

H₂Oregon

Summer 2015
Vol. 37, No. 3

Visit our newly updated website!

www.oawu.net

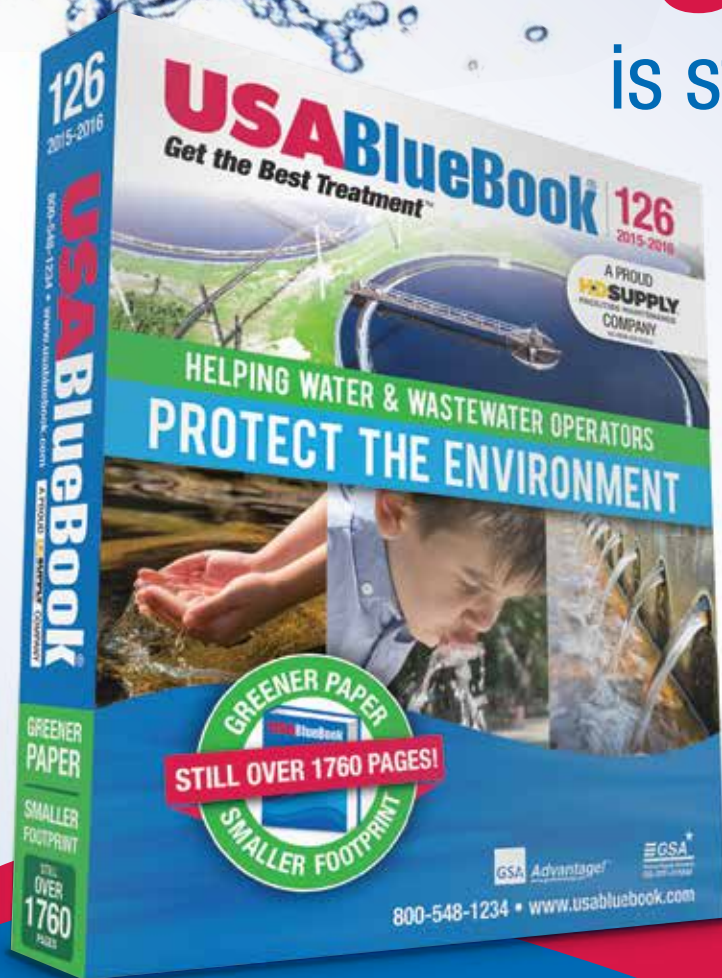
21st Annual Summer Classic

August 17–20, 2015 in Seaside, Oregon

Register today! See page 16.

A publication of Oregon Association of Water Utilities

The New Slimmer **USABlueBook®** is still **BIG** on Selection!



Don't let the smaller footprint fool you!

USABlueBook's new catalog uses an environmentally friendly paper that slims down our book—but not our selection. From aeration to zinc testing and everything in between, USABlueBook still offers *everything you need for water and wastewater operations and maintenance!*

28
PRODUCT
CATEGORIES

- Aeration
- Chart & Data Recorders
- Chemical Feed
- Collection Systems
- Electrical
- Flow Metering
- Gauges
- Hose
- Hydrants
- Lab Chemicals
- Lab Equipment & Supplies
- Lab Testing
- Level & Pressure
- Locating & Leak Detection
- Maintenance
- Office Products
- Pipe
- Plugs
- Process Analyzers
- Pumps
- Reference
- Safety
- Sampling Equipment
- Tanks
- Tools
- Valves
- Water & Wastewater Treatment
- Workwear

Over 64,000 Products • Personal Customer Service
Expert Technical Support • Nationwide Distribution Network
100% Satisfaction Guarantee!

**GREEN IS THE
NEW BLUE!**

Printing on environmentally friendly, 100% recyclable paper is only part of the story. By reusing shipping boxes, using responsible mailing practices and offering FREE electronic billing services, USABlueBook is doing its part to help protect the environment.

USABlueBook®
A PROUD **HD SUPPLY** COMPANY
FACILITIES MAINTENANCE

Request your **FREE** catalog today! Call **800-548-1234** or visit **www.usabluebook.com**



H₂Oregon

Summer 2015
Vol. 37, No. 3

WANTED

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 to the editor and interesting stories. Please send submissions (no more than two pages in length) to:

Oregon Association of Water Utilities

935 N. Main St.
Independence, OR 97351
(503) 837-1212
Fax (503) 837-1213

Cover Photo: Bandon, Oregon
Photo by Jason Green

CONTENTS

Water Troubles — All Part of the Job by Jason Green, Executive Director	3-4
Consumer Confidence Reports	4
A Must Read by Jeff Crowther, Wastewater Technician	5
Upcoming Conferences	5
Quantity and Quality by Mike Collier, Source Water Specialist	6
Jeff Swanson Memorial Scholarship	7
21st Annual Summer Classic—Register today!	7
A Special Thanks to OAWU Sponsors	7
Droughts Can Happen Anywhere! by Hans Schroeder, Circuit Rider	8-9
NRWA Fleet Programs	10
Water Rationing by Heath Cokeley, Programs Manager/Circuit Rider	10-11
Uncertainty into Surety by Tim Tice, Projects Manager	12-13
The Theory of Evolution by Scott Berry, Operations Manager	14
WaterPro Online Community	15
21st Annual Summer Classic Conference Registration Form	16
Water Tanks and Severe Weather by Erika Henderson, Pittsburg Tank & Tower Group	18-19
The Three R's: Recycling, Repairing, and Refurbishing In-House by Corbett Water District	20-21
NRWA Revolving Loan Fund	21
System O&M Manuals Required	22
Quiz Corner	23
Need to Review Water or Sewer Rates? OAWU Can Help!	24
2015 Training & Events Schedule	25
The Lost Sheep Throwing My Loop by Michael Johnson	26-27
Membership Application Form	29
Membership Roster	30-32

We Appreciate our Advertisers!

Please take a moment to view their ads.

4B Engineering & Consultants	22	Neptune	15
American Flow Control	17	Oregon Meter Repair	4
American Leak Detection	11	Owen Equipment	17
Bancorp Insurance	18	Pittsburg Tank & Tower	4
BioLynceus	4, 11	Pollardwater.com	Back Cover
BMI	9	Public Works Supply	15
Branom Instrument Co.	24	Sherwin-Williams	22
Cascade Columbia Distribution Co.	9	Special Districts Assoc. of Oregon	23
DN Tanks	24	The Automation Group	20
Engineering America	28	The Ford Meter Box	27
Ferguson Waterworks	22	TriPac Fasteners	22
H.D. Fowler	11	USABlueBook	Inside Front Cover
Lakeside Utilities (EZ Street Cold Asphalt)	26		

Oregon Association of Water Utilities

935 N. Main St., Independence, OR 97351
Ph: (503) 837-1212 Fax: (503) 837-1213

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.

OAWU has the right to reject any advertising deemed unsuitable for the OAWU publication. Acceptance of advertising by OAWU does not constitute endorsement of the advertiser, its products or services, nor does OAWU publication make any claims or guarantees as to the validity of the advertisers offer.

H2Oregon is the official publication of the Oregon Association of Water Utilities, and is published quarterly for distribution to representatives of rural and municipal suppliers. Issues are mailed free of charge to member and nonmember rural water/wastewater associations. Articles and photos are encouraged with payment in complimentary copies.

H2Oregon is published for the
Oregon Association of Water Utilities by
Mt. Angel Publishing, Inc.
135 N. Main St., Mt. Angel, OR 97362
503-845-9499 fax: 503-845-9202
www.mtangelpub.com

OAWU Staff Members

Jason Green, Executive Director
jgreen@oawu.net

Mark Russell, Office Manager
mrussell@oawu.net

Donna Bernt,
Administrative/Financial Assistant
dbernt@oawu.net

Tim Tice, Projects Manager
ttice@oawu.net

Scott Berry, Operations Manager
sberry@oawu.net

Heath Cokeley,
Programs Manager/Circuit Rider
hcokeley@oawu.net

Jeff Crowther,
Wastewater Technician
jcrowther@oawu.net

Hans Schroeder, Circuit Rider
hschroeder@oawu.net

Mike Collier, Source Water Specialist
mcollier@oawu.net

Heather Davis, Office Assistant
hdavis@oawu.net

For advertising information,
contact the OAWU office:

935 N. Main St., Independence, OR 97351
(503) 837-1212

office@oawu.net • www.oawu.net

H₂Oregon

OAWU Officers & Board Members

OFFICERS

PRESIDENT

Mark Beam

Ice Fountain Water District
1185 Tucker Road
Hood River, OR 97031
Phone: (541) 386-4299
Fax: (541) 386-7228
ifwater@hrecn.net
Rep. Reg. 2, exp. 2016

VICE PRESIDENT & NRWA DIRECTOR

Russ Cooper

City of Monmouth
151 W Main Street
Monmouth, OR 97361
Phone: (503) 838-2173
Fax: (503) 838-0201
rcooper@ci.monmouth.or.us
Rep. Reg. 2, exp. 2017

SECRETARY/Treasurer

Edson Pugh

Deschutes Valley Water
881 SW Culver Hwy.
Madras, OR 97741
Phone: (541) 475-3849
Fax: (541) 475-6013
edson@dvwd.org
Rep. Reg. 3, exp. 2017

PAST PRESIDENT

Mark Snyder

K-GB-LB Water Dist.
P.O. Box 96
Gleneden Beach, OR 97388
Phone: (541) 764-2475
Fax: (541) 764-2459
marksnyder@kgblbwater.com
Rep. Reg. 1 exp. 2016

Matt Johnson

City of Amity
P.O. Box 159
Amity, OR 97101
Phone: 503-835-4181
mjohnson@ci.amity.or.us
Rep. Reg. 5, exp. 2017

Board of Directors

Ed Butts

4B Engineering &
Consultants
3700 River Road N., Ste. 2
Keizer, OR 97303
Phone: (503) 589-1115
Fax: (503) 589-1118
epbpe@juno.com
Assoc. Mbr. Rep. exp. 2018

Mark Kerns

Avion Water Co.
60813 Parrell Rd.
Bend, OR 97702
Phone: (541) 382-5342
Fax: (541) 382-5390
mark@avionwater.com
Rep. Reg. 3, exp. 2018

Don Chandler

Nantucket Shores Water Co.
PO Box 236
Cloverdale, OR 97112
Phone: (541) 490-1419
lochsadon@yahoo.com
Rep. Reg. 1, exp. 2016

Gay Melvin

City of Dufur
PO Box 82
Dufur, OR 97021
Phone: (541) 467-2336
Fax: (541) 467-2353
gaybmelvin@ortelco.net
Rep. Reg. 3, exp. 2018

Jerry Arnold

West Slope Water District
P.O. Box 25140
Portland, OR 97298
Phone: (503) 837-1212
Fax: (503) 837-1213
Rep. Reg. 3, exp. 2018

Phil Davis

Odell Water Company
P.O. Box 166
Odell, OR 97044
Phone: (541) 354-1393
Fax: (541) 354-1885
pkdavis@hoodrivelectric.net
Rep. Reg. 2, exp. 2017

Micah Olson

City of Columbia City
Mailing address:
PO Box 189
Columbia City, OR 97018
Phone: (971) 563-3128
micah@olsonllc.com
Rep. Reg. 1, exp. 2016

Mike Edwards

City of Bend
62975 Boyd Acres Rd
Bend, OR 97701
Phone: (541) 317-3050
Cell: (541) 480-6530
medwards@bendoregon.gov
Rep. Reg. 1, exp. 2018



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

Oregon Association of Water Utilities

Water Troubles — All Part of the Job

by Jason Green, Executive Director



Global Warming, Climate Change, The Ice Age, mini ice ages—their effects and/or connections—some claim these are the cause to our current drought conditions. Interestingly Global Warming claims were news in the early 1900s. Today Global Warming has seemingly become Climate Change and to others it is simply cyclic, normal patterns.

