attorney Laura A. Shroeder or attorney Max Jones, the authors of this article by contacting us through our website, <http://water-law.com>*



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# How do You Learn?

by Heather Davis, Apprenticeship Coordinator



Everybody is different, that is obvious, but it is something that we do not think about as often as we should. Especially when it comes to training someone. The reason for this, simply everyone learns differently.

Some people need to be shown how to do something a few times before they learn it, while others can learn it after being shown just one time. Then there are some people who have to be taught in-person, so they can ask questions and be shown what to do correctly in case they mess up. Others learn better from watching a video or reading instructions and taking it step by step by themselves.

So how do you learn best? This is something I wish I learned about myself a lot sooner in life. When I was in college, I started by going in-person to class. I will admit that for some classes, I needed to be in a classroom setting to interact with others to learn better. After about a year, there was a class I needed to take, and it was only available online. It was a history class, I loved it. I was able to work from home and take my time doing my homework without being interrupted and having distractions around me. So, I started to increase the classes I attended online and towards the end of my college days, I was full-time online. It was great, I loved it. I would wake up, have breakfast, and then do schoolwork for a few hours every morning. I always work better in the morning. I could review the training video as many times as I needed and take my time going over the material for the class. That last year, not only did I receive amazing grades, but I understood the material from my classes better than I ever had.

Why is this important to know about ourselves? Simple, because it is good for the person training you to know how you work best. Benjamin Franklin once said, “Tell me and I forget, teach me and I may remember, involve me and I learn.” We need to know how we learn best to make sure that we are being trained the best way for us, to not just learn, but understand what is being taught.

Along with that, when training, ask the students how they learn best. This way we will be able to train someone to learn their new job better. Songwriter/music producer Phill Collins said, “In learning you will teach, and in teaching you will learn.” Watch and learn yourself, do I need to change how I train someone? Not to just help them learn the new information, but also understand it.

Learn about yourself more and speak up to let your instructor know how you best learn. This can make life much easier and potentially make you a better employee. 💧

# YDO Your DEQ Online

by Keith Bedell, Wastewater Technician



Now that YDO is implemented and up and running, you can send an email with a question to [YourDEQOnline@deq.state.or.us](mailto:YourDEQOnline@deq.state.or.us), or you can click on the "contact your DEQ Online Help Desk" icon which takes you to a form that allows you to ask a question and get a response back by email also. As operators we like to think that DEQ only does Wastewater and Stormwater, but as you can see by the diagram below there is a lot more to it and for them to have everything integrated into one online program takes a lot. If you go online to the website and click on any of the topics with a "+" sign, it will expand and show you all the different topics you can find for that particular category. Oversight and fixing the issues that crop up takes time. I admire the people with DEQ that get calls from operators trying to set up an account or trying to renew their certification, they have plenty to do, are always courteous, patient and understanding. So, the next time you have problems with the YDO and possibly give them a call, remember that you aren't the only one. Give yourself plenty of time to renew your certification, don't wait till the last minute. My certification expires December 31, 2024, and it showed that I can start the renewal process now with plenty of time to get my CEUs and training together before renewal. It does say they will start accepting applications no sooner than 3 months leading up to the expiration date (October for December 31st expiration). But you can have everything filled out, all of your documentation uploaded to their website waiting for renewal. If you happened to upgrade one of your certificates by taking the test through ABC/WPI during your current 2-year period then you can use the OESAC # 4391 and that will count as 2.0 CEUs and congratulations on passing the test.

## Air Quality

### Asbestos Program (as of Aug 12, 2021)

- Gasoline Transporter Program (as of May 4, 2021)

## Land Quality

- Hazardous Waste (as of Oct 7, 2021)

## Water Quality

- 401 Certification (as of Oct 1, 2021)
- Industrial and Construction Stormwater (as of Oct 1, 2021)
- Sewage Disposal Service Business License (as of Dec 7, 2022)
- Underground Injection Control (as of Oct 1, 2021)
- Wastewater Operator Certification (as of Mar 14, 2023)

## Climate Protection Program

- Climate Protection Program (as of Sept 1, 2023)
- Greenhouse Gas Reporting and Third-party Verification (as of Nov 29, 2023)

## Agency-wide Services

- Pollution Complaints Program (as of Sept 27, 2023)

## Coming in 2024

### Land Quality

- Environmental Cleanup, Leaking Underground Storage Tanks, Heating Oil Tanks and Heating Oil Tanks Licensing (expected April 16, 2024)
- Solid Waste Permits
- Underground Storage Tanks

### Water Quality

- NPDES and WPCF General Permit
- NPDES and WPCF Individual Permits
- WPCF Onsite Permits

### Air Quality

- Air Contaminant Discharge Permits
- Area Source Registration
- Emissions Inventory Reporting
- Title V Permits. 💧



# Permits and Water Use Reporting



by *Tim Tice, Projects Manager*

The water use management practice in the State of Oregon uses water permits, certificates, and extensions of time to track and monitor the State's water, it is a very complex task to manage. Having worked with many of our members in developing Water Management and Conservation plans (WMCP), one area of focus is the applying water usage to a permit or certificate.

Oregon law requires all water be used for beneficial use without waste. It compares beneficial use to non-accounted-for water begins with an annual water use report. The water year begins October one, which necessitates those water operators assigned to make the reports to begin tallying up water pumped the previous twelve months. ORS 537.099 defines who must report their water use.

Reporting water use becomes a bit complex when applying water usage to a specific certificate and or permit. A permit, and or certificate will be issued that allows a specific amount of water to be pumped, a single permit for a single well.

