



Winter 2018 News

Winter Gardening Tips for a More Water Efficient Summer



The dark cool days of winter are upon us now, and it doesn't seem there is a lot to do out in our gardens until Spring. But that is not the case. There is a lot that can be done now to keep our pipes from freezing and help prepare our yards to be more water efficient when the long hot days of summer return.

Winterize Water Features

Water features are of particular concern during the winter. Small features will freeze, despite the running water produced by the fountain, and that can ruin the pump and the pot.

So make sure you drain them and store the pot and pump in the garage or garden shed. Depending on where you live, larger water features and ponds may freeze over somewhat, but if they are deep enough or have a waterfall rapid and large enough, they shouldn't freeze solid. Consult a pond installation expert on how to properly winterize your water feature.

Winterize Water Irrigation Systems

Turn off water to irrigation systems and set automatic timers to the "off" mode. You may not want to turn the controller box off completely so you don't lose the watering schedule and have to reprogram it next season. It may be necessary to drain or blow the water out of the pipes. Consult your local irrigation specialist on recommendations. If any pipes, valves or the backflow preventer are above ground and exposed to the elements, wrap them with protective insulation, like insulator tape, to keep them from freezing. *(Continued on page 6.)*

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2018 Calendars are Available



Each year the Clackamas River Water Providers holds a coloring contest with local elementary schools in our service area to create our annual Water Calendar. The theme for the 2018 calendar was "How I Can Protect and Conserve My Drinking Water". Elementary School students were encouraged to create pictures depicting what they had learned about their water and what they can do to both conserve and protect it.

Calendars are distributed to the schools and throughout Clackamas River Water Provider members, city halls, libraries, and offices. Calendars are available upon request by calling us at **(503) 723-3511** or email christine@clackamasproviders.org.

How Water Systems Work

LEAK DETECTION PROGRAMS

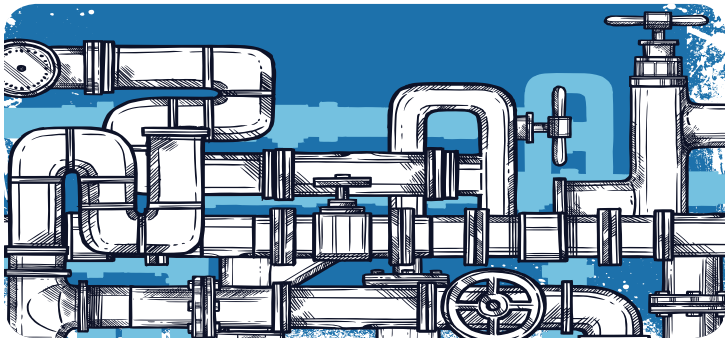


Detecting and repairing leaks is one of the main components of water conservation in water distribution systems.

Old or poorly constructed pipelines, inadequate corrosion protection, poorly maintained valves and mechanical damage are some of the factors contributing to leakage. Leak detection has historically assumed that all, if not most, leaks rise to the surface and are visible. In fact, many leaks continue below the surface for long periods of time and remain undetected.

With an aggressive leak detection program, water systems can search for and reduce previously undetected leaks. Water lost after treatment and pressurization, but before delivered for the intended use, is water, money and energy wasted.

Accurate location and repair of leaking water pipes in a supply system greatly reduces these losses. Once a leak is detected, the water utility must take corrective action to minimize water losses in the water distribution system.



Benefits of Leak Detection and Repair

Minimizing leakage in water systems has many benefits for water customers (and their suppliers).

These benefits include:

- Improved operational efficiency.
- Lowered water system operational costs.
- Reduced potential for contamination.
- Extended life of facilities.
- Reduced potential property damage and water system liability.
- Reduced water outage events.
- Improved public relations.



Some added benefits of leak detection and repair that are difficult to quantify include:

- Increased knowledge about the distribution system, which can be used to respond more quickly to emergencies and set priorities for replacement or rehabilitation programs.
- More efficient use of existing supplies and delayed capacity expansion.
- Increased firefighting capability.

