



# H<sub>2</sub>Oregon

Summer 2018  
Vol. 40, No. 3

MARK YOUR CALENDAR  
24th Annual Summer Classic  
SEASIDE • AUGUST 20–23, 2018

A publication of Oregon Association of Water Utilities  
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# H<sub>2</sub>Oregon

Summer 2018  
Vol. 40, No. 3

## CONTENTS

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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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*Rogue River, Grants Pass*

|   |       |
|---|-------|
| Jeff Swanson Memorial Scholarship Recipients .....  | 3     |
| Highlight from OAWU’s 3rd Annual Expo .....   | 4     |
| Upcoming Conferences.....   | 5     |
| Smoke Testing <i>by Jeff Crowther, Wastewater Technician</i> .....  | 6     |
| Hydrants <i>by Scott Berry, Operations Manager</i> .....  | 8-9   |
| The Value of Association <i>by Mike Collier, Deputy Director/Sourcewater Specialist</i> .....   | 10-11 |
| Need CEUs? Training at Your Facility .....  | 11    |
| Not Another Task! <i>by Tim Tice, Projects Manager</i> .....  | 12-13 |
| Producer or Consumer? <i>by Hans Schroeder, Circuit Rider</i> .....   | 14    |
| Drinking Water in Seal Rock: Partnering to “Protect the Source”<br><i>by Adam Denlinger, General Manager, Seal Rock Water District</i><br><i>(submitted by Heath Cokeley, Programs Manager/Circuit Rider)</i> ..... | 16-17 |
| Managing Septic and Grease Haulers Road Warrior Series <i>by Rick Allen, Biolynceus</i> .....   | 18-19 |
| WaterPro Conference 2018.....   | 20    |
| Training & Events Schedule .....  | 21    |
| Thanks to OAWU’s 2018 Sponsors .....  | 21    |
| Can You Motivate Others? <i>Throwing My Loop by Michael Johnson</i> .....   | 22-23 |
| OAWU Services .....   | 24    |
| System O&M Manuals Required .....   | 25    |
| NRWA Fleet Program.....   | 25    |
| Need to Review Water or Sewer Rates? OAWU Can Help!.....  | 26    |
| Quiz Corner .....   | 28    |
| Membership Application Form.....  | 29    |
| Membership Roster .....   | 30-32 |

## We Appreciate our Advertisers!

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|  |    |   |                    |
|--|----|---|--------------------|
| 4B Engineering & Consultants .....               | 22 | Neptune .....                                     | 7                  |
| American Flow Control .....                      | 27 | Oregon DEQ: Clean Water State Revolving Fund..... | 23                 |
| American Leak Detection .....                    | 27 | Oregon Meter Repair .....                         | 11                 |
| Bancorp Insurance.....                           | 26 | Owen Equipment .....                              | 15                 |
| Biolynceus.....                                  | 18 | PACE .....  | 17                 |
| BMI .....  | 15 | Pittsburg Tank & Tower.....                       | 13                 |
| Branom Instrument Co. ....                       | 13 | Sherwin-Williams .....                            | 27                 |
| Cascade Columbia Distribution Co.....            | 15 | Special Districts Association of Oregon .....     | 7                  |
| Dan’s Leak Detection .....                       | 4  | Taylor Pump.....                                  | 17                 |
| DN Tanks .....                                   | 19 | The Automation Group.....                         | Inside Front Cover |
| EJ .....   | 7  | The Ford Meter Box .....                          | 27                 |
| Ferguson Waterworks .....                        | 4  | TriPac.....                                       | 22                 |
| H.D. Fowler .....                                | 27 | USA BlueBook.....                                 | Back Cover         |
| Lakeside Utilities (EZ Street Cold Asphalt)..... | 19 |   |                    |

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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.*



# Jeff Swanson Memorial Scholarships

OAWU is pleased to announce two recipients of the Jeff Swanson Memorial Scholarship this year.

Ellen Wiebe graduated from South Eugene High School and is in pursuit of the full IB (International Baccalaureate) Diploma through Eugene International High School. Apart from school, she is active in her community through her volunteer work. She primarily volunteers at Ophelia's Place for their youth leadership group, the Women's Advisory Council for Youth, WACY. Within that group, she helps to organize community events and fundraisers that benefit many local organizations and people, as well as helping to create and maintain a presence on social media for the group. With her friends and family, she enjoys exploring Oregon's natural beauty. She plans to attend Oregon State University in Corvallis in the fall. Her mother is Bonnie Hoskinson-Wiebe from the City of Lebanon.



Antonio Alvarez graduated from Central High School and will be attending Oregon State University, where he'll major in BioResource Research and conduct undergraduate research. He's also planning to be part of the OSU marching band. In high school, he was the Junior Citizen of the Year in 2016 and was on the honor roll each year. He also has over 290 hours of volunteering at Salem Hospital. He enjoys being a part of Jazz Band and Symphonic Band. His father is Edgardo Alvarez from the City of Monmouth. 💧



# 3<sup>rd</sup> Annual Expo



Our 3rd annual Expo was our best yet. This year, to fit the registered 12 exhibitors and 52 attendees, we moved over to the Polk County Fairgrounds. The weather was great, and the food was even better—thanks to Heath Cokeley, our Programs Manager. We have the hope to grow the show again next year with even more outdoor exhibits and demos. Thanks to all the attendees and Associate members who made this event a success. Mark your calendars for May of 2019!

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## UPCOMING CONFERENCES

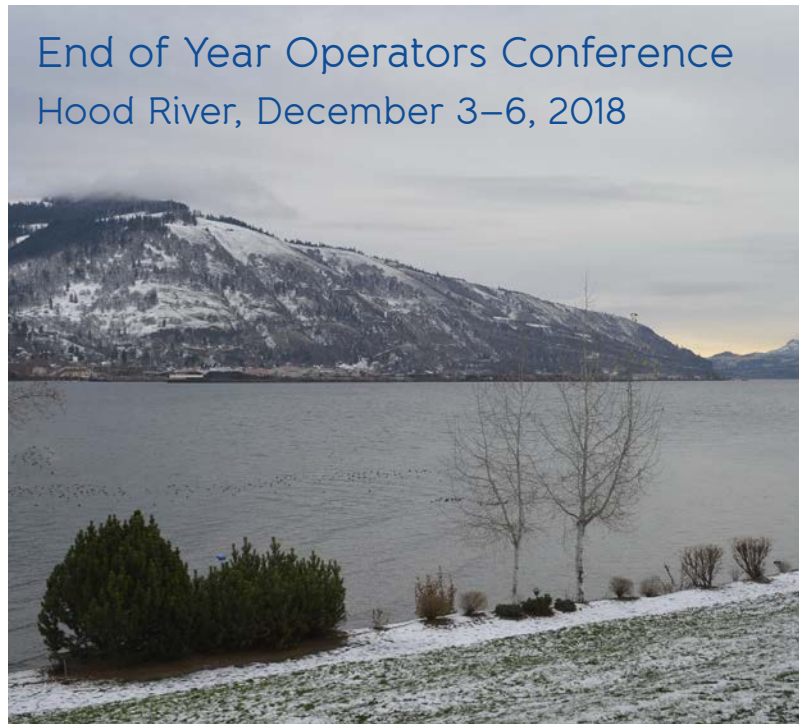
**Fall Operators  
Conference**

**Beaverton**

**Nov. 5–8, 2018**



**End of Year Operators Conference**  
Hood River, December 3–6, 2018







# Smoke Testing

*by Jeff Crowther, Wastewater Technician*

Winter brings many professional challenges, some more obvious than others. Each year as we evaluate our flow data, we may notice excessive sanitary sewer flows correlating to the rainfall events.

