

# The Clackamas River Water Providers (CRWP)

*Working together to protect and conserve  
our drinking water*

The Clackamas River Water Providers is a coalition of eight municipal water providers that get their drinking water from the Clackamas River.

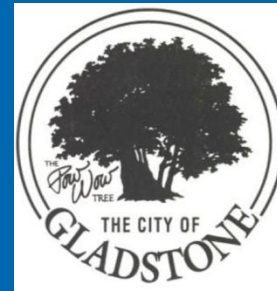
# Clackamas River Water Provider Members

\*Conservation programs and services are provided to these members

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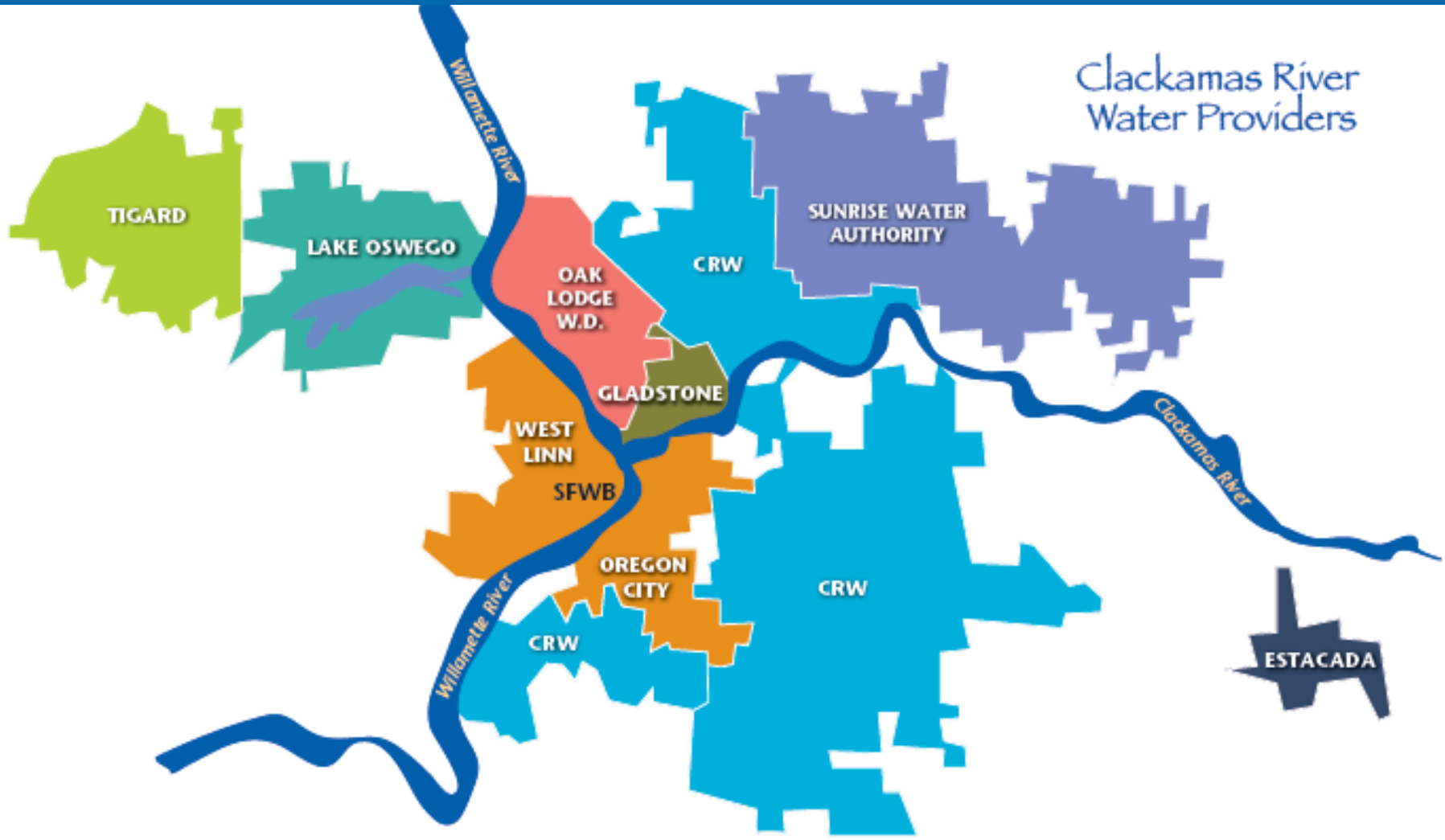


(Oregon City and West Linn)

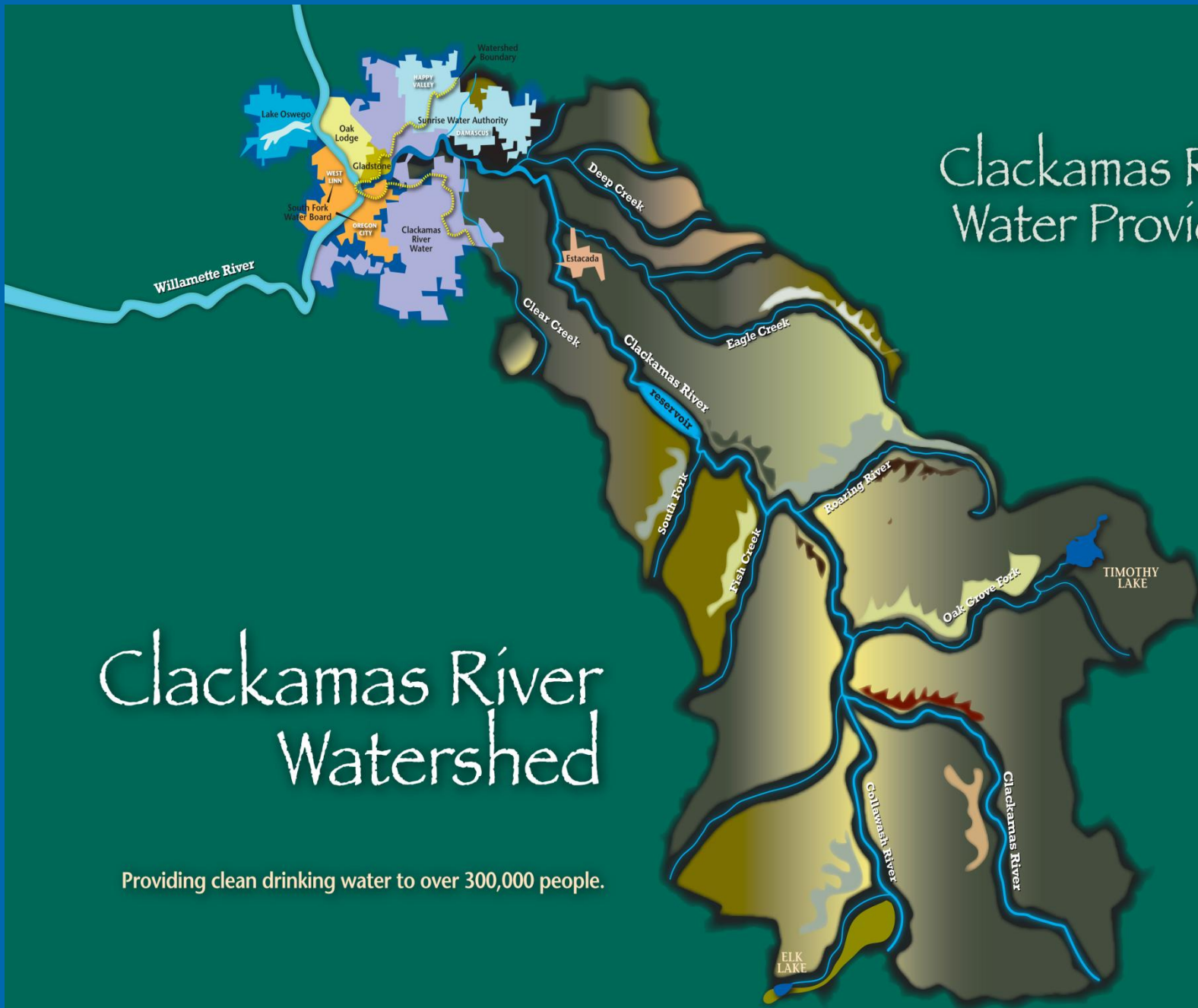
Participation in the CRWP is voluntary and is funded through membership dues.

