

A scenic photograph of a wooden bridge over a river in a lush forest. The bridge is made of dark wood with a simple railing. The river is calm, reflecting the surrounding greenery. Large trees with thick trunks frame the scene on both sides. The foliage is dense and vibrant green.

H₂Oregon

Spring 2020
Vol. 42, No. 2

Highlights from the 42nd Annual
Management & Technical Conference
in Sunriver, Oregon PAGE 4

A publication of Oregon Association of Water Utilities
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Vol. 42, No. 2

CONTENTS

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Your photos and articles for inclusion in H₂Oregon. OAWU requests your best photos of Oregon water scenery for our magazine covers and artwork!

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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Cover photo by Jeff Crowther
Scaponia Recreational Site,
East Fork Nehalem River

A Message from the the Association Staff and Board of Directors	3
OAWU Welcomes Shawna Crowther as New Office Manager	3
Highlights from the 42nd Annual Management & Technical Conference.....	4-6
Source Water Protection by Mike Collier, Deputy Director.....	7
Microbrews: Good and Bad by Jeff Crowther, Wastewater Technician	9
One's View of Water Quality by Hans Schroeder, Circuit Rider.....	10-11
Rates by Heath Cokeley, Programs Manager/Circuit Rider	12-13
Time, Task, Treasure and Talent – “Four Ts” by Tim Tice, Projects Manager.....	14-15
Water Detective by Scott Berry, Operations Manager	16-17
Mark Your Calendar—Upcoming Conferences	17
Why I Like My Job by Keith Bedell, Wastewater Technician/Circuit Rider	18
Having Hobbies by Bob Waller, Water Circuit Rider.....	20-21
Training & Events Schedule	23
Quiz Corner	25
Thanks to OAWU's 2020 Sponsors	25
Municipal Water Rights Part 2: Place of Use by Laura Schroeder & Jakob S. Wiley.....	26-27
Membership Application Form.....	29
Membership Roster	30-32

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Advanced Control Systems	8	Oregon Health Authority.....	22
American Flow Control	19	Oregon Meter Repair	24
Bancorp Insurance	24	Owen Equipment	11
BMI	22	PACE	19
Branom Instrument Co.	19	Pittsburg Tank & Tower.....	21
Cascade Columbia Distribution Co.....	22	Puttman Infrastructure, Inc.	13
Core & Main	7	Special Districts Association of Oregon	26
Dan's Leak Detection	23	The Automation Group.....	Inside Front Cover
Ferguson Waterworks	13	The Ford Meter Box	24
H.D. Fowler	24	TriPac.....	13
Lakeside Utilities (EZ Street Cold Asphalt).....	21	Underground Tech.....	24
Neptune	Inside Back Cover	USA BlueBook.....	Back Cover
Oregon DEQ: Clean Water State Revolving Fund.....	27	Waterlab	15

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Notice: Oregon Association of Water Utilities invites you to prepare a short article about your water system or other topics which would be of interest to our readers. We also welcome articles from our associate members. The Publisher reserves the right to reject or edit any articles received for publication. Statements of fact and opinion are the responsibility of the authors alone and do not imply an opinion on the part of OAWU.

Send your articles with full color photographs, in digital format if possible, to the address listed above.

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OAWU's mission is to provide service, support and solutions for Oregon water & wastewater utilities to meet the challenges of today & tomorrow.

May 5, 2020

Dear OAWU Member,

Your Association staff remain working and healthy, but we are limited to traveling for only critical or emergency situations on a case-by-case basis. We wish to check in with you, send our greetings and well wishes. If you have a critical request or an emergency and are in need of assistance, please do contact the OAWU office. If your request can wait until after social distancing is lifted, we can schedule a future time for a visit. If you have urgent training needs, please do call the OAWU office. We will be rescheduling and adjusting our training class schedule as soon as we are allowed. Seaside, OAWU Summer August conference, is on track and we will have the schedule online soon.

If you care to call the OAWU office or send a brief email note, we would love to hear from you. Take care, stay well and thank you for your continued support!

The Association staff and board of directors

OAWU Welcomes Shawna Crowther as New Office Manager

Shawna grew up and went to school in the Willamette Valley, Oregon. College provided additional accounting and bookkeeping skills and she began working at a small tax preparation and bookkeeping office in 2014. She worked there for two years, gaining experience in payroll, bookkeeping, and tax preparation.

In 2016, Shawna took a job with the State of Oregon as an accounting technician in accounts payable and also, later, promoted to compliance specialist. In this position she was expected to lead other accounting technicians, assign and coordinate workload, and review completed work for accuracy and train employees. Some of her hobbies include photography and traveling.

She has been to many other countries and almost all the 50 states. Playing with her dog and taking her for walks is something she enjoys on her down time. Please welcome and congratulate Shawna as an integral part of TEAM OAWU! 💧



42ND ANNUAL

HIGHLIGHTS Management & Technical Conference

SUNRIVER, OREGON



At this year's conference we were blessed with a week of beautiful, sunny weather and it was a great success. 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 Mike Edwards, OAWU Board President. They welcomed attendees and discussed the state of the Association. They were followed by Russ Cooper, National Rural Water Association Director. Russ provided an update on the issues the industry is facing at a national level. This was followed by Mark Landauer who presented an update regarding the legislative issues at the state level.

The OAWU annual business meeting was held after class sessions ended on Tuesday. President Mike Edwards 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 elected to the board were:

Konrad Dimmitt, City of Lafayette, Reg 3, Exp 2023

Craig Sheldon, City of Sherwood, Reg 2, Exp 2023

Matt Johnson, City of Monmouth, Reg 5, Exp 2023

Phil Davis, Odell Water Company, Reg 2, Exp 2023





At Wednesday's regular board meeting officer elections for 2020 occurred. They are: **Mike Edwards** as President, **Matt Johnson** as Vice President, **Craig Smith** as Secretary, **Micah Olson** as Treasurer, and **Mark Beam** as Past President. We would like to thank and recognize our retiring board members: **Mark Kerns**, Avion Water, Years of service 1997-2020 and **Phil Davis**, Odell Water Company, Years of service 2005-2020; thank you for your many years of direction and service to OAWU.

