

WINTER 2022 News

Indoor Water Conservation

It's easy and inexpensive to make changes in your house that can save you money each time you turn on the water, flush your toilet, and wash dishes – all year round.

Start with your bathroom. If you're like most people, you probably use the most water in your bathroom, so it makes sense to make your first changes there:



1. Switch your bathroom faucet aerator and showerhead to WaterSense-labeled models – they use 20% less water without compromising performance. The CRWP provides our member customers with free bathroom and kitchen faucet aerators and shower heads. To request your free water conservation devices email Christine at: christine@clackamasproviders.org.

2. Reduce the amount of water flowing through your **toilet** by regularly checking for and fixing leaks, and retrofitting older toilets. Contact Christine (@ link above) for your free toilet leak detection tablets and information about our EPA Water Sense High Efficiency Toilet Rebates.

3. Take shorter showers. Each minute you shave off your shower time saves up to 2.5 gallons of water.

Beyond the bathroom. Check other parts of your house for water savings:

1. Look for leaks – Many leaks are inexpensive and easy to fix. Check out our “How to Check For Leaks” article on page 2.

2. Consider upgrading your clothes washer. The CRWP provides rebates for *Energy Star* certified clothes washers. Visit the [rebate page](#) on our website for a list of eligibility requirements, available rebates, and application information.

3. Turn the sink faucet on only to rinse or use a large container filled with rinse water when washing dishes by hand. You will save about 2.5 gallons of water for every minute your faucet does not run.

4. Scrape instead of pre-rinsing. Save yourself up to 20 gallons of water by scraping food off your dishes instead of pre-rinsing them. *Energy Star* certified dishwashers and today's detergents are designed to do the cleaning so you don't have to. If your dirty dishes sit overnight, use your dishwasher's rinse feature. It uses a fraction of the water needed to hand rinse.

5. Wash only full loads. Dishwashers use about the same amount of energy and water regardless of the number of dishes inside, so run full loads whenever possible.

6. Know where your master shut-off valve is located. [Click Here](#) for more information and images of water shut-off valves.

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How to Check for Leaks

HOW TO USE YOUR WATER METER TO CHECK FOR LEAKS

Undetected leaks can be costly. Your water meter can tell you how much water you use in a day, week or a month. It can also help you measure the effectiveness of your household's water conservation program and help detect leaks.

Whether inside or outside your home, a leak can waste hundreds of gallons of water per year. Some leaks are easy to see or hear. Others are small. However, big or small, any leak will cost you money and should be repaired as soon as possible.

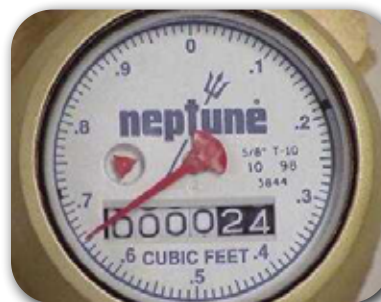
How to locate your meter

Your water meter should be located in front of your house, inside a concrete or plastic meter box that is set flush with the ground. Look for your meter behind the sidewalk at a side lot line near the street. If your home is on a corner lot, your water meter could be located either on the front or side street. Sometimes, meter boxes are not easily visible due to landscaping and other obstructions. If you cannot find your meter contact your water provider.

How to read your meter

Reading your water meter is like reading the odometer in your car. Read all the numbers from left to right that appear under the words "cubic feet".

The first digit on the right represents one cubic foot. The second from the right represents 10 cubic feet. The third



from the right (usually a different color) represents 100 cubic feet – or one ccf. One revolution of the meter sweep-hand equals one cubic foot, or 7.48 gallons.

Checking your system for leaks

There is a simple test you can perform to use your water meter to detect leaks. First, turn off all your faucets and water-using appliances (such as dish and clothes washers) and be sure no one is using any water. Then go to your water meter and lift the cover of the meter dial. Note the position of the sweep-hand by using a piece of tape, or by using a marker on the lens cover.

Then, wait 20-30 minutes (do not use *any* water during this time) and check the sweep-hand location again. If the sweep-hand has moved, you probably have a leak somewhere in your system. If the small red diamond shaped indicator on the face of the meter is moving, it also means you probably have a leak. Retest to be certain; then locate the leak by inspecting all the pipes, fixtures and appliances that use water.