If you see or suspect a leak, contact your local water provider.

Winter Quiz:

Answers - Can be found on page 6

1. Water left sitting in hoses and sprinklers in the winter can freeze and cause ruptures and leaks.

- A.** False. They are strong enough.
- B.** True. If they are left outside.
- C.** False. Little fairies will drink the water before it freezes
- D.** False. They are always insulated.

2. Where did the Annual Watershed Tour go this year?

- A.** Christmas Tree Farms
- B.** Elk Lake
- C.** Timothy Lake
- D.** The Tour was not scheduled this year.

3. The CRWP 'Spill Prevention Program' may include which equipment?

- A.** Spill Kits and Pallets
- B.** Double-walled Tanks
- C.** Installation of Shut-off Valves
- D.** All of the above.

4. If you are leaving home, should you turn off your heat?

- A.** Doesn't matter.
- B.** Sure. It will cut down the heat bill.
- C.** No. Set temp at 55-60F
- D.** No. Crank up the heat to 85F. Will feel like Hawaii when you return.

Annual Watershed Tour

Each year at the beginning of October the Clackamas River Water Providers host a tour of the Clackamas Watershed for elected officials from CRWP member agencies, interested citizens, and people from CPO's and Neighborhood Associations in the CRWP service area. The purpose of this tour is to connect our citizens and policy makers with direct experience in watershed (our source of drinking water), and to introduce them to some of the CRWP partners and stakeholders.

This year's tour (2017) focused on the upper Clackamas watershed and included talks by both the USFS and PGE and highlighted some of the work they are doing in the watershed. The tour included stops with the USFS at their North Fork Planning unit to talk about the NEPA process and planning efforts for this area, and to look at the newer Off Highway Vehicle (OHV) trails in this area, and a stop at Timothy Lake to see some of the headwaters of the Clackamas and talk with PGE about some of their projects going on at the lake.

If you would like to be added to the Watershed Tour invitation list for next year's tour please contact the Water Resource Manger at kims@clackamasproviders.org.

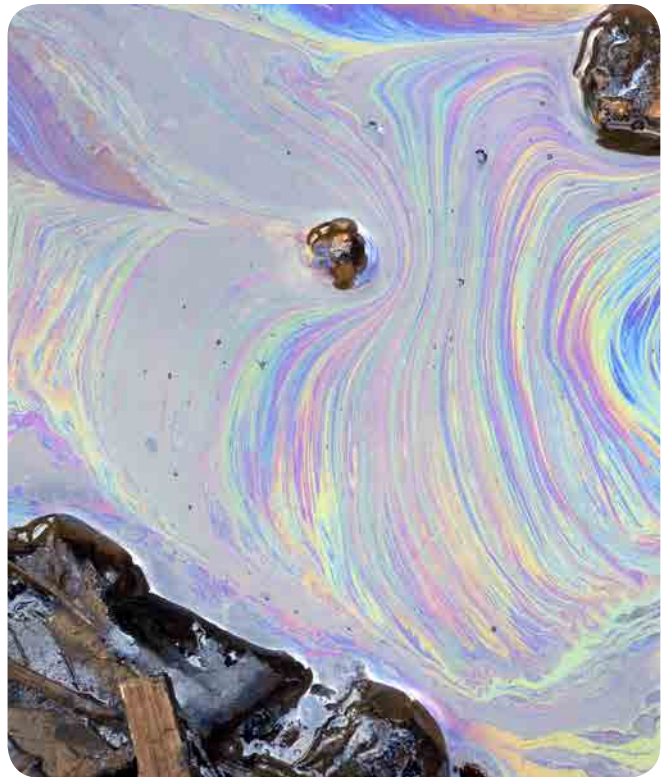


New Spill Prevention Program Helps Prevent Hazardous Spills into the Clackamas River

Clackamas River Water Providers (CRWP) is now offering rebates and incentives to help local businesses upgrade spill prevention equipment and protect the Clackamas River. As the source of clean, safe drinking water for over 300,000 customers in Clackamas and Washington counties, the Clackamas River is a vital public resource.