Water, it's what we do. Seems I read or hear something regarding climate and drought conditions several times each day. I recall during the last drought in the 90s (some believe the Oregon drought conditions and data from the 90s are comparable to today, and that the 70s drought was much worse), attending a drinking water drought seminar in Salem. We listened to the research presented, the warnings, and the plans to save water. About half way through the key speaker's presentation, the cameras were turned off. There was a tremendous racket—the horrendous noise originating from the auditorium roof had drowned out the speaker's voice over the audio system. It was rain—wet and cool, torrentially falling as it does in the tropics. The drought had ended—the rain was not expected in the forecast. Timely and somewhat amusing. We had a job, a duty, yet we knew the rains would come—this is Oregon. But, what if... next year? What if the rains do not come and the mountains lack snow pack? What if we go through another winter without at least an average precipitation and its

summer 2016 following on the heels of a 2015 drought?

This year, having attended a number of drought meetings, an EOC manager stated, "It's my job to worry and plan." I smiled at that. I could identify with him. It's what we also do in the utility business, maybe not as many varied scenarios, nor possibly every day, but we do it. My experience is water and wastewater managers, superintendents and public works directors do it pretty well too. We must contemplate and plan for the "what ifs" to be effective. Our utilities are designed and built for maximum flows, demands, consistent service in all conditions, and the future. Utility planning, operations and demands change given growth, seasons, regulations, etc. We also must prepare for emergencies and catastrophic events. Leadership, management and staff training, planning and policies help prepare and guide us. We are expected to be prepared and continue to provide services, even during challenging circumstances.

Interestingly, there is the occasional person who is surprised that utilities practice planning. Most utilities have done so for years. Maybe not exactly in the way some expect, possibly not as in-depth as we do today, but it was done. Greater attention and training directed towards management, operations and planning has proven beneficial and effective in the last several decades.

Politically, professionally, and monetarily—there are dangers in

questioning, innocently or otherwise, current mainstream belief trends or might I term, doctrine. It seems to be borderline heresy in these matters to question human error, assumptions, agendas or how data was obtained. Occasionally, we find some common ground, but obviously, opinions, research and science are polarized on many major issues. None-the-less, we do have a duty and an obligation to our customers and utilities. We must vet out and seek realistic, effective and affordable answers; plan for the future, emergencies, changes, growth, catastrophic events, and yes, drought conditions. And certainly, there are drought conditions that many states currently face, what ever the cause or influence.

There will be water troubles, challenges of some sort. Always has been, always will be and likely more serious and complicated in the future. A plan to address such issues as loss of source, drought or catastrophic occurrences is a solid management practice. This may be included within the Emergency Response Plan as part of the O&M Manual or the Water Management and Conservation Plan with various conservation triggers and steps. Some of the smallest systems have plans too, they have had them for years, just haven't gotten around to writing them down yet; some utilities may simply need to polish and update them. We know, when the well runs dry, it's too late for planning and all is reactive at that point.

There are a number of good practices to consider or implement regarding water conservation and source management. Some might include: a leak detection program; monitor the source—if you have wells, monitor static, drawdown, recovery and influences; consider impoundments, intakes, stream flows and pumping rates; review of water rights or permits, rule changes and legislative updates; neighboring utility inter-tie or emergency water deliveries; conduct a tabletop scenario as a practice for utility employees; public relations and informational flyers; extend or improve

already developed water sources or develop new sources; adopt a Water Management and Conservation Plan including authority and enforcement abilities; conduct a rate study to address conservation and revenues.

During the heat of the battle, it is often challenging for a utility to define what constitutes a drought condition and decide when to implement conservation measures. For some, defining and implementing drought measures are simple, for others the decision may be more complex and include the financial health or growth

of a city, politics or other considerations. When, why and how do we implement conservation measures? What are the social, business, growth and political climate conditions and demands and how will implementation of conservation measures affect these? Generally, utilities are in the business to sell water. Selling water to meet revenue requirements is not necessarily as PC as is conservation. Local goals, management practices and philosophies vary as much as rates and structures and are all utility specific. What if we do not implement conservation practices? What are the liabilities and potential damages by not planning and acting? What if we are too late in properly managing our resources or making decisions and the well does run dry?

Awaiting the rains. Best wishes. 💧

CONSUMER CONFIDENCE REPORTS

Don't forget your CCR! Consumer Confidence Reports (CCRs) must be delivered to customers by July 1st. By rule, a copy of the CCR must also be submitted to Oregon Drinking Water Services (DWS) by July 1st.

Tired of mailing out your CCR? OAWU can host your CCR on our website!

IF YOU NEED HELP DEVELOPING A CCR, CALL OAWU: (503) 837-1212

PITTSBURG TANK & TOWER MAINTENANCE CO., INC.

SAVE! We have a crew in YOUR AREA!

Inspections: Wet • Dry • ROV (Robotic)

Repair: Clean • Paint • Insulation

New & Used: Relocation • Erections • Dismantles

Tanks: Elevated • Underground • Ground Storage

ROV inspections can be viewed on TV console during inspection - DVD provided.

All inspections included bound reports, recommendations and cost estimates.

Patrick Heltsley 270-826-9000 Ext. 253

Thank you OAWU for recognizing BioLynceus as Associate Member of the Year!



Left photo: Jason Green president of OAWU awarding Becky Haugen of BioLynceus the Associate Member of the Year Award. Right photo: Andy Tomaszewski, Becky Haugen and Rick Allen, the BioLynceus Oregon Team, shown with the Award

Providing Environmental Solutions for:

water
soil
plants

Biological Augmentation & Waste Water Solutions

970-586-3391
sales@biolynceus.com
www.BioLynceus.com
Toll Free: 888-823-7404

ENVIRONMENTAL EXPERTS

BioLynceus®



OREGON METER REPAIR, LLC

DAVE SCHLUCKEBIER

President

Mobile: (503) 970-7881

meterdave@hotmail.com

A Must Read

by Jeff Crowther, Wastewater Technician



Treatment plant staff are continuously striving to stay in touch with new treatment options and process information. Sometimes, however, we get so caught up in trying to stay on the cutting edge that we forget how important it is to read and understand our State issued permit.

As wastewater operators I feel we have an obligation to know certain information. It makes no difference if we are an operator in training - just beginning our career, or a State certified level four operator - conducting mostly management duties. This important information is contained in your NPDES or WPCF permit issued by the State. Too often the permit is only looked at to determine sampling locations, frequency, and permit limits. Many times this information is summarized in a sampling schedule that is placed in the laboratory for quick review. While these aspects are important, there is a lot of additional information in the permit that all certified operators should be aware of.

The permit covers much more than just permit parameters and testing frequency. Each permit is tailored specifically for an individual discharging facility. Do not expect that permits for different facilities and systems will be the same. Each permittee will negotiate a permit with the regulatory agency

that is specific to their treatment process, type of effluent discharges and receiving stream. Other factors that may influence the permit are the number of comments received regarding the permit and/or the political climate at the time of permit renewal.

It is our responsibility as operators to read the permit and have a copy available to refer to when questions arise regarding discharge limits and report due dates. All operators should also review the permit for special compliance schedules. The permit may also require special testing in the third or fourth year of the permit in preparation for the issuance of a new permit. Don't wait until the end of the permit cycle to complete the testing. It is always best to have the data ahead of time so that it may be thoroughly reviewed and evaluated. It may also be beneficial to budget for special testing so the cost can be spread over time.

The next time you have some spare time or want to make some spare time, read your permit and make a copy for yourself. I find that if I make notes and highlight specific permit requirements, wording, and report frequency, it may jog my memory to submit the annual report. Whether you are the supervisor, operator, laboratory analyst, or operator in training, it is a team effort to stay in compliance with your permit. 💧

UPCOMING CONFERENCES

21st Annual Summer Classic Conference in SeasideAugust 17–20

Small System Operators Conference in FlorenceNovember 2–5

17th Annual End of Year Conference in Hood River..... December 7–10

MARK YOUR CALENDAR!



Quantity and Quality

by Mike Collier, Source Water Specialist

There are two main functions of a water system: first, to ensure that there is water available to supply the needs of the people whom we are trying to serve and second, that the water we are providing is safe to drink (not necessarily in that order).

The quantity of the water that is available to us is mostly out of our control. We are reliant on the water right, or water permit that we have or are trying to obtain. The water right/permit comes from the Oregon Water Resource Division. The quantity is also dependent on the natural characteristics of the local aquifer or surface water body. Sometimes if we have a limited supply we can find a system close to us that we may be able to purchase water from for our system's needs. Overall, this amount is pre-determined and is quantitative, there are only a few choices we can make as a water provider for the amount of water we have available to us and the amount of water we can sell.

Now it is a completely different story when it comes to the quality of our drinking water. The actual contaminants that are monitored by us, because of the Safe Drinking Water Act, are quantitative amounts determined by the EPA. However, there is much with promoting and encouraging the protection of our water quality that is not quantitative, but rather qualitative.

The initial protection of the quality of the water we serve is predetermined, it is based on the water that is available to us and what the water currently has in it. If it has something that is above the MCL that was established for that

contaminant, then we must filter, or treat for the contaminant. We also must take steps to protect the water from microbiological contaminants. This is done through backflow prevention, proper screens, hatches, and other sanitary improvements.

What about future potential contaminants? What can we do about these? This is an area that gets a little murky. It takes a little more effort and research to nail down what any particular system should do in order to protect the water supply from future contamination. This is where source water protection comes in.

Source water protection looks at the aquifer characteristics and land uses near the source (well head or surface water intake) to determine if the source is susceptible to contamination. This part of source water protection can be found in the Source Water Assessments that are available at the state. The next step is to figure out ways that these potential contaminants can be stopped, or at least the likelihood of contamination reduced. This is usually completed through community educational programs and working with local landowners to promote the use of the Best Management Practices for the contaminants. These steps and programs can be outlined for your system in a Source Water Protection Plan.

Maybe it is time to consider developing a Source Water Protection Plan for your system. OAWU can help. Developing these plans is currently a free service OAWU can offer your system. Call OAWU so we can get a Source Water Protection Plan started for you today. 💧

Jeff Swanson Memorial Scholarship

Jeff Swanson passed away on July 4, 2009, from esophageal cancer. Mr. Swanson was an accomplished and passionate Circuit Rider and Programs Manager for ten years at OAWU. He was a great water operator, manager, troubleshooter, treatment plant operator, instructor and a great friend.

