



H₂O Oregon

Spring 2025
Vol. 47, No. 2

47th Annual Management & Technical Conference

Highlights

SUNRIVER, OREGON

31st Annual Summer Classic Conference

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AUGUST 18-21

SEASIDE, OREGON

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

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

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Cover photo by Heath Cokeley

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for Oregon water & wastewater utilities to meet the
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Preparedness For Potential Scenarios: Is Your Team Ready?

by Monty Norris, Wastewater Technician



Have you ever considered the vulnerabilities within your system? Have you questioned what would happen if a critical component, such as a pump or valve fails without a replacement available? What is your contingency plan if the SCADA (Supervisory Control and Data Acquisition) systems fail? Do you have backups in place? How will you manage operations in the event of a ransomware attack resulting in system lockouts?

Consider a situation where the supervisor, the sole individual with access to the DMR (Discharge Monitoring Reports) and all associated data/spreadsheets, is unexpectedly unavailable. Compliance regulations remain unwavering, and any deviation can result in violations.

At OAWU, we are committed to assisting you in restoring and maintaining compliance. The term “team” in this context refers to the collaborative environment a facility should foster, akin to a family given the considerable amount of time spent together. Daily morning meetings could be valuable in addressing roles, responsibilities, and potential vulnerabilities. Creating a list of these vulnerabilities and discussing remedies, whether through training, transparency, or mechanical redundancy, can be crucial.

It is essential to implement plans rather than merely discuss them to avoid unproductive efforts. Reflect on the legacy you wish to leave—hoarding knowledge that should be shared leads to inefficiency. Embracing a team-oriented mindset is beneficial for overall success.

The purpose of this article is to encourage proactive thinking about potential scenarios and to share strategies. Schedule a dedicated morning meeting to focus on these topics, allowing everyone to contribute insights. Additionally, consider reaching out to OAWU for guidance on resolving specific issues. Remember, you are never alone in this endeavor. 💧

WELCOME, NEW MEMBERS!

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47TH ANNUAL Management & Technical Conference

SUNRIVER, OREGON



This year's conference was a great success, and we were blessed with a beautiful week. 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, and Matt Johnson, OAWU Board President. 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 on 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:

- Casey Vannet, Region 2, expires 2028
- Micah Olson, Region 1, expires 2028
- Luis Milera, Region 1, expires 2028
- Craig Smith, Region 1, expires 2028

At Wednesday's regular board meeting, annual officer elections for 2025 occurred. They are: Micah Olson as President, Craig Smith as Vice President, Luis Milera as Secretary/Treasurer, and Matt Johnson as the Past President. 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 attendees' families joined us. The roast and salmon were great, we had bingo for entertainment and many good conversations could be heard throughout the Great Hall.

The 2024 award recipients are:

The Manager of the Year: Ryan Smith, Tualatin Valley Water District

The Wastewater Operator of the Year: Jonathan Hodgkins, City of Newberg

The Water Operator of the Year: Debra Reynolds, Avion Water Co.

The Associate Member of the Year: Brian Anderson, American Flow Control

The Friend of Rural Water: Representatives Ken Helm and Mark Owen

The Office Manager of the Year: Kathy Friese, Ochoco West Water and Sanitary Authority

The Rookie of the Year: Joshua Cushman, City of Drain

The Rookie of the Year: Mathew Spurlock, City of Drain

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 Rhododendron Water Assoc. for Best Surface Water and Crooked River Ranch Water Co. for Best Groundwater. The submissions are tested by 3 judges from the

continued next page





SUNRIVER CONFERENCE *continued*

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 2025 winner of the Overall Best Water category is the Crooked River Ranch Water Co. 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 \$8,730. The selected candidates for this year's Jeff Swanson Memorial Scholarship of \$1,500 was: Alexis Jensen, whose father works for the City of Silverton, Micah Jayne whose father works for the City of Cove, and \$2,000 to Daisy Woika, whose father works for the City of Manzanita. The application for the 2026/27 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 Samsung 43" Class-4K HD TV, a fishing pole and reel donated by Oregon Meter Repair, a Browning X-Bolt 6.5 Creedmore Rifle with a Burris Fullfield II 6.5-20x50mm Scope, and a Kimber Custom 1911, 45 Pistol.

The winners of the ping pong, cornhole and cribbage tournaments were announced. First place in ping pong was Kris Smith, Matt Meyers came in second, and Tim Sundseth came in third. Jason Devine came in first for cribbage, receiving the championship board. Cody Goings came in second and Lacy McCamey came in third. Lee McGinniss came in first for the Cornhole tournament, Abel Santos came in second, and Joey Davidson came in third. Find the Logo contest winner was Nathan Miller from the City of Baker City.

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, Core & Main, Advanced Control Systems and Ferguson Waterworks; our Gold Sponsor: NW Hydrovac; our Silver Sponsors: HD Fowler Company, Inc. and Owens Pump and Equipment; and our Bronze Sponsors: PACE, Bancorp Insurance, Anderson Perry, and Reiner Pump. Be sure to sign up for the Annual Conference next year, the first full week of March 2026, 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. 💧

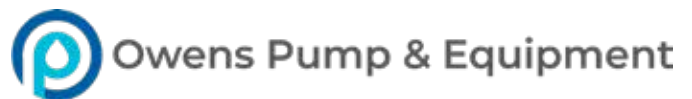


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Write a Note or a Book?

by Tim Tice, Projects Manager

The reasons for completing a daily activity log are many, yet the usefulness of what is documented is only relevant if the logs are reviewed. Tracking and analyzing the activities completed to determine employee effectiveness is one reason, but the primary reason should relate to the future.

Daily tasks being recorded show progress over time, but the structure depends on the purpose and preferences of the user. Completing a daily log for 'your' own purpose is quite different from completion for informational reasons, that information to be used by a future operator.