[Click Here](#) to view an easy step by step video on how to find a water leak at your home.

Oregon Department of Fish and Wildlife Beaver State Podcast

In October of 2021 our CRWP Water Resource Manager sat down with staff from *Portland General Electric* and the *Oregon Department of Fish and Wildlife (ODFW)* to talk about climate change, drought, partnerships, and fish as they relate to the Clackamas River. Below is a summary of the talk from the ODFW's website.

Episode 71: Water Part I - The Clackamas River Watershed

Oregon's rivers, streams, and aquifers support a wide range of benefits for both humans and the environment, along with sources of water for drinking, agriculture, recreation,

and essential habitat for fish and wildlife. A clean and reliable source of water is critical for meeting Oregonian's basic needs and for supporting Oregon's economy, but it all hangs under the shadow of climate change.

In this episode, we talk to ODFW's Ben Walczak, along with Clackamas River Water Provider's Kim Swan, and PGE's Nick Ackerman about a partnership to tackle the impacts of drought. To listen to the podcast click here: https://myodfw.com/articles/episode_71_water_part_1_Clackamas_watershed

Faces of Drinking Water

by Christine Hollenbeck

To begin 2022 and for this winter issue of our quarterly E-Newsletter we interviewed Justin Poyser, City of Gladstone, Public Works Supervisor: Utilities Department.

CRWP: How long have you been working for the City of Gladstone Public Works?

Justin: I've been at the City of Gladstone for 16 years.

CRWP: How did you acquire your position with the City of Gladstone?

Justin: I began working as a Seasonal Employee for the City of Gladstone while going to college. After graduating college, a Journeyman Utility position opened up here at the City. I enjoyed working in Public Works and decided to apply. I was fortunate enough to be awarded the position and worked as a Journeyman Utility worker for a number of years. I was promoted to my current position, Public Works Supervisor about five years ago.

CRWP: What are the duties of the Public Works Supervisor: Utilities Department?

Justin: In a nutshell, planning, organizing and overseeing Utilities Dept. maintenance activities. Public and private development plan review and construction inspections, regulatory agency reporting, and Customer service.

CRWP: What is your favorite/least favorite part of your job?

Justin: *The best part of my job is the opportunity to work together with a great crew delivering quality essential services to the public on a daily basis.*

My least favorite part of my job is when I have to break the news to customers that certain repair responsibilities are up to the property owner and not the responsibility of the City. Customer water and sewer lateral lines tend to fail without notice and repair/replacement costs are rarely in

customers' budgets. These tend to be stressful times for customers.

CRWP: What accomplishments are you most proud of in your public drinking water career?

Justin: I am proud to be part of a team here at public works that has developed documents such as utility maintenance procedure books, on call procedure books, emergency operations procedures, emergency response plans, risk/resilience assessments, annual storm water reports, storm water plans, maintenance standards, etc. These are all important documents that were developed outside of our day-to-day maintenance activities and really are the backbone that guide maintenance activities and emergency response operations.

CRWP: Do you plan to retire from City of Tigard Public Works?

Justin: I have many years left until I can think about retirement, but I do know I'll retire from the water profession.

CRWP: : What advice would you give to someone starting out in the public drinking water industry (What do you wish you knew your first week on the job)?

Justin: Learn, learn, learn! Soak it all up. Everything is grist for the mill. Pay attention and always do your best. Volunteer. Take pride in your work, no matter how big or small the task is. This is time well spent in the present, keeps spirits high, enables growth, and prepares you for promotional opportunities as they arise on your career path.

CRWP: How has the industry changed since you started?

Justin: Technology. Advancements in technology allow us to do things with

Justin Poyser
Public Works Supervisor/Utilities
City of Gladstone



greater precision and efficiency. Take a backhoe for instance. The backhoe I started with was clunky and seemed like something Fred Flintstone would operate. It had a mind of its own (in a bad way). The backhoes we currently have are sleek and seem like something out of a modern Batman movie. They have minds of their own, but in a good way.