Jeff had a warm and memorable personality, exceptional integrity, personal character and work ethic.

It is to Jeff Swanson's memory that this scholarship is named; he believed that obtaining education

was paramount to a person's success and encouraged people to obtain it.

As Jeff would often say regarding one's attitude and actions, "Choose to make it a great day!"

An application with further details is available on the OAWU home page at www.oawu.net. The scholarship is awarded at the Annual Management and Technical Conference in Sunriver.

Please submit application by
December 3, 2015 to: OAWU
Scholarship Committee, 935 N.
Main St., Independence, OR 97351,
Attn: Scholarship 2015. 💧



21st Annual Summer Classic

August 17–20, 2015 in Seaside, Oregon

Register today! See form on page 16.

A Special Thanks to Our 2015 Sponsors

SILVER SPONSOR

HD Fowler

BRONZE SPONSORS

BergerABAM EJ CoBank RH2 Engineering

DIAMOND, **GOLD**, **SILVER**, and **BRONZE** sponsorships are available.

TO BECOME A SPONSOR, CALL 503-837-1212



Droughts Can Happen

by Hans Schroeder, Circuit Rider

Headlines read: *Community stricken by drought; City is forced to purchase water; Farmers are reluctant for harvest; Communities, Cities, Counties and States are looking for water supply alternatives; and County commissioners struggle between agriculture and city water needs.*

As we read and listen to the news we tend to lend a deaf ear to continual tragedies on planet earth. It's like it becomes mundane, even common place. We are now experiencing the early warnings about our river, stream and well levels declining due to a below normal snow pack. In March and April I visited with many systems that were already experiencing lower levels of their surface water supplies.

Droughts occur when there has not been enough rainfall and the water levels get low. They can happen anywhere in the United States; droughts increase the risk of other hazards like wildfires, flash floods, landslides, agriculture and community water needs not being met. The water that exists today is the same water that existed since the beginning, that's why it is called a limited renewable resource. It's always on the move, traveling through the oceans, rivers, ground and atmosphere. The four factors in a drought are: lack of precipitation, lack of moisture in the soil, low levels of water in surface waters (lakes, streams, rivers, and reservoirs), and groundwater shortages. Droughts can have major impact on agriculture, recreation,

tourism, water supply, energy production, and transportation.

California, where drought regulations are set to be adopted, will be forcing the biggest water users, which include some of the wealthiest communities, to bear the brunt of the 25% cut in water consumption. If water providers can't get customers to conserve, they may resort to financial penalties. Some communities will be charging higher water rates to people who consume excessive water.

How can we help with water conservation? Most important is education; educating our users is key. Did you know water covers more than 80% of our earth and is found in oceans, lakes, rivers, glaciers and underground? Also, 97% of the earth's water is saltwater — which people and animals cannot drink and is not good for many plants. That leaves only 3% as freshwater and most of that freshwater is stored as ice.

There are many options community leaders can try in order to educate users to help make sure there's enough water for the things we really need. Such as, conserve water by taking short showers, not baths, showers use less water. Don't let the water run when you brush your teeth, wash your hands, or do the dishes. When washing your car, utilize a car wash, most of them recycle the water. You may not have the shiniest car this summer, but you will be able to drink a glass of water.

Oregon Association of Water Utilities

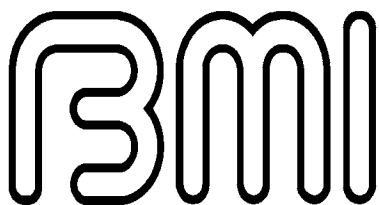
Anywhere!

Take a break from using outdoor water toys, conserve on your outside watering and most importantly, water during evening hours when evaporation is at its lowest and use timers!

Communities don't like to, but if the need is there, they can put in place the dreaded water restrictions. If your community has never had to go through one you should feel fortunate. Each and every one of us will see the effects of the drought in one way or another, in our grocery stores and pocketbooks. Be aware of a treasured resource we have... WATER! 💧



Record drought in California will affect communities and utilities far beyond the state's borders.



Backflow Management Inc.

**WE PROVIDE COST EFFECTIVE WAYS TO
MEET ALL YOUR WATER SYSTEM NEEDS**

CONTACT US AT:

(800) 841-7689

www.bmi-backflow.com

- **TRAINING**
- **CONSULTATION**
- **PUBLIC EDUCATION PACKETS**
- **ASSEMBLY TRACKING SOFTWARE**
- **ENFORCEMENT DOCUMENTS**
- **WRITTEN PROGRAM PLANS**

"BMI is dedicated to the pursuit of clean, safe drinking water through education"



**CASCADE COLUMBIA
DISTRIBUTION COMPANY**
Water Treatment Chemical Supplier

Primary Coagulants Alum • PAC • ACH • Organic Polymers

Filter Aides

Chlorine Sod Hypochlorite • Cl Cyl • Dry Calcium Hypochlorate

Dechlorination Sodium Bisulfate • Calcium Thiosulfate • Ascorbic Acid

pH Control Sodium Bisulfate

Corrosion Inhibitors Ortho & Poly Phosphates • Sequestering Agents • Potassium Permanganate • Copper Sulfate

Fluorides Activated Carbon • Hydrogen Peroxide • Ferric Chloride • Phosphoric Acid • Citric Acid • Sodium Silicate

Specialty Products Defoamers • Odor Control

**SPECIALIZING IN A COMPLETE LINE
OF MUNICIPAL WATER TREATMENT CHEMICALS**

Call for anything special!

Jeff Zachman & Joe Price, Technical & Sales

Jeff: Office/Fax 503-636-8252, Pager 503-299-0775, jeffz@cascapecolumbia.com

Joe: Office 503-266-2959, joep@cascapecolumbia.com

Orders: Portland 503-625-5293, Toll-Free 887-625-5293

Fax 503-625-4335

Serving the Pacific Northwest since 1926



Water Rationing

by Heath Cokeley, Programs Manager/Circuit Rider

I know the title of this article is not a fun topic for many systems, but with that, said it begs the question: What are you going to do when your water intake in May looks worse than it does most years in August?

Given our snow pack this year, or lack thereof, many surface water systems are facing this question. Of course this is not just a surface water dilemma. Do you monitor the water levels in your wells? How far down can you draw the aquifer before having issues? What will you do if you lose a motor?

I go back to the old saying of Benjamin Franklin: "When the Well is dry, we know the Worth of Water." Hopefully, for those of us in this industry, that is not true and we understand, not only the worth, but the vital need to protect this precious resource. Part of that protection is, of course, prevention. Making sure the intake is clean and all the pumps are in good working order, but what will you do if, for whatever reason, you cannot get enough water to your system for normal day to day operations? This is when the seven "P"s come into play:

Proper Planning and Preparation Prevents Piss Poor Performance.

So it's time to pull out your Water Management and Conservation Plans, if you have them, or whatever policies you have in place to curtail the amount of water customers can use and dust them off in order to be ready to implement them if need be. If you don't have any plan to address this type of situation then start one.

These plans can be as simple as identifying the most important uses for water. For most systems the number one use is going to be household usage, then figure out what can be cut back or eliminated. Can you have your customers stop washing



**Check out the NRWA's
new Chrysler and Ford
fleet programs!**

More information at oawu.net

cars or only water lawns on Monday/Wednesday for even number addresses and Tuesday/Thursday for odd number addresses?

Whatever order you do this in is up to you and should be based on your system's specific needs. Just remember to keep the plan as simple as possible. If you are going to assess fines for people who do not follow the rules, set them and make sure the information they need is available early.

The conversation about water rationing with your board and your community will not be a fun one. I can almost guarantee that you will

have people angry about the idea, being told how and when they can use a product they are paying for, but having that conversation early and often, before you get into an event, will help everyone be on the same page when it is needed.

I truly hope that I am just crying wolf with this article and, if nothing more, this gives you the opportunity to make sure your plans for water curtailment still makes sense for your community and is easy to implement. Unfortunately, given the current state of water in Oregon, I believe this year is shaping up to be a tough one on

systems. So have a plan in place, make sure you, your staff and your board can support that plan. Then hope that the plan ends up sitting on a shelf gathering dust like so many of the other plans we as water and wastewater operators are required to write, but if you need it, it will be there.

As always, if something does happen or you have any questions, don't hesitate to call one of your OAWU Circuit Riders. We have been in your shoes and even if we don't have an answer to your question we may know where to find it and with that I will see you down the road. 💧



Solutions for:

Industrial Waste Streams
Manufacturing
Food & Beverage
Municipal Wastewater
Collection Systems
Pre-Treatment Programs
Mining Waste Streams
Refinery Waste Streams
Storm Water Catch Basins



BioLynceus welcomes to our Environmental Sales Team, Andy Tomaszewski. Andy is the new Territory Manager for WA and OR.

970-586-3391
sales@biolynceus.com

888-823-7404
www.biolynceus.com

Bio Lynceus

Environmental Solutions for Waste Water
Providing Solutions Since 1994

Electronic Leak Detection and Correlator Leak Surveys



**AMERICAN
LEAK
DETECTION**

THE ORIGINAL LEAK SPECIALISTS™

Portland • Eugene • Salem • Medford

888.777.5325

AmericanLeakDetection.com



**H.D. FOWLER
COMPANY**

28800 SW Boberg Rd
Wilsonville, OR 97070

Ed Pettett
Outside Sales

503-783-3490
Cell 503-476-2804
edp@hdfowler.com



Uncertainty into Surety

by Tim Tice, Projects Manager

For most of us reading and understanding any rules or statutes can seem confusing, especially when we do not live and breathe the particular subject. Many times, either in a game of horseshoes or cribbage, the interpretation of the rules leads to a short discussion prior to play.

Revisions to the 1989 Total Coliform Rule (TCR) will go into effect in April 2016, when both primacy agencies and public water systems (PWS) must comply with the revised requirements.

Total coliforms are a group of closely related bacteria that are (with few exceptions) not harmful to humans. Their measurement serves as an “indicator” to other pathogens that may be in drinking water, they are simply one measurement showing the quality of the water. Health problems associated with these pathogens include diarrhea, cramps, nausea and vomiting.

Unless the State of Oregon determines an earlier date, all PWS must comply by April 1, 2016. This includes: 1) Community water systems (cities, towns, mobile home parks) 2) Non-Transient Non-Community water systems (schools/work sites) and 3) Transient Non-Community water systems (parks, restaurants and campgrounds).

Some key elements of the Revised Total Coliform Rule (RTCR) are as follows:

- Monitor for both total coliforms and E. coli (EC) in the distribution system. The results are used as indicators to the integrity of the water system and potential presence of fecal contamination.
- If monitoring results indicate the system might be susceptible to contamination (multiple positive results of TC or E. coli), the water system must conduct an assessment and determine sanitary defects.
- Another cause of positive results might be with incorrect sampling procedures.

Many times a positive TC test result is found and there is no reason for the positive result determined, this can begin to create a “cry wolf” scenario. Emphasis should be placed on the sampling procedures to assure proper techniques are used.