Our wastewater plant and sewer collection systems are designed to handle the domestic discharge from our households, businesses, and industry. It was not designed to handle stormwater inflow and infiltration to the sanitary sewer. Within our NPDES permit we have a condition to find and eliminate sources of inflow and infiltration. As our collection systems have aged we tend to see more I and I. The sources of inflow and infiltration could be cracks in the sewerline and manholes, poorly placed manholes in curb lines which allow stormwater to flow in, residential roof drains, parking lot drains, and sump pumps in basements and crawl areas under homes.

Older systems may have combined sanitary and storm systems that may require separation. As an example, a home with a 2,000 square-foot roof tied to the sanitary sewer collecting 1 inch of rain over a 24-hour period will discharge approximately 1250 gallons of clean water into the sanitary sewer system. As you can imagine, if we multiply that over several roofs it does not take long before our collection system is at capacity and we are paying the cost of pumping and treating clean water.

A simple but effective tool in identifying inflow and infiltration is smoke testing your collection system. Smoke testing can be performed by current city staff if you have adequate resources. Smoke testing your system is best done during the summer months when the ground is dry and the smoke can flow through the ground and be seen, visibly indicating a separated or cracked pipe.

We should start by informing the public with newsletters and notifications within the local paper alerting the public to when the smoke testing will occur. Explain to them the reason for the smoke testing, what to expect, and who to call with questions regarding the testing. Once we have decided the timeframe of the testing we should notify the local police and fire department of our intent. If we're going to do a specific portion of the town at a time, we should place door hangers in that area explaining that we will be conducting smoke testing and when it will occur.

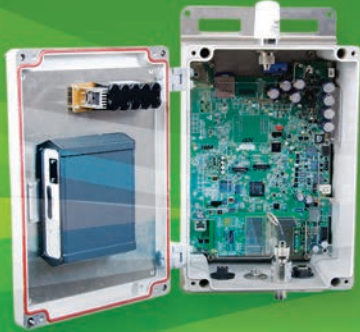
Make sure to have adequate visual spotters to look for evidence of smoke in the eaves, coming from crawl spaces, coming from storm drainage catch basins, and from French drains around homes. Record those areas that appear to be contributing to the inflow and infiltration problem and then follow up with corrective actions.

When we follow up it is best to prioritize the sources as those that will be easy to fix and those that may take more time and expense to correct. Sometimes our easy quick repairs can eliminate a large source of I and I and take the pressure of the system so that we can address the costlier repairs over time. Make sure to document and photograph the findings so that it will be easy to incorporate into the annual report.

The Association has a smoke blower that can be loaned out for short periods of time if you would like to perform your own survey. OAWU staff can help with the smoke testing and visual observation. Please let us know if we can help. 💧




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# Hydrants

by Scott Berry, Operations Manager

Fire hydrant inspection, maintenance, and repair are tasks that get put off more years than they get completed for many water systems. In some cases, they get deferred altogether while the water utility and the fire department play a spirited game of “Not It.” Budgets are limited and there isn’t enough time in the day or people to do all the jobs that need to be done. So, my goal with this article is simply to make sure you know what the recommendations are and provide ways OAWU can be a resource for these tasks.

All major manufacturers of fire hydrants recommend yearly inspection, maintenance, and repair. In addition, it’s recommended that the water utility work closely with the fire department to track which hydrants need attention and what training may be needed to ensure safe operational practices are being adhered to. Please remember to help reduce liability (especially in a loss of life scenario) by bagging/marking a hydrant as “Out of Service” if inoperable, notify your local fire department, repair it, and place it back into service as soon as possible.

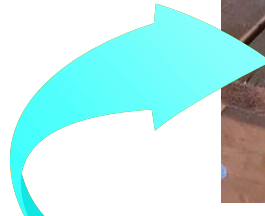
## Inspection

(reference AWWA M-17, *Installation, field testing, and maintenance of fire hydrants*)

1. Check the appearance of hydrant. Is it clear of obstructions? Does it need the paint touched up or repainted? Is it sitting with the break-away at the bottom of the barrel a couple inches above ground level?
2. Use a listening device to make sure the main valve is not leaking.
3. Using a plumb bob or other dip stick, check for the presence of water in the hydrant barrel.
4. Replace the outlet nozzle cap but leave it loose enough to allow air to escape.
5. Open the hydrant a few turns. Allow the air to vent from the cap.
6. Tighten the outlet nozzle cap.
7. Open the hydrant fully. Check for ease of operation. Lubricate if needed.
8. With the hydrant fully open, check for leakage at flanges, seals, and around the operating stem.
9. Partially close hydrant so the drains open and water flows through under pressure for about 10 seconds. This will flush the drain outlets.
10. Close the hydrant completely then back off the operating nut about a half turn.
11. Remove an outlet cap.
12. Attach a section of fire hose and a diffuser to protect traffic and private property from water.
13. Open the hydrant and flush.
14. Close the hydrant and remove fire hose. Check the operation of the drain by placing your hand over outlet and feeling for light suction caused as the water drains out of the barrel.



15. Again, check main valve leakage using a listening device.
16. Remove all caps, check and clean the threads. Check gaskets. Lube threads.
17. Check all the chains on the caps. Adjust or replace as necessary.
18. Replace the caps.
19. Lubricate operating nut as per manufacturers recommendations.
20. Locate and exercise auxiliary valve leaving it fully open. (My preference is to do this prior to #7.)
21. On traffic model hydrants, check the breakaway device for damage.
22. If the hydrant is inoperable, tag it in a clearly visible way and notify the appropriate fire department.



### Lubrication

First determine the make and model of hydrant and refer to specific manufacture recommendations for that model.

### Repairs and Recordkeeping

Any condition that cannot be corrected at the time of inspection should be recorded in the inspection report. Maintaining an accurate record that starts at installation and continues through all subsequent inspections and repairs will help with budgeting and planning for the future.

If you determine that you have the need for fire hydrant installation, inspection, and repair, but lack the time or resources to take it on in-house, give us a call at OAWU to give you a competitive estimate. 💧





# The Value of Association

*by Mike Collier, Deputy Director/Sourcewater Specialist*

Through Oregon Association of Water Utilities (OAWU) and National Rural Water Association (NRWA) we have representation for rural, small to medium sized systems in legislation, regulatory, and state and federal policy areas. For many of the smaller utilities in Oregon, they don't have the time or presence to make sure that their voices are heard, or interests are looked out for. It is important that we are still represented, and therefore these associations have been created. Through our collective knowledge and membership, we are the leading voice for water and wastewater systems on the state and national stage.

From building, upgrading and expanding service areas, to supporting the rural economy, your association is here to serve its membership. OAWU, as your rural water association, is able to provide conferences, classes, technical training and assistance for water and wastewater systems, Source Water Protection Plans, Energy Efficiency Plans, onsite training, interim operations, Operator of Record, Direct Responsible Charge, project management, project work (e.g., smoke testing, valve exercising, pipe installation, hydrants, and more), lagoon profiles, rate studies, Water Management and Conservation Plans, required management plans, sampling plans, and emergency plans. Thank you for supporting your Association.

State Associations join as one on the national level through the NRWA to shape Federal water policy in agencies and Congress. Through NRWA we have full-time, bi-partisan professional staff in Washington, D.C. with extensive experience in the legislative and regulatory process. They help guide common-sense policy and legislation that continues our success in representing your utility, including accessing the highest levels of agencies. For example, NRWA's leadership recently met with EPA Administrator Scott Pruitt and discussed regulatory reform to benefit your utility.

Your State and National Association's success and benefits include, but are not limited to: experts in drafting assistance and comments on legislation, testimony and budget activities; coalition building; establishing effective strategy, policy and regulatory activities necessary to represent the industry on a continuous basis with proven results. Such as: increase in USDA RUS Water and Wastewater Loans and Grants, SRF levels maintained, Rural Water members congressional testimony on Farm Bill policies and proposed legislation, Rural Water members congressional testimony on infrastructure proposal, Rural Water members congressional testimony on EPA funding and proposed legislative changes, participated with White House staff on President's infrastructure bill to ensure membership needs are included in the final bill, Annual Rural Water Rally in DC, Annual Regional and District Forum and discussion with leadership from agencies and Congressional



policy makers, retention of 1926(b) protection of district and regional service areas from annexation, E-delivery of Water Quality Reports/Consumer Confidence Reports, successful legislation exempting fire hydrants from new lead standards, filing of Amicus Brief in US 6th Circuit Court opposing Waters of the US regulation (WOTUS), and participation in Revised Total Coliform Federal Advisory Group.