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

Justin: Preparation and planning. Preventative maintenance. Staying one step ahead of the game. In the world of underground utilities, nothing is routine (especially here in Gladstone). Things break without notice, and a bad situation can take a turn for the worst fast. Having a well-trained staff, keeping equipment ready for emergencies, a well-stocked repair parts inventory and strong emergency response procedures are essential in minimizing customer service outages.

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

Justin: Sadly enough, I would have to say my computer lol. All kidding aside, my computer is a great and much needed tool and I enjoy working with it, but it sure is nice to work with a shovel or backhoe from time to time.

(Continued on page 9)

How Our Water Systems Work

Water Conservation Programs

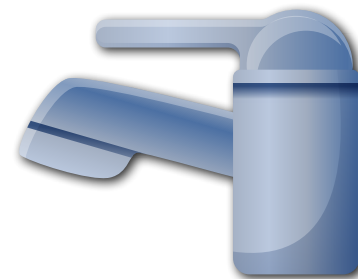
Municipal Water Management and Conservation Plans provide a process for municipal water suppliers to develop Plans to meet future water needs. All CRWP members are required to develop these Plans as part of their water right permit conditions.

These Plans are used to demonstrate our communities' needs for increased diversions of water under their water permits as our communities and water demands grow. The Plans explain how we will manage and conserve water supplies and are intended to represent a pro-active evaluation of conservation measures that we can undertake.

All water providers must implement the following conservation measures:

- Conduct annual water distribution system audits.
- Full metering of their system.
- A meter testing and maintenance program.
- A rate structure based, at least in part, on the quantity of water used.
- A leak detection program.
- A public education program on efficient water use and low water use landscaping.

In addition, many water providers are required to implement technical and financial assistance programs such as rebate programs, where the cost of purchasing water-efficient fixtures or equipment are partially offset.



Water conservation is an important tool in meeting the water supply needs of our communities and can help us reduce the cost of developing new water supplies. It also allows us to leave more water in the river for fish and other uses. The CRWP implements a **Public Outreach and Education Program** on behalf of its members to encourage efficient water use.

FOR MORE INFORMATION:

To learn more about how you can save water year-round, to receive free conservation devices, or information about the Clackamas River Water Providers **Conservation Rebate Program**, contact the Public Outreach and Education Coordinator: (503) 723-3511 or visit our website at <https://www.clackamasproviders.org/>.

Winter Quiz:

Answers - Can be found on page 8

1. To check your water system for leaks, you can use your water meter.

- A. True
- B. False

2. Achieving Source Water Protection in the Clackamas watershed includes:

- A. Identifying Impacts
- B. Preventing Harm
- C. Minimizing Activities
- D. All of the Above

3. The Environmental Learning Center is currently offering a first workshop on...?

- A. Rafting the Clackamas River
- B. Garden with Less Water
- C. Plant Identification
- D. None of the above

4. Which room of your home usually uses the most water?

- A. Bedroom
- B. Kitchen
- C. Bathroom
- D. Laundry room

The CRWP Drinking Water Protection Plan

In 2010 the CRWP adopted a Drinking Water Protection Plan. The purpose of this document is to provide the CRWP with a road map of potential strategies and programs to continue to implement over the next decade to preserve the Clackamas River as a high-quality drinking water source and to minimize future drinking water treatment costs.

The CRWP has spent the last year updating this Plan. Part of these updates included better aligning our plan with our existing source water protection and public outreach and education efforts. Another big change was adding a Subprogram to address Climate Change and Water Supply.

We have three primary goals for achieving source water protection in the Clackamas watershed. They are to:

1. Identify, prevent, minimize and mitigate activities that have known or potentially harmful impacts on drinking water quality so that the Clackamas River can be preserved as a high-quality drinking water source to meet the needs of an increasing human population into the future.

2. Identify climate mitigation and adaption strategies that will help ensure a more resilient watershed and drinking water source.