The RTCR establishes new criteria for TC positive results dependent upon the number of occurrences, which will require an assessment of the water system. Two levels of assessment have been established.

- Level 1 – shall be conducted by the PWS
- Level 2 – will be conducted by the State or partnering agency.

Triggers for an assessment are: 1) MCL violation, and 2) failure to take repeat samples when a positive TC occurs. During the assessment

if sanitary defects are found, they must be corrected within a required timeframe.

Monitoring and sampling stay relatively the same under the RTCR, with a few minor exceptions, such as three repeat samples reduced from four for PWS serving < 1,000 for each TC positive sample, and one sample shall be from the source(s). This keeps in line with the Groundwater Rule.

Quarterly / Annual TC routine sampling plans must collect repeat samples (at least 3) the following month of a TC positive routine or repeat sample.

Seasonal systems must monitor and certify the completion of state-approved start-up procedures. Speak with your State or County sanitarian about changes in the start-up procedures prior to certification.

The biggest change with the RTCR is that there will no longer be a public notification required for TC positive samples, which currently are a Tier 2 notification. Only if the sample is determined EC positive, shall there be public notification and it will be a Tier 1 notice. Failure to take repeat samples after an EC positive will result in an MCL violation and Tier 1 notification. Along with notifying the consumer, the State must also be notified.



If a TC positive is discovered, the PWS will be required to perform a level 1 assessment and corrective actions based on the findings of the assessment. This is the substitute step in place of requiring a public notification. If the PWS fails to perform the level 1 assessment and corrective actions, then a tier 2 public notice is required.

It is believed that most of us want to provide good clean drinking water. And a second belief is, “when the water goes bad, we want to make it good. We can begin using several steps.

- Ensure your sampling procedures are adequate so a bad sample is not incidentally caused.
- Understand the rule(s) if and when we fall out of compliance.
- Make sure sample locations are representative of the distribution system.

- Make sure the sample taps are of good design and selection.

When it comes to understanding the rules it is a good practice to read them often and stay up to date with any changes. The RTCR is a change that will take place in April 2016.

When multiple generations of cribbage players from within my family get together to play, once in a while someone goes off track and swears to a new rule or a variation to an established rule. With twelve months to review and familiarize yourself with the rule, take time to contact someone on our staff or your local sanitarian to assure, next April, the compliance bar is met. ♦

The best of that life has to offer!

—Mr. OpTIMist



The Theory of Evolution

by Scott Berry, Operations Manager

Since the industrial revolution began, scientists have been trying to solve a deadly puzzle: ships are a leading cause of mortality for the endangered marine mammals. Why can't highly intelligent blue whales avoid deadly collisions with these ships?

At more than 100 feet long and 320,000 pounds, blue whales are the largest animals that have ever lived and for 30 million years they've never had to move out of anything's way! They have never before been compelled to evolve. For millennia, they have continued doing just as they have always done. They have done it well and are a credit to their species. Even with the most robust species there are times when change is needed, not that there was anything wrong with the way they have been living, just that it is possible that things could improve.

It's time for progress, it is in this spirit that we at OAWU are venturing out of our traditional feeding grounds. For the past 7 years, Tim Tice, our Projects Manager has been providing services such as rate studies, Water Management and Conservation Plans, and other written studies. He has done very high quality work and has made a positive impact on the industry as a whole and looks forward to assisting you with whatever your utility needs in the future.

With my departure from the Circuit Rider position and some internal restructuring we have made it possible to put a much higher level of focus on Contract Operations and services. We will be providing professionalism and a high level of service to utilities at a very competitive price and we bring a wealth of experience and, as always, we operate in the best interest of the utility. We will be actively seeking out new contract operations projects and look forward to hearing from you.

Additionally, we will be providing construction services such as hydro-excavation, installation of appurtenances, pipeline construction and other maintenance activities.

Heath Cokeley, in his new position as Programs Manager and Circuit Rider, as well as our other Circuit Riders, Training Specialist, and Source Water Specialist, will continue to provide training, troubleshooting, and other services at no cost to utilities.

We look forward to a continued and expanded relationship with the utilities in Oregon and to continue our tradition of providing services that have a positive effect on the industry as a whole. ♦

MORE COVERAGE THAN EVER. GET YOUR 2X WITH THE v3.

Get twice the coverage as before with
Neptune's NEW R900® Gateway v3
fixed network data collector.

Target routes or go full fixed network
and eliminate truck rolls, even for
off-cycle reads. All with your existing
endpoints – so your utility saves
infrastructure, labor, time, and money.



ARB UTILITY
MANAGEMENT
SYSTEMS™



NEPTUNE
TECHNOLOGY GROUP

TAKE CONTROL | neptunetg.com

MIKE DOCHOW
NW Territory Manager
mdochow@neptunetg.com
253-508-3033

PUBLIC WORKS SUPPLY

Your One Stop Safety Shop



Greg McDonald
503-678-2981

macsafety@publicworkssupply.com

10751 Oak Street Suite #2 Donald OR 97020 www.publicworkssupply.com

ADDITIONAL OAWU BENEFITS & SERVICES

Sewer I&I Testing • Smoke Blower • Well Testing
Line Locator, Leak Detector, Etc. • Operator of Record Services
CCR Templates & Report Preparation
System Performance & Evaluation
Water Conservation Management Planning • Lagoon Profiling
Job Referrals, Announcement & Services

**FOR AVAILABILITY & PRICING CALL OAWU:
(503) 837-1212 OR VISIT OAWU.NET**

Come on in! Check out ALL the benefits
and information available only to members!

WaterPro®

Online Community



Share



Network



Discover

Where Water Pros Go!

<http://waterprocommunity.org>



21st Annual Summer Classic Conference • August 17–20, 2015

Conference and Pre-Conference Registration

Please use one form for each person attending (photocopy additional forms as needed).

Full Name _____

Name preferred for name badge _____

Water Op. Cert. # _____ / _____ Wastewater Op. Cert. # _____ / _____

System / Company _____

System Address _____

City _____ State _____ Zip _____

System Phone _____ System Email _____

Pre-Conference (Monday)

Course		Fee	Attending?
Small Water System Training Course (0.6 Water CEUs)	System ID #41-_____	FREE	
Effective Utility Management (0.6 W/WW CEUs)		FREE	

Full Conference (Tuesday–Thursday)

Conference Registration	Early Bird (postmarked by July 17)	Standard (postmarked after July 17)	Subtotal
OAWU Member	\$265	\$275	
Non-Member (<i>non-members receive a one-year individual membership with conference registration</i>)	\$340	\$350	
TOTAL REGISTRATION FEES			

Additional Meals for spouses or guests	Quantity	Fee	Subtotal
Tuesday Evening BBQ		\$20	
Tuesday Lunch		\$20	
TOTAL ADDITIONAL MEALS			

Wednesday Golf Scramble Registration	Quantity	Fee	Subtotal
Golf Players (up to 4): Name: _____ Name: _____ Name: _____ Name: _____		\$75 per player (includes lunch)	
TOTAL GOLF REGISTRATION FEES			

TOTAL CONFERENCE FEES

☐ Please Invoice

☐ Purchase Order: PO # _____

☐ If paying by credit card, please call the OAWU office for processing and receipt.

SEND REGISTRATION FORM AND FEES TO:

Mail: OAWU, 935 N. Main Street, Independence, OR, 97351 | email: office@oawu.net | Fax: 503-837-1213



EQUIPMENT & ACCESSORIES FOR PUBLIC WORKS

SEWER CLEANING
HYDRO-EXCAVATING
PIPELINE INSPECTION
LINE LOCATING
LEAK DETECTION
VALVE OPERATING
ROOT CONTROL
GREASE / ODOR CONTROL
STREET SWEEPING



CALL FOR A DEMO
We'll come to you!
Call Today
(800) 992-3656

Product Spotlight:

The vLoc-5000 Locator delivers premium features with high level performance and intuitive ease of use. With Signal Select, Distortion Alert and Signal Direction the vLoc-5000 raises the bar in buried utility identification. The high-capacity Lithium-Ion battery supplied as standard will save you hundreds of dollars on replacement alkaline batteries.



Features:

- Utility Locating System
- Signal Select
- Signal Direction
- Distortion Alert
- Accuracy
- Data Utilization
- Data Management
- Internal Data Logging
- Internal GPS



NOW RENTING NOZZLES!

Rent the tool you need for specialty jobs



CHECK OUT OUR ONLINE STORE
shop.owenequipment.com

800-992-3656

THREE FULL-SERVICE LOCATIONS
Oregon • Washington • California

*Revolutionary Flow Control.
That's the American Way.*



american-usa.com
1-800-326-8051

Made in America by AMERICAN.



AMERICAN
FLOW CONTROL
THE RIGHT WAY

Water Tanks and Severe Weather

Severe weather can be devastating, and according to numerous weather sources is occurring more frequently and widespread. Tornadoes are now occurring anywhere from the Rockies to the east coast. Currently, the southern pacific coast is experiencing a severe drought, many areas in the east coast are flooded, and thousands of people were killed in the Nepal earthquake.

Severe weather does not discriminate and it can damage or destroy everything in its path including water tanks. Necessary water supply for consumption, fire protection, and emergency needs is crucial to everyday well-being, and even more when a severe weather event occurs. Therefore, water tanks should be

designed, constructed, maintained, and inspected to withstand severe weather.

Tanks that have experienced winter storms and freezing should obviously be inspected for damage, but seismic activity, high winds, lightening, droughts, and flooding also occur in the summer months and tanks are susceptible to damage from them as well.

High Winds/Lightning Strikes

National Fire Protection Association (NFPA) states, "Anchor bolts shall be arranged to securely engage a weight at least equal to the net uplift when the tank is empty and the wind is blowing from any direction."¹ Lightweight tanks definitely

need to be anchored against high winds in areas that experience them, and elevated water tanks should have their windage rods inspected and tightened regularly to maintain winds of 150 mph, blowing from any direction.

Tanks not grounded are subject to lightening damage. Lightning strikes could cause power outages that could affect the ability to receive water. Water pumps and alarms could malfunction, or a complete tank failure could occur. NFPA 780 states, "Tanks shall be grounded to conduct away the current of direct strokes and the buildup and potential that cause sparks to ground."²



Rex Lesueur,
Licensed Agent &
Consultant,
National Speaker
& Author

Attn: Private & Association Water Companies

Finally An Insurance Policy Designed Specifically For You, Save up to 26% off Your Current Premium and Get Individualized Protection for Your Water District!