If the single well produced  $\approx$  60 million gallons (MG annually), then the total gallonage is displayed down a single column associated with the single permit. An operator absolutely needs to know the total allowed water under the permit or certificate.

Under the permit or certificate, the total allowed water is measured in a unit. The total water pumped, once recorded, must be converted to the unit of measure on the permit and or certificate. This measurement shows what the permit allows versus the water pumped.

The 60 MG annually equates to 114 GPM or 0.25 CFS pumping water continuously 1,440 minutes each day. This is a significant point because measured water pumped may exceed the GPM or CFS, yet unlikely when calculated using the 1,440 minutes per day.

Complexity increases by having multiple sources of water (points of diversions) under a single permit. A single permit may state "sources of water" as wells A, B, C and D which requires a little more math. The most intricate set of water rights is multiple water rights with multiple sources of water.

In example only, the permits will not carry the numerical designation (G-99999), only a single letter. One PWS can be issued the following permits/certificates.

Permits	Sources	Max Rate
Permit A	Well One	100 GPM
Permit B	Well Two	0.50 CFS
Certificate 1	Well One Two Three	1.0 CFS (rotation)
Permit D	Carlyle Creek	0.67 CFS
Permit E	Well Four	0.50 CFS
Certificate 2	Four Wells	1.00 CFS

The information in the table is a real scenario. From the table, it is evident that, allocating the proper water production to its correct water permit/certificate can be complicated.

# ng – Measuring Up

Less understood rules associated with water permitting are the authorized completion date and the development limitations. Operators, if unaware of these two aspects, should discuss with the decision makers the key points that may impact retaining permits. The completion date is a future date the public water system estimates to complete construction and deliver water to the full amount indicated on the permit. An operator needs to be aware of the completion date for two reasons, a) the necessary timeline to begin a permit extension of time, and b) if completion date has expired, technically no amount of pumped water should be applied to said permit.

Beneficial use is the use of water to its authorized purpose while being fully in compliance with all permit conditions. Development limitation are another figure which may or may not be on an original permit, which may have an adjusted allowance of water. An example would be Permit G-99999 was allotted 1.00 CFS of water on the permit. Most permit extension approvals for municipal and quasi-municipal permits will include a development limitation condition. For example,

Permit G-99999, the new development limitation under the extension of time, could be 0.50 CFS. Personnel associated with completing water use reports must know this condition, track, and report water usage. The balance of water under development limitation is frozen until it can be proven that the additional water is necessitated. This lower allowance becomes the maximum amount of water an entity can pump for a particular permit.

The entity using a WMCP provides the justification for the State to approve additional water, from a formal request. This is substantiated by water use reports and a few other items that prove both current and projected needs for water. As the uncertainty of the future cannot guarantee the findings discovered in any WMCP, the PWS is encouraged to seek professional advice from consultants, engineering firms and or water rights legal counsel for guidance relating to water permitting, and certification. The best of everything in life! 💧

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# DATA..DATA..DATA

by Monty Norris, Wastewater Technician



How do you drive your plant? Have you been there forever and just do the minimum process tests to drive the plant and remember all the expected changes throughout the year? Do the entire staff understand the why or the why not to the changes that are being made? As much as we want to operate from plant knowledge and what we see, we also need to operate from data.

Know the plant parameters first! Surface loading rate, weir overflow rate, solids loading rate, detention time. These can be calculated for the plant and based on flow. We can understand what's happening and be prepared when high flows or low flows arrive. Create a spreadsheet for the entire staff to understand it and see that everything has limits. When an engineer designs a plant, these are the parameters they work with... yes, I know, I said engineer!

Next, know the process parameters. What if we cut our food to 500 calories or increased it to 5000 calories a day? Wouldn't it be difficult to be productive and provide a good days work. The same goes for biology and why we calculate our f/m. Know our MLSS, doing settleometers, calculating the SVI, and doing a micro all go a long way to understanding what is happening when things go awry. These can typically all come from the same sample, so why not do them and capture the data for trending, I mean do we use trending on our SCADA, so why not trend our process data.

In a nutshell we will be able to look at the settleometer and predict our f/m, svi and micro just by doing the settleometer, but take the extra few minutes and calculate everything else because: what if your supernate suddenly goes hazy, solids are floating after 20 minutes, or PH drops out and chlorine use goes up? What's changed and why? If you need help calculating these please reach out to us and we'll plan a visit. Don't stop learning!! OAWU – 1-503-837-1212. 💧

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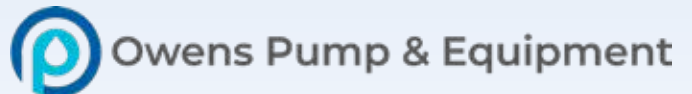
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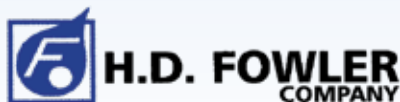
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# Debbie

*by Mike Collier, Deputy Director/Source Water Specialist*

Don't think the title of this article is about our office manager Debbie. It is about those Debbie Downers at your place of work. You know the ones I am talking about, when they enter the room, everything deflates. What was once boisterous can quickly turn quiet and uncomfortable with what seems like a dense negative fog having rolled in as people begin to scramble and leave to get to a location where they can have some peace of soul again.

I am not sure if these Debbie's realize that the attitude that they bring with them changes the dynamics of the team they join, that as they talk, many people begin to squirm to get away, looking at the clock, and trying to find a way out for some respite. In interactions with a new acquaintance, we may begin a conversation and feel some sympathy for the Debbie, but it often only takes a few moments to realize that they are really a Debbie, and it becomes a strain to maintain the pleasantries and continue in conversation.