While through the CRWP projects and staff are jointly funded, each individual organization retains their own individual autonomy.

# Clackamas River Water Providers



# Clackamas River Water Providers



# Clackamas River Watershed

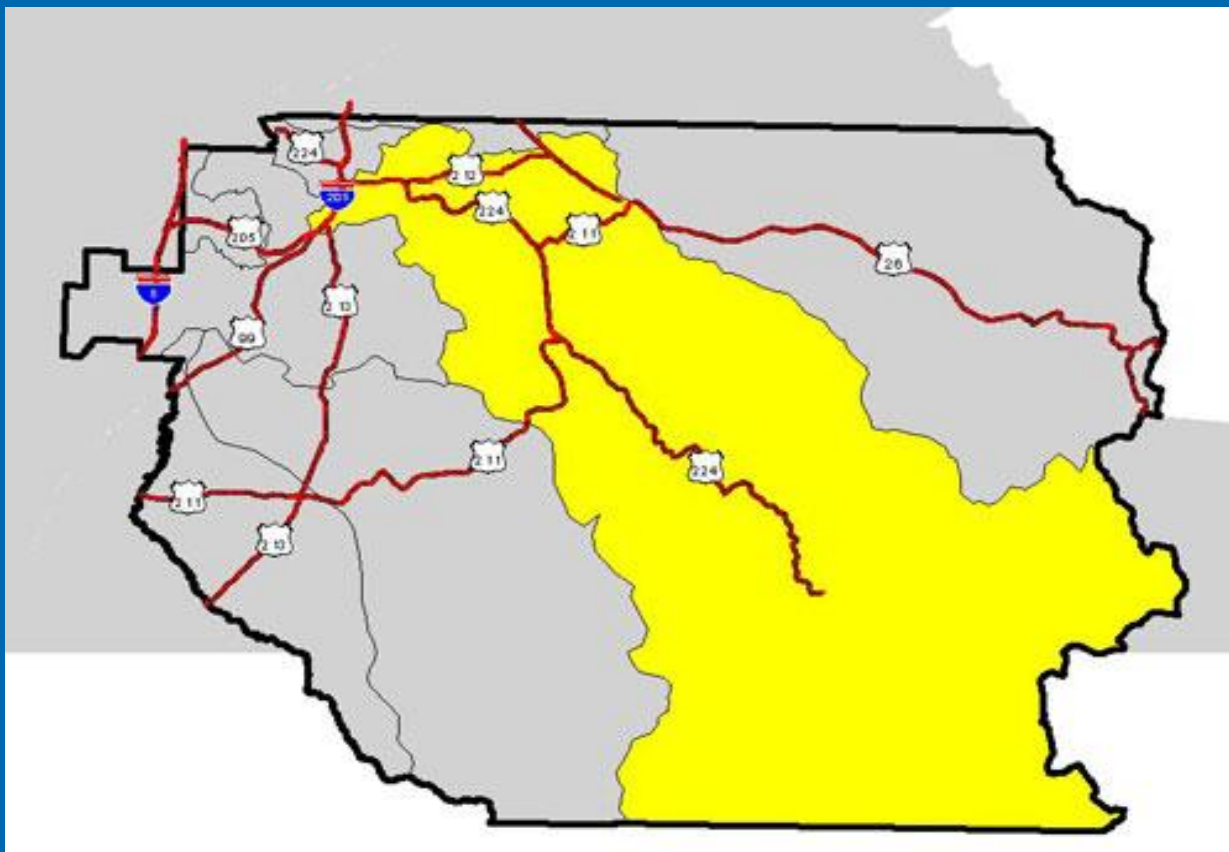
Providing clean drinking water to over 300,000 people.

# CRWP Mission

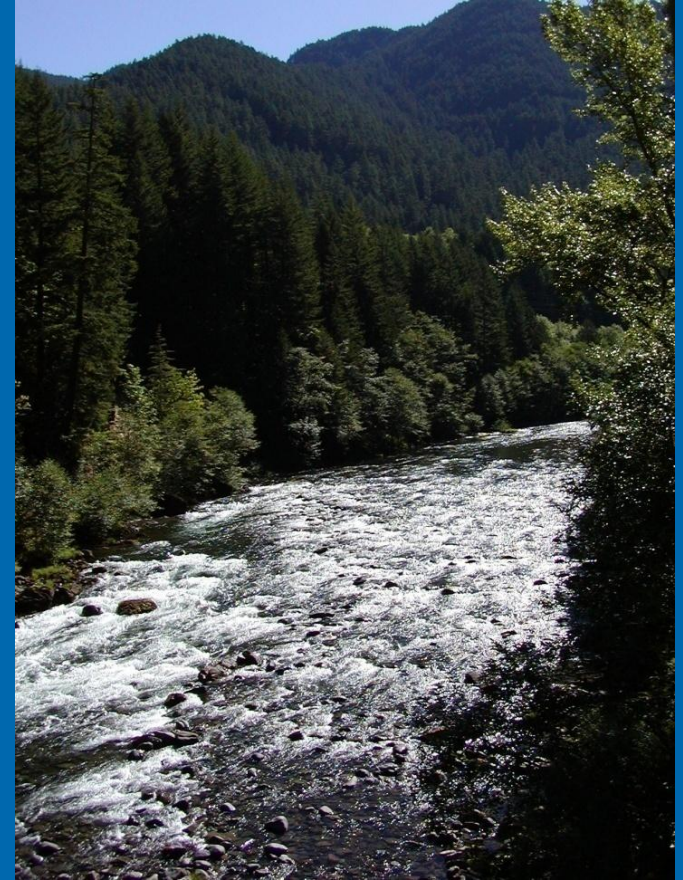
- To foster closer relationships with each other
- To collectively fund and coordinate efforts regarding source water protection, public outreach and water conservation
- To realize economies of scale and save money by sharing in costs
- To speak in one voice regarding water resource issues