Most water districts end up purchasing costly inadequate insurance protection that fails to provide you protection from the every day risks your water district faces. **WaterPro's** insurance program protects your district's property and its liability exposures including protection for risks like **Accidental Pollution, Failure to Supply, Equipment damage** to pumps, gages, and electrical boards, **Wrongful Acts of Boards, Employment Practices** along with a whole smorgasbord of other add-ons too numerous to list here! Stop paying for mediocre insurance coverage upgrade your protection now! **Call Rex 800-452-6826**

Don't Take Our Word for It, Our Customers Say It Best:

Rex provides **EXCELLENT** service, he recently went to bat for our little **Water District** and obtained **payment on a claim** that the insurance company denied! **We Don't Worry, We Have Rex**, *Erica Anderson, Christmas Valley Domestic Water Supply, Christmas Valley Or.*

"**Rex's WaterPro** program is one of the most comprehensive insurance programs I've ever seen. He was able to provide the **Oregon Association Water Utilities** with a quality program at a **great price**." *Jason Green, Executive Director*

**Water
PRO**

**BANCORP
Insurance**

Don't Worry, Call Rex at 1-800-452-6826 Today!

Drought/Flooding

When a drought occurs, aggressive water conservation measures are often taken; but tanks still need to be inspected and cleaned. To conserve precious water, Robotic Operated Vehicles (ROVs) can be used to inspect and clean tanks without draining them, thus saving the water.

Foundation damage can easily occur if tanks are subjected to flooding for prolonged periods. Tank sites should have good drainage to minimize or prevent possible foundation damage from flooding. The site design should also include provisions for draining the tank and the discharge from the tank overflow without damaging the tank site or neighboring properties.

Seismic Activity

Tanks are designed and constructed for resisting earthquake damage by complying with the earthquake design load provisions of American Water Works Association (AWWA), in accordance with its Seismic Use Group (SUG) and site class. The SUG is a classification assigned to a tank based on its intended use and expected performance; Tanks that serve multiple facilities use the highest SUG. Site class accounts for the effect of local soil conditions on the ground motion and are based on the soil present and their engineering properties as established by a geotechnical investigation. The SUG and site class help determine the appropriate freeboard and the number of anchor bolts needed. Freeboard is the distance from the Maximum Operating Level

Oregon Association of Water Utilities



(MOL) to the lowest level of the roof framing and is determined by the sloshing wave height that could occur.³ Freeboard is taken into consideration to prevent a tank from overturning or causing roof damage due to sloshing.

The design of the piping system connected to the tank should consider the effects of foundation movements and potential movement of the connection points during earthquakes. Sufficient flexibility should be provided to avoid release of the tank contents due to failure of the piping system. The piping system and supports shall be designed so as not to impart significant mechanical loading on the attachments of the tank. Mechanical devices that add flexibility, such as bellows, expansion joints, and other flexible apparatus, may be used when designed for the seismic displacements and defined operating pressure.³

What to Look For

Water tanks should be inspected regularly for proper working order and stability before severe weather hits. Overhead obstructions, trees

and overgrowth that could puncture or damage a tank during severe weather should be removed, and operators should routinely look for foundation, wind, and earthquake damage. Such damage on tower-supported tanks may be indicated by cracked coating or welds at the tower connections; broken, bent, or sagging rods; buckled struts; dented or twisted columns; or missing or loose rod pins. If any of these conditions are observed, the tank should be professionally inspected. In addition, tanks in areas at high risk for wind or earthquake damage should be inspected more frequently than tanks in low risk areas.⁴ 💧

References

1. National Fire Protection Association, NFPA-22 Standard for Water Tanks for Private Fire Protection. 2013
2. National Fire Protection Association, NFPA-780 Standard for the Installation of Lightning Protection Systems. 2014.
3. American Water Works Association, D100-11 Welded Carbon Steel Tanks for Water Storage. 2011.
4. American Water Works Association, M42 Steel Water Storage Tanks. 2013.

The Three R's: Recycling, Repairing,

While working with a \$48,000 budget for a new 2015 Ford F450 utility 4x4 truck we at the Corbett Water District came upon the realization that the truck and utility box would use every penny in our vehicle budget.

We did some internal checking on each of our old existing work vehicles and with our water operator, Hans Rathjen, who is also our main mechanic. He found that the new Ford F450 frame was the same size as our existing 2000 Ford F550 and 1990 Ford F350. We decided to install the old utility box from the 2000 Ford F550 onto the new 2015 cab chassis. Recycling this utility box saved the District over \$10,000.

We then thought about what to do with the 2000 F550 cab and chassis since the bid we received from a dealership was too low. We decided to pull our 1-yard dump truck body from the 1990 F350 Ford which had a hard time carrying a full load of rock and install it onto the diesel 2000 F550.

The F550 bench seat frame was worn out and hurt the backs of the operators. We checked into getting the old seat frame welded and repaired, however this was not cost-effective—so we researched and found a set of leather XLT Lariat bucket seats with a center console from a much newer Ford truck.

We also wired in electric seat motors for easier seat adjustment.

Our 1990 F350 had only 32,000 original miles on it and we deemed that it still had many more years as a work truck for the District, so we followed up on a Craigslist add for a flatbed frame. After purchasing it for only \$200, we cut, welded, sandblasted, painted, and replaced the wood deck on the frame. This gave it a new life as a flatbed with a hoist, and a section was cut out of the side in order to carry the jumping jack for use during our projects.




INTEGRATION | SCADA | CONTROLS | INSTRUMENTATION

















541-359-3755

www.tag-inc.us




- 23,000 Sqft Facility
- UL 508 and UL 698 Panel Shop
- Technical Training Classes Available
- PLC Programming

- Graphical User Interface/HMI
- Control System Design
- Instrument Calibration Plans
- SCADA Design and Implementation
- Chemical Metering Systems
- Custom Training

- Factory-Trained VFD Technicians
- Process Instrumentation Monitoring & Controls
- Start-Up/Commissioning Services
- 3rd Party Inspection Services
- Radio Telemetry
- Maintenance Service Plans
- Fabrication



scan and visit our website at:
www.tag-inc.us
CCB# 172839

On-Call Technicians Available 24 hours / 7 days a week.

and Refurbishing In-House *Corbett Water District*



We were on a roll. We had also budgeted for the replacement of the wooden deck on our 12-ton trailer, which we use for transporting our John Deere backhoe. When we pulled the old boards off, we decided to sandblast it and give the trailer a fresh coat of shiny red paint and new safety reflector tape on the sides, along with replacing three worn out tires. This made the trailer look like new.

The District crew of Jeff Busto, Hans Rathjen, and I did the sanding, welding, fabricating, painting, wiring and

installed the different beds on each of the new respective frames.

With the money we saved on the utility box recycle project, we were able to upgrade the 1990 to a flatbed, the 2000 to a 1-yard dump truck, the 2015 to have a utility box, upgrade the 12-ton trailer with a fresh paint job and have a fleet that the entire crew takes great pride in.

We set the extra funds aside for Capital Improvement projects in the future. 💧



APPLY TODAY!

"You provided the help that we needed when we needed it and in a timely manner."

Thanks for making it possible and so convenient to obtain a loan in our time of need..."

Director - Rural Water PWS

REVOLVING

Loan

FUND



National Rural Water Association
under a grant from



UNDER
CONSTRUCTION

Put these funds to work for YOU!

for more information contact david@nrwa.org
or go to: www.nrwa.org

System O&M Manuals Required

Have you completed your state-required Operations & Maintenance Manual?

Oregon Association of Water Utilities has prepared a full day class to assist operators in outlining an operations and maintenance manual per the Oregon Administrative Rule 333-061-0065 which requires each water system to develop an operations and maintenance manual.

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 \$155, or if you are unable to attend a class you may purchase a thumb drive with e-files for \$155. To sign up for the class, or to have a thumb drive mailed to you, contact your Association for further information. ♦



TRIPAC 

Rich Varalla
V.P. Sales & Marketing



951.280.4488
714.813.0751 Cell
951.272.4445 Fax
richv@tripaconline.com
475 Klug Circle
Corona, CA 92880

www.TRIPACONLINE.com

 **Ask us About: FERGUSON ONLINE**

YOUR COMPLETE SOURCE FOR WATERWORKS SUPPLIES & SERVICES

- PIPE, VALVES, HYDRANTS & FITTINGS
- BACKFLOW & CONTROL VALVES
- ACCESSORIES & REPAIR FITTINGS
- WATER METERS & AMR/AMI PRODUCTS & INSTALLATION – ELSTER-AMCO & DATAMATIC
- SERVICES DIVISION: • HOT TAPPING & SERVICE TAPPING • VALVE/LINESTOP INSERTION • CHLORINATION/DECHLORINATION • HDPE FUSION

 **CASTINGS**
SERVICE BRASS
DRAIN PIPE/MATERIAL & GEOTEXTILES

Rick Kernutt
Meters & Automation / Municipal Sales
Eastern & Central Western Oregon
P) 541-948-1474 / F) 541-548-2664
E) Rick.Kernutt@Ferguson.com

Eric Schmidt
Meters & Automation / Municipal Sales
Northwest & Southwest Oregon
P) 503-793-4352 / F) 503-212-0503
E) Eric.Schmidt2@Ferguson.com

7 Branches To Serve You:
Portland 503-240-6747 Vancouver 360-896-8708 Hillsboro 503-547-0208 Salem 503-362-2436 Eugene 541-501-0512 Redmond 541-548-2865 Medford 541-618-7411

Civil • Electrical • Control Systems • Environmental
Engineering & Consultation
Certified Water Rights Examiner
Water & Waste Water System Design & Consultation
Pump System Analysis & Consultation

4B ENGINEERING & CONSULTING

Edward Butts, PE, BCEE, CWRE 3700 River Rd. N
Principal/Chief Engineer Suite 2
503-589-1115 Keizer, OR 97303
503-881-7100 (cell) 503-589-1118 (fax)
epbpe@4bengineering.com www.4bengineering.com

 **SHERWIN-WILLIAMS®**
Protective & Marine Coatings

Michael A. Zach
Project Development Manager
NACE CIP Level 3 #22138

The Sherwin-Williams Company
3326 160th Avenue SE, Suite 310, Bellevue, WA 98008
mike.zach@Sherwin.com protective.sherwin-williams.com
Ph: 425-643-2017 ext 114 Cell: 206-817-5137 Fax: 425-643-8653

QUIZ CORNER

1. A test in wastewater to check for pipe deflection in plastic pipe?
A. Air C. Mandrel
B. Water D. All of the above
2. What causes water to move through pores in soil and rocks?
A. Temperature C. Barometric pressure
B. Viscosity D. Gravity
3. What is a commonly used indicator of possible health problems found in plants, soil, water and the intestines of humans and warm-blooded animals?
A. Viruses
B. Coliform bacteria
C. Intestinal parasites
D. Pathogenic organisms
4. Water is the only substance on Earth that naturally occurs in three forms (solid, liquid, and gas).
A. True B. False
5. More than 90% of the Earth's water is frozen or salty.
A. True B. False
6. About 47% of the human body is made of water.
A. True B. False
7. Carbon Dioxide in water will
A. Decrease turbidity
B. Decrease algae growth
C. Lower pH
D. Increase pH
8. What is the major limitation to the use of ozone as a disinfectant?
A. Ozone leaves too much of a residual in the distribution system.
B. Ozone leaves too little of a residual in the distribution system.
C. The inability of ozone to provide a residual in the distribution system.
D. Ozone is expensive to capture in the atmosphere and bring back to earth.
9. What is *Giardia lamblia*?
A. parasite C. virus
B. bacterium D. enzyme
10. Which of the following is not a disinfection byproduct?
A. Haloacetic Acids
B. Bromate
C. Chlorite
D. Chlorine dioxide
11. When lashing two poles together, most starting knots are clove hitches. What is the starting knot when tying a "diagonal lashing"?
A. Double clove hitch
B. Clove hitch
C. Timberline hitch
D. Taut-line hitch
12. What knot is (was) believed to have healing powers?
A. Fireman's coil C. Constrictor knot
B. Square knot D. Water knot
13. Pi (3.14) was discovered as a relationship between the circumference and what part of the circle?
A. Tangent C. Diameter
B. Area D. Sector