Hazardous spills from commercial, industrial, and transportation activities can pose a significant risk to our drinking water source. With a number of businesses storing hazardous materials, the Clackamas Industrial Area (East of I-205 and south of Mount Scott) is of particular concern since many facilities are less than a quarter of a mile away from the river. Contaminated stormwater in this area or a major spill can travel quickly to the river, entering just upstream from four drinking water intakes.

CRWP is providing eligible businesses with a 50% rebate for the purchase and installation of spill containment equipment, up to \$1,000. Equipment may include spill kits, spill pallets, double walled tanks, repairs to floor drains, installation of shut-off valves, and construction of berms. Businesses must be located in the Clackamas Industrial Area and up-stream from Clackamas River Water Providers drinking water intakes. Funding is available on a first come, first served basis, until program funds are depleted.



In addition to financial assistance, the CRWP has partnered with the Pacific Northwest Pollution Prevention Resource Center (PPRC). They provide free technical assistance and voluntary facility site visits to businesses. PPRC is the Northwest's leading source of high quality pollution prevention (P2) information, technical assistance, and training.

Program funding is made available through a State of Revolving Fund Drinking Water Protection grant awarded to CRWP in 2016. Additional project partners include Clackamas County Water Environment Services, Clackamas County Fire District #1, City of Gresham Well Field Protection Program, and Oregon Department of Environmental Quality.

For more information about this new program and the free financial and technical assistance available, please contact email Kim Swan at kims@clackamasproviders.org or visit <http://www.clackamasproviders.org/hazardous-material-spill-prevention/>



Faces of Drinking Water *by Christine Hollenbeck*

The Clackamas River Water Provider member employees are made up of many different professionals, young and old with a variety of background and skills ensuring the treatment and delivery of safe clean drinking water. For this newsletter we interviewed Elizabeth Edgar, of Sunrise Water Authority, and asked her how she found herself working in the drinking water industry.

CRWP: How long have you been working at Sunrise Water Authority?

Elizabeth: I started with Sunrise 6 years ago right after graduating college and have spent most of my career here. I took a brief hiatus to work for a private design firm but found that it wasn't a good fit and so I came back to Sunrise. My experience working for the private company built my confidence and hugely expanded my knowledge of engineering design and business, but my heart is in delivering water to the public.

CRWP: Can you tell us what your title is, and explain what you do here at Sunrise Water Authority?

Elizabeth: My role is Staff Engineer. That entails reviewing new development plans to ensure that our new customers will have safe and effective water delivery infrastructure and making sure that Sunrise has adequate capacity to serve these new developments. I manage some of our capital improvement projects (CIP) including pumping and storage construction.

CRWP: How did you acquire your position here at Sunrise?

Elizabeth: I was hired right out of college for a ten week internship to develop an Asset Management program for Sunrise. I started designing and building our Geographic Information System (GIS) program as a platform to manage assets but the project ended up taking longer than 10 weeks and my

internship was extended several times. I accepted more responsibilities through my internship and integrated myself into the Sunrise culture. After a year, I was offered a permanent position.

CRWP: What is your background prior to working in drinking water?

Elizabeth: I grew up in Laramie, Wyoming. I was a bit of a "problem child" during high school and barely graduated. I moved to Denver, Colorado after finishing high school and worked in a coffee shop long enough to realize that wasn't what I wanted to do for the rest of my life. I enrolled in community college and realized that I am a math and science rock star. I come from a family of engineers, so with my skill set, I followed in the family tradition and decided to pursue engineering. I moved to Portland, enrolled at Portland State and graduated with honors in engineering.

CRWP: Do you have a favorite or least favorite part of your job?

Elizabeth: My favorite part of my job is seeing our CIP through to completion. I get to have a hand in making sure we can better serve safe drinking water to our customers.

My least favorite would be navigating the different personalities of certain developers and contractors trying to cut corners to save money. It is my job to ensure that future developments can be properly served and sometimes I have to tell these developers and contractors things they don't want to hear.

CRWP: What accomplishment/s are you most proud of in your career?