Your association represents the membership on a continuous basis as deliberations take place at all levels. Your systems are continually represented on:

- EPA National Drinking Water Advisory Council
- AWWA's Water Utility Council
- DHS Water Sector Coordinating Council
- EPA Lead & Copper Rule Rulemaking
- EPA Nutrient Removal and Secondary Technologies Questionnaire Workgroup
- National Lead Service Line Removal Collaborative
- DWAC, DEQ and WRD
- Oregon ESAC
- Operator Certification Advisory Committee

Your association offers multiple avenues to stay abreast of water industry news in-state and on the national level—from personal communications to print and electronic publications, the State Conferences and the WaterPro Conference, State Association magazine and

newsletters, and regulatory and legislative updates—with information and communication connecting you with your association and the industry.

Our grassroots approach includes all 50 states. State Associations have respected and well-established relationships with all members of Congress, state legislators and state & federal agencies. This grassroots approach allows NRWA to support rural water while adapting to the constant changing political landscape including leadership changes on Capitol Hill. Your membership is the strength of this association. When local elected officials and professionals from every level of the industry are involved, it translates into the largest and most effective legislative and regulatory advocacy for the water and wastewater industry.

Only Oregon Association of Water Utilities and National Rural Water Association bring together unique products and services designed to meet the needs for your utility. Knowledge is the key to success and understanding how to properly use the knowledge is the key to wisdom. We cannot take the value of your association for granted in both state and national efforts. The value of membership? It is far greater than saving money on a class or conference!

Thank you for your continued support and membership of your Association! 💧



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# Not Another Task!

by *Tim Tice, Projects Manager*



In many conversations around our state there is a common theme at utilities - that time, money and personnel are in short supply.

Let's first look at operations: with the perception that all routine, not reactive, maintenance is being completed on time. Now, please no muttley snickering! The fact is the short in supply items mentioned above play a role in the operational side of any business or utility.

Managerially speaking, if you are a sole operator or one who manages a crew, the goals are the same, keeping the utility running under "normal circumstances at all times." When we consider "at all times," putting it in perspective, that phrase means 24 hours per day, seven days per week.

Financially, the weakest link in the chain in generating operating dollars is "indecisiveness." What reason(s) are given for decisions not being made? This article will allow the reader to provide his or her own reason(s).

A major challenge the water and wastewater industries must overcome is that for a single generation (utility's life cycle) the systems in America have operated without much concern. Periodic growth in one area or another may have upgraded a system, but for the most part, the people in America have been spoiled as utilities have performed exquisitely. A turn of the faucet, the flush of a toilet and our expectations have been met. This has been going on for so long. Complacency, regarding the cost of water/wastewater treatment, is rooted in society.

How do we pass along the cost associated with not upgrading, but complete replacement of a system? Looking for a new truck, "what was I thinking?" sticker shock knocked me over. The salesperson mentioned how cheap a vehicle is since inflation has yet to play a role in vehicle pricing. Chew on that to gain some insight. My experience, or lack of, in purchasing a new car has created a level of unfamiliarity with vehicle pricing. Can the same hold true for the belief in the cost of monthly utility services?

Overshadowing the process of financially operating any utility is mistrust. Trust is a collaborative effort in developing a relationship between the utilities and the people they serve. It takes purposeful intent to determine the needs (goals) of any organization. These goals must routinely be conveyed. When we attempt to convey the goals at meetings, the empty chairs are the majority. How many meetings can be held, how many flyers are distributed, how many small conversations will be had before the majority is reached?

To develop a game plan, the experienced must share goals with the uninformed, with tenacity in continual effort. How much time does an operator or decision-maker have from their schedule to implement such a task?

Keep objectives linked with shorter time lines, 3-4 years, this allows all parties to see the goal line and progress being made. Keep the objectives principled,



as someone will attempt to find a flaw in the ideas. If the goals of the utility are truly focused on serving its customers, then some role of ethics will have to be instilled in the goals. Public sector ethics, focus decisions and actions on what best serves the public's interests, as opposed to the official's personal interests. Based on what best serves the public's interest is the most daunting task because not everyone sees the same vision or reason for a goal. If a goal's timeline is too far over the horizon, the public may become wary and mistrust can enter the arena. In a world of instant gratification, utility upgrades are the farthest from the individuals thought process, hence the reason for purposeful intent and education.

Managing time, people and money are the three areas that encircle our daily tasks, and without money, we lose both people and time. The lack of money results in short-term fixes and can be costlier than originally speculated.

Money is not the end-all in eliminating the challenges that utility operators face.

People play a significant role in the utility's ability to function, and the lack of people and their roles become apparent when we cannot find replacements. The number of people served plays a role in determining the potential revenue requirements. A small utility with 100 connections has an intrinsic cost associated with living in a small community. Rural America's cost of living can be considerably higher, particularly when resolving issues that require expensive upgrades.

How we manage time, money and people can be overwhelming, but the key is to manage in a method as to how you wish to be managed! When we provide solutions instead of clouds of doubt, we will prove more productive any given day.

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# Producer or Consumer?

by Hans Schroeder, Circuit Rider

As I get older the words that my Dad spoke to me become more important. I would hear him ask me, “are you going to be a producer or consumer today, Son?”

I now write those same words on my Daughters’ bathroom mirror every once in a while with a dry erase marker. I’ve realized to succeed in my daily life, producing needs to be more prevalent than consuming. Building fence, mowing my lawn or pasture, replying to requests from water systems, assisting in producing safe and aesthetically pleasing quality water for consumers.

Now don’t get me wrong—there are many times that a person needs to be a consumer as well. By nature we are consumers. Consuming food, natural resources, time, energy and the list goes on. We continue to produce more timber, food, cattle, hogs, chickens, and fruit for consumption. Yes, it’s called the all-important over-used word: “sustainability.”

The definition of the word sustainability, according to Dictionary.com, is: *the ability to be sustained, supported, upheld, or confirmed.*

The Environmental Science definition is: *the quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance.*

When planning out our week on Sunday night while laying in bed when we should be dozing off. What are our goals, tasks, and requirements put upon ourselves? Are we thinking about too many projects that should be done over the course of the summer and going to try and start cramming in as many of those as we can in a week therefore, not really completing anything? Making sure to be a real producer has realistic goals, go into work with a positive attitude and a plan for ourselves and/or our team and discuss what we want to accomplish for the week. Sure, things may change; our boss may have other plans or there may be a water leak that is detected and needs to be fixed right away. But really, to be an accomplished producer, try and stick with those week-long goals and get things done and crossed off that list of summertime projects. Otherwise we are just running around like a chicken with its head cut off not doing anything but looking really busy while we do it.

It never hurts to apply those same rules to our home life as well. Our wife will love that those honey do lists are being whittled away and our kids or grandkids might enjoy some extra time with us. We all know how gratifying it is to lay down at night knowing that we made our little part of the planet that much better by producing. 💧





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# Drinking Water in Seal Ro

*Submitted by Heath Cokeley, Programs Manager/Circuit Rider*

*By Adam Denlinger, General Manager,  
Seal Rock Water District*

In the spirit of this year's National Drinking Water Week theme, "Protect the Source," I want to recognize how successful technology and partnerships are conserving water resources to benefit the people throughout the Seal Rock Water District (SRWD) and the landscape that supplies our water.

As part of our ongoing commitment to maintain a high quality of life for our citizens through cost-effective, innovative systems, the District recently completed installation of an Advanced Metering Infrastructure (AMI) system for our water utility system. Advanced metering supports the District's commitment to preserve and protect our environment. The technology not only takes meter readers off the road, reducing carbon emissions, it also enhances the District's ability to quickly detect and stop leaks in the transmission system while providing end-user customers with daily information that helps them improve their own water conservation efforts.