I really am not sure if a Debbie can see this in themselves and don't know the struggle that they may go through to come out of a pessimistic view. I do know that it affects the entire work environment and becomes a struggle for others to befriend and be around them. It is worth taking a moment to look inwardly and consider how our own attitudes affect the working environment - are we making others uncomfortable, are we bringing in a fog, or are we making it a more enjoyable atmosphere for everyone? When work is uplifting and fun, the day typically goes faster and little problems that come up throughout the day don't seem to affect us as much.

I am no psychologist and do not know Debbie's struggle and am not trying to convey that it is their fault, it could be something that really should be looked at between them and a professional. I am sure the weight on the shoulders of a Debbie can feel unbearable, talking to someone about it is the first step to move the pendulum slightly toward a healthier perspective.

Also, a Debbie may not realize they are a Debbie, or they may be struggling with chronic pain, or have just gone through a hard time. It is important to realize these things when working with, talking to, or just being in the presence of a Debbie - hopefully we can all have a little more compassion for them and their situation. We can stick to them in conversation through the times that are uncomfortable even though we feel the drain. This may be just what they need to have a little more sun shining on their day. 💧

# UPCOMING TRAINING & EVENTS

Date	Class Title	Location	CEU Information	ESAC#, Fee/Free
April 2-3	Water Treatment, Water Distribution Certification Review	Keizer	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
April 4	Water T/D Level 3,4 & Filtration Endorsement	Keizer	0.6 Water	5816 Fee
April 4	Distribution Basics	Roseburg	0.6 Water/Wastewater	5986 Fee
May 15	Distribution Basics	Turner	0.6 Water	5986 Fee
May 21-22	Water Treatment, Water Distribution Certification Review	Keizer	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
May 23	Water T/D Level 3,4 & Filtration Endorsement	Keizer	0.6 Water	5816 Fee
May 23	Math for Operators	Redmond	0.4 Water/Wastewater	TBA Fee
May 23	Pumps & Pumping	Redmond	0.3 Water/Wastewater/Onsite	TBA Fee
June 25	Math for Operators	Hermiston	0.4 Water/Wastewater	TBA Fee
June 25	Pumps and Pumping	Hermiston	0.3 Water/Wastewater/Onsite	TBA Fee
July 23-24	Water Treatment, Water Distribution Certification Review	Redmond	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
August 6-7	Wastewater Treatment/Collections Certification Review	Keizer	1.4 Wastewater/0.7 Water	6043 Fee
August 19-22	30th Annual Summer Classic Conference	Seaside	2.3 Water/Wastewater	TBA Fee
September 25	Developing Your Operations & Maintenance Manual	Baker City	0.4 Water/Wastewater	5805 Fee
September 25	Leak Detection	Baker City	0.2 Water/Wastewater	TBA Fee
October 1-2	2024 Fall Operators Conference	Canyonville	1.4 Water/Wastewater	TBA Fee
November 5-7	Spirit Mountain Casino Operator's Conference – 2024	Grand Ronde	2.0 Water/Wastewater	TBA Fee
November 13	Understanding the requirements of the WMCP	Salem	3.0 Water	TBA Fee
November 13	Job Site Safety	Salem	3.0 Water/Wastewater/Onsite	4635 Fee
December 9-12	Annual End of Year Operator's Conference	Hood River	2.3 Water/Wastewater	TBA Fee

## Levels 1–4 Water Operator Exams

Trained and certified operators are necessary to ensure that the systems are managed in a manner that fully protects public health and the environment. The OARs for certification stipulate that the qualifying experience for applicants for certification as a water treatment plant operator must attain at least half the required operating experience at a public water purification plant that uses complex filtration technology and is not more than one classification lower than the level of certification they are seeking. In other words, if you have only worked for a Class 2 treatment plant, we allow you to apply for a Level 3 certification but not a Level 4 certification. If you move on to a Class 3 plant, then you must have ½ the qualifying experience (at the Level 3 plant) before allowing to apply for a Level 4 certification. Reciprocity from state to state ensures that the operator have the operating experience for which they are certified.

For additional information, please visit <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/OperatorCertification/Levels1-4/Pages/exams.aspx>

Drinking Water Data Online

<https://yourwater.oregon.gov>

Drinking Water Services

<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/Pages/index.aspx>

*Training class dates, class topic and/or locations may be subject to change as needed.*

For more information on any class by OAWU, contact 503-837-1212 / [office@oawu.net](mailto:office@oawu.net) or visit

[www.oawu.net](http://www.oawu.net)



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Pump Repair & Sales  
(503)420-8390  
[sales@owenspump.com](mailto:sales@owenspump.com)



**OREGON METER REPAIR**  
*& Water Solutions, LLC*

**Jason Maxon | 541-272-4200**  
[meterjay@oregonmeterrepair.com](mailto:meterjay@oregonmeterrepair.com)

*Meter Testing • Meter Parts & Sales*  
*Water System Consulting • DRC Services*





# WHEN YOUR TOWN IS COUNTING ON YOU, YOU CAN COUNT ON US.



The Municipal professionals at Ferguson Waterworks are dedicated to providing the best service and solutions for customers in urgent and emergency situations. No matter what, no matter where, Ferguson Waterworks is on hand to help resolve critical challenges thanks to our expert associates and vast inventory of waterworks products.