Most smaller utilities should be completing a daily log for the simple reason, it will answer more questions in the future than not having a reference source. Someone from a small water system will ask a question, only to be answered with another question, did you write it down? The saying, "it didn't happen if you didn't write it down" doesn't always ring true. As humans we cannot remember everything we are tasked with, particularly as time has passed.

If we agree with writing a daily log, then the next question is what should be written, tracked and considered useful? The key word is 'daily.' What do you as an operator do daily? You should create a list of tasks based on what you do. The date, time and description of the activity can assist in developing a routine. An example of routine tasks would be:

Date:	Task	Start Time	End Time	Total Hours
02-12-25	Well Inspection	08:00	08:45	0.75
	Reservoir Check	08:45	09:00	0.25

Aligning daily tasks with a record keeping system emphasizes many items, one being the time necessary to do the job. When a volunteer decides to retire, and the decision makers are unaware of what it takes to fulfill the position, there is a disconnect, and hard to determine the requirements for the incoming operator. A daily log can prove a valuable reference in many areas. When we know the 'routine' tasks associated with operations, we have more answers than questions.

Looking at non-routine tasks, which also can be noted in the daily log, present information for a different set of reasons. An example of non-routine tasks could repair a leak or a consumer complaint. These tasks are unknown when it comes to time allocation. We hope these tasks are limited, but the truth is they will occur. Many of us have taken a new job, explained the training timeline during orientation, which is condensed down or never happens. What a great resource of information for a new operator, the daily log. Another area the daily log helps is future maintenance.

Entries of leaks noted in the daily log will assist in assessing future costs for repairs or replacement of the distribution system. The American Water Works Association details the expense associated with drinking water infrastructure nationally. Knowing the condition of your distribution – collection system is important; the daily log can become a tool to enhance that understanding. The bottom line is gathering information to better assist decision making in the future. Whether an operator takes notes or writes a book, we all wish for some information passed on to us during our training period. Most of us wish we had such a reference. When the entries become habitual, then we can begin to outline the guidelines in performing each task. Those guidelines are a big part of the operation and maintenance manual, which is a subject for another time. The best of everything in life! 💧



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Writer's Block

by Bill Palmaymesa, Small System Trainer

I understand the necessity of publication deadlines but that doesn't mean I have to like them. I dislike the Internal Revenue Service and the thought of dying, too. Apparently in life we all have our crosses to bear.

I'm writing this article for Oregon Association of Water Utilities Spring 2025 quarterly magazine during the dead of Winter. Gazing out my home office window for Spring-time inspiration, staring at a SSO (sanitary sewer overflow) grey sky, through a leafless ornamental plum tree. This tree should have come down last year but it's the only thing protecting me from my neighbor's watchful gaze. If it disappears, I'll have to put pants on.

I visualize our Spring 2025 magazine cover, maybe a close-up of orange and purple crocus blooming through a white canvas of snow, a trickle of clear melt flowing from the snow canvas with a bright blue sky in the background. Or maybe lambs bouncing around a green Willamette Valley grass seed field, yellow daffodils accenting the fence rows with that same bright blue freshly washed sky. You know, something bright and cheery to usher in the fresh hope of a new season! Unfortunately, that stupid wood chuck back in Pennsylvania saw his shadow yesterday so we get 4 more weeks of Winter. I wonder if we could tie our Spring publication deadline to Punxsutawney Phil's prognostications? I'm quite confident my sensei Scott Berry, along with a few others, would support the idea of a rock chuck granting OAWU personnel publication deadline extensions.

An additional 4 weeks of Winter in 2025 would be a good thing. We can always use more snow in the mountains. Like my dad used to say, "Gotta have that snowpack!" He's right. As of this writing, according to SNOTEL (snowpack telemetry) data, Oregon is sitting between 111% and 193% of average with more snow projected within the long-term forecast. This is great news for our watersheds and aquifers!

But for now, as I watch a scrub jay hop the top of my fence looking for a place to stash a peanut, Spring, and the promise of another publication deadline, feels distant. It's snowing now. Enough to blanket naked plum tree limbs with a Costco blanket of soft white. I'm anxious to see how Spring plays out, with an abundant water supply for Summer. In the meantime, I'll get my paperwork together for April 15th. You know, the other publication deadline that, unfortunately, is not impacted by the meteorological interpretations of an Allegheny groundhog. 💧

UPCOMING CONFERENCES

31st Annual Summer Classic
Conference
Seaside, Aug. 18-21

Registration Information:



Fall Operators Conference
Seven Feathers Casino,
Canyonville, Oct. 6-9

Registration Information:



Spirit Mountain Casino
Operators Conference
Grand Ronde, Nov. 12-14

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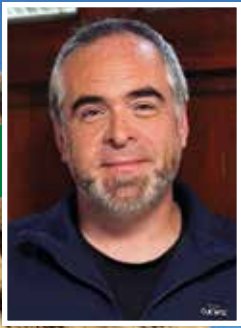


Annual End of Year
Operators Conference
Hood River, Dec. 8-11

Registration Information:



MARK YOUR CALENDAR!



Seize the Opportunity

by Jason Brooks, *Small System Circuit Rider*

Did you just find out that your most experienced operator has decided to retire? Are you face-to-face with uncertainty after learning that your most seasoned board member is stepping down or moving? Most of us have felt that anxiety creep up, as we realize that the person who knows the most about our system will soon be unavailable to help with routine duties and emergencies. What can one do in this situation? Well, getting news like this can break the day-to-day cycle open just a bit and give us an opportunity to make ourselves ready for the future.