Many attendees were present at the awards banquet, on Wednesday evening, and several visiting attendee families. The roast and prawns were great, and many good conversations could be heard throughout the Great Hall, along with the appreciation of **Mark Russell**, OAWU Office Manager for over 20 years as he will soon begin his retirement. **Heath Cokeley**, **Jeff Crowther**, **Tim Tice**, **Donna Bernt**, and **Scott Berry** received awards for Outstanding Service. Years of Service awards went to **Donna Bernt**, Administrative Financial Assistant, **Hans Schroeder**, Water Circuit Rider, and **Mike Collier**, Source Water Specialist/Deputy Director all for 10 years of service, 2009-2019; **Mark Russell**, Office Manager for 20 years of Service, 1999-2019.

The 2019 Manager and Operator award recipients are:

The **Manager of the Year**: **John Collins**, South Fork Water Board
 The **Water Operator of the Year**: **Dennis Lewis**, City of Philomath
 The **Associate Member of the Year**: **Suez Advance Solutions**
 The **Friend of Rural Water**: **Ron DeRoche**, Cascade Waterworks
 The **Rookie of the Year**: **Travis Gibson**, City of Independence
 The **Office Manager of the Year**: **Mark Russell**, OAWU
 The Wastewater Operator of the Year award will be announced later.

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 whom 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 Stayton** for Best Surface Water and **Crooked River Ranch** 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 2020 winner of the Overall Best Water category is **Crooked River Ranch**. 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 on 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 and would like to thank **Douglas Cook** from the City of Hillsboro, **Russ Cooper** from the City of Independence, and **Brian Anderson** from American Flow Control for donating the auctioned items this year. The money goes to support the Jeff Swanson Memorial Scholarship fund, the scholarship auction and raffle proceeds exceeded \$4,500. The selected candidates for this year's Jeff Swanson Memorial Scholarship of \$1,500 each were: **Allison Kuhnke**, whose father works for the City of Lake Oswego; **Susanna Bailey**, whose father works for Avion Water Company Inc; and **Brice Blackmore**, whose mother works for 4B Engineering and Consulting.

The application for the 2021–22 academic year can be found on our website. Please apply if you have a child that is currently attending or going to attend college.

Congratulations to our raffle winners, raffled items were a Kimber 84M rifle with a Leopold Scope for the WaterPac, a Smith & Wesson 629 SS for the Jeff Swanson Memorial Fund, and a 55" LED Smart UHD TV.

The winners of the ping pong and cribbage tournaments were announced. First place in ping pong was **Darryl Walker** from the City of Cannon Beach, **Dave Bobbett** from WECI came in second, and **Jade Mecham** from Jacobs came in third. **Don Monroe** from South Suburban Sanitary came in first for cribbage, receiving the championship board. **Jim Shaver** from PACE Engineering came in second and **Jason Devine** from the City of Sublimity came in third. The Find the Logo contest winner was **Justin Nelson** from Warren Water Association.

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 our Gold Sponsors of this year's conference, **Core and Main** and **Lakeside Industries**; our Silver Sponsors, **HD Fowler Company, Inc.** and **CoBank**; and our Bronze Sponsor, **EJ**.

Be sure to sign up for the Annual Conference next year, the first full week of March 2021, 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. 💧



Source Water Protection

by Mike Collier, Deputy Director/Source Water Specialist

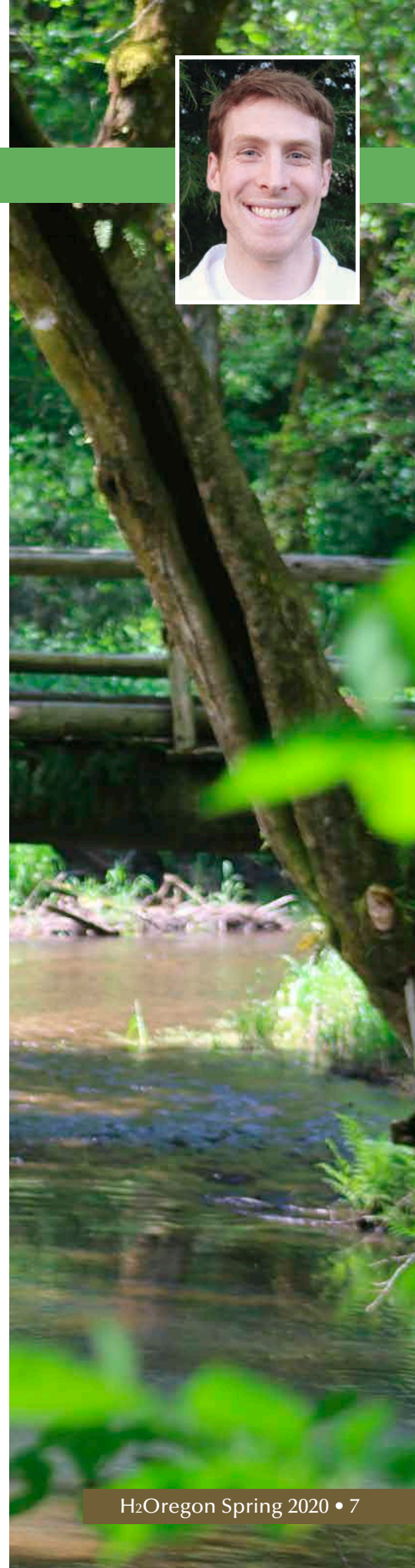
Drinking water protection in Oregon is voluntary steps, accepted by water system personnel and other managing authorities, to reduce the risk of future water contamination. History has shown that if drinking water becomes contaminated above health standards it will become necessary to find a new source or further treat the contaminated source at an ever-increasing cost to the utility.

When water systems are asked about the steps they are willing to take for water protection they commonly reply, “the wells have been producing clean water for years without any laboratory tests coming up positive for contamination”. A drinking water protection plan raises awareness to the potential contaminant sources within the well’s capture zone and encourages action to protect against these possible threats.

When drinking water protection first began much of the information was very technical and mostly covered aquifer and well characteristics. This is great information, but water system managers are often too busy to use this information, so what can be done?

