



CLACKAMAS
WATER
ENVIRONMENT
SERVICES

2021
**ANNUAL
REPORT**





Message from the Director

2021 was a pivotal year for Clackamas Water Environment Services (WES).

Through the ongoing pandemic, a historic ice storm, and an unprecedented heatwave, WES employees worked through these challenges to make sure the services you depend on every day continued without disruption.

We also completed several important projects that strengthen our ability to serve you now and well into the future.

The completion of the Tri-City Solids Handling Improvements Project marks one of the most significant infrastructure milestones for our region in decades. This project ensures the wastewater treatment needs for the nearly 200,000 residents in our service area will be met for generations to come while protecting public health, the environment and future economic growth.

Completion of major upgrades at our nearly 50-year-old Kellogg Creek Water Resource Recovery Facility also helps ensure long-term reliable and affordable treatment services.

Launched in the spring, we initiated a conversation with the community called the Clean Water Exchange to discover what you, our stakeholders, most value related to clean water services, which will help us better serve our district communities.

WES values our customers. We feel privileged to be deeply connected to the cities and neighborhoods we serve, whether it's partnering on projects or supporting community events.

In addition to approving our lowest monthly rate adjustment in several years, we remain committed to policies and programs designed to help ease financial burdens for customers created by the pandemic.

On behalf of your friends at WES, I wish you all a very happy and healthy 2022.

A handwritten signature in blue ink, consisting of stylized initials and a surname, likely 'G. Geist'.

Greg Geist, Director

Cover photo:
*The Carli Creek Water
Quality Project*
[www.clackamas.us/
wes/carlicreek.html](http://www.clackamas.us/wes/carlicreek.html)



Our Service Area

Clackamas Water Environment Services produces clean water and protects water quality.

We operate and maintain five water resource recovery facilities, 23 pumping stations and more than 360 miles of pipes. Each year, we clean more than seven billion gallons of wastewater, while converting the byproducts of treatment into electricity and natural fertilizer.

We also work to reduce pollution in local rivers, streams and wetlands caused by urban stormwater runoff.

We educate and assist community members from all walks of life, from developers, property managers and homeowners to government agencies, local businesses, teachers and students.

It's our job to ensure that our community enjoys the benefits of safe, healthy water.

The WES service area includes:

- | | | |
|-----------------------|--------------|-------------------------------|
| Boring | Hoodland | Rivergrove |
| Fischer's Forest Park | Johnson City | West Linn |
| Gladstone | Milwaukie | Communities in unincorporated |
| Happy Valley | Oregon City | Clackamas County |



Protecting our Water Water Heroes

Like you, we will never forget the February ice storm that hit Clackamas County.

During one of the worst ice storms in memory for Clackamas County, WES staff rallied through power loss and icy conditions to maintain wastewater services. WES staff responded to more than 1,000 alarms, working around the clock to keep facilities and pump stations running. During this extraordinary event, there was not a single bypass, sanitary sewer overflow, permit violation, or compliance sample missed. Some WES staff even slept onsite to make sure our equipment kept working.

In October, WES was one of four organizations nationwide to receive the prestigious Water Heroes Award for our work during the ice storm from the Water Environment Federation.

Through the ongoing pandemic, a historic ice storm, and an unprecedented heatwave, WES employees worked through very challenging circumstances to make sure the services you depend on every day continued without disruption. Stewardship doesn't always come easy.



1 WES Director Greg Geist receives the Water Heroes Award on behalf of staff

2 Crews hard at work during the 2021 ice storm

3 Ice accumulates at the Tri-City Water Resource Recovery Facility

Lynne Chicoine Named PNCWA Woman of the Year



Lynne Chicoine, our capital program manager, is hopeful that the 2021 Woman of the Year Award she received from the Pacific Northwest Clean Water Association will inspire more young women and girls to pursue careers in fields where women have historically been underrepresented.

“This award allows me to serve as an example for young women, whose skills in math and science are matched by their passion for the water environment,” Chicoine said. “The profession, and society broadly, would both benefit if we encouraged and welcomed talented women in technical careers like civil engineering.”