# The Clackamas Watershed



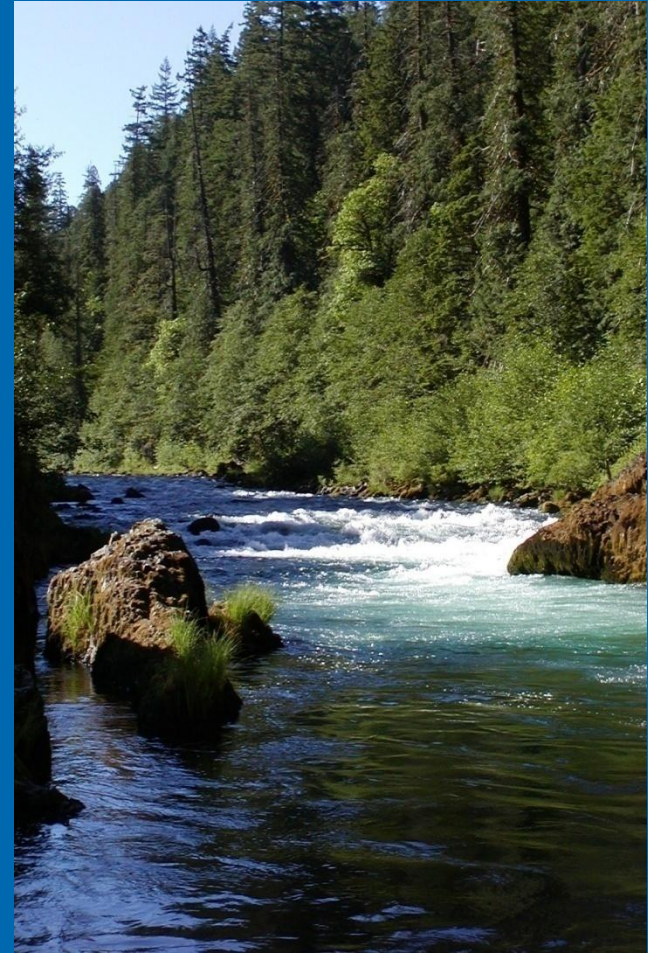
# Watershed Characteristics

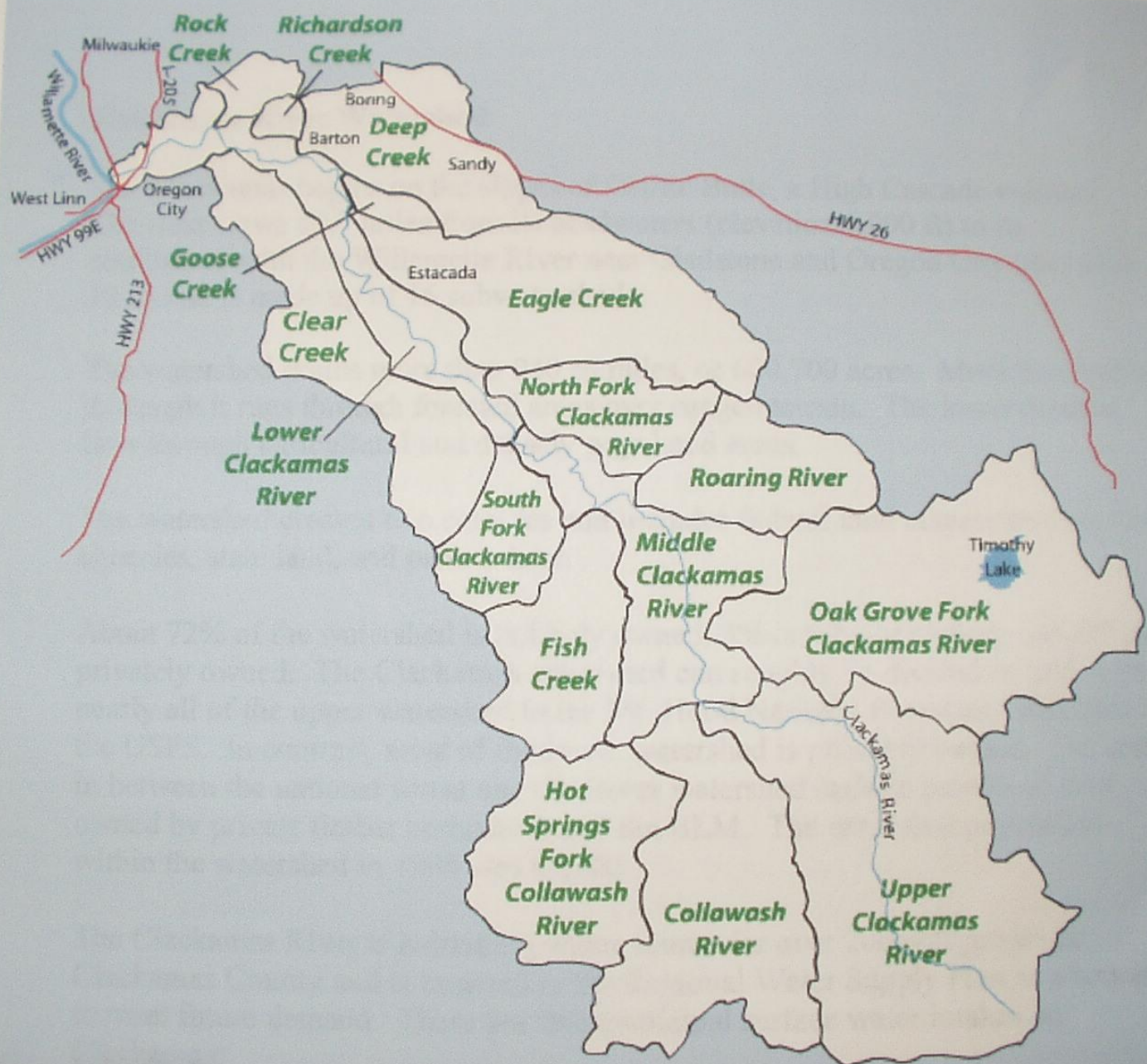


# Characteristics of the Watershed

From the slopes of Olallie Butte the river flows 82.7 miles, and drains more than 940 sq miles.