Source water protection plans outline a set of guidelines to help reduce the potential contaminant sources found in the drinking water protection area. The plan’s implementation relies on action from the water system, local landowners/managers, and the general community. Taking reasonable action to reduce the potential pollution from the higher risk contaminant sources that are in closest proximity to the well or intake is the most effective way to begin to further protect your drinking water supply

Please let OAWU know if you are interested in free help to begin a Source Water Protection Plan for you. 💧



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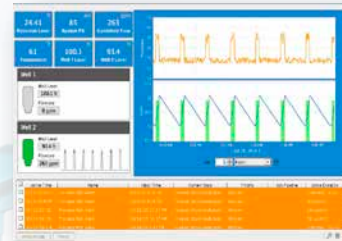
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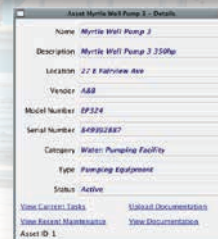
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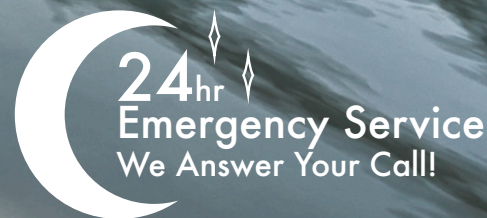
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Microbrews: Good and Bad

by Jeff Crowther, Wastewater Technician

Anyone who has been around me very much knows that I enjoy a good microbrew. As for domestic beers, I would go as far as to say, I just don't care for them. A good hefeweizen or a nice dark beer is worth drinking. I like the fact that microbrews have flavor and substance.

As most of us know, the microbrews got their start here in the northwest and we are proud of that fact. I get excited when a new brewery comes along because they might be making something unique that will make a splash in the microbrew market. To make them even better, typically, these breweries are associated with a food service facility such as a restaurant or bar.

With my excitement, also comes concern. When these breweries start up they sometimes have very little oversight by the local jurisdiction, especially in smaller communities. How much of an affect is it? Brewery wastewater can have a BOD of as much as 10,000 mg/L, where as normal domestic wastewater is about 200-300 mg/L BOD. The pH can be extremely high or low depending on the sanitation chemicals used in the process. Some jurisdictions have found that the sewer mainlines have been completely plugged due to the discharge of the mash to the sanitary sewer and build up of slime due to the high sugar content of the wastewater discharged.

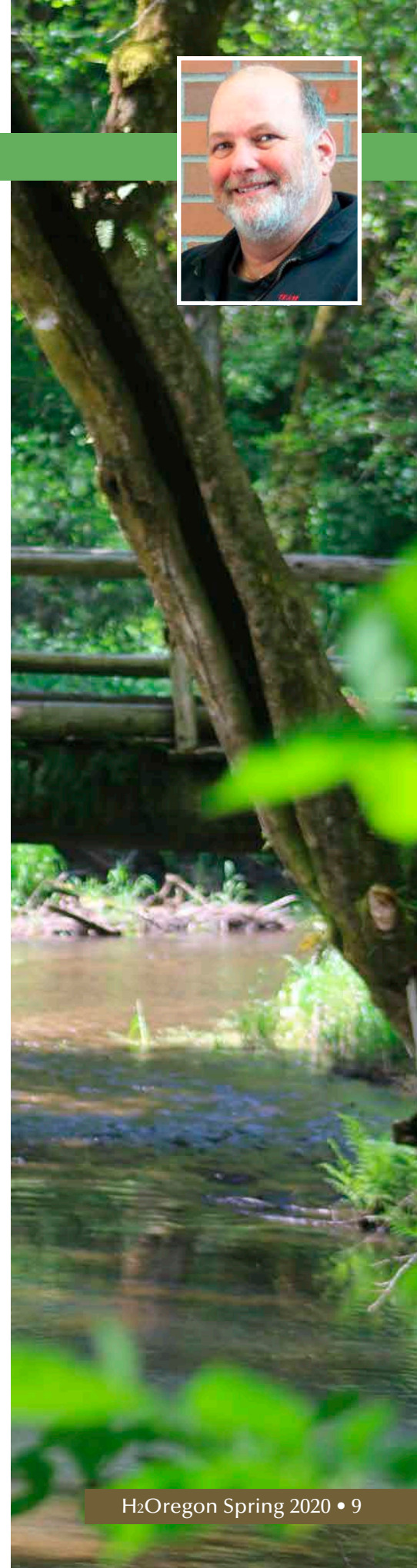
How does the local jurisdiction control these facilities without discouraging them from locating in their community? The best way is to provide a control mechanism (permit) identifying the minimum measures the brewery should use to protect the municipal wastewater treatment and collection system. These measures should include the following Best Management Practices (BMPs):

- Floor drains should be covered with a screen, preventing anything larger than ¼ inch from going down the drain.
- Recovery of the spent hops, grains, yeast, and solids. These items can be sent to the land fill or recycled for animal feed.
- Minimize the amount of waste product discharged to the sanitary sewer (for larger quantities of product may require metering the discharge over a longer period or include it with the animal feed recycled products).
- Wash water and sanitation cleaning solutions should be collected and neutralized to an acceptable pH level prior to discharge.

The control mechanism should also include language that if the BMPs are not followed, additional sampling and oversight will be required at the facility's expense. When these breweries don't control their effluent discharge, it can be devastating to the utility's infrastructure. Collection systems have been destroyed by corrosive cleaners that have not been neutralized prior to discharge. In small systems, the low pH can affect the bacterial activity in the treatment system. The high BOD loading will affect the DO in the system requiring blower adjustments or resulting in poor treatment.

Most responsible micro breweries have no problem following the local jurisdiction's guidelines. It is in their best interest to provide a good product with the least amount of waste. They also want to be responsible members of the community and protect the wastewater treatment system. Sometimes they just need a little guidance.