FIND YOUR NEAREST WATERWORKS LOCATION  
[FERGUSON.COM/WATERWORKS](https://www.ferguson.com/waterworks)

# MEMBERSHIP APPLICATION

Member Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City/State: \_\_\_\_\_

County: \_\_\_\_\_ ZIP: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Number of Hook-ups: \_\_\_\_\_

Were you referred? By whom \_\_\_\_\_

### Type of System:

Water       Wastewater       Both

### Membership Category      Membership Dues

- |  |                                |
|--|--------------------------------|
| <input type="checkbox"/> Regular Member    | \$ _____<br>See schedule below |
| <input type="checkbox"/> Associate Member  | \$600.00                       |
| <input type="checkbox"/> Individual Member | \$100.00                       |

### Regular Member Dues Schedule

1 to 100	\$75 + 48 cents per connection
101 to 500	\$85 + 48 cents per connection
501 to 1,000	\$90 + 48 cents per connection
1,000 and up	\$100 + 48 cents per connection
Maximum dues is	\$1,400.00

Please Invoice       Payment Enclosed

*Credit cards: please call 503-837-1212 for processing and receipt.*

Please return to OAWU:  
935 N. Main St., Independence, OR 97351  
or email: office@oawu.net or fax: 503-837-1213

## Membership Types

### Regular Member

A Regular Member shall be any water or wastewater utility, public or private, engaged in the production, distribution or reclamation of water. A Regular Member shall have one vote. Annual Dues: See Regular Member Dues Schedule

### Associate Member

An Associate Member shall be any organization, individual or corporation, supplying services or equipment to water and wastewater utilities. An Associate Member shall have one vote. Annual Dues \$600.00 per year

### Individual Member

An Individual Member shall be an individual involved in the water/wastewater industry or a user of such utilities. The membership is informational in nature and shall be non-voting. Annual Dues \$100.00 per year

## Benefits of Membership

- On-site technical assistance
- Various free training programs
- Discounts on training courses
- Discounts on Annual Conference registration
- Access to on-site training program
- Subscription to quarterly H2Oregon magazine
- Direct mailings about upcoming training courses in your area
- Summaries of legislative issues
- Legislative representation at state and federal level
- Associate Member Services and Products Guide
- Access to technical assistance library
- Access to technical and testing equipment for loan
- Voting rights in Association affairs
- Positive contacts with other organizations
- Camaraderie with water and wastewater professionals
- Operator Of Record services
- Job referrals, announcements and searches
- Well testing, plan review, rate studies, WMCP plans
- System performance evaluation and options
- Additional programs and services
- Disaster response assistance and planning



**MB24**





# MEMBERS



62nd Court Mutual Water Company  
 Adair Village, City of  
 Adams, City of  
 Adrian, City of  
 Agate Water System  
 Albany, City of  
 Albany Rifle & Pistol Club  
 Alfalfa Water LLC  
 Alpine Crest Improvement Dist.  
 Amity, City of  
 Ananda Center at Laurelwood, Inc.  
 Arch Cape Water & Sanitary District  
 Arlington, City of  
 Arrowhead Mobile Home Park  
 Aspen Lakes Utility Company, L.L.C.  
 Astoria, City of  
 Athena, City of  
 Aumsville, City of  
 Aurora, City of  
 Avion Water Company  
 Baker City, City of  
 Bandon Dunes Resort  
 Bandon, City of  
 Banks, City of  
 Barlow Water Improvement District  
 Barlow, City of  
 Bay City, City of  
 Bay Hills Water Association  
 Bayou Water Improvement District  
 Beaver Water District  
 Beaverton, City of  
 Bend, City of  
 Benton County Service District  
 Bents Court Water Co.  
 Berndt Creek Water Corp.  
 Beverly Beach Water District  
 Biggs Service District  
 Black Butte Ranch  
 Black Mountain Water District  
 Blue River Water District  
 Blue Spruce Estates  
 Bly Water & Sanitary Dist.  
 Boardman, City of  
 Bonanza, Town of  
 Boring Water District #24  
 Brandy Bar Landing, Inc.  
 Breitenbush Hot Springs  
 Bridge Water District  
 Brightwood Water Works  
 Brooks Community Service District  
 Brownsville, City of  
 Buell-Red Prairie Water District  
 Bunns Village Properties, LLC  
 Burlington Water District  
 Burns, City of  
 Burnside Water Association  
 Butte Falls, Town of  
 Camp Baker BSA  
 Camp Rilea  
 Canby, City of  
 Canby Utility  
 Cannon Beach, City of  
 Cannon View Park, Inc.  
 Canyon City, Town of  
 Canyonville, City of  
 Carlton, City of  
 Cascade Locks, City of

Cave Junction, City of  
 Cedarhurst Improvement Club, Inc.  
 Central Coast Clean Water Company  
 Century Meadows Sanitary System, Inc  
 Century Meadows Water System, Inc.  
 Charles Tracts Water Company  
 Chart Water Supply, Inc.  
 Chehalem Mt. Sun Ridge Association  
 Chenoweth Water PUD  
 Chiloquin, City of  
 CHR Dist. Improvement Co.  
 Christmas Valley Domestic Water  
 Cimarron City Water Co., Inc.  
 Circle C Improvement Dist.  
 Clackamas River Water  
 Clarks Branch Water Association  
 Clatskanie, City of  
 Clayton Creek Water Association  
 Clean Water Services  
 Cline Falls MHP  
 Cloverdale Sanitary District  
 Cloverdale Water District  
 Coburg, City of  
 Collins Products LLC  
 Colorado Lake Co-Op  
 Colton Water District  
 Columbia City, City of  
 Columbia Hills Homeowners Association  
 Columbia River PUD  
 Condon, City of  
 Coquille, City of  
 Corbett Water District  
 Cornelius, City of  
 Corvallis Waldorf School  
 Cottage Grove, City of  
 Country Club Water District  
 Country View Mobile Estates  
 Covanta Marion, Inc.  
 Cove Orchard Water Association  
 Cove, City of  
 Crater Lake National Park  
 Crescent Sanitary District  
 Crescent Water Supply & Improvement District  
 Creswell, City of  
 Crooked River Ranch Water Co-Op  
 Crystal Springs Water District  
 Culver, City of  
 Dallas, City of  
 Dayton, City of  
 Dayville, City of  
 Deer Creek Estates Water Association  
 Delphian School  
 Depoe Bay, City of  
 Deschutes Valley Water District  
 Detroit, City of  
 Dexter Oaks Mobile Home Park  
 Dexter Sanitary District  
 Diamond Peaks at Leisure Woods I&II  
 Dietz Airpark Water System  
 Donald, City of  
 Drain, City of  
 Drifter's MHP  
 Dry Creek Airpark HOA, Inc.  
 Dufur, City of  
 Dundee, City of  
 DWF Round Lake Utilities