The Clackamas has 16 sub-watersheds.





# Characteristics of the Watershed

The upper half of the watershed runs through forested areas and over rugged terrain. The lower reaches flow through agricultural and densely populated areas.

It is a multi-use watershed and is not protected like the Bull Run.

# Characteristics of the Watershed

The watershed crosses two counties and includes federal land administered by two agencies, state land, and private land.

72% of the watershed is publicly owned, 25% is privately owned, and 3% is tribally owned.

# Watershed Stakeholders



# Clackamas River Stakeholders

- Agriculture
- Forestry
- Fisheries
- Recreation
- Federal and State Wild and Scenic designations
- PGE electricity generation
- Drinking water

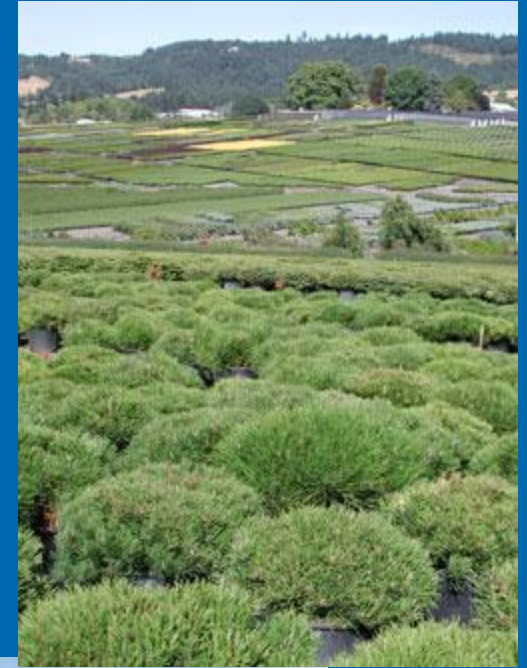




# Agriculture in the Basin

Clackamas County is the US leader in both acreage and sales of Christmas trees.

Clackamas County is the nation's second ranked county in nursery stock acreage.



# Timber Harvesting



- Timber harvest in the watershed dates back to the early 1800's continues to be one of the most important industries in the area. Today, harvest practices have improved. Current harvest and regeneration techniques are designed to reduce impacts on the watershed.

# The Clackamas River supports Steelhead, Chinook, and Coho

- **"...probably no tributary of the Columbia has abounded so profusely with Salmon in the past as the Clackamas"**  
- Livingston Stone,  
US Fish Commission  
1877



# Recreation

The Clackamas supports fishing, hunting, hiking, camping, white water rafting, kayaking and floating.



# Federal and State Wild and Scenic designations

Over 50 miles of the Clackamas River are protected under the Federal Wild and Scenic River System, and the State Scenic Waterways.

The purpose of these designations is to manage designated segments by protecting their outstandingly remarkable values and maintaining and enhancing the natural integrity of river related values.

# PGE's Hydroelectric project



# Dams and Fish Ladders on the Clackamas



# Drinking Water

The Clackamas River is a drinking water source for over 300,000 people in Clackamas and Washington Counties. The Clackamas River Water Providers have five municipal surface water intakes on Clackamas.



# Key Concerns in the Clackamas

- Water quality - WQ standards are violated for summer water temperatures, ecoli, and for habitat modifications.
- Naturally spawning anadromous salmonids
- Land use impacts (agricultural, timber harvesting and urban uses)

# Key Concerns in the Clackamas

- Urban growth - increased growth in the watershed can have negative water quality impacts.
- Water supply – Water withdrawals must be balanced with maintaining sufficient instream flows to support fish and other beneficial uses.

# CRWP Programs

- Source Water Protection Program
- Public Outreach & Education Program

# Source Water Protection Program Goals

- Identify, prevent, minimize and mitigate activities that have known or potentially harmful impacts on drinking water quality.
- Promote public awareness and stewardship of healthy watershed ecology in collaboration with other stakeholders.

# Drinking Water Protection Plan

In 2010 the CRWP adopted a Drinking Water Protection Plan. The purpose of this Plan was to provide the CRWP with a road map of potential strategies and programs 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.

# Elements of Plan

1. Basin Analysis: Studies, GIS, Modeling and Water Quality Monitoring Sub-program
2. Education and Research Assistance Sub-program
3. Point Source/Permit Evaluation and Mitigation Sub-program
4. Nonpoint Source Evaluation and Mitigation Sub-program
5. Disaster Preparedness and Response Sub-program
6. Public Outreach and Information Sharing Sub-program
7. Watershed Land Use Tracking and Management Sub-program
8. Land Acquisition Sub-program

# CRWP Watershed Programs

- Basin Studies & WQ Monitoring
- Pesticide Reduction Program
- Septic System Program
- Drug Take Back Boxes
- Recreation mitigation
- Hazardous Material Spill Prevention Program
- Water Quality Permits
- Forestry and PGE Efforts
- Disaster Preparedness

# Basin Analysis: Studies, GIS, Modeling & Water Quality Monitoring

To better understand the Clackamas River watershed and the potential drinking water threats, the CRWP has been using GIS to map land use and potential threats, pollutant load modeling, and developing a comprehensive water quality monitoring program.



# Monitoring Contract with USGS

The CRWP jointly funds 3 USGS monitors on the Clackamas River at Carter Bridge, Estacada, Oregon City.

They test for WQ parameters such as (pH, DO, water temp) and flow.

<http://or.water.usgs.gov/clackamas/monitors/>

# Macroinvertebrate Sampling

The CRWP has been conducting macroinvertebrate sampling on five sites in the lower Clackamas River in order to produce a robust dataset necessary to identify changes in biological conditions and water quality in the River.

# Cyanobacteria (BGA) Toxic Testing

In response to blue green algae blooms in North Fork Reservoir the CRWP has been working with PGE to monitor for blooms and to conduct testing at the City of Estacada and the City of Lake Oswego drinking water intakes to for toxins if blooms are identified.

# Education and Research Assistance

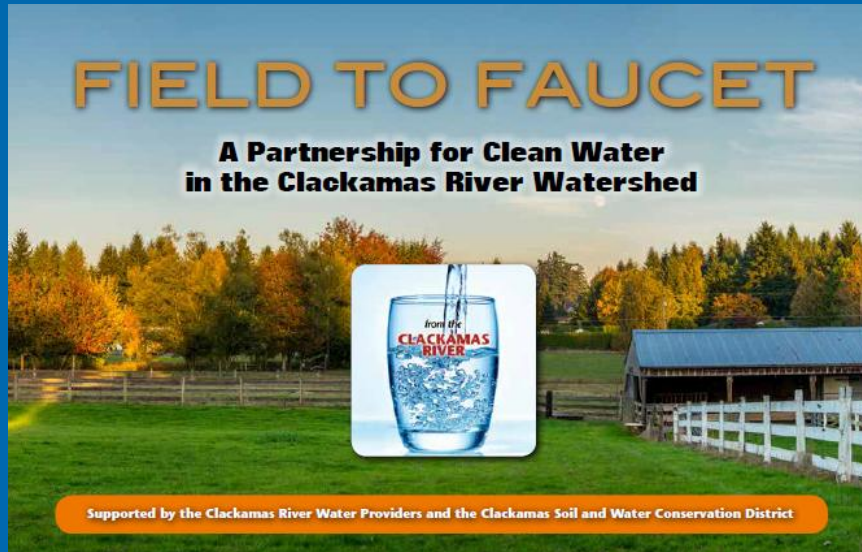
CRWP continue to work with the Clackamas Community College's Water & Environmental Technology Program and Portland State University to provide internship opportunities for students to support CRWP related studies and projects.