As I go forward and stop in for that cold dark stout, I will be wondering what exactly is going on behind those doors and going down the drains. Hopefully, they are implementing their BMPs wisely. 💧





One's View of Water Quality

by Hans Schroeder, Circuit Rider

Our exchange student from Italy has really taken an interest in the water industry since she has been living with us this year. It has been a real experience for us, as well as her. It's been very interesting to share our country's different culture. This was written in her own words:

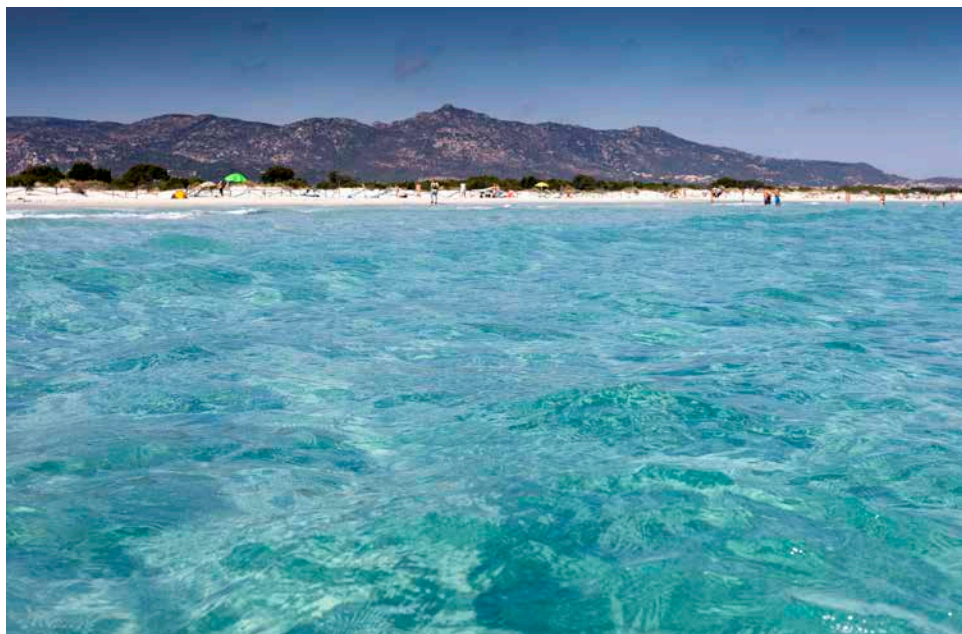
I came to America with the aim of changing, looking for new points of view, living in a world, in a completely different reality from mine and discovering what living in my little bubble has hidden me from. I started from, what for 16 years was, my home with a mentality created only by the short life I have lived to now, in a place that I never imagined would ever have been right for me. I have learned from this experience, much more than what I had learned over my entire life beforehand. Living without what my parents may seem difficult, the fear of being assigned to people (exchange family) with different ideas, habits, and ways of doing things, but I found out that I was stronger than I expected, I experienced emotions for the first time that I had never experienced before.

Coming to the United States, I now realize how different Italy is, from about every

point of view. Such as: the first time I ordered water in a restaurant I found out that it was free, where I live you have to pay to drink plain water, it was a SHOCK! Most of the time in Italy water is served in glass bottles usually a one liter size. The same for soda drinks in fast food restaurants, in Italy we are used to paying for the glass already filled by workers and if we want another, we have to pay for it too. Another difference in the United States, where you only pay once for the glass and you have the option to fill it as many times as you want. The only time when you get a free glass of water is usually with coffee, but often you can also find yourself in places where you have to pay, usually in northern Italy you can find yourself paying more often.

In Italy we have the possibility to drink directly from the tap most of the times, but there are places where we have the problem with limestone, for example in my house I used to drink directly from the tap until 3 or 4 years ago, but my family and I have been forced to stop to safeguard our health.

Pollution in Italy is a problem that is growing more and more, some Italians



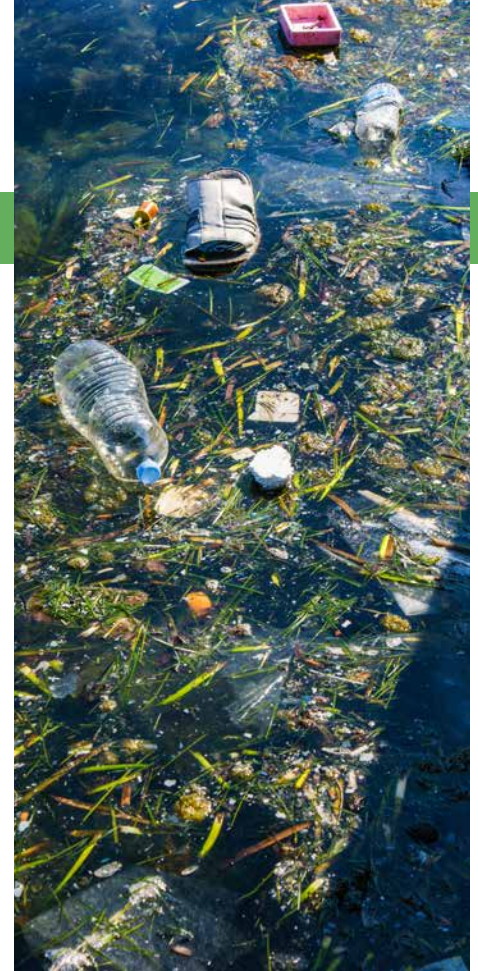
do not realize that a small action like throwing a plastic bottle into the sea can seriously affect the next generation, including their children, there are areas where there are improvements in keeping clean water, but at the same time there are other areas where it is embarrassing to see what is done.

From personal experience going on vacation with my family in Sardinia, an Italian island located in the western Mediterranean, I realized how different the sea can be by moving to different areas of the island. An island of only 9300 square miles or 10 times smaller than Oregon, it is famous for the crystalline waters located in the south, but if we move to the north, where I go on most holidays, the sea is simply horrible. Very often it also depends on the days and the weather but finding

plastic in that area is now so common that it is something the locals don't even notice anymore.

Italy is smaller than the US and is surrounded by ocean, so it is much easier to find waste on the banks. I haven't experienced anything like that on the Oregon coast.