3. Promote public awareness and stewardship of healthy watershed ecology in collaboration with other stakeholders.

To accomplish these goals and objectives the CRWP recognizes that we will need to:

- **Take a leadership role** in the protection of the Clackamas River.
- **Promote the CRWP's mission** of interagency water provider cooperation through the implementation of source water protection mitigation strategies and programs.
- **Seek and develop** partnerships with agencies, landowners, stakeholders, and academia to solicit feedback and to identify opportunities to develop long-term relationships so that water quality objectives, data and information can be shared.
- **Collaborate** with partners/stakeholders to maximize opportunities to develop and implement long-term



solutions for the protection of drinking water supplies as well as the enhancement of water quality for fish and wildlife.

- **Conduct additional sub-basin analysis** through studies, GIS analysis, pollution load modeling, and water quality monitoring to help prioritize or reprioritize Best Management Practices (BMP) and mitigation strategies.
- **Promote public education, awareness, and cooperation** in the watershed that supports voluntary watershed protection activities.
- **Provide funding and resources** to implement mitigation strategies and programs recognizing that grants and other outside resources will also be needed.
- **Investigate methods** to meet future water supply needs for people, through moving water around between providers, looking at alternative water sources, or more aggressive water conservation, while maintaining stream flows for fish and wildlife.
- **Identify high-quality lands** which contribute to improved water quality and preserve their function.

To learn more about our updated Drinking Water Protection Plan go to: <https://www.clackamasproviders.org/drinking-water-protection-plan/>.

Partner Spotlight

Working with Portland State University

Portland State University's mission begins by serving and sustaining a vibrant urban region through creativity, collective knowledge, and expertise. Exemplifying that mission, professors and students at Portland State University have worked with CRWP for a number of years on various projects. This partnership has allowed the CRWP to gain a better understanding of different issues in the watershed while providing masters (MS) and doctoral (PhD) students training with the opportunity to address real life problems. The CRWP also provides annual stipends to PSU students to support work related to the Clackamas watershed. Below is a brief summary of some of projects that we have worked on together.

- **The 2015 Clackamas River Watershed Survey:** *Landowner perspective on watershed stewardship programs (Matt DeAngelo, MS Student in Environmental Science and Management).* Matt's work was designed to provide water resource managers practical recommendations to better engage private landowners in watershed stewardship.

The primary objectives of this research were to:

a) Determine the interest level of watershed landowners for participation in a watershed stewardship program;

b) Evaluate potential features of a program that are likely to encourage enrollment;

c) Identify key barriers to enrollment in watershed stewardship programs;

d) Identify key differences between likely and unlikely program participants.

- **The 2016 Clackamas River Drinking Water Customer Survey:** *Customer Perspectives on Source Water Protection (Dan Larson, PhD Student).* Through a large number of questionnaires delivered throughout CRWP's service territory, Dan characterized the perspectives of water consumers who rely on the Clackamas River for their drinking water, and how their perspectives influence their willingness to support source water protection efforts in the Clackamas River Watershed, including their willingness to pay for such programs.

- **The Clackamas Watershed Resiliency Project** (*Arielle Catalano, Postdoctoral Fellow; Erin Upton, PhD Student; Andy McEvoy and Junjie Chen, MS Students in*



Environmental Science and Geography). In 2018 the CRWP initiated a multi-year project with Portland State University faculty and graduate students and the Institute of Sustainable Solutions (ISS) aimed to provide water resource stakeholders in the Clackamas River watershed with guidance for managing resilience in the face of climate change.

Phase I of this project was to establish a baseline of historical trends in the Clackamas River watershed relevant to climate change and identify issues pertinent to stakeholders in the context of climate change (e.g., diminished summer water supply, water quality degradation resulting from urban development and intense rainfall, etc.). Phase II of this project sought to continue that research with two objectives: (1) applied climate science, including the effects of climate change on hydrology and wildfire risk, and (2) climate adaptation planning.

The goal of the Clackamas Watershed Resilience project was to help the CRWP understand local impacts of climate change on water quality and quantity in the region; and develop strategies to sustain a healthy, reliable water source.

- **Clackamas River Water Providers Summer Watering Campaign Assessment** (*Rikki Oden, Masters of Environmental Management Student*). Rikki's research conducted an evaluation of CRWP's summer watering campaign (*Fish on the Run, Irrigation Done*) to make recommendations for improvements. Data were gathered for this project through a focus group and survey research. Recommendations to improve the campaign were made based on the findings of the focus group and survey, as well as a literature review of water conservation and other environmental messaging campaigns designed to create large-scale behavior change.