ANSWERS

1-D, 2-D, 3-B, 4-A, 5-A, 6-B, 7-C, 8-C, 9-A, 10-B, 11-C, 12-B, 13-C



SPECIAL DISTRICTS INSURANCE SERVICES

SDIS has over 30 years experience in providing specialized and affordable insurance services to Oregon's domestic water, sanitary, and irrigation districts

- Member-owned program where surplus revenues are invested to stabilize rates and enhance service
- Training, loss control, safety consultations, risk management, and claims management services offered
- Research and technical assistance available
- Pre-loss legal services for members enrolled in the property/casualty program
- Liability, property, boiler & machinery, crime, workers' compensation, and many other coverages available

Contact us today to learn why the majority of Oregon's special districts choose SDIS to take care of their coverage needs

SDIS
SPECIAL DISTRICTS
INSURANCE SERVICES

ADMINISTERED BY SPECIAL DISTRICTS ASSOCIATION OF OREGON

PO Box 12613 | Salem OR 97309-0613

TOLL-FREE: 800-285-5461 | PHONE: 503-371-8667

E-MAIL: underwriting@sdao.com | WEB: www.sdao.com

SDAO
SPECIAL DISTRICTS
ASSOCIATION OF OREGON

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 capitol 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.



Prestressed Concrete Storage Tanks

Quality never goes out of style

Trends come and go but DN Tanks prestressed concrete storage tanks are built to perform for decades — that's why we've been in business for generations. **We're that strong.**

For more information visit or call.

Chris Young
Pacific Northwest Regional Manager
Office: (503) 323-2000
chris.young@dn tanks.com
www.dntanks.com



DYK and Natgun
Generations Strong

Branom Instrument Co.

Since 1947



We are a manufacturer's representative that understands solutions for water/waste water applications and have a wide variety of products and solutions to meet your water/waste water needs.



- Level Controls
- Flow Meters
- Wireless
- Pressure Switches
- Pressure Transmitter
- Valve Positioners

www.branom.com

800-767-6051

Seattle | Spokane | Portland | Boise | W. Sacramento

OREGON ASSOCIATION OF WATER UTILITIES 2015 TRAINING & EVENTS SCHEDULE

Date	Class Title	Location	CEU Information	ESAC#, Fee/Free
August 4	Disinfection Options for Water & Wastewater	Salem	0.4 Water/Wastewater	2888 Fee
August 4	Water Operator's Toolbox	Pendleton	0.4 Water	TBA Fee
August 5	SDWA Update	Brooks	0.4 Water	2887 FREE
August 6	Water Wells 101	St. Paul/McMinnville	0.4 Water	TBA Fee
August 17	Effective Utility Management	Seaside	0.6 Water/Wastewater	3010 FREE
August 17-20	21 st Annual Summer Classic	Seaside	1.7 Water/Wastewater	3010 Fee
August 25-26	Water (WT/WD) Certification Review	Bend	1.4 Water/0.7 Wastewater	2787 Fee
September 2-3	Wastewater (WWT/WWC) Certification Review	Salem	1.4 Wastewater	2882 Fee
September 9	Developing Your O&M Manual	Florence	0.6 Water/Wastewater	2780 Fee
September 16-17	Water (WT/WD) Certification Review	Salem	1.4 Water/0.7 Wastewater	2787 Fee
September 17	Wastewater Treatment & Labs	Newberg	0.4 Wastewater	2883 Fee
September 23	Water & Wastewater Field Operations & Safety	Salem	0.6 Water/Wastewater	2944 Fee
September 24	Developing Your O&M Manual	Salem	0.6 Water/Wastewater	2780 Fee
October 6	Water Rights & Other Legal Issues	Springfield	0.4 Water	2717 FREE
October 6	Wastewater Law 101	Springfield	0.2 Wastewater	2893 FREE
October 21	Math for Operators	Independence	0.4 Water/Wastewater	2885 FREE
October 28	Preparing for Your Water System Survey	Eugene	0.4 Water	2881 FREE
November 2-5	Small System Operators Conference	Florence	2.0 Water/Wastewater	TBA Fee
November 12	Lagoons	Madras	0.4 Wastewater	TBA Fee
November 17	SDWA Update	Bend	0.4 Water	2887 FREE
November 18	Confined Space & Jobsite Safety	Independence	0.6 Water/Wastewater	2886 Fee
December 7	Effective Utility Management	Hood River	0.6 Water/Wastewater	TBA FREE
December 7-10	17 th Annual End of Year Conference	Hood River	2.0 Water/1.4 Wastewater	TBA Fee

Levels 1-4 Water Operator Exams

Trained and certified operators are necessary to ensure that 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 applying for a Level 4 certification. Reciprocity from state to state ensures that the operator has 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>

State Wastewater Exam Dates

All categories: <http://www.deq.state.or.us/wq/opcert/stpoperexamsqry.asp>
 (2015 dates have not been announced)
 Year-round, open schedule for exams

For additional wastewater exam information, visit
<http://www.deq.state.or.us/wq/opcert/opcert.htm>

Oregon ESAC/CEU accreditation

Phone/Fax: 503-698-8494
info@oesac.org www.oesac.com

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.

The Lost Sheep

Throwing My Loop
by Michael Johnson

Always fascinated me—that story about the lost sheep. Remember now, I’m not a religious nut. I’m not even very high up...after all, Sherry and I are just Methodists.

But the other day, the story came home. I loved that story when I was young—and it confused me. I remember at age ten or eleven asking my mother about it. “I don’t understand this,” I said. “Would daddy and all the men leave the herd to find the one?”

“It’s a story about God’s love for us,” she said. “He loves us as much as all the rest—and yes, your daddy and uncles would look for the one until they found it. We’re all like that. That’s in all of us.”

Sherry was gone to see the grandkids in Colorado. Rowdy and I were batchin’ and cooking, and after feeding the roping steers, we relaxed on the porch before dinner. Twenty minutes later, the steers were lying peacefully, horses munching grass...and a biological miracle occurred. One of the steers came up off the ground with a baby calf by her side. (My friend, Kenneth Colson, says,

“Michael never knows if he has a bull, steer, or a heifer... he just ropes them.”) Well, all that was just wonderful. Everybody was so interested in the new baby—particularly the horses. We shooed them away, and watched the momma take her baby to a safe place. That was the last time I saw him for six days. I began to torment myself.

No one suffers from the “Lost Sheep Syndrome” more than me. I began to beat myself up unmercifully. “You idiot! Any fool would have known to put that momma and baby in the arena for a few days. What if she doesn’t take him—doesn’t let him nurse? You could have saved him because surely he is dead.” Couldn’t sleep. Couldn’t eat. Sick. On day three, Rowdy and I began to look for him. The Rowdy Cow Dog and I scoured every inch of our fifty acres with a fine-toothed comb. No baby. The mother ate with the herd every day. Never saw the baby. Day four. Day five. On day six, I’m too sick and heartbroken to do anything.

“Rowdy? Let’s go. We are going to find that calf.” Four hours later, no baby, no body, and no buzzards. Made no

EZ STREET®



503-222-6421 bill.bailey@lakesideindustries.com

Not only does it work in ALL weather conditions, it even works in standing water for quick winter repairs.

Hot box ready – safely heat to 275° F
And No Diesel – No VOCs – far safer!



Damn Potholes!

EZ STREET
asphalt is easy
to apply hot or
cold and requires
no mixing or
tack coat.



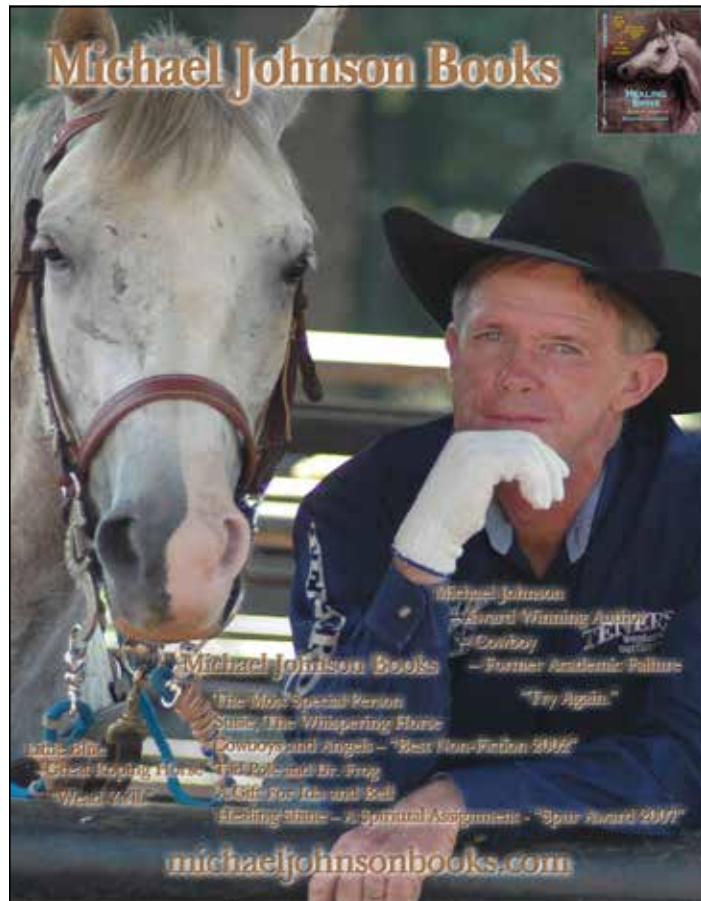
BLACK ASPHALT ... NOT GRAY!

EZ STREET® Utility Cuts — Bulk, Tote, or Bag

sense whatsoever. I drove the four-wheeler close to the herd. I did something I had seen my daddy and uncles do. I made a bleating sound like a baby calf calling for his mother. She looked at me and suddenly, she shot to the east on a dead run. Rowdy and I were right behind her. She went into the far pasture and stood by the fence. My heart sank. I knew the baby had somehow managed to get under that fence. Now he was on the other side; poor thing probably starved to death because I hadn't found him sooner. Rowdy and I got over and through the fence to look for his body in the tall grass. I was heartbroken. And not five feet from me, that baby stood up alive and well.

Have you ever drank a twelve ounce bottle of pure adrenalin?