I hope from the view of an outsider you see that the work we do is for a good cause. People respect that they can go to the faucet and pour a tall glass of water without the worry of what it will do to their health. I hope our Oregon beaches never look like the picture she shared with me of a whale that had died on one of their beaches its mouth open and all you could see was that it was filled with of all kinds of garbage. Keep up the good work in our industry!! ♦



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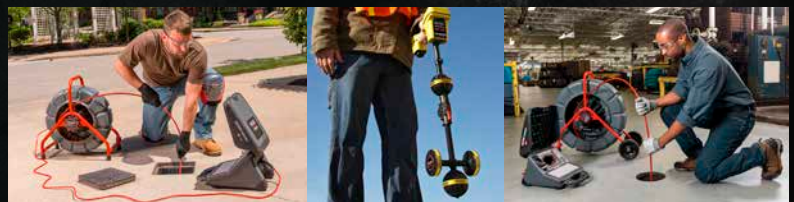
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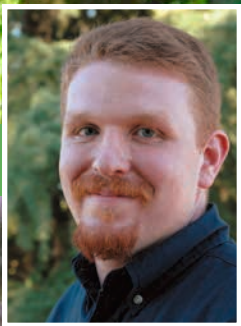
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Rates

Heath Cokeley, Programs Manager/Circuit Rider

I am guessing it would not surprise most of you to learn that one of the questions I am asked a lot about is rates. What to charge a system's customer for delivering safe drinking water to the house or carrying their wastewater away in the sewer system. No, I'm not going to talk about rate studies for systems, (I know our Tim Tice, with OAWU, has discussed that in previous articles and if you are looking to have one done for your system you should contact Tim to discuss it). What I want to focus on is a few common statements we hear from the board or customer base and how to work with those individuals to help them understand the need for a rate increase.

The first statement I will bring up is one I would guess most everyone has likely heard a few times. "There is no good time to raise rates." Sound familiar? My response to this one has always been, "yes there is, and its early and often." No, I am not trying to make light of this, and I assure you if you just respond with that statement it will likely cause more harm than good, but what I mean by that is this: if you make small incremental rate changes frequently, to keep up with the specific needs of the utility, it will be far easier on the customers than going a decade without a rate increase and then giving the sticker shock of going up by 50% or even doubling the rates. I would also argue it is far easier on a council or board to adopt a scheduled rate increase and then follow that step increase, than it is to get way behind and then make a big jump all at once trying to catch up.

I realize some operators may read the previous paragraph and think, "that sounds great, but our last rate increase was 10 years ago, so we are already in that boat." That brings me to another

common statement I have heard from boards that should be dispelled, "I got on this board to keep the rates where they are." Unless the utilities' current rates are enough to cover current system operation and maintenance, system upgrades, and replacement, as well as, qualified staff, then I have a major problem with that statement. Even if the current rates will do all of this, and I hope they do as they should, then we will still need to incrementally increase the rates to keep up with cost of living expenses like any other utility or business does. I frequently use power as an example here as I know my power bill has not gotten any cheaper in the last 10 years. If a board member does make this statement then hopefully it can be explained to them, reasonably, that we are not asking for a rate increase because we want to charge customers more, you are asking for it because you need more revenue to continue to operate and maintain the utility in a reasonable manner for the future. I will frequently tie this back to their home's value by simply saying, what is your house worth today? Now what is it worth without clean drinking water and a wastewater system?

Now, a board member getting on a board to keep the rates reasonable, I can respect. As long as they are realistically looking at what it costs to run the utility and realize that if it is not properly funded then it will suffer to some degree from deferred maintenance and will certainly cost more to fix later. We absolutely want our boards and councils to be fiducially responsible which is why it is so important to be able to articulate why a rate increase is needed. Being able to use tools like our system master plan to point to upcoming projects and make plans for how to get there financially

is crucial. We need to be able to explain to them that if the system is going for state or federal funding, those agencies are not going to loan money to the system if the rates will not be able to pay the loan back, as well as, maintain the system.

I would very much hope that if we put together a plan outlining why a rate increase is needed, based on upcoming project or even just to keep up with cost of living, that the board will be willing to listen. I am not saying, by any means, it is an easy conversation to have, but by getting the board on board (pun intended), and showing them how a rate increase today may curb a much larger rate increase in the future, they will hopefully be able to pass that message on to the customers when they, inevitably, get stopped in the grocery store and asked why the rates are going up. I am sorry if you are fighting for a rate increase right now or looking at doing one soon, but please remember you can always give one of us at OAWU a call and we can at least give our two cents, and with that I will see you down the road. 💧



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Time, Task, Treasure and

by Tim Tice, Projects Manager

In this ever-changing world of water, currently, more emphasis is being put on operations, a management plan that involves technical, managerial, and financial areas. With today's demands and requirements, one must be willing to overlap these areas to meet specific goals. Each of the three areas play both similar, but very different roles as they relate to time. How these roles change over the years must make us wake up in a classroom, continually learning and adapting.

If an operator spent all their time at school, they would never really sense what is happening back at the facility. Contrarily, if someone chose to stay in the field without entertaining (classroom) new ideas, then operations may get behind the times, because time is rolling on. This is written at the end of January 2020 and I have much work to complete by the end of February. Initially I had eight weeks until everything was due, now we are less than four weeks away. We need balance, how do we deal with time, tasks, treasures and talent?

The answer is unsure because we all manage the four Ts a bit differently. Of the four Ts, only one seems to be always increasing and that is "tasks". This next paragraph was one of the first pages from a purchased book while at school, and since I no longer have the book, I cannot share with you the author. I did however keep the quote so I can share this point with you, "Declining human and monetary resources along with rising information overload, signifies managers and personnel must find ways to focus time, resources and information gathering on the critical areas of operations."

So, we have more tasks to perform than ever before, but we have technology today to assist, complete those tasks faster than ever. Then why is it we are consistently running out of time? So, with more tasks, how is it we can blend the managerial, financial and technical aspects of operating a water system. The simple answer is, "We may need assistance."

If someone needs assistance, then where does someone turn? One method would be to hire a specialist in the field, but the cost associated with specialists will impact the financial side of the system. How about putting the latest and greatest technology on the system? A great concept for sure, an operator can manage the water system while on the beach in Tahiti. So much for time-away! With technology, many conveniences are provided, but at a cost to maintain the IT system. If you're a "sole" operator, many tasks get completed, but what are those tasks that get put aside? If you're a manager of a large group of workers, the tasks you're entrusted with have changed as the system and regulations have changed. A manager's time spent in the field has been reduced due to the other tasks that have developed with the change in the water system.