Eagle Point, City of  
 East Yamhill Rural Water Company  
 Eastmont Water Company  
 Eastshore Water Improvement District  
 Echo, City of  
 Elgin, City of  
 Elkton, City of  
 Emerald Meadows HOA  
 Emerald Valley Wastewater Co.  
 Enterprise, City of  
 Estacada, City of  
 Estacada Mobile Village, Inc.  
 Eugene Mobile Village  
 Fairview Water District  
 Fairview, City of  
 Falcon Cove Beach Water District  
 Falcon Heights Water & Sewer District  
 Fall Creek Water District  
 Falls City, City of  
 Fern Ridge School Dist. 28J-10  
 Fern Valley Estates Improvement Dist  
 Fernridge Mobile Estates  
 Fir Grove HOA  
 Fir View Water Company  
 Fishhawk Lake Recreation Club, Inc.  
 Florence, City of  
 Forest Park Mobile Village  
 Fossil, City of  
 Garden Valley Water Association  
 Garibaldi, City of  
 Gaston, City of  
 Gates, City of  
 Gearhart, City of  
 Georgia Pacific-Wauna  
 Gervais, City of  
 Gilchrist Water Co., LLC  
 Gladstone, City of  
 Glendale, City of  
 Gleneden Sanitary District  
 Glenmorrie Co-op Association  
 Glide Water Association  
 Goble Water Association  
 Gold Beach, City of  
 Gold Hill, City of  
 Government Camp Water Company  
 Grand Prairie Water Supply Company  
 Grand Ronde Community Water Association  
 Grand Ronde Sanitary District  
 Grants Pass, City of  
 Grass Valley, City of  
 Green Area Water & Sanitary Authority  
 Green Oaks Park  
 Haines, City of  
 Halfway, City of  
 Hall's Trailer Court  
 Halsey, City of  
 Harbor Water PUD  
 Harrisburg, City of  
 Hebo Joint Water & Sanitary Authority  
 Heceta Water PUD  
 Helix, City of  
 Heppner, City of  
 Hermiston, City of  
 Hidden Valley Improvement District  
 High Lostine Owners Association  
 Highland Subdivision Water District

Hiland Water Corporation  
 Hillsboro, City of  
 Hines, City of  
 Hood River, City of  
 Hopewell Water Co.  
 Hubbard, City of  
 Hunnell Hills Community Water System  
 Huntington, City of  
 Ice Fountain Water District  
 Idanha, City of  
 Idleway Improvement District, Inc.  
 Imbler, City of  
 Independence, City of  
 Indian Meadow Water Company  
 Inn at Otter Crest  
 Interlachen Water PUD  
 Ione, City of  
 Irrigon, City of  
 Island City, City of  
 Jackson County Parks  
 Jacksonville, City of  
 Jasper Knolls Water District  
 Jewell School District  
 John Day Water District  
 John Day, City of  
 Johnson Creek Water Services Company  
 Joseph, City of  
 Junction City, City of  
 Keizer, City of  
 Kellogg Springs Camp  
 Kelly's Brighton Marina, LLC  
 Kelso Water Association  
 Keno Water Company, Inc.  
 K-GB-LB Water District  
 Kilchis Water District  
 Kingswood Heights Water Association  
 Klamath Falls, City of  
 Klippel Water System  
 Knappa Water Association  
 Knoll Terrace Park  
 L.A. Water Cooperative  
 La Pine, City of  
 Labish Village Water Commission  
 Lady Creek Water System  
 Lafayette, City of  
 Laidlaw Water District  
 Lake Creek Lodge  
 Lake Grove Water District  
 Lake of the Woods Resort, LLC.  
 Lake Oswego, City of  
 Lakeside Water District  
 Lakeside, City of  
 Lakeview, Town of  
 Lakewood Homeowner's, Inc.  
 Lamb Weston  
 Lamontai Improvement District  
 Lamplighter Water Association  
 Lane County Parks  
 Langlois Water District  
 Laurelwood Water User's Co-op  
 Lawrence Subdivision Water Assn., Inc  
 Lawson Acres Water Assoc.  
 Lebanon, City of  
 Lexington, Town of  
 Lincoln City, City of  
 Little Beaver School, Inc.  
 London Water Co-op