The project entails replacing every residential and commercial water meter in the District with new, state-of-the-art technology that wirelessly communicates usage data to the District office. This innovative system replaces monthly manual reads with multiple remote reads per day, allowing for better leak detection, increased billing accuracy, and improved customer service.

The data offers us a better understanding of the water flow through the system which, in turn, will allow the District and our customers to control unaccounted-for water, reduce our demand on the stream, and "protect the source." Reducing the amount of water, we remove from coastal streams, many of which are already impaired as a result of overallocated withdrawals, translates to better stream health and a more sustainable water supply for the future.

While the system is still in its infancy, the District has already received an overwhelmingly positive response from customers who have received notification of high water use generated through the AMI program. The District has contacted approximately 30 customers with an alert to the potential of a water leak in their system. With the old system, high usage was detected only through monthly meter readings and generally left the customer with a high volume of water usage to pay for before fixes could be made. With 2,525 connections, detecting water leaks early with AMI is already having a positive impact on the District, our customers and, ultimately, the environment.

SRWD is proud of the work we have done on this project, and we recognize that these environmental and ratepayer benefits are also made possible through partnership collaboration with our customers and the United States Department of Agriculture (USDA) Rural Development ([www.rd.usda.gov/or](http://www.rd.usda.gov/or)), which financed the system improvements through


Oregon Association of Water Utilities



# ck: Partnering to “Protect the Source”

its Water and Waste Disposal Loan and Grant Program ([www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/or](http://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program/or)).

Protecting the environment is everyone’s responsibility, and something the SRWD Board of Commissioners takes seriously. Water is a precious resource—using new technology like AMI allows communities like ours to ensure this precious resource is available for future generations.

Please feel free to contact the District at 541-563-3529 with questions or feedback. For more information regarding this project and other projects, please visit our website at [www.srwd.org](http://www.srwd.org). 



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# Managing Septic and Grease Haulers

Road Warrior Series by Rick Allen, *Biolynceus*

My first response when I hear of systems agreeing to take on grease or septic discharge to their system is to “just say NO!”

How these materials affect wastewater systems is dependent on two main factors. What is the total volume of flow entering the system and what is the total volume of flow entering the system from septic, chemical toilets or grease haulers. In really large municipal systems, like a Denver Metro, a few thousand gallons of septic or grease, occasionally, should not affect the overall operation too much. But, if a smaller system that does allow haulers to dump at their facility, they could face many issues that may detrimentally affect how the system runs.

How do you offset the issues? Limit exposure gallons, charge higher fees, and/or limit hours.

What are the issues with these types of materials being discharged to the system?

## Household Septic

- Single Family
- Multi-Family: apartments, rest areas, RV parks, trailer parks, etc.

The nature of household systems is to be anaerobic and full of toxic chemicals that have been known to kill a wastewater system. The smaller the system, the easier it is to kill.

## Industrial Septic

- Light: Car/truck washes, recreation areas (fish cleaning stations), etc.
- Heavy: Manufacturing, micro breweries/distilleries/wineries, oil and gas exploration (man camps), truck washes, mechanic shops, food/milk/cheese processors, etc.

All the above can be loaded with hydrocarbon compounds including petroleum compounds. All of these can either kill the system or cause excessive BOD, TSS and caustic chemical loading. One of our clients gets killed off monthly from the septic being hauled in from the oil and gas camps. When I asked him about it he said he made enough to reinoculate his system with bacteria to restart it. My question is: are they paying enough to offset the extra dredging costs the facility may face in the future?

## Chemical toilets, RVs and campers, special events

**RV dump stations: Lock and limit access.** We have seen a considerable amount of wastewater plant issues across the country caused by illegal dumping in RV dump stations. Caustics like formaldehyde, crystal meth chemicals and antibacterial products. There is a credit card lock system now

available. So, you can charge for use. One system I know of paid for the credit card lock and installation in 6 months after setting it up simply from user fees.

## Illegal Dumping

Yes, it does happen, and it happens often: septic, grease, or crystal meth.

There have been many cases where someone has popped a manhole (especially small towns) and discharged the contents of the pumper truck directly into the sewer system.

One of our clients caught a hauler dumping into his collection system at 2 a.m. while the local police officer was visiting with the hauler about non-police business. The police officer did not know it was illegal for the hauler to be popping a manhole cover and discharging into the city system.

And then there are the grease haulers. These are a whole different kind of animal. Unless the facility requires high CBOD loading to facilitate methane production for a co-generation plant, they probably do not need additional



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grease loading. The addition of grease to a system can cause an explosion of increased foaming due to filamentous bacteria (*Nocardia* and *Mycrothrix*). In my travels I have seen foaming from these two filamentous bacteria 6 feet high on a digester.

Septic is mostly anaerobic, toxic-laden material. Toxins depend on the system, but these days people do not necessarily understand that antibacterial soaps, cleaning agents, formaldehyde and chlorine will affect their tanks' effectiveness and ultimately the wastewater plant. Then the tanks are pumped, and it is all brought to you.

Another contaminated wastewater is chemical toilets or porta-johns. These sanitary collectors can be high in BOD, TSS and chemicals. Chemicals such as formaldehyde that can kill the bacteria in the wastewater system can be present in the material. Unless there is a significant wastewater inflow (minimum of 1 mgd), you are probably better off sending these materials to a regional plant.

How should an operator handle these materials? Drip it into the system. If possible, contain all these materials in a large tank and micro-feed it into the plant. Without the ability to store these materials, they should only be added at the farthest point away from the head-works that has adequate domestic waste flow to dilute the septic materials or not be allowed in the receiving system.

Always make sure to charge the right prices for receiving these materials in the system. You do not necessarily need to be the lowest—in fact you might want to be the *highest* for your area. I have seen systems charge as low as 3 cents per gallon and as high as 25 cents. The average is between 11 and 15 cents per gallon.

The additional cost of these materials can be, but is not limited to, BOD removal, TSS removal, nitrification, de-nitrification, DO, settling and sludge removal. So, if you need to take on these materials, I ask that you make sure the system can handle the loading and be sure to adequately charge for it.

Need more information? Contact Rick Allen at 970-586-3391 or by email at [rick@biolynceus.com](mailto:rick@biolynceus.com). 💧



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# TRAINING & EVENTS SCHEDULE

| Date         | Class Title   | Location    | CEU Information                     | ESAC#, Fee/Free |
|--------------|---|-------------|-------------------------------------|-----------------|
| July 11      | Math for Operators                                      | Tillamook   | 0.4 Water/Wastewater                | 3562 Fee        |
| July 11      | Pumps and Pumping                                       | Tillamook   | 0.3 Water/Wastewater/Onsite         | 3560 Fee        |
| July 24-25   | Water Treatment Water Distribution Certification Review | Bend        | 1.4 Water/0.5 Wastewater/Onsite     | 3394 Fee        |
| August 20    | Backflow Assembly Tester Recertification                | Seaside     | 0.6 Water                           | TBA Fee         |
| August 20-23 | 24th Annual Summer Classic Conference                   | Seaside     | 2.3 Water/Wastewater                | TBA Fee         |
| August 28-29 | Wastewater Treatment/Collections Certification Review   | Salem       | 1.4 Wastewater/0.7 Water/0.1 Onsite | 3559 Fee        |
| September 6  | Developing your Operations and Maintenance Manual       | Springfield | 0.4 Water/Wastewater                | 3395 Fee        |
| September 6  | Leak Detection  | Springfield | 0.2 Water/Wastewater                | TBA Fee         |
| November 5   | Effective Utility Management                            | Beaverton   | 0.6 Water/Wastewater                | TBA FREE        |
| November 5-8 | 2018 Fall Operators Conference                          | Beaverton   | 2.6 Water/Wastewater                | TBA Fee         |
| November 15  | Confined Space  | Springfield | 0.3 Water/Wastewater/Onsite         | 3151 Fee        |
| November 15  | Hazardous Communication Standard (Global Harmonization) | Springfield | 0.3 Water/Wastewater                | 3459 Fee        |
| November 15  | Water & Wastewater Field Operations & Safety            | Salem       | 0.4 Water/Wastewater                | 3568 Fee        |
| November 15  | Leak Detection  | Salem       | 0.2 Water/Wastewater                | TBA Fee         |
| December 3   | Effective Utility Management                            | Hood River  | 0.6 Water/Wastewater                | TBA FREE        |
| December 3-6 | 20th Annual End of Year Operators Conference            | Hood River  | 2.6 Water/Wastewater                | TBA Fee         |