- **Spatial and seasonal variations of microplastic concentrations in Oregon's freshwater** (*Johnson Creek/Clackamas River; Rebecca Talbott, MS Student in Geography*). While the presence of numerous pollutants and contaminants has been well-documented in rivers

(Continued on page 7)

GIS Assessment of Drinking Water

Between 2012 and 2015 the CRWP hired a contractor to complete a series of geographic information system (GIS) analyses in order to help identify potential pathways for pollutants to enter into the Clackamas River. The goal of these GIS analyses was to map risk factors known to have a strong negative correlation with drinking water quality in the Clackamas River watershed.

These mapped risks identified “hot spots” and provided a spatial context for both the geography and intensity of risk by activity that has been used by the CRWP to help prioritize mitigation efforts. In 2021 these risk analyses were updated. Each of the final reports outline

the analysis objectives, the data sources and limitations, the methodologies used, and the results and recommendation.

Click on the links below to see the Final Report for each analysis.

[Septic Systems Risk Analysis Results 2021](#)

[Agriculture Risk Analysis Results 2021](#)

[Forestry Risk Analysis Results 2021](#)

[Urban Development Risk Analysis Results 2021](#)

[Point Source Pollutant Risk Analysis Results 2021](#)

[Hazardous Materials Risk Analysis Results 2021](#)

[Vulnerable Soils Risk Analysis Results 2021](#)

Partner Spotlight continued

in the Portland area, much remains unclear regarding the degree to which microplastics impact these freshwater bodies. Rebecca’s study addresses these data and knowledge gaps by investigating microplastics in two Portland watersheds with varying degrees of urban development, and by evaluating seasonal variability in microplastic concentrations with different flow regimes.

- **Agricultural Water Rights in the Clackamas River Watershed** (*Jordan Hamann, MS Student in Geography*). Jordan is developing a dataset of the agricultural and related surface water rights on the Clackamas River mainstem and tributaries, including their location, quantities (i.e., cfs), priority dates, and beneficial uses. Second, his research examines existing models of buying, leasing, or otherwise transferring water rights for instream water conservation in Oregon. His conclusions will assess the feasibility of these models in the Clackamas watershed. This work should be completed during the summer of 2022.

To see the results from many of these projects go to;

<https://sites.google.com/a/pdx.edu/maxnp/research/Clackamas-watershed>



Winter Quiz:

Answers

Question 1 - Answer is A

Question 2 - Answer is D

Question 3 - Answer is B

Question 4 - Answer is C

Wildlife & Water-Friendly Garden Series Programs

CLACKAMAS COMMUNITY COLLEGE ENVIRONMENTAL LEARNING CENTER



The John Inskoop Environmental Learning Center (ELC) is a treasure trove for nature lovers. Here you can follow a meandering waterway, spot many different bird species, and listen to rustling trees and singing frogs. Located on the edge of Clackamas Community College's Oregon City campus, the ELC is a special place for all to enjoy.

The ELC offers many opportunities for adults and children alike to explore and learn about the outdoors through hands-on environmental education: field trips and camps for K-12 students, continuing education trainings for professionals, and workshops and special events for community members.

The ELC offer a variety of events and classes that bring the community together to enjoy what the Environmental Learning Center has to offer.

The ELC current offerings:

The Environmental Learning Center presents a free workshop series for anyone interested in home gardening for wildlife and water quality.

THEME: SUCCESSFUL GARDENING IN TIMES OF CLIMATE CHANGE

Learn to adapt your gardening practices to meet the challenge of changing climate conditions.

When: Fridays, Jan. 21-March 4, 2022

Time: Noon-12:45 p.m.

Cost: Free

Where: ZOOM - [SIGN-UP](#) now for one or all of the following sessions!

Each week, professional landscapers and water quality experts will share their expertise with you! There will be plenty of time for discussion, so come prepared with your garden questions.