Write it down, that knowledge won't be here forever-

Drafting new procedures and updating old ones can easily be viewed as a tedious task that adds unnecessary paperwork to a dusty folder on the shelf. I challenge you to look at it in a different light. There's a unique opportunity to capture the knowledge and skills from an experienced contributor when describing a task. You can make it effective, practical and include important details inside each step, like safety concerns or important notes about how each task affects other parts of the system.

We already have a procedure book-

If you already have procedures, that's awesome! It gives us a great place to start and if we don't have those documents already saved to a computer, we can transfer each printed document to digital form fairly easy with today's technology. It could be as easy as taking a picture with a smart phone.

Why redo what's already been done?

If a procedure has been around for a while, it likely has outdated information, pictures that don't represent what's actually in the field and references to equipment that are no longer in use. A fresh sheet of paper, accurate information and a relevant picture can make all the difference in the world. Remember, these procedures might be the only guide someone, who has very little experience or knowledge with the system, has in the middle of the night to execute a critical task. We definitely want our procedures to be easy to follow with step-by-step instructions and current pictures.

How do I know if my procedures are good?

Something I learned while working with training in the paper industry was that most operators want the knowledge, they need today to get the task done that they have for today. What that means for writing a procedure is:

- Pick a simple title
- Make sure there's an identifier for the equipment or process
- Be concise and to the point with each step, don't include information that takes them away from the task at hand
- Wording, references and pictures are up-to-date
- Safety concerns and critical notes inserted so that they are viewed just prior to the step that they reference

A great test for our procedure is to ask somebody that has no knowledge of the task to read our procedure and try to complete it. This gives us the chance to check our procedure for accuracy and presents a good one-on-one training opportunity.

Teamwork makes the.....

Updating our procedures isn't just for the senior operator, or the most junior. Each person at all skill levels could benefit from grabbing a procedure and checking its relevance in the field. Most of us probably learn best with hands-on training and we hone those skills with

repetition, but what about that one time when no one else is available to answer questions and we've got to do something we haven't experienced for over a year? Do we remember how to do that infrequent task? Take the opportunity to check our knowledge, we can easily integrate procedural readiness and refreshers into our training program.

Innovation and Improvement

Where can I innovate? How do I improve the efficiency of my system? Examine those procedures! Examining the documents that direct tasks in our system can give us a holistic view of operations. With that view, we may be able to identify specific steps or whole procedures that are counterproductive, wasteful or potentially dangerous. That procedure book can be an asset, or a brick wall stifling our potential.

Public Concerns and Expectations

How can our procedures provide assurance and satisfy expectations from the public? Grab a set of well written easy to follow procedures that can be shared. Show the members of the

community that you take their well-being as top priority by following accurate, current, well-vetted documents. The expectation that procedures are accurate and followed can greatly reduce the risk of errors and show your commitment to quality and safety.

Wait, the key ingredient to all of this are questions?

YES, questions! Earlier in my paper career I collaborated with an operator who had more than thirty years' experience. He said to a group of us one day, "You don't know what you don't know," which rang true almost instantly. Sometimes we get stuck just plugging along doing the same old thing, forgetting that there's someone right beside us ready to absorb every bit of knowledge we can share. They might not know what question to ask, or they might feel overwhelmed. Take the challenge, find out what they don't know while being humble and willing to discover what we may be wrong about, but don't forget to write it down! I'm confident each of us could take this kind of opportunity to build a strong team and a bright future. 💧



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Coworker, Friend, or Both?

by Heather Davis, Apprenticeship Coordinator

We recently had a conversation in the office with a new employee about friendships in the office. Some businesses are very strict and only allow coworkers to be coworkers and nothing more. Then there are businesses that encourage their employees to be friends outside of the workplace. Are there pros and cons to both? Short answer, yes.

You can be overly friendly and give someone the wrong impression of yourself or make someone feel uncomfortable around you. Same thing if you are very closed off and are not friendly at all.

Having friendships at the office can be a good thing, having the support of someone there to listen and encourage you can be wonderful. It can also lead to jealousy from coworkers and sometimes we can show favoritism without really thinking about it.

Just being someone's coworker can make it easy when you have work that needs to get done, not a lot of chit chat happens and sometimes people are more productive that way. However, it can lead to not caring about the people we work with and cause a very tense workplace atmosphere.

At OAWU we encourage everyone to be friendly with each other. We don't have to invite everyone to birthday parties or anything like that. We do ask people how their weekend was, how is the family, etc.

It can be hard sometimes finding the right balance of friend/coworker. Also, it can be different for each person. For example, I have some coworkers who just love to hug and some who really don't like to be touched. It's not just finding what works for you, but also for your coworkers.

I can be friendly with my coworkers, but I try to still keep it professional. There are parts of my life that I choose not to share with my coworkers. I grew up being a very private person and still am very much that way. My favorite times at work though are when we are able to be together in the same room. This is something that does not happen often, as we have a few people that live hours away from the office and are not able to come in as often. This time gives us a chance to see each other and connect in a way that is different than connecting with each other over the phone or in an email.

Is one way better than the other? That is not for me to say. Personally, I think right in the middle of the two is perfect, but that's for me. Everyone is different and each workplace is different. Find your comfort zone and see what your coworkers' comfort zones are. Help create a safe, healthy and happy environment at your workplace. 💧

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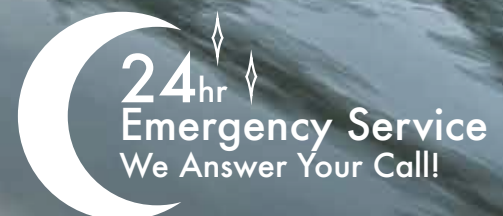
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Beer Solves Everything

Submitted by Keith Bedell, Wastewater Technician

By Joe Janson, MRWA Wastewater Technician

Finally, summer! It took forever to get here, but now the dog days of summer have arrived. Hot weather can not only have effects on our comfort, water bills, and electric bills, but it can also negatively affect wastewater ponds/lagoons treatment.