## Levels 1-4 Water Operator Exams

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

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

### More Resources

Drinking Water Data Online <https://yourwater.oregon.gov>  
 Center for Health Protection <http://public.health.oregon.gov/PHD/Directory/Pages/Program.aspx?pid=4>  
 Drinking Water Services <http://public.health.oregon.gov/PHD/Directory/Pages/Program.aspx?pid=58>

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](mailto:office@oawu.net) or visit [www.oawu.net](http://www.oawu.net).

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# Can You Motivate Others?

I hear it so often. “You can’t motivate someone else,” people say. “You can’t open up someone’s mind and pour in desire. A person has to want to.” So many people believe that statement to be true. Is it?

That belief system - that we can’t motivate others - is a seductive way to think. After all, we constantly hear complaints from managers in industry that “workers don’t care anymore.” We hear teachers say, “Students are not like we were.” And we hear a line from so many coaches... “I don’t know what’s the matter with young people these days. They’re just not motivated.”

So if so many share that belief, it must be true...right? Problem is I’m puzzled about that. I’m really confused. Here’s why...

If we can’t motivate people, how and why does any team involved in some sort of competition ever win? If you can’t motivate people, why doesn’t everyone come in last?

Why is the word “upset” in the English language? (If you can’t “motivate” people, the favorite should always win.) Why does one coach have a 70/30 lifetime winning percentage, and another coach only a 20/80 lifetime record? Did the first coach get “lucky” for his or her entire career somehow always being mysteriously blessed only with kids who “wanted to?” Hmm. Somehow I doubt “luck” is the answer. So what is? Why do some managers, teachers, and coaches have more success than others?

Maybe the answer has something to do with leadership? Most of us tend to believe high performance stems from the student. Of course that’s true. But maybe high performance also comes out more because of who our boss is and how he or she acts, or because of our teacher and how he or she treats us, or from our coach and how we are coached and taught by that person.

Great and gifted “teachers” are rare (not just classroom, but “teacher” meaning anyone who has a positive impact on your life). True teachers have to work hard at their craft. (People who say you can’t motivate others are through for the day.) True teachers get us to listen to them. How on earth do you do that – get someone to listen?

When I returned to the world of roping at forty-five, the first few people I asked for help focused on my age. “Well, it’s been a long time,” they would say. “At your age, I wouldn’t expect too much.” They focused on my limitations. Some years later, I was blessed to find Kenneth Colson and Bronc Fanning – both great ropers and more importantly, true teachers. Rather than talking about what I couldn’t do, they said, “Let’s get to work.” Neither ever offered false hope or artificial flattery. Neither ever promised me something I couldn’t do. They weren’t interested in that. They simply began telling me how to improve. It became obvious to me they believed I could. Which do you think I listened to more? Those who thought I was too old or too lacking in ability? Or those who thought I could?

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## Throwing My Loop... by Michael Johnson

And about that belief that you can't motivate someone else – that we have to want to? When someone says that, I always think of Lee Graves and Jessie. Lee Graves, steer wrestler from Canada, wanted to buy Jessie. Several of his friends counseled against such a move, saying the horse just “didn't have it.” But Lee believed in Jessie and bought him anyway. “I knew that horse just needed to have his confidence built,” he would later say – when Jessie was named “Steer Wrestling Horse of the Year” in the PRCA.

So if “we have to want to,” as most people seem to believe, then surely Jessie must have been standing out in the pasture one day – and decided all on his own – to become one of the greatest bull-dogging horses the world has ever known.

And I always think of Eliza Doolittle in Shaw's Pygmalion. That young Cockney girl who, according

to Professor Henry Higgins, “crooned like a bilious pigeon.” Eliza had no plans, no purpose or grand scheme. She didn't want “it.” She didn't even know what “it” was. Her only goal in life was to sell her flowers and stay away from her drunken father. But when she hears Higgins tell his associate, Col. Pickering something, her life begins to change. Higgins points at Eliza and says, “I could pass you off as the Queen of Sheba!”

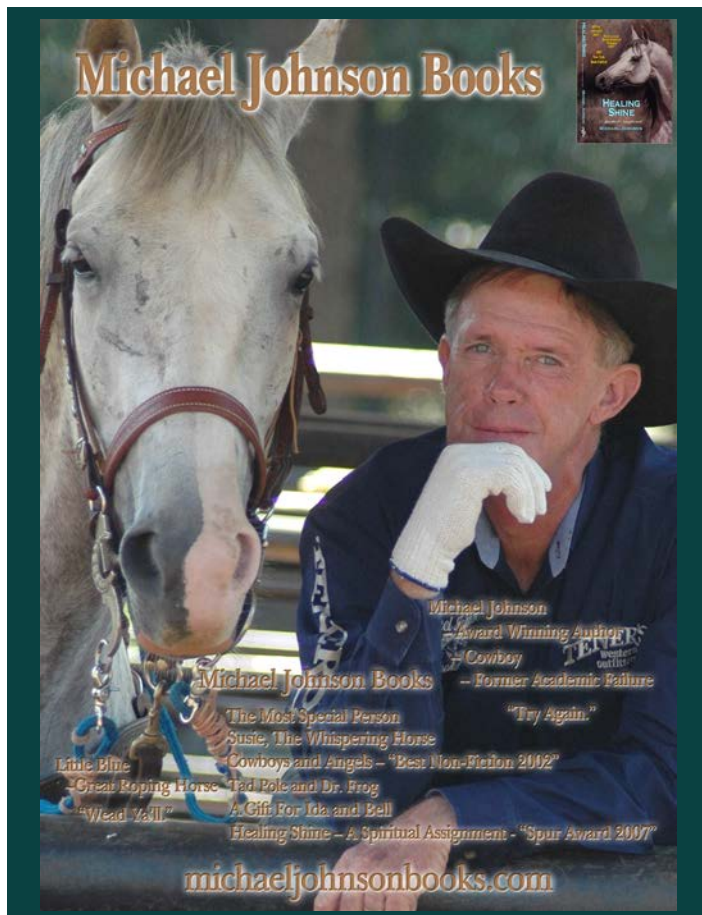
And Eliza's soul opens its sleepy eyes – and she becomes more than anyone dreamed.

Can you motivate another?

Sure you can. It's been done to me.

And to Eliza.