SCHEDULE OF GARDEN SERIES PROGRAMS:

- **Jan 21: Garden with Less Water** - CRWP staff will lead the discussion on how to create and maintain a water efficient landscape.
- **Jan. 28: Birds in Your Garden**
- **Feb. 4: Healthy Trees**
- **Feb. 11: Non-chemical Pest Control**
- **Feb. 18: Scrumptious Soil for Watershed Wellness**
- **Feb. 25: Permeable Hardscapes**
- **March 4: Non-Chemical Weed Control**

REGISTER NOW!

SPECIAL THANKS go to ELC sponsors, Clackamas Water Environment Services, and our community partners, North Clackamas Watersheds Council, Oak Lodge Water Services, Oregon City Public Works, and the Clackamas River Water Providers.

If you have questions about this series, email: elcatccc@clackamas.edu.



Winterizing your Water Pipes Inside and Out

Initiating an annual winterization program is a good step toward preventative pipe maintenance. If you haven't already done so, follow the steps below to prevent your pipes from freezing and costly repairs later.

Winterizing your irrigation system

- **Turn off the water to the irrigation system** at the main shut-off valve. Open all drain valves. Drain valves are usually located at low points of the system. If they are not opened water can collect and freeze.



- **Remove water from system.**

Opening the drain valves is not usually enough. The best method to fully ensure that your system will not suffer freeze damage is to blow out the system with air. It is recommended that

a professional is hired. Check for listings of landscape professionals that offer winterization services.

- **Wrap all above ground** valves and backflow prevention devices with insulating material to prevent freezing.
- **Shut down the automatic controller** by either putting it on "rain mode" which will keep all of the programming information (start times, valve run times, etc.) or simply shut the power off to the controller.

Winterizing the rest of your water pipes

- **Disconnect and drain all outdoor hoses**, and protect outside pipes and faucets. In some homes, the outside faucet has a

separate "shut-off" in the basement or crawl space. If you have a separate valve for outside faucets, SHUT IT OFF. Then go outside, disconnect the garden hose and turn ON the faucets to drain water from the line.

- **Locate the master water shut-off valve to your home.** It may be near the water heater or the washing machine. More likely it's where the water line comes into your house from the street. If a pipe bursts anywhere in the house - kitchen, bathroom, basement, or crawl space - this valve turns all the water OFF.
- **Seal off access doors, vents and cracks.** Repair broken basement windows. Winter winds whistling through overlooked openings can quickly freeze exposed water pipes. But don't plug air vents your furnace or water heater needs for good combustion.

When winter weather is especially cold, open the cupboard doors beneath your sinks. This will allow warm air to circulate around the pipes. Allow water to trickle from faucets with pipes underneath your home or near outside walls that may be exposed to extreme weather conditions. Over a 24-hour period this will cost less than 15 cents per faucet - much less than it costs to repair broken pipes!

And last, but not least, HAVE YOUR PLUMBER'S TELEPHONE NUMBER HANDY. During an extended cold spell, your pipes might freeze despite the best precautions.

For more information and tips on how to use water wisely indoors and out visit our website at

<https://www.clackamasproviders.org/water-conservation/>.

Faces continued

CRWP: What would you say H2O is to you?

Justin: Water is life. Our bodies are made up of roughly 60% water. Nearly 70% of the planet's surface is covered by water. Water plays a key role in a great deal of our daily lives serving essential needs and providing recreational opportunities and so on. We are extremely fortunate to have the luxury of quality finished water available at the twist of a tap.

CRWP: What's on your to-do list?