# MEMBERS



Long Creek, City of  
 Lonza Bend Inc.  
 Lostine, City of  
 Lowell, City of  
 Luckiamute Domestic Water Co-op  
 Lusted Water District  
 Lyons-Mehama Water District  
 Madras, City of  
 Madrone Hill Mobile Home Park  
 Madsen Springs Water Assn.  
 Malin, City of  
 Manzanita, City of  
 Mapleton Water District  
 Maupin, City of  
 McKay Acres Improvement District  
 McKenzie Palisades Water  
 McMinnville Water & Light  
 McNulty Water PUD  
 Merrill, City of  
 Metolius Meadows Prop. Owners Assn.  
 Metolius, City of  
 Midland Water Association  
 Mill City, City of  
 Milo Adventist Academy  
 Minikahda Water District, Inc.  
 Mitchell, City of  
 Modoc Point Sanitary District  
 Molalla, City of  
 Monmouth, City of  
 Monroe, City of  
 Monument, City of  
 Moro, City of  
 Morrow Commission, Port of  
 Mossy Brae Water District  
 Mt. Angel Abbey  
 Mt. Angel, City of  
 Mt. Ashland  
 Mt. Bachelor, Inc.  
 Mt. Shadows HOA  
 Mt. Vernon, City of  
 Mulino Water Dist. #23  
 Myrtle Creek, City of  
 Myrtle Point, City of  
 Nantucket Shores Water Company  
 NeahKahNie Water District  
 Nehalem, City of  
 Nesika Beach-Ophir Water District  
 Neskowin Regional Sanitary Authority  
 Neskowin Regional Water District  
 Netarts Water District  
 Netarts-Oceanside Sanitary Dist.  
 Newberg, City of  
 Newport, City of  
 North Corvallis Mobile Home Park  
 North Hill Water Corporation  
 North Powder, City of  
 Northwest Newberg Water Association  
 Nyssa, City of  
 Oak Lodge Water District  
 Oakland, City of  
 Oakridge, City of  
 Oakwood Water Systems, Inc.  
 Oceanside Water District  
 Ochoco West Water & Sanitary Authority  
 Odell Sanitary District  
 Olney-Walluski Water Association  
 OPRD Main Office – Salem  
 Orchard Heights Water Association  
 Oregon Cascade RV Co-op.  
 Oregon Shores Beach Club, Inc.  
 Oregon Shores II  
 Oregon Water Utilities-Cline Butte  
 Oregon Water Utilities-Mtn. Lakes  
 Oregon Water Wonderland II Sanitary District  
 Orient Drive Mobile Estates, LLC  
 Otter Rock Water District  
 Pacific High School  
 Paisley, City of  
 Paradise/Rogue Meadow WS  
 Parkdale Water Company, Inc.  
 Perrydale Domestic Water Association  
 Philomath, City of  
 Phoenix, City of  
 Pilot Rock, City of  
 Pine Grove Water District  
 Pioneer Park Water Co-op  
 Pioneer Village Water Company, Inc.  
 Pleasant View Water Company  
 Polehn Heights Water Association  
 Ponderosa Pines Water Company  
 Port Orford, City of  
 Port of Columbia County  
 Power City Water Co-op  
 Powers, City of  
 Prairie City, City of  
 Prineville, City of  
 Quincy Water Association  
 Rainier, City of  
 Red Hills Estates HOA  
 Redmond, City of  
 Redwood Water Service, Inc.  
 Reeder Ranch, Inc.  
 Reedsport, City of  
 Reehers Homestead, Inc.  
 Rhododendron Water Association  
 Richland, City of  
 Rickreall Community Water Association  
 Riddle, City of  
 Rieth Water & Sanitary District  
 Rimrock West Improvement District  
 River Meadows Improvement District  
 River Point Farms, LLC  
 Riverbend-Riverbank Water District  
 Rivergrove Water District  
 Riverside Water District  
 Roats Water System, Inc.  
 Rock Creek Water District  
 Rockaway Beach, City of  
 Rockwood Water PUD  
 Rocky Pointe Marina  
 Rogue Community College  
 Rogue Lea Estates MHP LLC  
 Rogue River, City of  
 Rogue River – Siskiyou National Forest  
 Roseburg Forest Products Company  
 Round Lake Water Utilities  
 Rufus, City of  
 Salem, City of  
 Salishan Sanitary District  
 Salmon Valley Water Company  
 Sandy, City of  
 Scappoose, City of  
 Scio, City of  
 Scotts Mills, City of  
 Scrael Hill Water Co-op  
 Seal Rock Water District  
 Seaside, City of  
 Seneca, City of  
 Shadow Hills Park Water Cooperative  
 Shangri-La Water District  
 Shelley Road Crest Acres W.D.  
 Sheridan, City of  
 Sherwood, City of  
 Siletz Community Water System  
 Siletz, City of  
 Silver Falls School District 4J  
 Silverton, City of  
 Sisters, City of  
 Skylane Farm  
 Skyview Acres Water Company  
 Sodaville, City of  
 South Fork Water Board  
 South Hills Water System, Inc.  
 South Suburban Sanitary District  
 South Umpqua Water Assn.  
 Southview Improvement District  
 Southwood Park Water District  
 Spirit Mountain Gaming, Inc.  
 Sportsman’s Park Water Association  
 Spray, City of  
 Springwater Estates HOA  
 St. Paul, City of  
 Staffordshire Water System, Inc.  
 Stahlman Summer Homes  
 Stanfield, City of  
 Star Satellite Improvement District  
 Stayton, City of  
 Steeves Mobile City  
 Storlie Water Company Inc.  
 Sublimity, City of  
 Suburban East Salem Water District  
 Sumpter, City of  
 Sun Mountain Water System  
 Sunny Acres Water Co.  
 Sunridge Estates  
 Sunrise Water Authority  
 Sunriver Water LLC/Sunriver Utilities  
 Sunset Acres Water Company  
 Sunset Hills Domestic Water Assn.  
 Sunset Lake RV Park  
 Sunset Water Systems, Inc.  
 Sunshine Village Water Association  
 Sutherlin, City of  
 SW Lincoln County Water PUD  
 Sweet Home, City of  
 Talent, City of  
 Terrace Mobile Plaza  
 Terrebonne Domestic Water District  
 The Dalles, City of  
 Three Rivers School District  
 Tierra Del Mar Water Company  
 Tigard, City of  
 Tillamook Bay, Port of  
 Tillamook County Creamery Association  
 Tillamook, City of  
 Timber Water Association  
 Toledo, City of  
 Tollgate Water Company  
 Tone Water  
 Tooley Water District  
 Trailer Park Village  
 Trappist Abbey  
 Tri City Water & Sanitary Authority  
 Troutdale, City of  
 Tualatin Valley Water District  
 Tualatin, City of  
 Turner, City of  
 Twin Island Community Water  
 Twin Rocks Sanitary District  
 Tygh Valley Water District  
 Ukiah, City of  
 Umatilla, City of  
 Umatilla Indian Conf. Tribes Reservation  
 Umpqua Basin Water Assn.  
 Umpqua Indian Utility Co-op  
 Union, City of  
 Vale, City of  
 Valley View Water Co-op  
 Valley View Water District  
 Valley Vista Estates Water Improv. Dist.  
 Veneta, City of  
 Vernonia, City of  
 VIDA-LEA Community Co-op  
 Waldport, City of  
 Wallowa Lake Co. Service District  
 Wallowa, City of  
 Warm Springs Conf. Tribes Reservation of OR  
 Warren Water Association  
 Warrenton, City of  
 Wasco, City of  
 Water Wonderland Improvement District  
 Wedderburn Sanitary District  
 Weiss Estates Water System  
 Welches Water Company  
 Weldon Mobile Home Park  
 West Hills Water Company  
 West Linn, City of  
 West Slope Water District  
 Western Heights Water Association  
 Westfir, City of  
 Weston, City of  
 Westport Water Association  
 Westridge Water District  
 Westwind  
 Wheeler, City of  
 Wickiup Water District  
 Willamette Water Company  
 Willamina, City of  
 Wilsonville, City of  
 Winchester Bay Sanitary  
 Wi-Ne-Ma Christian Camp, Inc.  
 Winston-Dillard Water District  
 Wood Village, City of  
 Woodburn, City of  
 Yachats, City of  
 Yamhill, City of  
 Yoncalla, City of  
 Young Life  
 Young’s River Lewis & Clark WD  
 Zig Zag Water Cooperative, Inc.