When a pond/lagoon's water temperature rises up, the sun's angle to earth promotes plant life, and with that comes high nutrient levels. High nutrient levels in the wastewater pond/lagoon are inevitable, and because of BOD (Biochemical Oxygen Demand), nitrogen and phosphorus are the main culprits. The main issues come from the algae and duckweed in and on our wastewater pond/lagoons. High algae growth is an indication that your system is not doing a good enough job of treating the BOD and other nutrients like phosphorus.

What happens to your wastewater pond/lagoon because of the algae growth and duckweed? Well, they can cause a breach in your NPDES permit for your wastewater pond/lagoon as TSS (total suspended solids) levels will naturally begin to rise. Along with high TSS levels, the pond/lagoon will be low in dissolved oxygen. It's well known that algae growth can deplete dissolved oxygen (DO) levels in water.

This is especially dangerous when it comes to wastewater lagoons. Without proper DO levels, the level of anaerobic digestion in a pond/lagoon can increase. This can cause deficient treatment, lagoon odors and/or lagoon turnover.

So how do we fix this issue from Mother Nature? First, adding air is a great option. The natural habitat for algae is at the surface of the water. If you disrupt that habitat, you also disrupt the algae growth in your wastewater pond/lagoon. Aeration will work, but most pond/lagoons don't have power or want to spend the money on installing aeration.

My vote? Beer! Yes, we drink more beer! After hundreds of years trying home remedies for removing algae growth from a wastewater pond/lagoon, Rutgers University has found that barley straw really is the answer. With microbreweries in the country on the rise, and barley farming increasing, the seed of the barley is all that's being used and the straw or stalk of the barley plant is left over as a byproduct. Barley straw can be used for bedding farm animals, insulation, and for yard decoration, but is also a perfect addition to your wastewater pond/lagoon.

So, why barley straw and where did this idea come from originally? Well, the use of barley straw for controlling algae in wastewater ponds/lagoons is becoming more common. Its use dates from England in the 1990's, where studies found it to be effective for this purpose. Barley straw has been used originally to feed the predators that feed on algae. Since then, its use has

spread throughout the United States by wastewater pond/lagoon operators looking for easy and effective ways to combat algae effectively. Other types of straw, such as wheat or rye, have not been shown to be effective for this purpose.

Barley is not a pesticide and will not work as fast as a pesticide, but for the price and easy availability it's worth trying. Barley straw can be available at a local feed store or by a local farmer and is said to only be used dry. The usual recommended quantity to use is 225 pounds (or 4–5 bales) per surface acre of water. It's as simple as spreading barley straw around the wastewater pond/lagoon evenly and letting the barley do the rest. There are no negative side effects, because barley straw will organically break down over time, without causing increased loading rates. To sum this

up, drink more beer, and use barley straw to help keep your wastewater pond/lagoon running the way it was intended! 💧

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Fluoride?

by Sam Waller, Circuit Rider

Fluoride in drinking water has been a topic of debate for many years and now there are renewed talks about removing it on a national level. In this article we will cover the benefits and risks of adding fluoride to water and you can decide for yourself what is best.

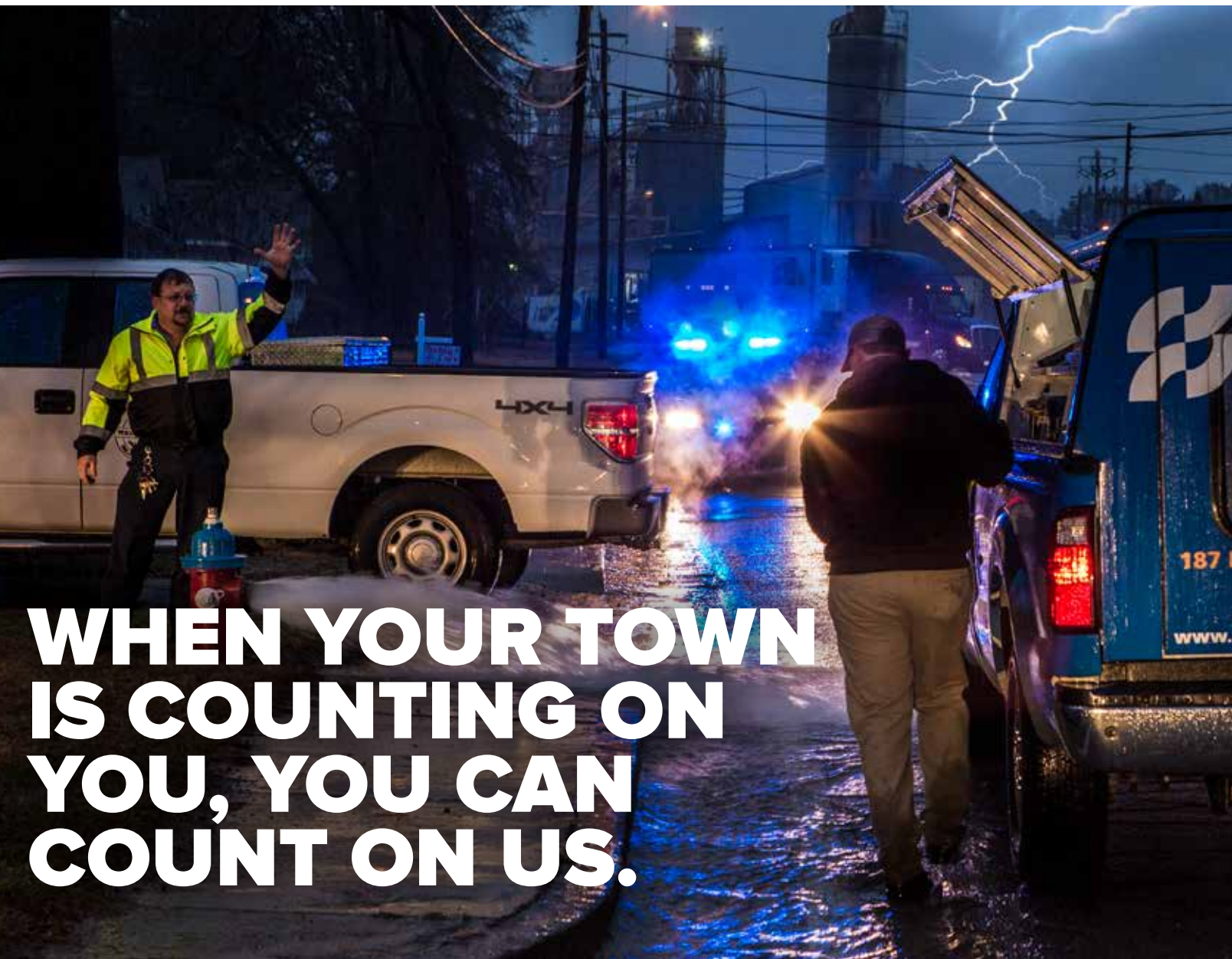
Pros:

1. **Dental health:** fluoride is well known for its ability to prevent tooth decay. It helps to remineralize enamel and makes teeth more resistant to acid attacks from bacteria in the mouth.
2. **Cost-effective:** water fluoridation is a cost-effective public health measure. It can reduce dental treatment costs for communities by decreasing the incidence of cavities.
3. **Community-wide benefit:** fluoridation benefits everyone in the community, regardless of age or socioeconomic status, as it provides protection against tooth decay for all residents.
4. **Leak detection:** if you have water coming from an unknown source you can test for fluoride. If it tests positive for fluoride, the water is from our system or from a spring.

Cons:

1. **Dental fluorosis:** excessive fluoride exposure during childhood can lead to dental fluorosis, a condition that causes discoloration and mottling of the teeth. This is usually mild and primarily a cosmetic issue.
2. **Potential health concerns:** some studies have raised concerns about potential links between high levels of fluoride exposure and various health issues, including skeletal fluorosis and possible effects on thyroid function. However, these concerns are typically associated with levels much higher than those used in community water fluoridation.
3. **Cost:** this makes both lists because while it can possibly lower public health costs, as utility operators adding anything to water costs the utility. This is for the chemical as well as pumps and pump maintenance.
4. **Chemical handling:** when working with chemicals safety is important, but accidents can still happen. Every additional chemical can add risk to operators. For example, commonly used for fluoridation, Fluorosilicic acid can be extremely dangerous when not treated with care.

The decision to fluoridate water involves weighing these benefits and risks. Public health organizations, including the Center For Disease Control (CDC) and the World Health Organization (WHO), generally support water fluoridation as a safe and effective way to improve dental health in communities. However, it's essential for communities to consider local health data and public opinion when making decisions about water fluoridation. As water operators we may not be the ones making the decisions on if our system uses fluoride, but it is our responsibility to safely dose and handle all chemicals. 💧



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The Art of Decision Making

by Scott Berry, Operations Manager

I have always prided myself in my ability to be decisive in my decision-making ability. After twenty years as a volunteer firefighter and EMT as well as a reserve deputy for the Sheriff's Office, I have received extensive training and opportunities to practice my craft. That has served me very well in my career as a water operator. I think what it boils down to is the ability to quickly take in all available information, develop a plan, and execute that plan. As new information becomes available the process is repeated to determine if the plan needs to be altered or if the best course of action is to maintain your current course.

This past Presidents Day I was confronted with a set of opportunities to test my skills. The first test was when, after sending out a flurry of emails starting at 5:00 in the morning, my boss texted me with a gentle reminder that today is a holiday, and I shouldn't be working. It was an easy decision to stay in my robe and slippers and throw another log in the woodstove.

Around 10:00am I was presented with the new information that 2 of our cows as well as a third bull belonging to one of my neighbors were in my front yard trampling on my blueberries and my irrigation lines. I quickly made the decision to throw on some clothes and go try to get all the cows back in their proper areas. Our cow has been a nuisance the whole time she has been with us. She's the tallest Angus cow I've ever seen and she was not de-horned. It shouldn't have come as a surprise that she was resistant to my attempts to get her back where I wanted her. I eventually got her trapped in a corner of the fence and she obviously didn't want to be there.

I failed to fully grasp this new information as I charged in and pushed on her rump trying to turn her back towards the pasture. She did not appreciate this. She crow-hopped and spun around, lowering her head, as she did so, she hooked me in the rib cage and tossed me in the air. I'm sure that in reality it was not that spectacular, but from my vantage point it was every bit as exciting as anything Skipper Voss ever did in the rodeo grounds. This irritated me a bit and I quickly made the decision as to how to deal with her. Now I only have 2 cows and 1 carcass to process and put in the freezer. Our remaining cow was easy to slowly herd back to our pasture gate.

The neighbor's bull is a 2-year old Dexter bull. Full grown, they are only around a thousand pounds and this one was not quite full grown. It was, however, very stubborn and was currently destroying my blueberries and irrigation lines. I took in the information that it was a small bull and I'm a big guy and developed a new plan. I grabbed a raita and proceeded to throw a loop over his head. I missed his horns and got the rope around his neck which would not be a problem if I had a saddle horn to take a couple wraps on and the weight of a horse under me. I didn't. That little bull decided that he didn't like the rope, he didn't like where he currently was, and he didn't particularly care for me.

The feeling was mutual.