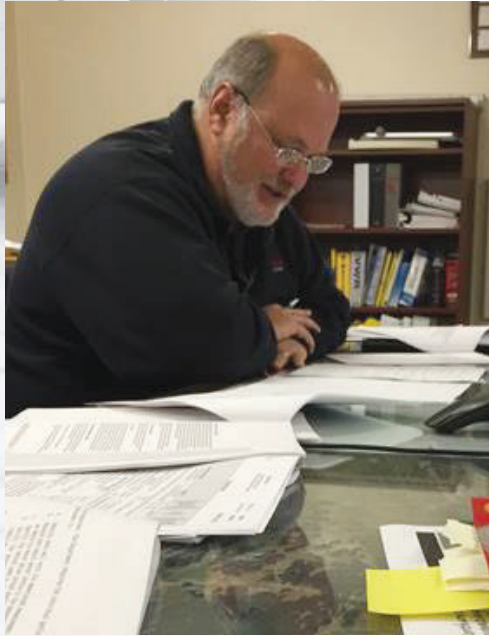
Jessie, too. ♦



The advertisement features a green and white background with a large green leaf on the right side. At the top, there is a logo for the Clean Water State Revolving Fund, which consists of a stylized 'S' and 'C' forming a water drop shape. Below the logo, the text reads 'Clean Water State Revolving Fund'. The main message is 'Improve your community's water quality with FREE assistance from DEQ'. Below this, it states 'Public agencies are encouraged to sign-up for FREE expert help with stormwater and wastewater challenges. From initial planning to financing facility upgrades, we offer a range of assistance.' At the bottom, it provides contact information: 'Contact the Water Quality Project Assistance coordinator at 503-229-6312 or email CWSRFinfo@deq.state.or.us'. It also includes the website 'oregon.gov/deq/wq/cwsrf'. In the bottom right corner, there is a logo for the State of Oregon Department of Environmental Quality (DEQ).



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This class will assist the water and wastewater system operator in outlining the specific points in developing the draft of the O&M manual. Step by step, each attendee will create their draft as it relates to their utility system during class. The e-file may then be completed back at the system office.

Class cost is \$160, or if you are unable to attend a class you may purchase a thumb drive with e-files for \$160. To sign up for the class, or to have a thumb drive mailed to you, contact your Association for further information. ♦



## NRWA Fleet Program

The National Rural Water Association has created partnerships with the Ford Motor Company and the Chrysler Group to offer special fleet discounts to State Rural Water Associations and their utility system members. This partnership combines the buying power of 31,000 individual utilities to provide reduced fleet pricing on utility vehicles.

The Rural Water Fleet Program is a valuable member benefit for water and wastewater utilities. State Rural Water Associations determine eligibility for their members, and provide a fleet code that allows access to substantial vehicle discounts to fill the need for reliable work vehicles.

Contact your State Rural Water Association to access the Rural Water Fleet Program. Vehicles may be purchased at your local dealer or



through the national fleet auto group at [www.nrwafleet.com](http://www.nrwafleet.com). Incentive discount pricing is available on fuel efficient cars, vans, SUVs and trucks. Systems can save up to \$6,750 off factory invoice per vehicle.

Happy shopping!



### Program Details

- Entities must be current members of State Rural Water Associations to be eligible.
- There is no limit to the number of vehicles that can be purchased under the program.
- Incentive pricing is deducted off the factory invoice.
- Fleet vehicles must be in service for a minimum of 12 months or 20,000 miles.
- Vehicles must be registered and operated in the United States.
- Call OAWU today to get your Fleet Identification Number (FIN).



# Need to Review Water or Sewer Rates? OAWU Can Help!

*Take advantage of your Association's services – We Do Rates!*

OAWU has built a solid reputation for providing water and wastewater systems with factual, user-friendly, and defensible Rate Studies. Our rate studies, once implemented, have allowed many systems to obtain Capitol Improvement funding from various private and government lending agencies. An OAWU rate study can also provide a plan for systems to gain the capital to “pay as you go” by outlining a strategy to maximize and streamline revenue and thereby allow water/wastewater system administrators to forecast projects that may be funded in-house. OAWU will provide you a professionally compiled rate study and supporting documentation that will allow you and your council or board to adopt new rates necessary to meet your system needs.



**For bids or estimates, call OAWU: 503-837-1212.**



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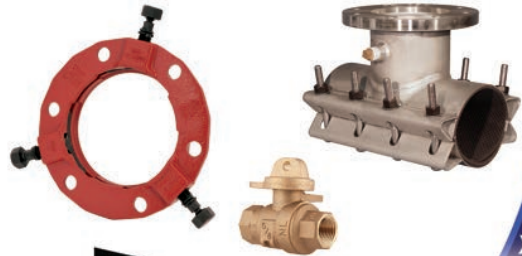
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# QUIZ CORNER

1. Water differs from most liquids in that it becomes what as it freezes?
  - A. More dense
  - B. Less dense
  - C. It acts the same as other liquids
  - D. Both A and C
2. What Scottish inventor established horsepower?
  - A. Nicolas Tesla
  - B. Alexander Graham Bell
  - C. James Watts
  - D. Thomas Edison
3. Which type of pump works on the principle of a decrease in overall specific weight of a confined column of a gas-water mixture?
  - A. Centrifugal
  - B. Diaphragm
  - C. Piston
  - D. Air Lift
4. Which valve works best for a throttling application?
  - A. Check Valve
  - B. Globe Valve
  - C. Gate Valve
  - D. Butterfly Valve
5. Adding UV requires plan review only if it is required to treat recurring coliform or other pathogens.
  - A. True
  - B. False
6. A distribution water outage (zero or negative pressure) requires a boil water notice.
  - A. True
  - B. False
7. Which form of hypochlorite is the most dangerous to handle?
  - A. Sodium
  - B. Fluoride
  - C. Calcium
  - D. Chlorine
8. What are the two most important safety concerns when entering a confined space?
  - A. Corrosive chemicals and falls
  - B. Bad odors and claustrophobia
  - C. Extreme air temperatures and slippery surfaces
  - D. Oxygen deficiency and hazardous gases
9. What piece of safety equipment must an operator wear when entering a confined space?
  - A. Boots
  - B. Harness
  - C. Gloves
  - D. Goggles
10. What is the primary purpose of a preventative maintenance program?
  - A. Increase the use of back up equipment
  - B. Correct equipment breakdowns
  - C. Eliminate inventory of spare parts
  - D. Avoid future equipment problems

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

# MEMBERSHIP APPLICATION

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

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

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

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

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

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

Operator: \_\_\_\_\_

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

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

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

### Type of System:

Water     Wastewater     Both

### Membership Category      Amount of Dues

- |  |                                |
|--|--------------------------------|
| <input type="checkbox"/> Regular Member    | \$ _____<br>See schedule below |
| <input type="checkbox"/> Associate Member  | \$500.00                       |
| <input type="checkbox"/> Individual Member | \$100.00                       |

### Regular Member Dues Schedule

|                 |                             |
|-----------------|-----------------------------|
| 1 to 100        | \$75 + 34 cents per hookup  |
| 101 to 500      | \$85 + 34 cents per hookup  |
| 501 to 1,000    | \$90 + 34 cents per hookup  |
| 1,000 and up    | \$100 + 34 cents per hookup |
| Maximum dues is | \$1,000.00                  |

**Mail payment to: OAWU**  
**935 N. Main Street**  
**Independence, OR 97351**

*If paying by credit card, please call  
the OAWU office at 503-837-1212 for  
processing and receipt.*

## Membership Types

### Regular Member

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

**Annual Dues: See Regular Member Dues Schedule**

### Associate Member

An Associate Member shall be any organization individual or corporation, supplying services or equipment to water and wastewater utilities. An Associate Member shall have one vote. For Associate Member Benefits, please contact OAWU.