## INDIVIDUAL MEMBERS

Aguilera, Nicolas	Clement, Tony	Gil, Riley	Hunt, Andrew	Madrigal, Deno	Patton, Chris	Steidler, Matthew B.
Allison, Danny	Clifford, Jason	Gonzalez, Jeremy	Hunt, Jeff	Malone, Pamela	Pedersen, Joshua	Stirling, Ethan
Allred, James	Clingman, Amy	Gott, Craig	Hunter, Ryan	Marshall, Chad	Percy, Patrick	Sundstrom, Daniel
Alvarado, Damian	Close, Greg	Graue, Nick	Hyams, Juliet	Marshall, John	Perry, Gary	Tecmire, Timothy
Anderson, Dylan	Conyac, Jeremy	Greene, Michael	Jacob, David	Martin, Marcus	Pierce, Scott	Terrusa, David
Anthony, Joe	Cook, Shelby	Grimstad, Erik	Jacobs, Scott	Martin, Wyatt	Pino, Patricio	Thayer, Bradley
Baldwin-Garcia, Daniel	Cooper, Mark	Halverson, Bruce	Jarvis, Joshua	May, Adam	Powers, Ryan	Thompson, Daniel J.
Barnes, Chase	Crouse, Kenneth	Hamilton, Howard	Johnson, Grady	McClinton, Zachary	Renhard, Chad	Thompson, Daniel J.
Bateman, William	Croy, Huntlyr	Hamilton, Hunter	Johnson, Tim	McCready, Wade	Rezaei, Mona	Tibbets, Taylor
Bazan, Giovanni	Crum, Dale	Hamilton, Megan	Jones, Robert	McGuire, Mark	Richardson, Silas	Tupper, Sean
Bechler, Joel	Davis, Erin	Hand, Eric	Jones, Uriah	McMullen, Ryan	Robinson, Rob	Uhrich, William J.
Bennington, James	DeHaan, Josh	Hanks, Kevin	Jordan, Michael	Meddings, Chris	Rush, Jared	VonPinnon, Michael
Blackwelder, Brice	Doss, Chris	Haring, Joshua	Judah, Dave	Meskill, Garrett	Sabastian, Permor A.	Vorpahl, Mike
Bodner, Jermey	Dubisar, Austin	Hartman, Zack	Katrena, Scott	Miranda, Michelle	Sanders, Tim	Vos, Joe
Bohmker, Tim	Durfee, Kenneth	Hartsell, Branch	Keane, Shea	Moloso, Christopher	Saubert, Terry W.	Wabschall, Aaron
Boyles, Blake	Eddy, Brandon	Hauer, Hunter	Kelso, Josh	Moretti, Garrett	Schaafsma, Eric	Wabschall, Steve
Bradley, Josh	Eichler, Robert	Hawkins, Michael	Kemmer, Alex	Mudra, Austin	Schroder, Michael C.	Wahle, Lynn
Branson, Neil	Elder, Dave	Henry, Robert	Kintz, Brian	Neal, David	Schuening, Scott	Walley, James
Bridges, Dylan	Elliott, Gary	Hensley, Daryl	Kirchmann, Russell	Nelson, Kristen	Scott, Keri	Walsh, Tom
Brown, Jeff	Emmel, Triston	Hermansen, Dave	Koellermeier, Zach	Nelson, Ron	Sears, Ronelle	Ward, Kyle
Brown, Rick	Falk, Tim	Hess, Drew	Koop, Jeremiah	Nielsen, Benjamin	Sevall, Andrew	Warren, Brian
Brown, Scott	Fery, Michael	Hixson, Noah	Krause, Courtney	Noreen, Tyler	Simpson, John	Watson, Samuel
Burnett, Cory	Finnegan, Brady	Hoeffler, Matthew	Kunders, Aaron	Normandin, Matt	Skaggs, Eric	White, Jacob
Buskirk, Jeff	Fowler, Brian	Hoesch, Jacob	Laetzsch, Dawna	Norris, Rick	Skaggs, Jesse	Whitten, Kevin
Cable, Joe	Fraijo, Ashley	Hoffman, Robert	Lambert, Ross	Novac, Samuel	Smallman, Mike	Williams, Lorin
Calhoun, Christopher W.	Franklin, William H.	Houchin, Jeff	Lane, Brian	Odell, Mark	Smith, Bob	Williams, Scott
Cameron, Zachary	Free, Derek	Howard, Richard	Lee, Jon	Oliver-Powers, Jesse	Smith, Contrail	Winterton, Robbie
Ceballos, Oscar	Freel, Milton E.	Howell, Roy A.	Leon, Gary	Ortega, Shane	Smith, Joseph Sr.	Witmer, Drew
Chipman, Kenneth	Gallino, Joseph	Hubbard, Tom	Littrell, Noah	Ortiz, Sam	Smith, Justin	Woodward, Steve
Christensen, Matthew	Gaskey, Harvey	Huebner, Drew	Lockard, Darrel	Ott, Mallory	Smith, Larry	
Clark, Jamie	Gates, Andrew	Huff, Zach	Locke, Rick	Palmayesa, William	Springer, Rondi	
Clark, Joshua	Gentry, Mike	Hughes, James	Lueckenotte, Dustin	Palmer, Blakely	Stark, Chris	
	Gerhard, Nathan	Hume, John	MacCarthy, Steven	Parrish-Green, Angela	Statchwick, Jeff	