It can be said, and hold true, the best balance of the four Ts is surrounding oneself with talent. Involve yourself and surround yourself with good, talented people. Key people in key positions allow for the growth of everyone in the areas they are the most talented. The recipe for success is to couple a group of talented individuals with a common goal. As the common goal changes, the team refocuses to simply meet the new goal.

Talent – “Four Ts”

Water system operations are no different than any other organization. They may have growing pains, stagnation of sales, personnel concerns, but a water system has dedicated customers. Where do you find your treasure? Success in water system operations is often measured with a blind eye. When quality drinking water is delivered, not much else is a concern, unless you're the manager. Goals dissected as both “short-term” and “long-term” allow a manager to keep routine maintenance completed and looking at major modifications to the system in the future.

Regularly updating our goals for the utility (annually) can help remind us of the changing conditions and the need to respond to them. An up-to-date plan helps identify what tasks are more pressing, those items that require tackling in the next fiscal year.

Routinely discuss the long-term actions necessary to keep the highest quality water being delivered. Prioritize those

long-term tasks and associate a cost with each upgrade, highlighting these concerns with the decision makers. Revisiting these recommendations will help keep the shock value low to the constituents.

Juggling the four Ts is no easy assignment. Whether the water system requires a single part-time operator or an entire crew(s) to get the job done, many challenges are different, but the primary goal is the same. However you choose to accomplish the goals of the water system, know there are “talented” people in the industry who are willing to assist (call OAWU to help). Being assisted by someone provides both the recipient and the benefactor a sense of accomplishment.

Continue to challenge yourself, continue to grow, continue to make your work for the betterment of your community. The best that life has to offer! ♦

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Water Detective

by Scott Berry, Operations Manager

One of the topics that regularly comes up in my travels and classes is taste and odor complaints for water systems. There is usually some confusion on what the requirements are from the state as well as the common diagnostic techniques to use.

OAR 333-061-0025 states: "Water suppliers are responsible for taking all reasonable actions to assure that the water delivered to water users does not exceed maximum contaminant levels, to assure that water system facilities are free of public health hazards, and to assure that water system operation and maintenance are performed as required by these rules. Such actions include, but are not limited to: (8) Following-up on complaints relating to water quality from users and maintaining records and reports on actions undertaken;"

This means that we are responsible for documenting each water quality complaint as it comes in and to keep a running list of those complaints. It is then incumbent on us to investigate each of those complaints to determine the cause and document what we did to rectify the condition.

There are many contributing factors that lead to taste and odor complaints in Oregon water supplies, some that are in the jurisdiction of the water provider and some that aren't. In my opinion, water providers are responsible for assisting in diagnosis until its proven whether the problem lies on the system side or the customer side. The process of diagnosis always starts, and often ends, with that initial phone call. There are a few questions I always ask.

- What is the nature of the complaint? If it's a taste and/or odor complaint, is it coming from every faucet or just specific faucets?

- Is it coming from both hot and cold water?
- Just hot water?
- Just cold water?
- Have there been any recent changes or updates in the household plumbing?
- Does the household utilize any point of use or whole home water filtration device?

There are some complaints that are more common in groundwater systems due to iron, calcium, and manganese, also referred to as the hardness of the water. Many homeowners will install a water softener to combat the appliance staining and other hard water complaints. These systems are effective when properly operated and maintained. The problem with them is that they are set to backwash according to a clock, not by differential pressures. If they are not set to backwash either frequently enough or for a long enough duration, they will cause odor issues as well as a reduction in pressure. If there are no other homes in that area that are experiencing problems, have them put their filter system on bypass. Any pressure problems will go away immediately, and taste and odor issues will go away with some flushing.

There are always issues with cartridge filters, such as in refrigerator water dispensers, that if they aren't changed out frequently enough, will cause an odor referred to as musty, swampy, earthy, etc.

The major organic causes of taste and odor problems are methyl isoborneol and geosmin, often associated with algal blooms. With so many possible contaminants that could cause a range of issues from harmless to dangerous, it is important to identify the causes of odd tastes or smells in water.

Oregon Association of Water Utilities

Sulfur odor — Could be caused by sulfate-reducing bacteria or sulfate in the groundwater. It is not necessarily dangerous but could signify high pollution levels. Sulfate-reducing bacteria are found in oxygen-deficient environments. They produce hydrogen sulfide as they feed on decaying matter. Proper ventilation can allow the gas to escape. They can usually be removed by aeration or chlorination. Sometimes the rotten egg smell may be caused by a chemical reaction inside a hot water heater. This is the case when the smell is detected when only the hot water tap is used. If present in the water supply, hydrogen sulfide can corrode metallic pipes.

Sewage odor — This one pops up primarily in second homes or vacation homes as well as areas of the house that are used infrequently. This odor may be caused by bacteria sitting in the drain or when a hot water heater is run at low temperatures or turned off for a period

of time. A heavy gas fills the drain near the sink and is forced upward into the air around the sink when the tap is turned on. To determine the source of the smell, users can fill a glass with water, walk away from the faucet, and then smell the glass. If it is odorless, the smell is probably coming from the pipes and drain, so residents should clean the drain or run some water in the drain.

Sweet taste — A high concentration of calcium or iron, or an imbalance in alkaline or pH levels can cause a sweet aftertaste in water. Pipes can also affect how salty or sweet water tastes, whether the building is new or old. Plumbing is another potential culprit, so flushing pipes may help to remedy the problem. Iron and other metals can also cause a bitter, metallic taste

In a recent conversation with Brad Johnson of Umpqua Basin Water Association, he was telling me that he has gone through all of these questions

and it came down to visiting the affected household and finding that he was unable to detect the presence of an odor, he continued the conversation. It was finally determined that there was in fact no odor in the water, but the homeowner had recently begun a new course of medication that affected their sense of taste and smell. Certainly, as water operators, we can't ask what medications a person is taking, but it may be enough to simply include in the conversation that there are medications that have the known side effect of affecting olfactory senses.

