



Working together to protect and conserve our drinking water.



Annual Report

For Fiscal Year 2014-15



September 2015

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For Fiscal Year 2014-15

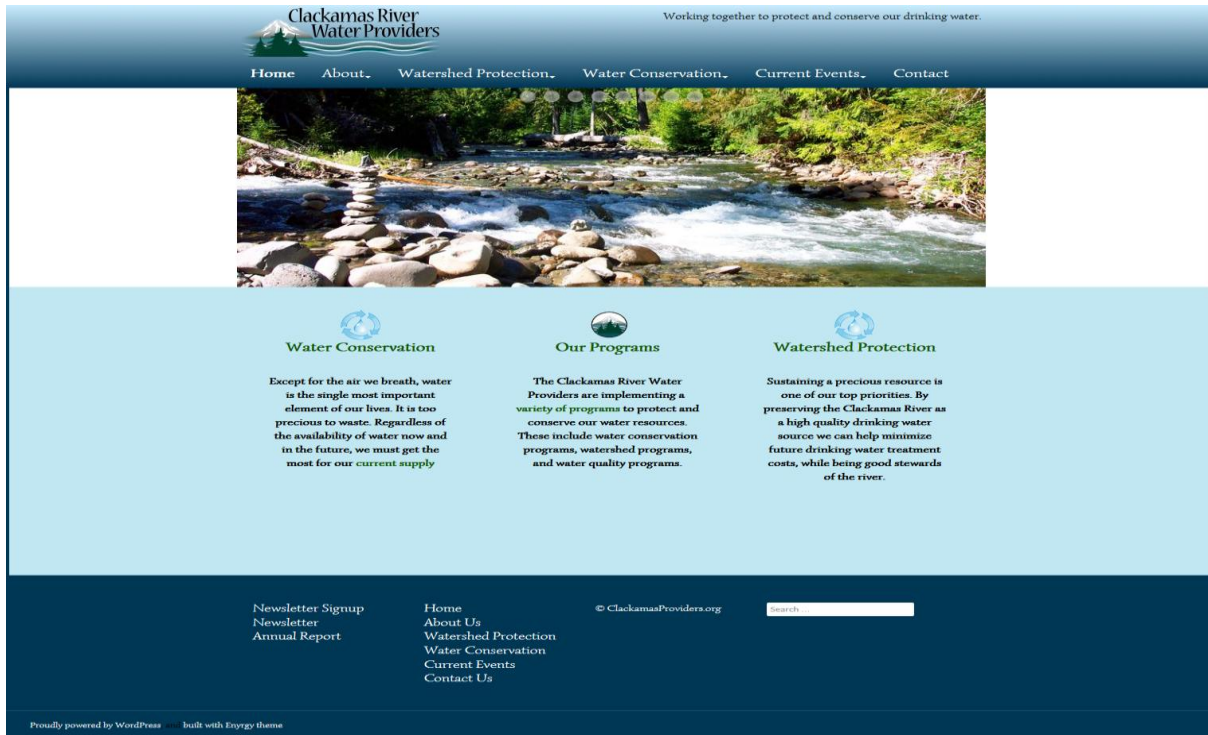
Background

The Clackamas River Water Providers (CRWP) is a coalition of water providers that get their drinking water from the Clackamas River. The organization is made up of representatives from the City of Estacada, City of Lake Oswego, City of Tigard, Clackamas River Water, the North Clackamas County Water Commission (Oak Lodge Water District, City of Gladstone), South Fork Water Board (City of Oregon City, City of West Linn), and Sunrise Water Authority (City of Happy Valley, City of Damascus). It includes two staff people, a Water Resource Manager and a Public Outreach & Education Coordinator. The purpose of the organization is to fund and coordinate efforts regarding source water protection, and public outreach and education around watershed issues, drinking water, and water conservation so that we can ensure that the Clackamas River is used in the most sustainable way. The following is a look at the year in review.

CRWP Website

The Clackamas River Water Providers website has a new look. The old website was built on an outdated platform which did not allow some customers to visit the site. The new website fixed that problem and utilizes more user friendly software making it easier to maintain and update the website. Although the site has a new look it retained all the information from the previous site and added some new pages such as the resource and documents page. [Go to www.clackamasproviders.org](http://www.clackamasproviders.org) to visit the site.

CRWP Website Homepage



Source Water Protection Programs

In 2010 the CRWP completed the development of a Drinking Water Protection Plan for the Clackamas River watershed. This Plan acts as a road map of potential strategies and programs to implement over the next decade and beyond to preserve the Clackamas River as a high quality drinking water source and to minimize future drinking water treatment costs. The CRWP continues to work on implementing elements of the Plan. The descriptions below describe the CRWP efforts for the 2014-15 fiscal year.

Basin Analysis: Studies, GIS, Modeling and Water Quality Monitoring Monitoring Contract with USGS

In September of 2103 the CRWP renewed its Joint Funding Agreement with USGS for an additional three years for the operation and maintenance of three water quality monitoring stations on the Clackamas River at Carter Bridge, Estacada, and Oregon City. These stations are strategically placed in the basin to provide a holistic view of water quality as water flows through the watershed. Although each station provides important information on their own, when used in combination the WQ monitors can

pinpoint where turbidity sources originate (upper basin, middle basin, lower basin), help pinpoint changes in water quality based on land use in different part of the basin, and can help identify where to start looking if a spill occurs.

These monitoring stations continuously log pH, specific conductivity, dissolved oxygen, temperature, and turbidity. The Oregon City gauge also records chlorophyll and streamflow. In addition to the monitoring contract, the CRWP paid for replacement probes, solutions and cables, as well as the utility fees for the real time data signals associated with the USGS monitoring sites. The water quality data can be accessed via the web at <http://or.water.usgs.gov/clackamas/monitors/>.