## ASSOCIATE MEMBERS

4B Engineering & Consulting	CIMCO Sales and Marketing	Harmsco Filtration Products	Neptune Technology Group	Schroeder Law Offices, PC
A.Y. McDonald MFG. Co.	Cleanwater1	Harrang Long Gary Rudnick PC	Northstar Chemical Inc.	Seattle Pump & Equipment Co.
Adkins Engineering & Surveying	Clow Valve Company	HD Fowler Company, Inc.	Nurnberg Scientific	Sensus USA
Advanced Control Systems	CoBank	Hollabaugh Brothers & Associates	NW Hydrovac	SHN Consulting Engineers & Geologists
Aegion-Insituform Technologies, LLC	Columbia Laboratories	Holman Capital Corporation	One.7, Inc.	Smart Earth Technologies
AKTIVOV Asset Management	Consolidated Supply Co.	Hose Solutions	Optimal Control Systems	Smith & Loveless Inc.
Alpha Guardian Networks	CORE & MAIN	Hurley Engineering Company	Oregon Meter Repair & Water Solutions	Special Districts Assn of Oregon
American AVK Company	Correct Equipment, Inc.	Hydra-Stop	Oregon Public Utility Commission	The Automation Group
American Flow Control	Ditch Witch West	HydroCorp	Orenco Systems	The Ford Meter Box Co., Inc.
American Leak Detection	Diversified Construction and Consulting, LLC	HYMAX by Mueller	Owen Equipment Company	Thompson McLean Assoc.
Anderson Perry & Associates	DN Tanks	InfoSense, Inc.	Owens Pump & Equipment	TMG Services
Aqualtec Corp.	Duke's Root Control	Instrument Technology Corporation	PACE Engineers, Inc.	Trade Tool
Backflow Management, Inc. (BMI)	Edge Analytical Laboratories	Kasco Marine	Pacific NW Sales	Treatment Equipment Company
Bainbridge Associates, Inc	EJ	Kennedy/M&H Valve	Perma-Patch, LLC	Tripac
Baker Silo, LLC.	Energy Trust of Oregon	Kleen Tides, LLC	Pittsburg Tank & Tower Co.	Umpqua Research Co.
Bancorp Insurance	Enviro-Clean Equipment, Inc.	Lakeside Industries/EZ Street	Prestige Worldwide Technologies, LLC	Underground Tech.
Baseform	Ferguson Enterprises	League of Oregon Cities	PumpTech Inc	USABluebook
BioLynceus, LLC	FloHawks	Legacy Power Systems	Puttman Infrastructure, Inc.	Waterlab Corp
Business Oregon Development Dept.	Frank J. Martin Company	Lesman Instrument Company	RDO Equipment	Western Systems
Cascade Columbia Distribution Co.	Frontier Precision, Inc.	Master Meter, Inc.	Reiner Pump	Western Water Works Supply, Co.
Cascade Waterworks	Furrow Pump, Inc.	Metolius Engineering LLC	RJM Company	Whitney Equipment Company, Inc
CIMCO-GC Systems, Inc.	G.T. Gordon & Associates, Inc.	Metron Farnier	Romac Industries, Inc.	Wm H. Reilly & Co.
	General Pacific, Inc.	Morrison-Maierle	Romtec Utilities, Inc.	Xylem, Flygt Products
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