Becoming familiar with these, and other water related questions and answers will help with our detective work and help provide sought after answers to build customer trust. We enjoy assisting any way we can; please call on us. Additionally, ask your lab tech for further information regarding water quality issues, they can also be a great resource. 💧

MARK YOUR CALENDAR





Why I Like My Job

by Keith Bedell, Wastewater Technician/Circuit Rider

Not only do I get to work with great colleagues but, the operators and people that I meet are very interesting. Going to small towns and utilities lets me get to know people that are in the real world. Not in a rush to get somewhere or in a hurry. Not to say that they don't get things done, it just seems like they get everything done and can still enjoy life while they are doing it. They are proud of what they are doing, know what needs to be done and can do it without seeming to get upset when something unexpected happens.

One Tuesday I stopped by one system that you could say was in the middle of nowhere (an hour and a half from a town of 9,500). When I showed up, the city personnel said that it was noon and asked if I would like to eat lunch with them, every Tuesday the town puts on a lunch for a minimal price and a lot of people show up. This day they were having chili, corn bread, salad and I believe brownies for dessert. Everyone was very glad to visit and see who the new person was.

Sometimes when I visit a utility the personnel at City Hall or at the front desk do not seem that happy to see me, probably assuming that I am a salesperson. I realize that they are trying to protect the employees from people that they think may waste the valuable time of the utility employees. I appreciate the job when I stop by to visit with someone and they are cheerful, outgoing, and seem very appreciative that I am there (not that everyone has the same personality). I don't feel bad about getting the "brush off" either, all of the operators are busy, but they will let me know, in a civil way, that they don't have the time to spend with me that day.

When operators bring up a question on something that has happened, or they have plans to do something and would like my input it makes me feel appreciated that I can be an available resource for them. Maybe the answers aren't always readily available, but with the resources that OAWU has, a solution can usually be found within a reasonable amount of time. If you have a problem or are wondering about something – then give us a call! We are glad to come visit your operation, have a good conversation, and help in any way we can. 💧

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Having Hobbies

by Bob Waller, Water Circuit Rider

I looked at the calendar and realized it was time for another article. Don't get me wrong, I enjoy doing these articles, but sometimes they sneak up on me. Most of the articles have been on water treatment related topics, so this time I thought I would talk about something I don't have to do any research for.

Most of my working career has been pretty stress free, although like most of us there have been times of high stress while on the job. Sometimes, I bring the stress on myself and other times it is thrust on me. Years ago, I found one of my hobbies, wood working, to be the best stress reliever in my life. As a busy Public Works Superintendent for a small town, the one truth for me was woodworking is my time, "me time." I let all the stresses, deadlines, and demands fall away when I'm in the shop.

Building furniture starts with design, drawings, and layout. Picking the right wood species is the easy part, usually that decision is made by the customer. Selecting the grain for each part; quarter sawn grain for drawer fronts and tops, rift sawn grain for legs, while sometimes it can be difficult, it forces me to concentrate on the task at hand. I do all the milling of parts in a specific way. It is the process that relaxes my mind. The things like making lists of things to do and people I need to contact seem to melt away.

I need that – I need time to think of one thing and one thing only. I have completed wood projects in the hundreds over the years, and it seems the pieces that take the most time and precision were the ones I remember the





most—although the gifts I have made, for friends and family, give me the most pleasure. Wood working also keeps the mind sharp (wife: “ha-ha”); laying out a chest of drawers with multiple dovetails requires my focus to be on the project.

We could go through all the research showing hobbies performed during leisure time are associated with lower blood pressure, perceptions of better



physical function, and that such activities also correlate with higher levels of positive psychosocial states and lower levels of depression, but I won't. I will say find a hobby that works for you. I also play golf and fly fish, but for me, wood working is

my solace. Bottom line is, find what works for you to stay sharp, active, and to help release the day's stresses. For those of you getting ready for retirement, hobbies can give you many years of purpose and your family will thank you. ♦



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2020 TRAINING & EVENTS

Date	Class Title	Location	CEU Information	ESAC#, Fee/Free	
May 27	Distribution and Collections	Newport	TBA	Fee	
June 9-10	Water Treatment, Water Distribution Certification Review	Salem	1.4 Water/0.5 Wastewater/Onsite	TBA	Fee
June 11	W. Treatment & Dist. Level 3,4 & Filtration Endorsement	Salem	0.6 Water/Onsite	TBA	Fee
June 11	Math for Operators	Island City	0.4 Water/Wastewater	3562	Fee
June 11	Pumps and Pumping	Island City	0.3 Water/Wastewater/Onsite	3560	Fee
July 7	Water & Wastewater Emergency Response Planning	Eugene	0.4 Water/Wastewater	3915	Fee
July 21-22	Water Treatment, Water Distribution Certification Review	Bend	1.4 Water/0.5 Wastewater/Onsite	TBA	Fee
August 4	Developing your O&M Manual	Salem	0.4 Water/Wastewater/Onsite	TBA	Fee
August 6	Hazardous Communication Standard (Global Harmonization)	Bend	0.3 Water/Wastewater	TBA	Fee
August 6	Confined Space	Bend	0.3 Water/Wastewater/Onsite	3841	Fee
August 11-12	Wastewater Treatment/Collections Certification Review	Salem	1.4 Wastewater/0.7 Water/0.1 Onsite	3559	Fee
August 17	Effective Utility Management	Seaside	0.6 Water/Wastewater	TBA	FREE
August 17-20	26th Annual Summer Classic Conference	Seaside	2.3 Water/Wastewater	TBA	Fee
September 1	CPR/First Aid	Grants Pass	N/A	Fee	
September 2	Defensive Driving	Grants Pass	TBA	Fee	
September 23	Confined Space	Baker City	0.3 Water/Wastewater/Onsite	3841	Fee
September 23	Water & Wastewater Emergency Response Planning	Baker City	0.4 Water/Wastewater	3915	Fee
September 28	Effective Utility Management	Florence	0.6 Water/Wastewater	TBA	FREE
September 28-Oct. 1	2020 Fall Operator's Conference	Florence	2.7 Water/Wastewater	TBA	Fee
November 2	Effective Utility Management	Grand Ronde	0.6 Water/Wastewater	TBA	FREE
November 2-5	Spirit Mountain Casino Operator's Conference – 2020	Grand Ronde	2.7 Water/Wastewater	TBA	Fee
November 17	Distribution and Collections	Salem			
November 19	Job Site Safety	McMinnville	0.3 Water/Wastewater	3890	Fee
December 7	Effective Utility Management	Hood River	0.6 Water/Wastewater	TBA	FREE
December 7-10	Annual End of Year Operators Conference - 2020	Hood River	2.7 Water/Wastewater	TBA	Fee

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

More Resources

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, please contact the office at 503-837-1212, office@oawu.net or visit www.oawu.net.