Joy shot through me so hard I almost fell. Another jolt, then another—too intense to bear. Pure joy. And in that moment, I transformed into an old-time, tent revival preacher screaming, "Thank you, Jesus! Thank you, Jesus!" Of course, the congregation couldn't understand a word 'cause I was crying so hard. (Uh...crying like a...well, like a big, strong macho guy, of course. I mean, you know, not



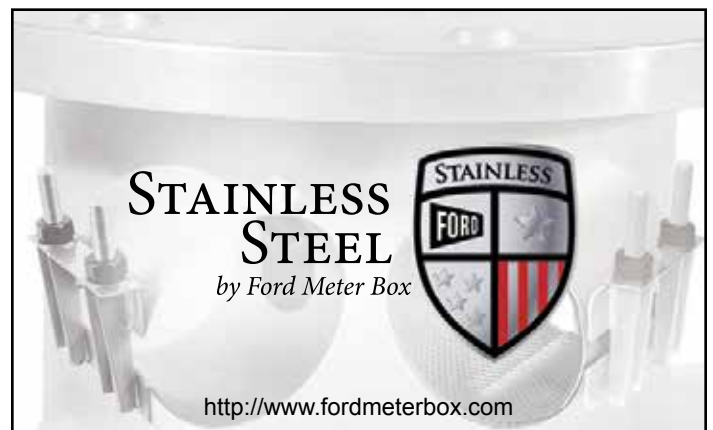
cryin' like a wuss or something.) Then it hit me...how in the world do you plan to get this baby through that fence to his momma? No clue. What we needed around here was a real good cowboy. Since I've never been accused of being one of those, we were in trouble.

Boy, was that not a problem. That momma went "Moo" really loud calling to her baby, and he went through that fence like a goat. Didn't even touch a strand of barbwire. His mother smelled him and licked him, and Rowdy and I watched, as she let him have his dinner. That old cow had hidden that baby like a magician doing close-up magic with a coin. I turned to see the wood ducks land on the pond, and I thought, "My goodness, how could any one person be this lucky?"

Sherry came driving up at that moment. We hugged. When she noticed the tears on my face, she said, "What on earth is wrong?"

I said, "There is no more joy in heaven than when the lost sheep is found," and I pointed to the pasture. When she saw him by his mother, she lost it. We watched him 'til it was too dark to see, and woke up the next morning still giggling like two teenagers.

Naturally, we named him "Lazarus." 💧



Why Aquastore® Tanks?

Glass-fused-to steel has become the premium choice for water and liquid storage technology. Aquastore owners choose glass-fused-to-steel technology over other tank designs.

No Painting for the Life of the Tank

- Corrosion resistant
- Low maintenance
- Over 30 years of proven experience
- NSF approved tank for potable water
- The environmentally safe choice

Porcelain Enamel Chemically Bonded to Steel

- Mechanically and chemically bonded at temperatures above 1500° F
- Graffiti removal does not damage the coating
- Tank does not need to be taken out of service for repainting

Warranty

- 10-year factory extended performance
- Total low life cycle cost

Since 1980, Engineering America has erected more than 1,000 liquid and dry storage tanks ranging in size from 12,000 to more than 3,000,000 gallons.

Our mission is to be America's employee-owned leader in liquid storage tank solutions. When evaluating your tank storage needs, know the facts, contact Engineering America for all your tank needs.



In 1980 we made an innovative promise that Aquastore tanks would never have to be sandblasted or painted. No Aquastore tank has required sandblasting or painting since!

THINK TANK

10749 Oak Street NE, Suite 6, Donald, OR 97020 • Ph: 503-682-7600 • Fax: 503-682-7601 • www.engamerica.com

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 | \$ _____
See schedule below |
| <input type="checkbox"/> Associate Member | \$400.00 |
| <input type="checkbox"/> Individual Member | \$75.00 |

Regular Member Dues Schedule

1 to 100	\$75 + 30 cents per hookup
101 to 500	\$80 + 30 cents per hookup
501 to 1,000	\$90 + 30 cents per hookup
1,000 and up	\$100 + 30 cents per hookup
Maximum dues is	\$930.00

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 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 \$400.00 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 \$75.00 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



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

MB15-B



MEMBERS



62nd Court Mutual Water Company
 Adair Village, City of
 Adams, City of
 Adrian, City of
 Agate Water Company
 Albany Rifle & Pistol Club
 Alpine Crest Improvement Dist.
 Amigo Villa Water Service, Inc.
 Amity, City of
 Ananda Center at Laurelwood, Inc.
 Arch Cape Service 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, City of
 Banks, City of
 Barlow Water Improvement District
 Barlow, City of
 Bay City, City of
 Bay Hills Water Association
 Beaver Water District
 Bella Casa Mobile Home Park
 Bend Research Inc.
 Bend, City of
 Benton County Service District
 Berndt Creek Water Corp.
 Biggs Service District
 Black Butte Ranch
 BLM Eugene
 Blue River Water District
 Blue Spruce Mobile 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
 Brooks Community Service District
 Brownsville, City of
 Buell-Red Prairie Water District
 Bunns 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 Head Ranch Dist. Improv. Co.
 Cascade Locks, City of
 Cave Junction, City of
 Cedarhurst Improvement Club, Inc.
 Century Meadows Sanitary System, Inc.
 Century Meadows Water System, Inc.

Chaparral Mobile Ranch
 Charles Tracts Water Company
 Chehalem Mt. Sun Ridge Association
 Chenoweth Water PUD
 Chiloquin, City of
 Christmas Valley Domestic Water
 Cimmarron City Water Co., Inc.
 Circle C Improvement District
 Clarks Branch Water Association
 Clatskanie, City of
 Clayton Creek Water Association
 Cline Butte Utility Company
 Cline Falls Mobile Home Park
 Cloverdale Sanitary District
 Cloverdale Water District
 Coburg, City of
 Colton Water District
 Columbia City, City of
 Columbia Hills HOA
 Columbia River PUD
 Conagra Foods
 Condon, City of
 Coquille, City of
 Corbett Water District
 Cornelius, 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 Company
 Crystal Springs Water District
 Culver, City of
 Dallas, City of
 Dayton, City of
 Dayville, City of
 Deception Creek Mobile Park
 Deer Creek Estates Water Assn.
 Deerhorn Community Water Association
 Depoe Bay, City of
 Deschutes River Improvement District
 Deschutes Valley Water District
 Detroit, City of
 Dexter Oaks Mobile Home Park
 Dexter Sanitary Service
 Diamond Peaks Tract 1355
 Diamond Summit Association
 Dietz Airpark Water System
 Donald, City of
 Drain, City of
 Drifters Mobile Home Park
 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
 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 MHP
 Fossil, City of
 Garden Valley Water Assn
 Garibaldi, City of
 Gaston, City of
 Gates, City of
 Gearhart, City of
 Gervais, City of
 Gilchrist Water Co., LLC
 Gladstone, 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
 Grand View Mobile Home Park
 Granite, City of
 Grants Pass, City of
 Green Oaks Mobile Ranch
 Greenhoot Properties
 Gresham, City of
 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 District
 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 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 Mobile Home Park
 Keizer, City of
 Kelly's Brighton Marina LLC
 Kelso Water Association
 Keno Water Company, Inc.
 K-CB-LB Water District
 Kingswood Heights Water Association
 Klamath Falls, City of
 Klippel Water, Inc.
 Knappa Water Association
 Knoll Terrace MHC
 L.A. Water Cooperative
 La Casa Mia
 La Pine, City of
 Lady Creek Water System
 Lafayette, City of
 Laidlaw Water District
 Lake Grove Water District
 Lakeshore Estates
 Lakeside Water District
 Lakeside, City of
 Lakeview, Town of
 Lakewood Utilities, LTD
 Lamontai Improvement District
 Lamplighter Water Association
 Lane County Parks
 Langlois Water District
 Lark Meadows Water Association
 Laurelwood Water User's Co-op
 Lawrence Subdivision Water Association, Inc.
 Lebanon, City of
 Lexington, Town of
 Lincoln City, City of
 Little Beavers Preschool
 Long Creek, City of
 Lostine, City of
 Lowell, City of
 Luckiamute Domestic Water Co-op
 Lyons-Mehama Water District
 Madras, City of
 Madrone Hill MHP
 Malin, City of
 Manzanita, City of
 Mapleton Water District
 Maupin, City of
 McKay Acres Improvement District
 McKenzie Palisades Water

MEMBERS

McMinnville Water & Light
McNulty Water PUD
Merrill, City of
Metolius Meadows Prop. Owners Assn.
Metolius, City of
Midland Water Association
Mill City, City of
Milo Adventist Academy
Minikahda Water District, Inc.
Mitchell, City of
Modoc Point Sanitary District
Molalla, City of
Monmouth, City of
Monroe, City of
Monument, City of
Moran Water System Association
Moro, City of
Mosier, City of
Mossy Brae Water District
Mt. Angel Abbey
Mt. Angel, City of
Mt. Ashland
Mt. Bachelor, Inc.
Mt. Shadows Homeowners Association
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-Walluski Water Association
OPRD Main Office- Salem
Orchard Heights Water Association
Orchard Point Mobile Homes
Oregon Shores Beach Club, Inc.
Oregon Water Wonderland II Sanitary District
Orient Drive Mobile Estates, LLC
Otter Rock Water District

Pacific High School
Paisley, City of
Paradise/ Rogue Meadow WS
Parkdale Water Company, Inc.
Parrett Mountain View Estates
Perrydale Domestic Water Association
Pete's Mt. Water Company, Inc.
Philomath, City of
Phoenix, City of
Pilot Rock, City of
Pine Grove Water Dist.
Pinecrest Water Company
Pioneer Park Water Co-op
Pioneer Village Water Company, Inc.
Pleasant Valley Water Company
Pleasant View Water Company
Polehn Heights Water Association, Inc.
Ponderosa Pines Water Company
Port of Morrow Commission
Port Orford, City of
Power City Water Co-op
Powers, City of
Prairie City, City of
Prineville, City of
Pristine Water Source, LLC
Quincy Water Association
Rainier, City of
Redmond, City of
Redwood Water Service, Inc.
Reeder Ranch, Inc.
Reedsport, City of
Rhododendron Water Association
Richland, City of
Rickreall Community Water Association
Riddle, City of
Rimrock West Improvement District
River Meadows Improvement District
River Point Farms, LLC
Riverbend-Riverbank Water District
Riverfront RV Park
Rivergrove Water District
Riverside Water District
Riverview Trailer Park
Riviera Mobile Park
Roats Water System, Inc.
Roberts Creek Water District
Rock Creek Water District
Rockaway Beach, City of
Rocky Pointe Marina
Rogue Community College
Rogue Lea Estates MHP LLC
Rogue River, City of
Rogue River-Siskiyou National Forest
Roseburg Forest Products Co.
Round Lake Water Utilities
Rufus, City of
Running Y Utility Company
Salem, City of
Salem Keizer School Dist.
Salmon River Mobile Village
Sandy, City of
Scappoose, City of
Scio, City of
Scotts Mills, City of