# Nonpoint Source Evaluation and Mitigation

- The CRWP works with basin stakeholders to reduce non-point source pollution by tracking, evaluating, monitoring and developing programs to mitigate for nonpoint sources of pollution.

# Pesticide Reduction program



Pesticide WISE	PLEDGE TODAY!	Pesticide FREE
	<p>Protect bees, butterflies, and other critters as well as pets, children, and your drinking water when you take the 'Parting with Pesticides' Pledge and receive a FREE yard sign!</p>	
 <p>Clackamas River Basin Council          PO Box 1869          Clackamas, OR 97015          (503) 303-4372  <a href="http://www.ClackamasRiver.org">www.ClackamasRiver.org</a>  <a href="mailto:info@clackamasriver.org">info@clackamasriver.org</a></p>		<p>NONPROFIT ORG.          US POSTAGE PAID          CLACKAMAS, OR          PERMIT NO. 47</p>
<p>Free Pesticide WISE or Pesticide FREE Yard Sign!</p> 		



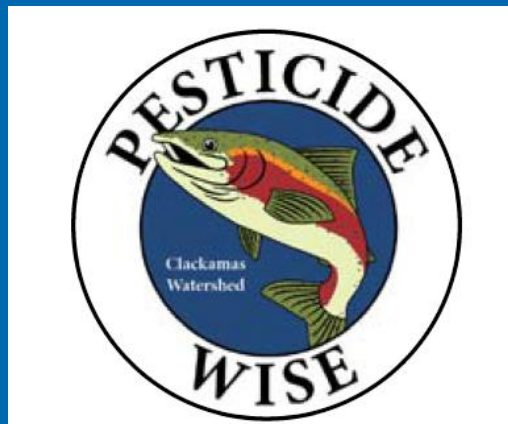
# Pesticide Reduction Efforts

The CRWP is working with the Clackamas County Soil and Water Conservation District to leverage funding for pesticide reduction through the Windsock Program and the Pesticide Sprayer Efficiency Cost Share as well as funding collection events.



# Pesticide Reduction Efforts

The CRWP is working with the Clackamas River Basin Council on the continued distribution of Pesticide Reduction fact sheets and the implementation of a Urban Pesticide Reduction Pledge Program.

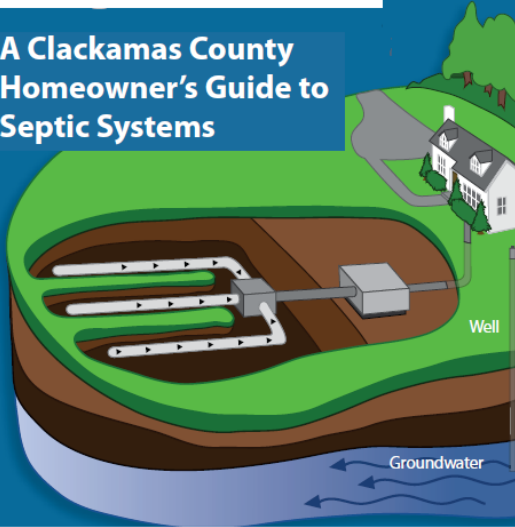




# Septic System Program

Do your Part —  
Be SepticSmart!

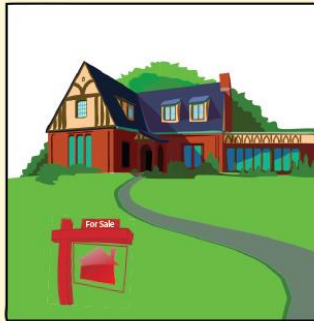
A Clackamas County  
Homeowner's Guide to  
Septic Systems



Based on: EPA septicSMART U.S. Environmental Protection Agency

Sponsored by: Clackamas River Water Providers DEQ CLACKAMAS COUNTY RIVERGROVE WATER DISTRICT CLACKAMAS SOIL AND WATER CONSERVATION DISTRICT OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

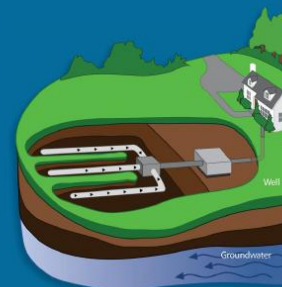
5 Things You Should  
Ask Before Buying  
a Home With  
a Septic System



Your partners in clean water:

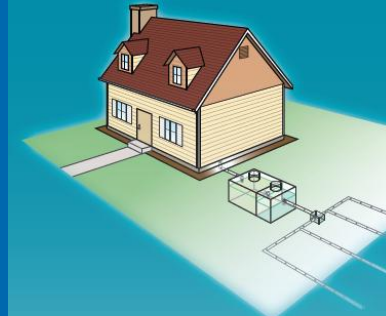
SEPTIC SYSTEM  
MAINTENANCE

A Clackamas County guide  
to the proper care and  
maintenance of your Onsite  
Wastewater Treatment  
System



Financial Assistance  
For Septic System  
Owners

in the Clackamas River Watershed



A properly functioning  
septic system can save you  
money and help protect our  
water quality.

# Septic System Program

The CRWP hosts annual Septic System Workshops on how septic systems work.


The CRWP implements a financial assistance for septic system inspections and repairs for septic system owners that live within the Clackamas River.

# Recreation and Pharmaceuticals

**DID YOU KNOW?**

...

The Clackamas River provides drinking water to almost 300,000 people.



Simple ways you can help us protect our drinking water source!

**DID YOU KNOW?**

The Clackamas River provides drinking water to almost 300,000 people.



**Help us protect our drinking water source!**

- Stash your trash
- Clean-up after your pets
- Stay on trails - It helps keep stream bank from eroding
- Use restroom! Keep human waste out of the river
- Adopt clean boating practices


*The Clackamas River belongs to us all.*

**Please use it wisely.**

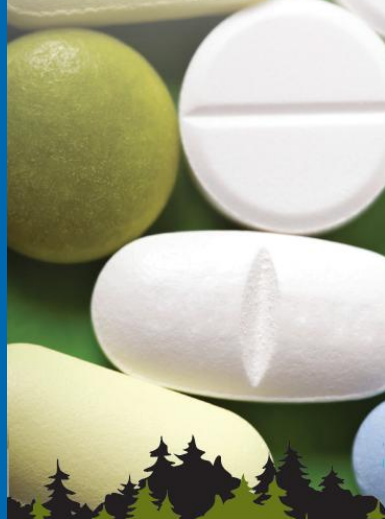
Recognized by:



Clackamas River Water Providers  
Working together to protect and conserve our drinking water.