Since 2015, Lynne has led the capital planning and implementation program for WES’ vast wastewater infrastructure.

Despite the ongoing pandemic and other unprecedented challenges, Chicoine led her team to complete or make significant progress on several major WES capital projects in 2021 that will ensure reliable and affordable wastewater treatment services for several decades.



Investing in a Cleaner Future

WES' newly completed Solids Handling Improvements Project will ensure reliable, energy-efficient and affordable wastewater treatment services for generations to come.

The project features a new anaerobic digester to treat solids, a byproduct of waste from homes and businesses.

The upgrade also includes a new co-generation system that transforms organic waste into renewable energy, which produces heat for our Tri-City Water Resource Recovery Facility's buildings and enough electricity to offset nearly half of the facility's energy use.

Our new co-generation system is made possible with assistance from Energy Trust of Oregon and the Portland General Electric Renewable Development Fund.

As a reminder of the importance of protecting watershed health and in celebration of the completion of the Solids Handling Improvements Project, Artist David Andersen and his Clackamas Community College students created a watershed art mural to educate and inspire visitors.

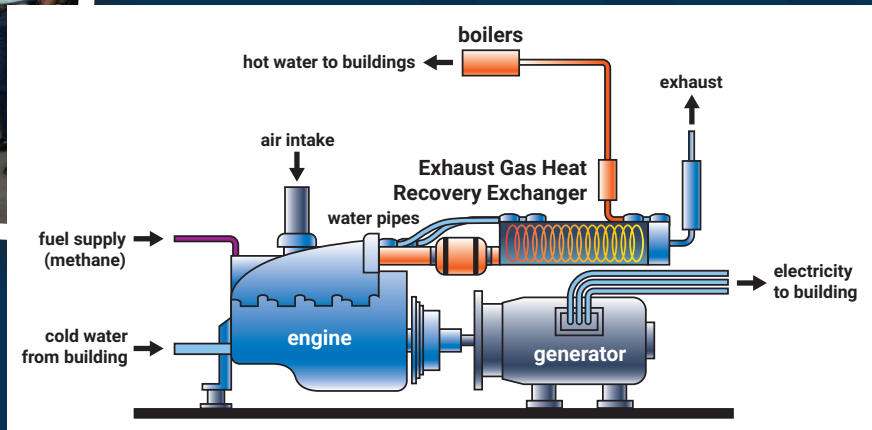




The new co-generation engine



Portland General Electric Vice President of Public Affairs Dave Robertson, Energy Trust of Oregon Program Manager Dave Moldal, County Commissioner Martha Schrader, State Representative Jeff Reardon, and County Commissioner Paul Savas celebrate the completion of the Solids Handling Improvements Project





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Maintaining our Vital Infrastructure

Inflow and Infiltration (I & I) reduction is a top priority for us.

I & I is rainwater or groundwater that seeps into cracked sewer pipes or water that enters pipes through improper connections, and increases the amount of water flow into our wastewater treatment facilities, which puts added strain on equipment.

I & I also increases the risk of sewer overflows.

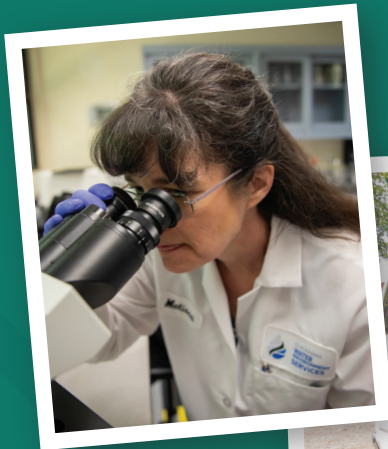
WES is pursuing a regional approach to solve the I & I problem with our partner cities that own and maintain their own sewer systems, which deliver wastewater to WES' treatment facilities.

Keeping this extra rainwater and groundwater out of pipes results in significant savings. Reducing I & I by 65% in targeted sub-basins by 2040 would save \$120 million in required capital expenditures.