Elizabeth: I'm the most proud of the relationships I have developed. The public drinking water community is a great group of people and I am happy to have had the opportunity to develop and maintain relationships with so many devoted professionals. I earned my Professional Engineering licenses 2 years ago which is both an honor and big responsibility.

An Interview with Elizabeth Edgar, Engineer, Sunrise Water



CRWP: What advice would you give to someone starting out in this field?

Elizabeth: I would tell anyone to build their own network of friends and coworkers. Soon after I started working here at Sunrise, my supervisor encouraged me to get to know my water and engineer peers which is when I got involved with American Water Works Association (AWWA). I began attending our sub-section meetings and became the chair of the Young Professionals Committee. I am now Vice President of the NW Oregon AWWA chapter and volunteer for the Scholarship Committee as well. This has opened up many opportunities for me and given me a way to meet and network with my peers.

CRWP: How has the industry changed since you started?

Elizabeth: In the 6 years I've been involved in drinking water, the changes are slow but significant. The biggest changes have been from the baby boomers retiring and millennials taking the reins. People retiring take so much institutional knowledge with them which creates a huge information gap. The millennials, comfortable with technology, have made great strides to automate the industry but lack the invaluable experience of manual labor which is still very prevalent in the water industry. With so much technology, their face-to-face social skills can be underdeveloped, but they are willing to work with others and recognize their own down falls. In general, millennials are very open minded, they come from a world which is so broad and everything they want to know is right at their finger tips. They seem not too encumbered by ego, which makes them good team players.

(Continued on page 8)

Winter Gardening Tips (Continued)

Drain Your Hoses

Drain garden hoses, sprinklers and spray nozzles. Store them inside the garage or work shed for the winter. Otherwise, water left sitting inside can freeze and expand, causing the hose to rupture and sprinklers and spray nozzles to leak. Shut off, drain, cover, and insulate all outdoor hose bibs and exposed fittings.

Resist Cutting Back Ornamental Grasses

If you grow ornamental grasses, resist the temptation to cut the foliage back until late winter or early spring because all that top growth helps insulate the root ball, discourage new growth during warm spells and encourage birds to visit.



Mulch

Touch up mulch around plants for added winter protection. A layer of mulch about two to four inches deep is ideal. It is fine to leave foliage that has

died back as it will help provide additional protection at the crown of plants.

Add Spent Plants to Compost

Remove spent plants from the vegetable garden and add them to the compost pile. Discard diseased plants in the trash. Winterize the compost bin by covering it with a tarp; this will help to keep the composting process going through the cold season. Occasionally soak the pile with water to keep it moist. Add an insulation of leaves or straw on the top and the sides of the pile.

Winterizing the Soil

Turn over the soil with a garden fork (or till) to expose underground pests to cold temperatures. Caution: don't work soil when it's soaking wet! Planting a cover crop can help reduce soil erosion, capture nutrients, reduce weeds and enrich the soil for spring.

Winterizing Roses

There are different methods to winterizing roses. A good rule of thumb is to remove the foliage from on and around the base; this keeps foliar diseases from overwintering and coming back next growing season.



Prune away branches that show signs of decay or insect infestation; also cut long stems that can whip around in the wind. Throw away diseased foliage and cut branches in the trash, instead of composting it. A generous layer of mulch, topsoil or compost heaped around the graft union can also help protect against the cold.

Remove Fallen Leaves and broken limbs

Before they kill your lawn remove fallen leaves by raking and composting them or mulch them with a mulching lawn mower. Throughout the winter go around and collect fallen limbs and twigs to give you a jump on spring clean up.

For more indoor and outdoor water conservation tips visit the Clackamas River Water Providers website at www.clackamasproviders.org.

Winter Quiz:

Answers

Question 1 - Answer is B
Question 2 - Answer is C

Question 3 - Answer is D
Question 4 - Answer is C

This Winter, Protect Your Home from Freezing with These Indoor Water Tips

When water freezes, it expands about 9%. So if the temperature of your pipes drop below 32 degrees, even for a short period, you're more likely to have a pipe fracture or worse. If you haven't already done so here are some measures you can take to help avoid the expense and inconvenience of frozen water pipes.