**How to properly DISPOSE**  
of unwanted or expired medications



**Drop-Off Locations & Hours**

# Interpretative Signs

- Installed signs in parks and public access points in the watershed.



# Down the River Clean Up Sponsorship

- The CRWP is one of the main sponsors of this event which cleans up nearly 2 TONS (3,800 lbs.) of trash out of the Clackamas River each year.



# Drug Take Back Boxes


10 boxes have been installed around the County for proper pharmaceutical disposal




# Hazardous Material Spill Program

Clackamas River  
**drinking water**  
protection

Learn how you can help to prevent spills  
& protect our drinking water source



 WATER ENVIRONMENT SERVICES  
 Clackamas River Water Providers  
Working together to protect and conserve our drinking water.

## REPORT SPILLS CALL 911



**Help us protect your drinking water**  
The Clackamas River supplies high quality drinking water for over 300,000 people in Clackamas and Washington Counties.

**REPORT HAZARDOUS SPILLS** or discharges of wastewater into a storm sewer system by calling 9-1-1, and ask the dispatcher to notify Water Environment Services (WES). For other spill or pollution related questions contact **WES** at 503-742-4567. Facilities may also need to contact OERS (Oregon Emergency Response System) at 800-452-0311.

**PLAN AHEAD**  
Facilities storing dangerous or hazardous materials are encouraged to add spill kits, install secondary containment equipment, and develop spill response plans.

**ON-SITE EMERGENCY CONTACT**

NAME:	TITLE:
PHONE:	EMAIL:
NOTES:	SPILL RESPONSE CONTRACTOR:


## Clackamas River Water Providers Financial Assistance Program



**Spill Prevention Cost Share**

**What does it cover?**  
50% of the cost to purchase and/or install secondary 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.

**Who is eligible?**  
Businesses located in the Clackamas Industrial Area and up-stream from Clackamas River Water Providers drinking water intakes. Funding is available first come, first served, until program funds are depleted.

**How do I apply?**  
Complete the application on page two, and follow the instructions.

**Eligibility Requirements**

- Secondary containment or spill prevention devices must provide 110% containment of the largest container, or 10 percent of the total volume stored at the location, and constructed of impervious materials or coated with a chemical resistant coating compatible with the hazardous material being stored.
- Constructed containment may include cast-in-place, extruded concrete berms, or pre-manufactured synthetic or fiberglass berms. Installation of recessed floor sumps or recessed containment trenches or receptacles.
- Repair work, or purchase and installation of materials has to have been completed within the last six (6) months to qualify.
- For Cost Share Program provide CRWP with a receipt or invoice and documentation (photos) of the work completed or equipment purchased for reimbursement.

**Questions?**  
If you are not sure if your business is located within the watershed, or want to learn more about free technical assistance, email [kims@clackamasproviders.org](mailto:kims@clackamasproviders.org) or call 503-723-3510.

For more information visit  
[www.clackamasproviders.org](http://www.clackamasproviders.org)

  
Working together to protect and conserve our drinking water.



# Clackamas Spill Committee

The CRWP has been working with its local first responders to develop Geographic Response Plan(s) to help reduce decision-making time after a hazardous material spill so that response strategies can be implemented immediately.



# Disaster Preparedness and Response

The CRWP conducts emergency preparedness table top exercise for its members, and is working with local first responders to be prepared for events that may have a low probability of occurring, but if they happen may cause extensive problems for the CRWP member's drinking water source.

# Public Education & Outreach Program Goals

- To educate our public regarding source water protection and watershed issues, drinking water treatment and distribution, indoor and outdoor water use, and water conservation.
- This allows us to provide a holistic view of how our water resources are connected and why it is important to protect and conserve the water we get from the Clackamas River.

# Public Outreach & Water Conservation Programs

- Youth Education
- Partnerships
- Community events and presentations
- Conservation Rebate Program
- Residential Landscape Water Audits
- Outreach materials and conservation tools

# General Outreach

Do you know the value of your tap water?

Clackamas River Water Providers  
Working together to protect and conserve our drinking water.

## The Clackamas River Watershed

Providing a drinking water supply to nearly 400,000 people

## From the forest to the tap

Clackamas River Water Providers

## Protecting Water Quality SOURCE to TAP

Safe drinking water is our top priority. Your drinking water is monitored and protected, from source to tap.

Infographic concept courtesy of Willamette Water Supply Program.

Clackamas River Water Providers  
Working together to protect and conserve our drinking water.

July 2016 News

### Water Supply Update Summer 2016

During the summer months we think about water. Lots of water... like, swimming in pools, washing our cars, watering our gardens and running our sprinklers. But, did you ever stop to think that summer is a time when our region's water supply is most strained and resources are limited? This winter, snow packs reached their peak in April but early warm temperatures resulted in early snow melt, and warmer than usual temperatures are expected to continue through September. Though it has been a bit cooler and we've had some rain, let's not forget conditions can change. As much as we all love summer, it's important that we use water wisely during these warm, dry months.

Conserving our precious water source, the Clackamas River is a big job, but easily accomplished when we all help. Visit the CRWP website at [www.clackamasproviders.org](http://www.clackamasproviders.org) and find helpful outdoor and indoor water saving tips and take advantage of our rebate program and receive up to \$485 in rebates.

### Water Efficient Landscaping

different micro-climates. Zoning your landscape low-water use zones: irrigation is only used here, when new plants are added so they can get established. Moderate water use zone: plants in this area require a little more water than nature can provide. High water use zones: are where thirsty plants such as turf, vegetable gardens, and annuals are planted.

Site Analysis. To begin a site analysis start by creating a base map of your property using graph paper to position your house, walks, patios, trees, fences, etc. Highlight everything that privacy, view, outdoor activities, sun, shade etc. Look at wind patterns, topography and orientation, existing veget precipitation, water data, landscape purpose, and irrigation.

With tracing paper over the base map, take into consideration you determined earlier (play area, patio) and show negative factors that play a role in the existing landscape: you select and group plants in the right place.

Getting into the Zone. Use of landscape and watering zone because different plants have different watering needs and

Christine Hollenbeck Public Education and Cons  
Kim Swan Water Resource

## How Water Systems Work

Providing clean, safe, drinking water 365 days a year.

Clackamas River Water Providers

We are the beneficiaries of a magnificent water network handed down to us by previous generations.