It was at this time that my earlier decision to dress quickly became important. Had I taken the time to fully dress and take the time to put on a belt, I would not be dragged hopping across the yard with my pants around my ankles. However, I was committed to this course of action. Letting go and having that little bull hang himself if the loose end of the rope hung up on something was not an attractive option. I eventually got my pants back where they belong and took a moment to look around and determine if my folly was witnessed. Whew! No one was around. This will remain my little secret.

I was eventually able to get him corralled in an area where he wasn't doing any damage and contacted my neighbor to come get him. He got there and scratched him behind the ears and that dang little bull followed him like a dog all the way home.

I may need to seek further training... 💧

Sleep

Mike Collier, Deputy Director/Source Water Specialist



What do you do when you wake up in the early morning and don't feel you can get back to sleep? I know that, at least for many guys as we age, the urge to use the bathroom during the night is a common occurrence. When this happens, and it is before 4:30am, I typically try to quickly lay back down and get back to sleep – even when I have to lay there for an hour before it happens. When it is after that time I figure that I may as well stay up and start my day. If this happens to you, do you take this time to start work, make breakfast for the family, exercise, read a book, meditate, do devotions with a cup of coffee, or maybe something else? Well, let's take a quick look to see what the experts, or maybe supposed experts, have to say on the matter.

First off, according to the sleep foundation, if you already had between 7 and 9 hours of sleep we may as well just get up. Most adults only need this amount of sleep each night. They do warn that getting less than this can have a negative impact on our physical and mental health. Fortune Well has a caveat to this, they say “yes” to the 7-9 hours, but if it is less than this and your alarm is going off in less than 90 minutes, stay up. This is because a complete sleep cycle takes 90min and if that is interrupted it can lead to grogginess.

If it is within the time where we should go back to sleep, WebMD states that we should try to fall back to sleep, but if it doesn't happen within 20min, then get out of bed and find something calming to do until you feel tired again. Don't use electronics and avoid bright lights and screens. Instead, read a book, listen to soft soothing music, meditate and breathe deeply, stretch, or maybe take a warm bath or shower to get relaxed and prepare to fall back to sleep.

So, what is the answer? Well, we can see that it depends. If we have had 7 plus hours then get going for the day, maybe adding some things in the morning that you don't typically do. If it hasn't been long enough, take some steps to try and get back to sleep. Everyone is different and has different sleep requirements or abilities. This information is just, in general, what we should/can do. I know what I did – I wrote this article. ♦

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New Groundwater Regulations in Oregon

by Laura A. Shroeder and Max Jones

Oregon Water Resources Department (“OWRD” or the “Department”) implemented new regulations that significantly alter the groundwater permitting process for applicants. For decades, the Department employed a practice known as “default to yes,” where groundwater permits were automatically issued unless available data proved the targeted aquifer was over-allocated. The new permitting regime requires the Department to not only consider over-allocation but to deny applications where information regarding the health of the groundwater source is unavailable. To avoid a situation requiring a new groundwater application water utilities are encouraged to ensure that currently held groundwater permits are perfected timely.

Water Availability

Under previous and current law and rules, OWRD cannot approve a groundwater application unless public water for the proposed beneficial use is available. Analysis of the subject aquifer must demonstrate that the groundwater source exhibits “Reasonably Stable Groundwater Levels” and the “expected yield of the well(s)” proposed in the application is “obtainable” given “best available information.”⁴ Further, the proposed groundwater use cannot have the Potential for Substantial Interference with a surface water source that: (a) is already over-allocated during any period of the year; (b) is administratively or statutorily withdrawn; (c) is restrictively classified in an applicable basin program rule; (d) is the source of one or more existing surface water rights that are regulated off due to insufficient supply to satisfy senior surface water rights; (e) is subject to a rotation agreement among existing surface water right holders to address limited surface water supplies; or (f) is connected to a surface source that has a minimum perennial streamflow or instream water right that is unmet during any period of the year. Pursuant to rule, these “negative” findings support the statutory requirement that groundwater of the state shall be allocated to new beneficial uses only when the Department makes a finding that water is available for a proposed use.

Reasonably Stable Groundwater Levels

In addition to the above “negative” findings, OWRD must determine that the aquifer proposed for appropriation under the groundwater application is “reasonably stable.” OWRD rules advise that an aquifer is considered stable, when Annual High Water Levels, based on observed trends over time, remain within a range “consistent with sustaining the function and character of a groundwater reservoir indefinitely.” To determine this, Annual High Water Levels, OWRD measures at

one or more representative wells in a groundwater reservoir or part thereof, indicating no decline or an average rate of decline of less than 0.6 feet per year over any immediately preceding averaging period with duration between 5 and 20 years. Under this rule, the “rate of change” of an aquifer is measured with the calculation of four Annual High Water Levels; one measurement taken “in the year to which the evaluation of reasonably stable applies,” and at least one historical level recorded 5 to 20 years prior to the aforementioned measurement. These measurements must show that the aquifer has not declined more than 25 feet between the measurement taken for the current “reasonably stable” evaluation and the historical record from 5 to 20 years prior. In evaluating these measurements, OWRD requires that the historical reference level compared to the measurement taken for “reasonably stable” must be the “highest known water level.” To account for artificial recharge of the aquifer, OWRD can elect to “set a different reference level” when the “highest known water level” is the result of measurable human activity.

OWRD will presume that if the water level data is insufficient to perform either test in a given year that the groundwater levels are not reasonably stable. Accordingly, if OWRD is lacking data regarding the proposed groundwater source, the application is denied. OWRD will mitigate the presumption to deny due to “unavailable data” if the most recent evaluation of the proposed groundwater source determined it was reasonably stable within 5 years of the filed application or, in rare cases, extraction of groundwater from the source has not yet occurred, in which case the Department may presume the groundwater levels are reasonably stable.