Close Crawl Spaces and Vents

Anywhere cold air blows on a pipe, it creates the potential for freezing. To make sure your pipes are protected from the cold close crawl space vents and stuff insulation over the openings. Even a tiny hole can let in a lot of cold.

Protect outside pipes and faucets.

In some homes, the outside faucets and hose bibs have a separate shut-off, if this is the case shut off the outside water. Then go outside, disconnect the garden hose and if the outside water has been shut off, turn on the faucets to drain water from the line. Leaving the faucets in the open position, wrap or cover all outside faucets and hose bibs to protect them from the cold.



Open the cupboard doors beneath your sinks. Opening the cupboard doors beneath your sinks will allow warm air to circulate around the pipes and will help keep them from freezing. If you're anticipating a deep freeze, consider using a fan to help circulate the air near the pipes, or purchase a small space heater for some extra temporary heat.

Allow water to trickle from faucets.

In extreme or long term cold spell, allow the water to trickle from your inside faucets to prevent freezing. Over a 24-hour period this will cost less than 15 cents per faucet.

Never turn off the heat when you leave home.

During the winter set the temperature to at least 55-60 degrees F, and if you have multiple heat zones, be sure to adjust all thermostats appropriately.

Leaving for the winter?

If you plan to be gone for an extended amount of time this winter call your water provider and have them shut off and lock your water meter. This can prevent excessive water damage if a pipe burst while you are away.

Have emergency telephone numbers handy.

Despite all best precautions water pipes may still freeze. Keep the number to your local water provider and your plumber posted in a location where everyone can see it in case of an emergency.

For more water conservation ideas call the Clackamas River Water Providers at **503-732-3511** or visit our website at www.clackamasproviders.org.



Faces (Continued from page 5)

CRWP: What do you feel is most important about your job?

Elizabeth: Delivering safe, reliable, healthy drinking water to our communities.

CRWP: What would you like the public to know about their drinking water?

Elizabeth: It's valuable! Instead of walking to the river with bucket and boiling your water for consumption, you simply walk to the tap and turn on a faucet. Drinking water delivery takes many people, components, and processes. The Sunrise Water Authority infrastructure for delivering water includes 230 miles of pipe, and 13 storage tanks and 14 pumping facilities. It requires many hours of work by certified and licensed professionals to make all of this happen.

CRWP: What can the public do to make your job easier?

Elizabeth: Assume we are here to help you. I think it is still a common notion that public employees are disinterested and unsympathetic, try to employ excessive

bureaucracy, or are just plain lazy. While every agency and industry has a few bad apples, drinking water operators and professionals work with passion to serve the community water.

CRWP: What is the most significant project you've been involved in?

Elizabeth: I'm working on it right now. We are in the process of designing a 3million gallon water storage tank to help provide water to the emerging Happy Valley developments (I-205 to 172nd along Sunnyside Road and the Rock Creek Corridor). The tank has to be set at a particular elevation and the only site we could find is in a developed neighborhood. The construction will last several years and will impact the neighbors. We are working with these residents to get through this project as smoothly as possible.

CRWP: What's the one thing you can't live without at work?

Elizabeth: Great co-workers, people to support me, an easy going perspective,

and the ability to roll with the punches. That's four things, isn't it?

CRWP: What would you say water is to you?

Elizabeth: Everything! Without water there would be no food, life, hot showers, and beautiful gardens.

CRWP: What do you do for fun when you're not working?

Elizabeth: I enjoy craft projects; making clothes and costumes, stuffed animals, making soap, cooking, hiking, swimming... ..I'm always looking for a new adventure and try to travel as much as possible, both locally and internationally. I love spending time in the upper Clackamas River Watershed. This weekend I will be part of a cleanup party in the in the Eagle Creek fire area in the Gorge.

The CRWP would like to thank Elizabeth for taking time from her very busy schedule for this interview. Elizabeth is an inspiration and we look forward to working with her for many years to come.



Our Members:



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