# Public Education & Outreach

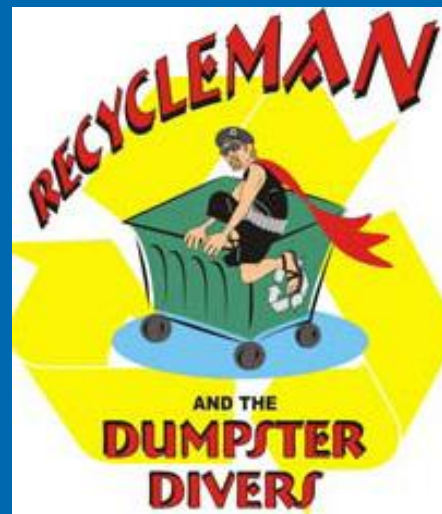
## Youth Education

The CRWP offers classroom presentations, assembly programs, water treatment plant tours, mini water education grants, and conducts an annual water conservation calendar project for CRWP member teachers and schools.

# Assembly Programs



What do you know about H<sub>2</sub>O?  
&  
Where's The Water Watson?



Rockin' Water Road Show



Living Streams: *Stories for Healthy Watersheds*  
With Master Storyteller Will Hornyak

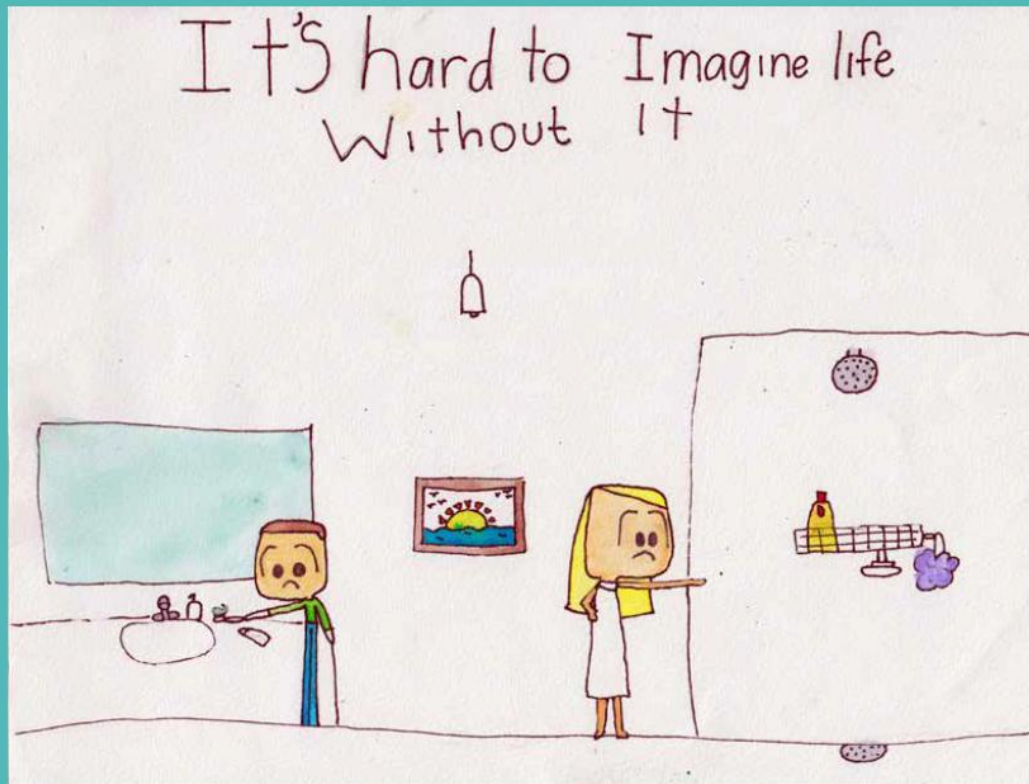
# Water Treatment Plant Tours



# Annual Calendar Coloring Contest

## “How I Can Protect and Conserve My Drinking Water”

This year's winning drawing is by **Alexis Clark**, age 10 and **Claire Furness**, age 10  
Holcomb Elementary • Teacher: Mrs. Harrington, 4th grade





# Public Education & Outreach Partnerships

The CRWP partners with other water related agencies and organizations throughout the County. This is an important way to expand public outreach and education programs by leveraging funding, resources, and marketing opportunities.

# 12<sup>th</sup> Annual Celebrating Water Event

The CRWP works with other Water Resource Agencies to put on this festival which is host over 500 4th & 5th grade students from Clackamas County each year.



# Mobile Garden

CRWP works water resource partners on the maintenance and care of the mobile garden, which is taken to various events throughout the spring and summer to educate the public about native and water efficient gardening.



# Public Education & Outreach Community Events

The CRWP participates in a variety of community events throughout the year providing conservation, source water protection, drinking water information, and promotional items at these events.

# Community Events



Happy Valley 4<sup>th</sup> of July Festival



Clackamas County Fair



Day in Damascus



West Linn Old Time Fair

# Public Education & Outreach

## Outreach Materials

The CRWP continues to develop outreach materials and use at events, and to pass out at member offices and city halls, through the school programs, and mailed to customers upon request.

# Outreach Materials

## YOUR WATER CYCLE

www.clackamasproviders.org

**Condensation & Precipitation**  
As air rises, it cools and water vapor condenses into tiny droplets. These droplets combine to form clouds. When the droplets are heavy enough, they fall to the ground as rain, snow, sleet, or hail.

**Water Collection**  
When it rains or snows, water runs off the land into streams, rivers, and lakes. Some water soaks into the ground and becomes groundwater. Some water is collected in reservoirs for later use.

**Water Treatment**  
Raw water from rivers, lakes, and reservoirs is treated to make it safe to drink. This process involves several steps, including filtration and disinfection.

**Water Storage**  
Treated water is stored in reservoirs or tanks until it is needed. This helps ensure a steady supply of water, even during dry periods.

**Water Transmission**  
Water is transported from storage to homes and businesses through pipes and canals. This process is called water transmission.

**Return Flow**  
After using water, it eventually flows back into streams, rivers, and lakes. This process is called return flow.

**Evaporation**  
As water flows in streams, rivers, and lakes, some of it evaporates into the air. This process is called evaporation.

**Did you know that the earth's water is always on the move?**  
The water cycle keeps it moving. It never stops. It's always going around and around.