1 Field Operators Kevin Rotrock and Otis Lundgren explaining I & I to ratepayers at Happy Valley's National Night Out

2 Operations staff inspect the pipes

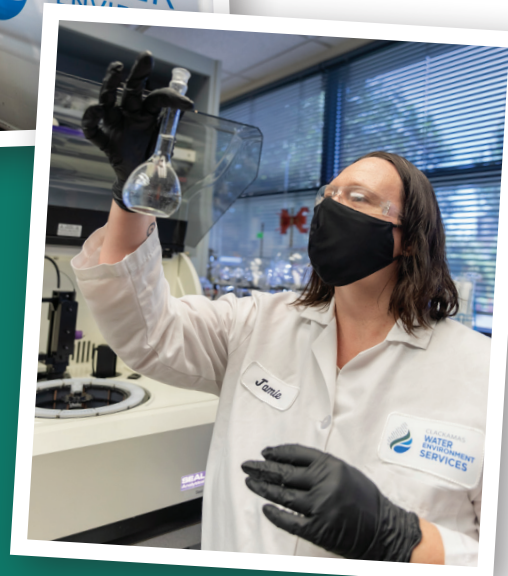
3 An example of inflow, captured by our video camera



Laboratory Analyst
Melissa Catto



Source Control
Specialist Chris
Desiderati brings in
samples



Laboratory Analyst
Jamie Berger

Testing Water Quality for Safety


Our Tri-City Water Quality Lab performs nearly 30,000 analyses per year from each of our facilities to check the health of the water at every step of the wastewater treatment process, making sure the discharge to the Willamette River complies with our permits.

Preserving Watershed Health

Watershed health is something we take seriously. We are in the beginning stages of an exciting new floodplain enhancement project and we want your input!

Located near the North Clackamas Aquatic Park in Milwaukie, the 89-acre 3-Creeks Natural Area is where Mt. Scott, Phillips and Dean Creeks converge and provide a special opportunity to restore stream health.

Urbanization is taking a toll on the site, with streams eroding, habitat changing, and flooding of developed properties becoming more common. This project will enhance the floodplain, improve water quality, improve fish and wildlife habitat, and provide opportunities for pedestrian access and environmental education on the site, where feasible.

 Learn more at:
clackamas.us/wes/3-creeks



Red flowering currant blooms at the 3-Creeks Natural Area



Oregon white oak at the 3-Creeks Natural Area

Protecting the Environment - Surface Water Management

Our surface water management team provides water quality protection for the communities we serve by implementing programs to reduce pollution in our rivers, streams and wetlands caused by urban stormwater runoff, a leading source of water pollution in our state.

Through watershed protection and planning, WES is taking a long-term approach to protecting the health of our shared water resources.

In 2021, WES awarded \$280,523 in grants through our RiverHealth Stewardship Program to 12 organizations dedicated to protecting and improving the health of our watersheds.



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1 The Johnson Creek Watershed Council worked with Mad Science to present Science in the Park for children

2 The World Salmon Council provided WES district students with field trips as part of their Salmon Watch Environmental Education Program

3 Friends of Trees and Happy Valley Heights team up to plant trees



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Creating Partnerships

The Home Builders Association

WES teamed up with the Home Builders Association to participate in both the Happy Valley Street of Dreams and the Home of Tomorrow, Today Tour featuring the best in home building sustainability.

WES' Natural Resources Scientist Gail Shalom helped organize "Garden Talks" at the Street of Dreams with Garden Educator Jacob Rose to educate attendees about the many environmental benefits of natural gardening and landscaping.

WES also posted several informational signs onsite to educate people about ways they can help protect our environment and sewer system with a few simple steps each day.

This partnership provided WES a unique opportunity to educate more than 20,000 attendees on the subject of watershed health.