**Annual Dues \$500.00 per year**

### Individual Member

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

**Annual Dues \$100.00 per year**

## Benefits of Membership

- On-site technical assistance
- Various free training programs
- Discounts on training courses
- Discounts on Annual Conference registration
- Access to on-site training program
- Subscription to quarterly *H2Oregon* magazine
- Direct mailings in your area about upcoming training courses
- 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 (Regular & Associate Members)
- Positive contacts with other organizations
- Camaraderie with water and wastewater professionals
- Operator Of Record services
- Job referrals, announcements and searches
- Well testing
- Plan review
- System performance evaluation and options
- Additional programs and services
- Disaster response assistance and planning



**MB18**

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





# MEMBERS



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 Adair Village, City of  
 Adams, City of  
 Adrian, City of  
 Agate Water System  
 Albany Rifle & Pistol Club  
 Alpine Crest Improvement Dist.  
 Amigo Villa Water Service, Inc.  
 Amity, City of  
 Ananda Center at Laurelwood, Inc.  
 Arch Cape Water & Sanitary District  
 Arlington, City of  
 Arrah Wanna Water Company  
 Arrowhead Mobile Home Park  
 Aspen Lakes Utility Company, L.L.C.  
 Athena, City of  
 Aumsville, City of  
 Aurora, City of  
 Avion Water Company  
 Baker City, City of  
 Bandon Dunes Resort  
 Bandon, City of  
 Banks, City of  
 Barlow Water Improvement District  
 Barlow, City of  
 Bay City, City of  
 Bay Hills Water Association  
 Beaver Water District  
 Beaverton, City of  
 Bend Research Inc.  
 Bend, City of  
 Benton County Service District  
 Berndt Creek Water Corp.  
 Beverly Beach Water District  
 Biggs Service District  
 Black Butte Ranch  
 Black Mountain Water District  
 BLM Eugene  
 Blue River Water District  
 Blue Spruce Estates  
 Bly Water & Sanitary Dist.  
 Boardman, City of  
 Bonanza, Town of  
 Boring Water District #24  
 Bradley Lake Estates  
 Brandy Bar Landing, Inc.  
 Breitenbush Hot Springs  
 Bridge Water District  
 Brightwood Water Works  
 Brooks Community Service District  
 Brownsville, City of  
 Buell-Red Prairie Water District  
 Bunn's Village Properties, LLC  
 Burns, City of  
 Burnside Water Association  
 Butte Falls, Town of  
 Camp Rilea  
 Canby Utility  
 Cannon Beach, City of  
 Canyon City, Town of  
 Canyonville, City of  
 Carlton, City of  
 Cascade Locks, City of  
 Cave Junction, City of  
 Cedarhurst Improvement Club, Inc.

Century Meadows Sanitary System, Inc  
 Century Meadows Water System, Inc.  
 Charles Tracts Water Company  
 Chart Water Supply, Inc.  
 Chehalem Mt. Sun Ridge Association  
 Chenoweth Water PUD  
 Chiloquin, City of  
 CHR Dist. Improvement Co.  
 Christmas Valley Domestic Water  
 Cimmarron City Water Co., Inc.  
 Circle C Improvement Dist.  
 Clarks Branch Water Association  
 Clatskanie, City of  
 Clayton Creek Water Association  
 Clean Water Services  
 Cline Falls MHP  
 Cloverdale Sanitary District  
 Cloverdale Water District  
 Coburg, City of  
 Colorado Lake Co-Op  
 Colton Water District  
 Columbia City, City of  
 Columbia Hills Homeowners Association  
 Columbia River PUD  
 Condon, City of  
 Coquille, City of  
 Corbett Water District  
 Cornelius, City of  
 Cottage Grove, City of  
 Country Club Water District  
 Country View Mobile Estates  
 Covanta Marion, Inc.  
 Cove Orchard Water Association  
 Cove, City of  
 Crater Lake National Park  
 Crescent Water Supply & Improvement District  
 Creswell, City of  
 Crooked River Ranch Water Co-Op  
 Crystal Springs Water District  
 Culver, City of  
 Dallas, City of  
 Dayton, City of  
 Dayville, City of  
 Deception Creek Mobile Park  
 Deer Creek Estates Water Association  
 Deerhorn Community Water Association  
 Depoe Bay, City of  
 Deschutes Valley Water District  
 Detroit, City of  
 Dexter Oaks Mobile Home Park  
 Dexter Sanitary District  
 Diamond Peaks at Leisure Woods I & II  
 Diamond Peaks Tract 1355  
 Diamond Summit Association  
 Dietz Airpark Water System  
 Donald, City of  
 Drain, City of  
 Drifter's MHP  
 Dufur, City of  
 Dundee, City of  
 Eagle Point, City of

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

Hines, City of  
 Hood River, City of  
 Hopewell Water Company  
 Hubbard, City of  
 Hunnell Hills Community Water System  
 Huntington, City of  
 Hwy 58 Trailer Park  
 Ice Fountain Water District  
 Idanha, City of  
 Idleway Improvement District, Inc.  
 Imbler, City of  
 Independence, City of  
 Indian Meadow Water Company  
 Interlachen Water PUD  
 Lone, City of  
 Irrigon, City of  
 Island City, City of  
 Jackson County Parks  
 Jacksonville, City of  
 Jasper Knolls Water District  
 Jewell School District  
 John Day Water District  
 John Day, City of  
 Johnson Creek Water Services Company  
 Junction City, City of  
 Juniper Hilltop Mobile Park  
 Keizer, City of  
 Kellogg Springs Camp  
 Kelly's Brighton Marina, LLC  
 Kelso Water Association  
 Keno Water Company, Inc.  
 K-GB-LB Water District  
 Kilchis Water District  
 Kingswood Heights Water Association  
 Klamath Falls, City of  
 Klippel Water System  
 Knappa Water Association  
 Knoll Terrace Park  
 L.A. Water Cooperative  
 La Pine, City of  
 Labish Village Water Commission  
 Lady Creek Water System  
 Lafayette, City of  
 Laidlaw Water District  
 Lake Grove Water District  
 Lake of the Woods Resort, LLC.  
 Lake Oswego, City of  
 Lakeside Water District  
 Lakeside, City of  
 Lakeview, Town of  
 Lakewood Homeowner's, Inc.  
 Lamb Weston  
 Lamontai Improvement District  
 Lamplighter Water Association  
 Lane County Parks  
 Langlois Water District  
 Lark Meadows HOA  
 Laurelwood Water User's Co-op  
 Lawrence Subdivision Water Association, Inc  
 Lebanon, City of  
 Lexington, Town of  
 Lincoln City, City of