**Because Earth's water is always on the move it gets recycled over and over.**

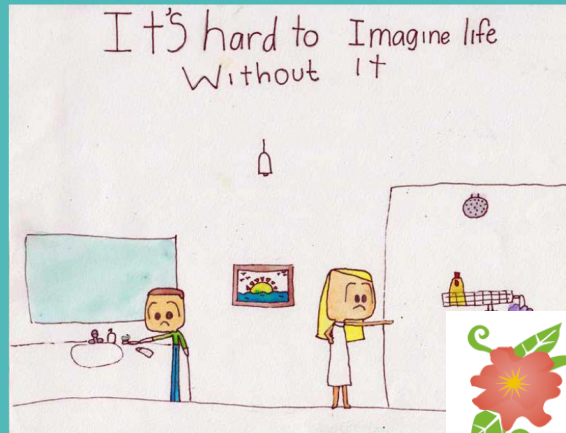
Do your **PART,**  
**be water smart!**

- **Water your garden** before 10am and after 6pm when temperatures are cooler
- **Adjust your sprinklers** so they are watering your plants and lawn not sidewalks and walkways
- **Wash only full loads** of laundry and dishes
- **Turn the faucet off** while brushing your teeth
- **Sweep your sidewalks and drive ways** instead of spraying them off with water



## “How I Can Protect and Conserve My Drinking Water”

This year's winning drawing is by **Alexis Clark**, age 10 and **Claire Furness**, age 10  
Holcomb Elementary • Teacher: Mrs. Harrington, 4th grade



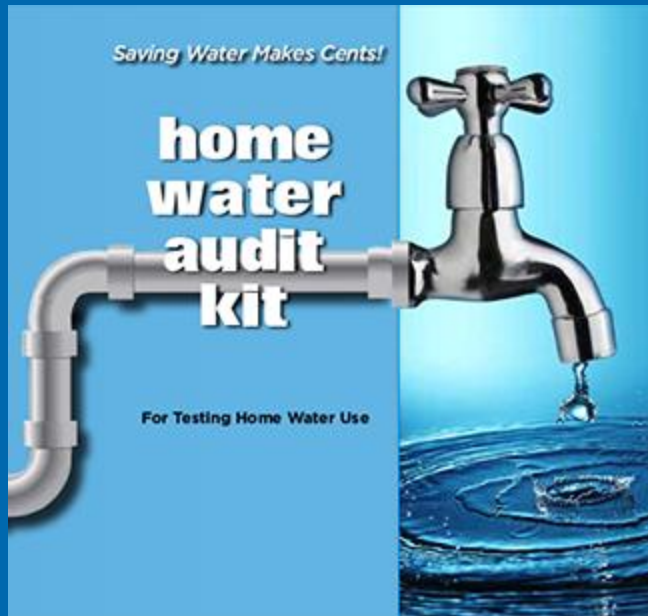
Water Conservation Calendar 2018 Clackamas River

**WATER LEAN  
GROW GREEN**

Clackamas River Water Providers  
clackamasproviders.org

**Back to Basics**

# Free Conservation Tools



- Leak Detection Tablets
- Toilet Displacement Bag
- Faucet Aerators
- Shower Heads
- Shower timers
- Watering Gauge
- Hose Nozzles



# Conservation Rebates

130 CRWP customers participated in the rebate program last year

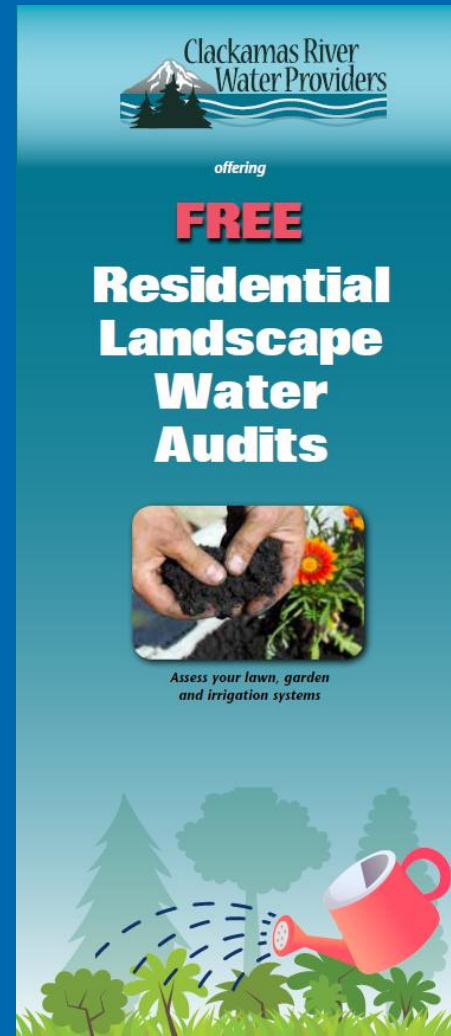
UP TO \$485 IN  
**rebates!**  
CLACKAMAS  
river  
water  
PROVIDERS  
are offering 6  
water conservation  
rebates\*

\* Up to \$485 in rebates available!

Make  
EVERY DROP  
COUNT!

# Residential Landscape Water Audits

- 14 CRWP member customers have participated in the program since it kicked off in May of 2017



Clackamas River  
Water Providers

offering

**FREE**  
**Residential**  
**Landscape**  
**Water**  
**Audits**

Assess your lawn, garden  
and irrigation systems

# Visit us at [www.clackamasproviders.org](http://www.clackamasproviders.org)



Working together to protect and conserve our drinking water.

[Home](#) - [About](#) - [Watershed Protection](#) - [Water Conservation](#) - [News and Resources](#) - [Contact](#)



## What's New?



### Get a FREE Landscape Water Audit

NEW this summer season participating Clackamas River Water Providers members are offering FREE landscape water audits.

### Help Save Water and Money!

Saving water and saving money is what a landscape water audit is all about. Our landscape Auditor will assess your lawn and garden areas, irrigation system and more. When the audit is complete you will receive a detailed report with recommendations.

Not all CRWP members are eligible, view our [brochure](#) for more information and customer eligibility. You may contact Christine at [christine@clackamasproviders.org](mailto:christine@clackamasproviders.org) or call 503 723 3511 for more information.

### [New](#) [The 2016 CRWP Drinking Water Customer Survey – On Source Water Protection](#)



#### [Water Conservation](#)

Except for the air we breathe, water is the single most important element of our lives. It is too precious to waste. Regardless of the availability of water now and in the future, we must get the most for our [current supply](#).



#### [Our Programs](#)

The Clackamas River Water Providers are implementing a [variety of programs](#) to protect and conserve our water resources. These include water conservation programs, watershed programs, and water quality programs.



#### [Watershed Protection](#)

Sustaining a precious resource a top priority. By preserving the Clackamas River as a high quality drinking water source we can help minimize future drinking water treatment costs, while being good stewards of the river.

[Newsletter Signup](#)  
[Newsletter](#)  
[Annual Report](#)  
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**Water Resource Manager**

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(503) 723-3508 (fax)

[kims@clackamasproviders.org](mailto:kims@clackamasproviders.org)

**Christine Hollenbeck**

**Public Education & Outreach  
Coordinator**

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(503) 723-3508 (fax)

[christine@clackamasproviders.org](mailto:christine@clackamasproviders.org)