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C. C) White and fluffy
D. D) Greenish Brown
- In which part of the chlorine room should the chlorine leak detectors be located?
A. A) Near the ceiling
B. B) Suspended 10 feet off the floor
C. C) Near the floor
D. D) Outside of the chlorine room
- Per DEQ pipeline construction standards: Flow channels in manholes should slope at least _____ feet from inlet to outlet.
A. A. 0.5
B. B. 0.25
C. C. 0.1
D. D. 1.0
- What does the ASTM stand for in ASTM D-3034?
A. A. American Society for Testing and Materials
B. B. American Steel Teflon and Motors
C. C. American Standard for Testing and Manufacturing
D. D. Aromatic Sniffing Testing and Maladies
- Under ideal driving conditions, the proper following distance from the vehicle in front of you is?
A. A. 2 seconds
B. B. 3 seconds
C. C. 4 seconds
D. D. What traffic allows
- The top OSHA cited violation in 2019 is?
A. A. Scaffolding
B. B. Lockout – tag out
C. C. Ladders
D. D. Fall protection
- How many cow hides are used for one full season of NFL footballs?
A. A. 300
B. B. 600
C. C. 900
D. D. 1200
- What is the Specific Gravity of 12.5% Sodium Hypochlorite?
A. A. 10
B. B. 1.0
C. C. 1.2
D. D. 2.0
- The most common type of pump found in a wastewater pumping station is a:
A. A) Centrifugal pump
B. B) Gear pump
C. C) Positive displacement pump
D. D) Turbine pump
- When did the Safe Drinking Water Act begin as a Law?
A. A. November 1973
B. B. January 1974
C. C. December 1974
D. D. It still isn't fully enacted
- When did the Clean Water Act begin as a Law?
A. A. October 1972
B. B. December 1972
C. C. January 1973
D. D. It still isn't fully enacted

ANSWERS: 1-C, 2-C, 3-C, 4-A, 5-B, 6-D, 7-B, 8-C, 9-A, 10-C, 11-A

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Municipal Water Rights Part 2: Place

In Oregon, municipal entities benefit from additional flexibility to provide water outside their traditional jurisdiction. This flexibility includes the ability to provide water to areas outside the typical place of use described under a water right permit or certificate under Oregon Revised Statute (“ORS”) 540.510(3)(a).

Some cities and water providers rely on this statute to provide water to patrons outside their jurisdiction. While potentially legal, several hurdles are presented when offering water outside a water provider’s described water right place of use and jurisdictional boundaries.

Places of Use under Oregon’s Water Code

Typically, water use may only occur in the location where the water use is described, as the place of use in the permit or certificate. Water use outside this place of use could subject a permit to cancellation or the Oregon Water Resources Department (“OWRD”) may impose civil and criminal penalties. Often, municipal water rights of use simply list the general areas where water use can occur, without specifying a surveyed location.

Municipal Exception to Place of Use Restrictions

Municipalities, however, may use water outside even a generally described place of use if: (1) the lands are acquired by the municipality through merger, consolidation, or formation of a water authority, (2) the water use continues to be used for municipal purposes and would not interfere with or impair prior vested water rights, or (3) water use is authorized under a reclaimed water registration under ORS 537.132 and authorized by a water quality permit under ORS 468B.050 or ORS 468B.053. The second alternative is the broadest category of outside use, since “municipal water use” includes domestic, industrial, commercial, and some types of irrigation. Oregon Administrative Rule (“OAR”) 690-300-0010(29). The only limitation is the requirement “not to interfere with or impair prior vested water rights.” While allowed by the water rights code, other water use rules might make this option challenging to implement.

Oregon Health Authority Issues

The Oregon Health Authority requires water providers “take reasonable actions to assure that water delivered to water users does not exceed maximum contaminate levels” and water delivered to customers meets water quality standards. OAR



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of Use

By Laura A. Schroeder & Jakob S. Wiley

333-061-0025. If a water utility is providing water outside its boundaries, it should be careful to ensure that the water delivered to these water users is post-treatment, as it does for those within its jurisdiction. Allocating treatment obligations to third parties might not provide adequate assurances under the applicable drinking water rules.

Extending a Water System Beyond an Urban Growth Boundary

Oregon's land use laws restrict the development of urban uses on rural lands. These laws outright prohibit the extension of sewer systems outside a city's urban growth boundary ("UGB"), while restricting development and distribution of water services. See OAR 660-011-0060(2). Under the applicable rules, development of a water service system outside the UGB cannot "[a]llow an increase in a base density in a residential zone," "[a]llow a higher density for residential development served by a water system than would be authorized without such service," or "[a]llow an increase in the allowable density of residential development due to the presence, establishment, or extension of a water system." OAR 660-011-0065(2)(a)-(c). Oregon courts have indicated that this restriction

on water system development applies to any urban-like development, not just residential developments. See *Foland v. Jackson County*, 239 Or App 60 (2010). While it is possible for a municipal provider to deliver water outside the UGB, providing the water service cannot serve to increase urban-like development of the rural lands.

Conclusion

While it is technically possible to provide extra-jurisdictional water services or extend water service outside a municipality's place of use for its water rights, significant challenges stand in the way. Water quality and land use development rules both limit municipalities' ability to extend water service outside their boundaries even if such service extension would be allowed under Oregon's water right's code.

Schroeder Law Offices, P.C., was founded by Laura A. Schroeder and represents water-rights clients in six western states and consults internationally. Jakob S. Wiley is an associate attorney with Schroeder Law Offices and licensed to practice in Oregon and Nevada. You can read more about this topic and other water rights issues at Schroeder Law Offices' Water Law Blog, <http://water-law.com/home/blog/>.



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