The required determination of “Reasonably Stable Groundwater Levels” substantially alters the groundwater permitting review by the Department. Applicants are under increased scrutiny and evidence must demonstrate that the proposed groundwater source for beneficial use are “healthy.” However, and perhaps the most difficult hurdle to overcome, if sufficient hydrogeological data is unavailable for OWRD to determine groundwater stability, then the applicant is immediately denied. To overcome “insufficient data,” the applicant may employ experts to demonstrate the proposed use will not impair the aquifer, but such process is not only very expensive but may not be persuasive against OWRD’s presumption under current law where the agency is always considered right. Accordingly, as most groundwater sources in the state are not considered “reasonably stable,” the new rules are a de facto moratorium on the issuance of groundwater permits.

Unaffected Applicants

The updated groundwater allocation rules went into effect September 17, 2024. All applications submitted prior to the

effective date of the rules should not be subject to the updated rules if those applications do not require substantial modification. The new rules do not impact existing water right holders or water uses exempt from permitting. Further, basin program rules may supersede the new groundwater rules resulting in a stricter permitting process or defining a specific Annual High Water Level for an entire basin.

Conclusion

Groundwater rights are now significantly more difficult to acquire. Water utilities must protect and preserve their groundwater permitted uses to avoid the need to secure a new application at Schroeder Law P.C., we can assist you in determining the status of your utility's groundwater permits and help secure them for the future.

About the Authors

Schroeder Law Offices, P.C., was founded by Laura A. Schroeder and represents water-rights clients in six western states and consults internationally. Max Jones is an Associate Attorney and practices in Oregon. You can read more about other water right issues at Schroeder Law Offices' Water Law Blog, <http://water-law.com/home/blog>. ♦



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Keys to Communication

by Hans Schroeder, Circuit Rider

Communication is the backbone of human interaction. It enables us to share information, express our feelings, and work together seamlessly. There are different ways to communicate, each with its own unique style and purpose.

1. Verbal Communication: This is when we use our words to express ourselves. It can happen in person, over the phone, or in public. For example, when you're out for dinner and the waiter asks you for your sides, you can either say 'sides' or 'silage with white sauce'. The waiter might look at your wife like you're speaking a different language, so she'll have to interpret it for you.
2. Nonverbal Communication: This is when we use our body language, facial expressions, gestures, and tone of voice to convey messages. It can complement or contradict what we're saying. For example, when you make eye contact with someone, it shows that you're interested or confident. When you nod your head, it means that you understand what someone's saying. When you stand or sit tall, it shows that you're feeling confident or assertive.
3. Written Communication: This is when we write down information and share it over time. It includes emails, letters, reports, and memos. Written communication is a great way to keep track of important information and to share it with others who can't be there in person.

This one's tough: I can send a quick text, especially since we're at the ranch and that's usually how I communicate. Maybe I can write an email that's not too detailed. But writing a formal document, unless there's a template or these magazine articles, is where my wife comes in to save the day and "fluff" things up.

Visual communication uses images, charts, and other visual elements to convey information. It's especially useful in education, marketing, and media. Examples include:

- Infographics: Present data in a visually appealing way.
- Graphs and charts: Help illustrate trends and relationships.
- Signs and symbols: Convey messages quickly without words (e.g., traffic signs).
- Whiteboards: This is my favorite form of visual communication. I use them all the time while teaching my math classes.

Digital communication has become the main way we interact with each other thanks to technology. It includes:

- Emails and messaging apps: Facilitate instant and asynchronous communication.
- Social media platforms: Enable global interaction through posts, comments, and live streams. I don't use social media, though. It's not my thing.
- Video conferencing: Allows real-time conversations for work, education, and socializing. Living on the East side of the state has really freed me up to attend meetings virtually most of the time.

Interpersonal communication involves direct interaction between individuals or small groups. My favorite is interpersonal communication. I can be on a flight somewhere and by the time we land, I have a new friend, a place to stay, and a car to drive.

Mass communication involves reaching a large audience through media like television, radio, and newspapers.

Effective communication is all about understanding and using different ways to express yourself, depending on the situation. Whether it's through words, gestures, writing, or technology, communication is super important for building and maintaining healthy relationships, both personal and professional. By learning and using multiple forms of communication, you can make sure everyone is on the same page, understand each other better, and feel more connected. Just like we always told our kids growing up, communication is the key to any successful relationship, whether it's romantic, friendly, or at work. And remember, no one can read minds, so it's always a good idea to be clear and direct in your communication. 💧



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Mapping

by Heath Cokeley, Programs Manager/Circuit Rider

If I pull out an old set of maps that are yellowed with age and the ends worn from years of use the sad fact is this: all the nice straight lines and pretty engineer writing, I tend to take with a grain of salt. It could be accurate, but frequently it is not and while it's still good to consult that map you need to be approaching that job with an air of caution. On the other hand, if there happen to be some handwritten notes and even better some very basic hand drawn diagram of a valve cluster or a mainline, I will take whatever information that gives me as the gospel as someone earned that information the hard way.

While I recognize for myself my deep distrust of water distribution system maps started many years ago as I had 3 sets of maps for my system that typically said 3 different things, none of them being fully accurate. I still believe an accurate set of maps is important. With today's technology an accurate set of maps is a truly achievable thing, but unfortunately it won't happen overnight. With Geographic Information Systems (GIS), a system can take on the system mapping task themselves or contract out to have that information gathered for you. While I see no problem with hiring out the gathering of the basic information like meters and fire hydrant locations if money allows, I still see it as very important for a system that wants mapping to purchase their own equipment to gather this data. That way when you have a mainline failure or are even just replacing a service line you can gather the location information, put it on maps and even snap some pictures of the job for future reference. I also see a lot of value in the system gathering the data because an operator will know how important it will be to the next operator to have the information correct.