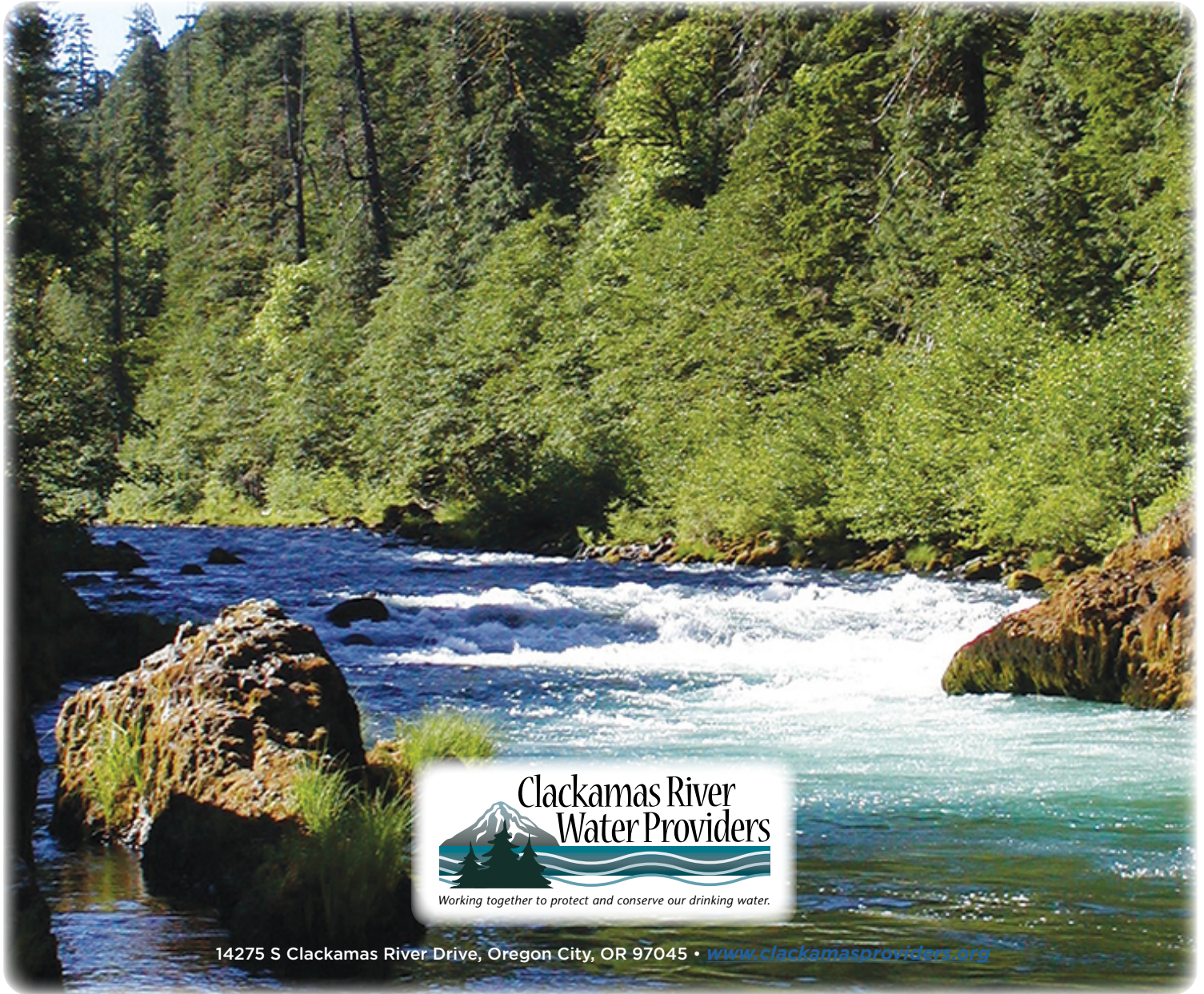
Justin: What isn't on my to-do list is more like it, lol. We are very busy here in Gladstone. I am constantly juggling day to day field maintenance activities, planning, customer service, emergency responses, public/private

development, operations/emergency procedures, and State/Federal regulations compliance to name a few things. Busy is not a bad thing. It keeps me on my toes and I like it.


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

Justin: I have a wonderful wife, two kids and a puppy, so naturally I stay pretty busy. Hiking, fishing, camping, visiting parks, sports and Scouts are some fun things we like to do.

Thank you, Justin, for taking time out of your busy schedule for this interview. It is a true pleasure working with you, and your dedication to the City of Gladstone is part of what makes you so good at your position. The CRWP look forward to many more years of working with you.



**Clackamas River
Water Providers**



Working together to protect and conserve our drinking water.

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Our Members:



www.cwater.com



www.cityofestacada.org



www.ci.gladstone.or.us



www.ci.oswego.or.us



www.oaklodgewaterservices.org



www.sfwb.org



www.sunrisewater.com



www.tigard-or.gov

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