# MEMBERS



Little Beaver School, Inc.  
 Long Creek, City of  
 Lostine, City of  
 Lowell, City of  
 Luckiamute Domestic Water Co-op  
 Lyons-Mehama Water District  
 Madras, City of  
 Madrone Hill Mobile Home Park  
 Malin, City of  
 Manzanita, City of  
 Mapleton Water District  
 Maupin, City of  
 McKay Acres Improvement District  
 McKenzie Palisades Water  
 McLain Village Water  
 McNulty Water PUD  
 Merrill, City of  
 Metolius Meadows Prop. Owners Assn.  
 Metolius, City of  
 Midland Water Association  
 Mill City, City of  
 Milo Adventist Academy  
 Minikahda Water District, Inc.  
 Mitchell, City of  
 Modoc Point Sanitary District  
 Molalla, City of  
 Monmouth, City of  
 Monroe, City of  
 Monument, City of  
 Moro, City of  
 Morrow Commission, Port of  
 Mosier, City of  
 Mossy Brae Water District  
 Mt. Angel Abbey  
 Mt. Angel, City of  
 Mt. Ashland  
 Mt. Bachelor, Inc.  
 Mt. Shadows HOA  
 Mt. Vernon, City of  
 Mulino Water Dist. #23  
 Myrtle Creek, City of  
 Myrtle Point, City of  
 Nantucket Shores Water Company  
 NeahKahNie Water District  
 Nehalem, City of  
 Nesika Beach-Ophir Water District  
 Neskowin Regional Sanitary Authority  
 Neskowin Regional Water District  
 Netarts Water District  
 Netarts-Oceanside Sanitary Dist.  
 Newberg, City of  
 Newport, City of  
 North Corvallis Mobile Home Park  
 North Hill Water Corporation  
 North Plains, City of  
 North Powder, City of  
 Northwest Newberg Water Association  
 Nyssa, City of  
 Oak Lodge Water District  
 Oakland, City of  
 Oakridge, City of  
 Oaks Mobile Home Park  
 Oceanside Water District  
 Ochoco West Water & Sanitary Authority  
 Odell Sanitary District  
 Odell Water Company  
 Olney-Walnutski Water Association  
 OPRD Main Office – Salem  
 Orchard Heights Water Association  
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 Oregon Water Utility  
 Oregon Water Wonderland II Sanitary District  
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 Paradise/Rogue Meadow WS  
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 Perrydale Domestic Water Association  
 Pete's Mt. Water Company, Inc.  
 Philomath, City of  
 Phoenix, City of  
 Pilot Rock, City of  
 Pine Grove Water District  
 Pinecrest Water Company  
 Pioneer Park Water Co-op  
 Pioneer Village Water Company, Inc.  
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 Pleasant View Water Company  
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 Power City Water Co-op  
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 Rainier, City of  
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 Redwood Water Service, Inc.  
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 Reedsport, City of  
 Rhododendron Water Association  
 Richland, City of  
 Rickreall Community Water Association  
 Riddle, City of  
 Rimrock West Improvement District  
 River Meadows Improvement District  
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 Rivergrove Water District  
 Riverside Water District  
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 Rock Creek Water District  
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 Rufus, City of  
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 Sandy, City of  
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 Sheridan, City of  
 Sherwood, City of  
 Siletz Community Water System  
 Siletz, City of  
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 Sisters, City of  
 Skylane Farm  
 Skyview Acres Water Company  
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 South Fork Water Board  
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 St. Paul, City of  
 Staffordshire Water System, Inc.  
 Stanfield, City of  
 Star Satellite Improvement District  
 Stayton, City of  
 Steeves Mobile City  
 Storlie Water Company Inc.  
 Sublimity, City of  
 Suburban East Salem Water District  
 Sumpter, City of  
 Sun Mountain Water System  
 Sunridge Estates  
 Sunrise Water Authority  
 Sunriver Environmental LLC/Sunriver Water LLC  
 Sunset Acres Water Company  
 Sunset Lake RV Park  
 Sunset Water Systems, Inc.  
 Sunshine Village Water Association  
 Sutherlin, City of  
 SW Lincoln County Water District  
 Sweet Home, City of  
 Talent, City of  
 Terrace Mobile Plaza  
 Terrebonne Domestic Water District  
 The Dalles, City of  
 Three Rivers School District  
 Tierra Del Mar Water Company  
 Tigard, City of  
 Tillamook Bay, Port of  
 Tillamook County Creamery Association  
 Tillamook, City of  
 Timber Water Association  
 Toledo, City of  
 Tollgate Water Company  
 Tone Water  
 Trappist Abbey  
 Tri City Water District  
 Troutdale, City of  
 Tualatin Valley Water District  
 Turner, City of  
 Twin Island Community Water  
 Twin Rocks Sanitary District  
 Tygh Valley Water District  
 Ukiah, City of  
 Umatilla, City of  
 Umpqua Basin Water Assn.  
 Union, City of  
 Vale, City of  
 Valley View Water Co-op  
 Valley View Water District  
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 Vernonia, City of  
 VIDA-LEA Community Co-op  
 Waldport, City of  
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 Welches Water Company  
 Weldon Mobile Home Park  
 West Hills Water Company  
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 West Slope Water District  
 West Yamhill Water Company  
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 Westfir, City of  
 Weston, City of  
 Westport Water Association  
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 Wilsonville, City of  
 Winchester Bay Sanitary  
 Wi-Ne-Ma Christian Camp, Inc.  
 Winston-Dillard Water District  
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Kellogg Springs Camp

Kevin Smalling  
Dave Terrusa  
Matt Miller

Instrument Technology Corp  
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|                     |                        |                   |                     |                     |                       |                      |
|---------------------|------------------------|-------------------|---------------------|---------------------|-----------------------|----------------------|
| Individual Members  | Clark, Harvey          | Hanks, Kevin      | Klinger, Martin     | Mooney, Gregory     | Scowden, Mark         | Thompson, Matt       |
| Akins, Beckyllynn   | Clark, Jamie           | Hannen, Scot      | Knudson, Rich       | Mooney, Ronald W    | Seelye, Shawn         | Tinkess, Andy        |
| Alexander, Sandra   | Clement, Tony          | Hanson, William   | Lane, Larry         | Morgan, Daniel      | Sheppard, Neal F.     | Tupper, Sean         |
| Anson, James        | Close, Greg            | Hart, Steven      | Lawson, Brian       | Morris, Brady S     | Shults, Kevin         | Turkaly, William     |
| Anthony, Joe        | Cox, Hanna             | Hartley, Stewart  | Leahy, Terrance     | Nagle, Kevin        | Simenson, Donald J.   | Turner, Keith        |
| Barnes, Chase       | Crites, Robert         | Hatcher, James    | Leeper, Clifford    | Neal, David         | Simmons, Edward       | Ulrich, William      |
| Bartlett, Randy     | Daniel, Morgan         | Hawkins, David    | Leon, Gary          | Nelzen, Jerry       | Simpson, Steve        | Vanderkin, Rick      |
| Bathke, Vernon      | Davis, Guy P.          | Hawkins, Michael  | Lewis, Mark         | Odell, Mark         | Smalling, Kevin       | Wabschall, Aaron     |
| Bedell, Keith       | Degn, Tony             | Heide, Tracy      | Lord, Kim           | Pendell, Keith      | Smith, Adam           | Wainwright, Timothy  |
| Bee, Steven         | Desroche, Ron          | Hoefler, Matthew  | Lundblad, Christian | Perry, Richard      | Smith, Brandin        | Wales, Matt          |
| Bell, Ron           | Dillard, Bob           | Hubbard, Tom      | Lyon, Nathan        | Pierce, Scott       | Smith, Larry          | Wanner, Ron          |
| Biamont, Tony       | Durfee, Kenneth        | Huerta, Osbaldo   | Marshall, John      | Pinson, James       | Spaulding, Claudia    | Ward, Kyle           |
| Bidwell, John       | Eells, Lannie          | Huff, Zach        | Martineau, William  | Porter, James       | Stark, Chris          | Whitlock, George     |
| Bock, Paul          | Eichler, Robert        | Hume, John        | May, Ryan           | Rader, Jonathan     | Steele, Mark          | Whittenburg, Gregory |
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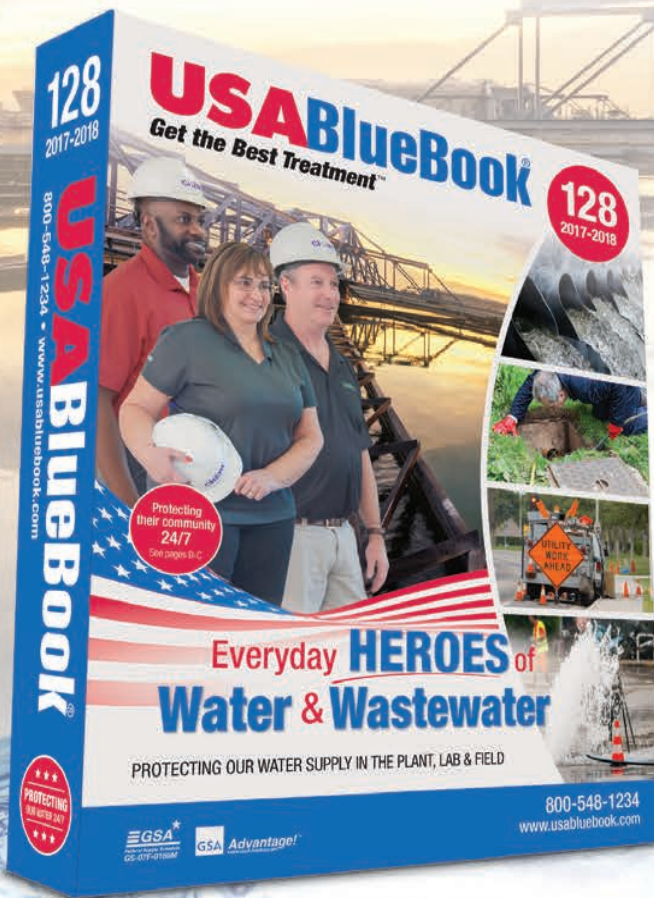
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