There are many different options to choose from when looking for a GIS platform that fits the system's needs. I suggest first outlining all the things you would like this GIS platform to do. Is it just mapping or would you like to use it as an asset management tool as well? Would you like to use it for your service line inventory or even do your valve exercising and work order system off of it. As I said there are many different GIS platforms out there, you just need to find one that meets your system's needs.

You will also need to decide what device you will want to gather the GPS information and that will be dictated by how accurate you want it to be. A standard smartphone can get you in the ballpark but there are a number of devices that can get you more accurate depending on the resources you have to spend on them. If a system like this is something you have been thinking about but have been afraid of the cost, I assure you as the technology has gotten better, the prices have come down. Systems can get a pretty accurate GPS data gathering device for around \$2500 and a subscription to a GIS platform for as low as \$20 dollars a month. This is for a pretty decent system. Again, you can pay more than this, or less, depending on your needs for accuracy or complexity. This amazes me because not that many years ago systems like this seemed out of reach of small systems. If this is something you are thinking about, I would suggest reaching out to different companies that offer GIS, talk to other water or wastewater systems in your area and see what they use, or just call an OAWU Circuit Rider or Wastewater Tech. We likely will not have all the answers to your questions, but we may know where to look or who to get you in contact with. And with that, I'll see you down the road. 💧

UPCOMING TRAINING & EVENTS

Date	Class Title	Location	CEU Information	ESAC#, Fee/Free
April 8-9	Water Treatment, Water Distribution Certification Review	Independence	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
May 13	Math for Operators	Redmond	0.4 Water/Wastewater	6104 Fee
May 13	Pumps & Pumping	Redmond	0.3 Water/Wastewater/Onsite	6216 Fee
May 14	Trident Users Group	Molalla	0.7 Water	6314 FREE
June 10	Math for Operators	Prairie City	0.4 Water/Wastewater	6104 Fee
June 10	Pumps and Pumping	Prairie City	0.3 Water/Wastewater/Onsite	6216 Fee
July 22-23	Water Treatment, Water Distribution Certification Review	Redmond	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
August 5-6	Wastewater Treatment/Collections Certification Review	Independence	1.4 Wastewater/0.5 Water	6043 Fee
August 18-21	31st Annual Summer Classic Conference	Seaside	2.3 Water/Wastewater	TBA Fee
October 6-9	Fall Operator's Conference	Canyonville	2.0 Water/Wastewater	TBA Fee
October 14-15	Water Treatment, Water Distribution Certification Review	Independence	1.4 Water/0.5 Wastewater/Onsite	5815 Fee
October 16	Water T/D Level 3,4 & Filtration Endorsement	Independence	0.6 Water	5816 Fee
October 21-22	Wastewater Treatment/Collections Certification Review	Redmond	1.4 Wastewater/0.5 Water	6043 Fee
November 12-14	Spirit Mountain Casino Operator's Conference	Grand Ronde	2.0 Water/Wastewater	TBA Fee
December 8-11	Annual End of Year Operator's Conference	Hood River	2.3 Water/Wastewater	TBA Fee

Levels 1–4 Water Operator Exams

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

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QUIZ CORNER

1. What is the average suspended solid from a typical residential untreated wastewater?
A. 137 mg/l
B. .179 mg/l
C. 220 mg/l
D. 283 mg/l
2. What is the average BOD5 from a typical residential untreated wastewater?
A. 175 mg/l
B. 250 mg/l
C. 333 mg/l
D. .375 mg/l
3. How much does a gallon of water weigh?
A. 10 lbs
B. 9.3 lbs
C. 6.34 lbs
D. 8.34 lbs
4. What is the pressure exerted by 1 foot of water?
A. 0.433 lbs/sq inch
B. 2.34 lbs/sq inch
C. 1.0 lbs/sq inch
D. 6.52 lbs/sq inch
5. What is the Density of water (at 50° F)?
A. 1.0 lb/ cubic foot
B. 1 g/cubic centimeter
C. 62.4 lb/cubic foot
D. both b and c
E. none of the above
6. Black stains on plumbing fixtures might be attributable to?
A. Calcium
B. Copper
C. Magnesium
D. Manganese
7. Polyphosphates may be used in water treatment to retard corrosion and?
A. Adjust pH
B. Calcium scale
C. Reduce chlorine demand
D. Reduce taste and odors
8. What is the specific gravity of 12.5% Sodium Hypochlorite?
A. 1
B. 1.2
C. 0.8
D. 0.5
9. If 12.5% Sodium Hypochlorite has a specific gravity of 1.2, how many pounds does one gallon roughly weigh?
A. 8.34
B. 10
C. 6.67
D. 4.17
10. Why is universal indicator a better indicator to use than litmus indicator?
A. Litmus indicator can only be used for acids.
B. Litmus indicator can only be used for alkalis.
C. Universal indicator goes green if something is neutral.
D. Universal indicator gives the pH of the solution.

ANSWERS: 1-C, 2-B, 3-D, 4-A, 5-D, 6-D, 7-B, 8-B, 9-B, 10-D



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2025 OREGON ASSOCIATION OF WATER UTILITIES

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 | \$ _____
See schedule below |
| <input type="checkbox"/> Associate Member | \$650.00 |
| <input type="checkbox"/> Individual Member | \$100.00 |

Regular Member Dues Schedule

1 to 100	\$75 + 50 cents per connection
101 to 500	\$85 + 50 cents per connection
501 to 1,000	\$90 + 50 cents per connection
1,000 and up	\$100 + 50 cents per connection
Maximum dues is	\$1,500.00

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Membership Types

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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 \$650.00 per year

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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

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- On-site technical assistance
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- 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



MB25

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