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1 Commissioner Martha Schrader poses in front of the WES selfie station at the Street of Dreams

2 WES' Natural Resources Scientist Gail Shalom and Garden Educator Jacob Rose prepare for the Garden Talks presentation

3 WES informational yard sign at the Street of Dreams



The SOLVE team staffs the WES tent

Keeping our Waterways Clean with SOLVE

For the fourth consecutive year, WES partnered with SOLVE to keep area waterways and natural areas clean and healthy.

The 2021 Summer Waterway Cleanups in Clackamas County attracted 471 volunteers who helped WES and SOLVE remove thousands of pounds of trash in Clackamas County.

In addition to helping to protect rivers, streams and wildlife, volunteers learn firsthand how trash on the ground can be carried by stormwater runoff into our streams and rivers if not removed.



SOLVE volunteers at work

Financial Stewardship

Throughout 2021, WES remained sensitive to the pandemic's financial impact on many of our customers. To keep monthly bills low, WES approved the lowest annual rate adjustment in many years.

We also remained committed to the suspension of late fees for the duration of the crisis, working with customers on flexible repayment plans based on individual circumstances. We know that every situation is different.

We are heartened to see more customers taking advantage of our low-income discounts for those in need.

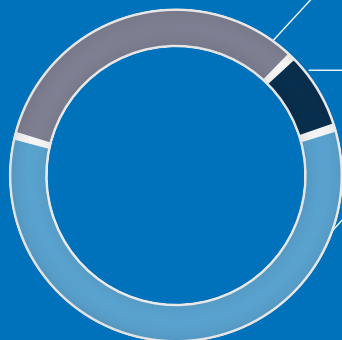
Are you managing Your sanitary sewer and surface water account online?

Register for access online to enjoy these features:

- View real time balances, payment amounts and bill due dates
- Make one-time or recurring payments
- Review transaction history
- Sign up for paperless e-billing to get your bills and our messages emailed to you

 Learn more about our online system at clackamas.us/wes

Investing in Resiliency - Your Rate Dollars at Work



28%

- Infrastructure financing and reserves
- Equipment replacement
- Reserves for future project needs
- Building treatment capacity for future growth
- Construction projects

11%

- Debt payments
- Principal and interest on long-term debt
- Financing capacity expansion projects

61%

- Operations and maintenance
- All wastewater treatment services including waste removal, biosolids management and disinfection of water
- Day-to-day plant maintenance
- Regulatory compliance, including laboratory
- Day-to-day collection system maintenance, including pump stations

Commissioners and Advisory Committee

The Clackamas County Board of Commissioners serves as the governing body of WES.

Commissioners receive recommendations from the WES Advisory Committee on a variety of key issues. The WES Advisory Committee includes ratepayers, environmental representatives, business owners, members of the development community and elected officials.

Members have experience in wastewater management, watershed health and restoration, economic development and surface water. The committee provides input and makes recommendations to WES and the Board of County Commissioners.

All WES Advisory Committee members either live or work within the WES service area.

Rita Baker – Environmental Representative

Mary Baumgardner – West Linn Elected Official

Christopher Bowker – Gladstone Representative

Greg DiLoreto – West Linn Representative

Angel Falconer – Milwaukie Elected Official

Anthony Fields – Milwaukie Representative

William Gifford – Oregon City Representative

David Golobay – Happy Valley Elected Official

Renee Harber – Environmental Representative

Diana Helm – Business Representative

Brian Johnson – Johnson City Representative

Roseann Johnson – Development Representative

Kathryn Miller – Unincorporated Representative

Michael Morrow – Happy Valley Representative

Lori Olund – Business Representative

David Schleef – Business Representative

Rocky Smith – Oregon City Elected Official

Tammy Stempel – Gladstone Elected Official

1 Advisory Committee member Dr. Renee Harber speaks at the Tri-City WRRF mural celebration

2 Commissioner Martha Schrader joins the WES team to collect stream insects at the Carli Creek Water Quality Facility

3 Commissioner Paul Savas with WES Director Greg Geist at the mural celebration



Clackamas Water Environment Services produces clean water and protects water quality. It's our job to ensure that residents and visitors enjoy the benefits of safe, healthy water for generations to come.

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