Scravel Hill Water Co-op
Seal Rock Water District
Seneca, City of
Shadow Hills Park Cooperative Water Association
Shangri-La Water District
Sheridan, City of
Sherwood, City of
Siletz, City of
Silver Falls School District 4J
Silverton, City of
Sisters, City of
Skylane Farm
Skyview Acres Water Co-op
Sleepy Hollow Phase 1 Water
Sodaville, City of
South Fork Ranch Homeowners, Inc.
South Fork Water Board
South Hills Water System, Inc.
Southwest Lincoln County Water District
Southwood Park Water District
Spirit Mountain Gaming, Inc.
Spray, City of
Springbrook Water Association
Squaw Creek Canyon Development
St. Paul, City of
Staffordshire Water System, Inc.
Stanfield, City of
Star Satellite Improvement District
Steeves Mobile City
Storlie Water Company Inc.
Sublimity, City of
Suburban East Salem Water District
Sumpter, City of
Sunridge Estates
Sunrise Water Authority
Sunriver Water LLC
Sunset Acres Water Improvement Co.
Sunset Lake RV Park
Sunset Water Systems, Inc.
Sunshine Village Water Association
Sutherlin, City of
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 Creamary Association
Tillamook, City of
Timber Water Association
Toledo, City of
Tollgate Water Co.
Tone Water
Trappist Abbey
Tri City Water & Sanitary Authority
Troutdale, City of
Tualatin Valley Water District
Turner, City of
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
Veneta, City of
Vernonia, City of
Vida-Lea Community Cooperative VMWID
Waldport, City of
Wallowa Lake Co. Service District
Wallowa, City of
Warm Springs, Conf. Tribes Reservation of OR
Warren Water Association
Warrenton, City of
Wasco, City of
Water Wonderland Improvement District
Watseco-Barview Water District
Wedderburn Sanitary District
Welches Water Company
Weldon Mobile Home Park
West Hills Water Company
West Linn, City of
West Slope Water Dist.
West Yamhill Water Company
Western Heights Water Association
Westfir, City of
Weston, City of
Westport Water Association
Wheeler, City of
Whispering Pines #4
Wickiup Water District
Willamette Water Company
Willamina, City of
Wilson River Water District
Wilsonville, City of
Winchester Bay Sanitary
Wi-Ne-Ma Christian Camp, Inc.
Winston-Dillard Water District
Wood Village, City of
Woodburn, City of
Yachats, City of
Yamhill, City of
Yoncalla, City of
Young Life's Washington Family Ranch
Young's River Lewis & Clark W.D.
Zig Zag Water Cooperative, Inc.

WELCOME, NEW MEMBERS!

Lester Naught
Scott LaRoque

Patrick Barr

Dale Nixon
Mark Humphrey

INDIVIDUAL MEMBERS

Adams, John	Desroche, Ron	Handler, John	Kunders, Aaron	Perry, Richard	Tabrum, Walter
Anson, James	Dillard, Bob	Hanes, Cameron R.	Laetzsch, Dawna	Pinson, James	Thayer, Bradley
Anthony, Joe	Dix, Edgar	Hannen, Scot	Larman, Dan	Porter, James	Thompson, Jake
Ashenberger, Jacob	Dolbow, Elizabeth	Harrod, Ron	LaRoque, Scott	Powers, Ron D.	Thompson, Kamen
Baker, Scott	Dunn, Frank	Hayes-Gorman, Linda	Lawson, Brian	Rader, Jonathan	Thompson, Matt
Barr, Patrick	Durfee, Kenneth C.	Hecox, Thomas	Lewelling, Keith	Rettke, Tim	Thomson, Henry
Bell, Ron	Eckley, Paul	Heiken, Robert	Lund, Darrell	Rigwood, Brian	Tilander, Tim
Bevard, Cody	Edwards, Audrey	Henderson, Shane	Maine, Mike	Risley, Michael	Tinkess, Andy
Biamont, Tony	Elder, Dave	Hengler, Kyle	Malley, Susan	Robertson, Donald	Tupper, Sean
Bicknell, Roy	Estes, Kyle	Hensley, Daryl	Marshall, John	Schmidt, Lonny	Turner, Susan
Blake, Mike	Estrada, David	Hesse, Todd	Mason, John	Schmittle, William L.	Tyerman, Paul
Boyd, Jeff	Farris, Randy	Hodge, Patrick R.	McClenathan, Mike	Schnell, Kent T.	Violette, Jeff
Bradshaw, Dave	Felton, Warren	Hoover, Max	McFadden, Tim	Schroeder, Michael	Wallace, Neal
Brenneman, Scott	Flande, Mark	Houston, Colin	McKevitt, John	Scowden, Mark	Wanner, Ron
Brown, Jeff	Foster, Rob	Human, Steve	Mead, Matt	Seelye, Shawn	Weaver, Rick
Buckley, John	Fox, Donna J.	Hume, John	Meigs, Gilbert	Seleshanko, Alexei	Wenzl, James T.
Burton, Howard	Free, Derek	Humphrey, Mark	Merrell, Thomas	Sellers, Ricky	Wheatley, James
Buskirk, Jeff	Fujisawa, Kellen	Hunt, Jeremiah	Merritt, Steve	Sheppard, Neal F.	Whitlock, George
Caire, Tim	Gammell, Pat	Iverson, Allen	Moniz, Garrett	Sherlock, Christopher	Wilson, Daniel
Carleton, Larry	Geiman, Dave	Jauron, Scott	Mooney, Ronald	Simenson, Donald J.	Wilson, David A., Jr.
Carlton, Larry	Gill, Robert J.	Jay, Jerry	Morris, Brady S.	Simmons, Edward	Wolfe, Chad
Carson, Paula	Ginter, Brian	Johansson, Leon	Naught, Lester	Smith, Larry	Wolford, Paul
Carter, Roy	Golden, Kirk	Johnson, Bron	Nelson, Ken	Smith, Randall	Woodward, Steve
Cass, Bradley	Gonzalez, Jorge	Jones, Randall	Nixon, Dale	Solis, Kimberley	Woody, Max
Chavez, Vince	Gonzalez, Roy	Kash, Stella	Nossaman, Ryan	Sollee, James	Yap, Anita
Clement, Tony	Goodpasture, Joe	Katrena, Scott	Oberg, Kent	Stark, Chris	
Close, Greg	Gosling, Jason	Keenan, Pete	O'Reilly, Mike	Steele, Mark	
Collentine, Mary Ellen	Griffin, Beverly "Bev"	King, Andy	Parent, Kenny	Steidler, Matthew B.	
Crum, Dale	Guthmiller, Matthew	Kirk, Jeremiah	Parry, Betsy	Stevens, Bret	
Dammeyer, Scott	Halverson, Bruce	Klinger, Martin	Patch, David	Stinnett, William	
Daniel, Morgan	Hamilton, Howard	Kneaper, Jason	Pendell, Keith	Stonesifer, Vincent T.	
Davis, Guy P.	Hammond, Joni	Kuhnke, Joel	Penselin, Stephanie	Strassner, Bob	

ASSOCIATE MEMBERS

4B Engineering & Consulting	CoBank	HD Fowler Company, Inc.	Oregon Business	Shearer & Associates
Abbey Systems, Inc.	Consolidated Supply Co.	HD Supply Waterworks	Development Dept.	Special Districts Assn of Oregon
Advanced Control Systems	Corix Water Products	Hydra-Stop	Oregon Meter Repair	Taylor Made Pump Stations
Advantage Precast Inc.	Correct Equipment, Inc.	Instrumentation Northwest, Inc.	Oregon Public Utility Commission	The Automation Group
American AVK Company	CUES	Itron, Inc.	Owen Equipment Company	The Ford Meter Box Co., Inc.
American Flow Control	Davis Sales	Jordan Ramis PC	OXARC Inc.	The Sherwin-Williams Company
American Leak Detection	Ditch Witch Northwest	Kamstrup Water Metering	PACE Engineers, Inc.	Titus Industrial Group, Inc
Anderson Perry & Associates	DN Tanks	Kennedy/Jenks Consultants	Pittsburg Tank & Tower Co.	TMG Services
Backflow Management, Inc. (BMI)	Edge Analytical Laboratories EJ	Lakeside Industries/EZ Street	PIXIS Laboratories, LLC	Tripac
Bainbridge Associates Inc.	Engineering America	League of Oregon Cities	Pollardwater.com	Trumbull Industries
Bancorp Insurance	Enviro-Clean Equipment, Inc.	LiquiVision Technology, Inc.	Public Works Supply	Umpqua Research Co.
BergerABAM	Ferguson Enterprises	Master Meter, Inc.	PumpTech Inc	USABluebook
BioLynceus, LLC	Frank J. Martin Company	Mueller Company	RH2 Engineering Inc.	Utility Service Company, Inc.
Branom Instruments Co.	Frost Engineering Service Co. - NW	National Assoc. of Corrosion Engineers (NACE)	Romac Industries, Inc.	Waterlab Corp
Cascade Columbia Distribution Co.	Furrow Pump, Inc.	Nelson Environmental Inc.	Schneider Water Services	Whitney Equipment Company
Ch2M Hill - Dallas	GC Systems, Inc.	Neptune Technology Group	Schoen's Motors	Wonderware PacWest
Ch2M Hill - Lebanon	General Pacific, Inc.	Olson Engineering	Schroeder Law Offices, PC	Xylem Dewatering Solutions
CIMCO Sales and Marketing	HACH Company		Security Lines US	Xylem, Flygt Products
			Sensus USA	

WHY AREN'T YOU A MEMBER OF OAWU?

Serving Water & Wastewater Utilities Since 1977

- We provide **onsite technical assistance and training**, meaning that we will come to you and help with any problems you may be encountering with water or wastewater.
- We provide water and sewer rates and **lagoon profiling**. Call OAWU at 503-837-1212 for a bid or estimate. We can save you money!

These are just a few facts about OAWU. The next time you are in need, pick up the phone and call us before hiring outside help. We are here to help. ***It's our industry. It's what we do.***

To join or for more information,
visit www.oawu.net or call 503-837-1212.

Oregon Association of Water Utilities
935 N. Main Street
Independence, Oregon 97351
Phone (503) 837-1212
Fax (503) 837-1213 www.oawu.net



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

Oregon Association of Water Utilities
935 N. Main St.
Independence, OR 97351
503-837-1212 Fax 503-837-1213
Address Service Requested

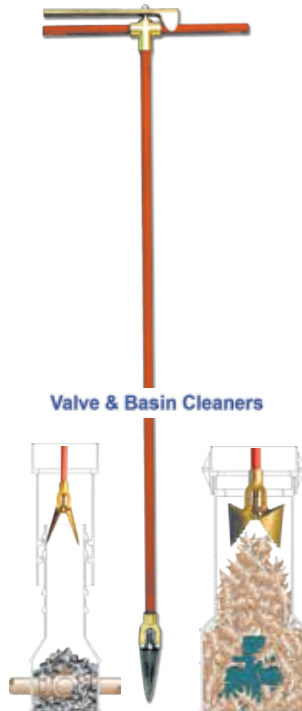


PRSRT STD
U.S. POSTAGE
PAID
SALEM, OR
PERMIT NO. 106

Pollardwater.com

If you need it, we have it!

Dechlor Headquarters



Phone 800-437-1146
Find it all at www.pollardwater.com