Macroinvertebrate Sampling

In 2012-13 the CRWP entered into a contract with ABR Inc. to develop a long-term macroinvertebrate monitoring plan for the lower Clackamas River and its tributaries (Cole 2013). This plan called for sampling from the lower mainstem Clackamas River and its major tributaries once every year for two to three years in order to produce a robust dataset necessary to identify changes in biological conditions when they occur. In September of 2014 the CRWP conducted its second round of macroinvertebrate sampling at five sites in the lower Clackamas River between river miles 0.5 and 20. These sites were selected to bracket the four drinking water points of diversion between river miles 0.8 and 3.1, and the Deep Creek subwatershed. A copy of this final report can be found by going to http://www.clackamasproviders.org/wp-content/uploads/2015/05/14-114_CRWP_Macros_FINAL_Rpt_2-7-15.pdf

Cyanobacteria (BGA) Toxic Testing

The State of Oregon's Best Management Practices for Cyanobacteria (blue green algal) Toxins provide guidance for municipal water providers on how to test both raw and finished water at their intakes if they are downstream of a toxic algal bloom. Based on the new BMPs the CRWP BGA Response Plan was updated, and the City of Estacada and the City of Lake Oswego were identified as the CRWP member agencies where toxic testing would occur. In August of 2014, North Fork Reservoir experienced a blue green algae bloom and low levels of toxins were identified. This triggered both the City of Estacada and the City of Lake Oswego to test both their raw and finished water for toxins. No toxins were identified in either of these samples. The CRWP paid for the toxin testing costs.

Herrera GIS Hazardous Material Spill Analysis

In 2014 the Hazardous Material Spill analysis identified more than 500 facilities storing reportable quantities of 3,500 different hazardous substances in the Clackamas River watershed. The analysis grouped substances by physical state and quantity, but did not distinguish by substance type, toxicity, or potential pathways to surface water. To better assess the distribution and magnitude of risk in the focus area, during the 2014-15 fiscal year Herrera refined the GIS spill risk analyses to focus specifically on facilities storing large quantities of key categories of hazardous substances. This effort also included identifying potential spill pathways to the Clackamas River. The final report can be found at <http://www.clackamasproviders.org/wp-content/uploads/2014/05/CC-10-04900-005-GIS-Hazardous-Materials-Risk-Analysis-Results-06122015.pdf>

2013 319 Grant for Septic System WQ Monitoring

In the Fall of 2013 the CRWP received a 319 grant worth \$30,000 from DEQ. The purpose of this project is to analyze the potential contribution of high-risk septic systems to the microbial pollution load of the lower Clackamas River using advance molecular techniques targeting human specific indicator bacteria among the bacterial class Bacteroidetes. This will help us determine whether the identified high-risk septic systems are truly a problem, as well as give us a better understanding of whether *E. coli* violations are from people or animal sources. Monthly sampling took place at 7 locations from April 2014 thru April of 2015. It is anticipated that the sample analysis and final project report will be completed by December of 2015.

Education and Research Assistance

Clackamas Community College and Portland State University Interns

Staff from the 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 projects. This year the CRWP provided stipends to three interns from Clackamas Community College and one intern from Portland State University. The CCC interns worked on the septic system water quality testing program and on CRWP public outreach and education efforts. The intern from Portland State University worked on updating CRWP GIS agricultural layers so that this information could be used for pesticide reduction efforts, as well as added water quality information and flood plain GIS layers to the CRWP geodatabase.

Point Source Evaluation and Mitigation

Tracking, evaluating, and monitoring point sources (water quality and other permits)

The CRWP continues to review water quality permits that come up for renewal to see if there could be an impact on drinking water quality, and if there is an opportunity to provide public comment on these permits. The CRWP comments generally look at ways to enhance permit requirements and ways to better notify CRWP members of spills, overflows, or contamination events. In addition this is another tool to help educate and remind permittees that the Clackamas River is an important drinking water source.

Portland General Electric (PGE) Blue Green Algae Team/Mitigation Fund Committee

The Clackamas River Water Providers continue to be an active participant in PGE's Blue Green Algae Team which oversees PGE's Blue Green Algae Monitoring Program and PGE's Mitigation Fund Committee. This year the Blue-Green Algae Team reviewed the 2014 Annual Blue Green Algal Report, which included results from the yearly monitoring program. PGE's Mitigation Fund Committee did not meet this year.

Nonpoint Source Evaluation and Mitigation

Eco Biz Certification Support

The CRWP continues to work with the Pollution Prevention Outreach Team which is a group of pollution prevention experts in the Portland metro area that developed and administer the EcoBiz certification program. This certification program recognizes businesses that go beyond compliance with local environmental requirements and implement pollution prevention efforts in their work sites. Businesses are certified through an intensive application and evaluation process.

During the 2014-15 fiscal year the CRWP provided funding to increase EcoBiz outreach efforts in the Hwy 212/224 industrial area. This included targeted outreach to landscaping businesses operating within the industrial area of the watershed using the EcoBiz Certification model, conducting outreach to property management companies to help them reduce pollution and save water on their managed properties, development of two outreach pieces, an advertisement in the Chinook Book, and the creation of small spill kits available for distribution. A total of 169 businesses were visited. *See Appendix A*. The final report can be download at <http://www.clackamasproviders.org/wp-content/uploads/2014/05/PPRC-Final-Report-FY-14-15-CRWP-Public.pdf>

Septic System Workshops

Two *Know Your Septic System Check it, Fix it, Maintain it!* workshops supported by the CRWP took place in 2014-15 fiscal year. One in City of Damascus, and a second in the City of Estacada. These workshops presented information on how septic systems work, and why they need to be maintained, along with information on the financial assistance the CRWP provides for septic system owners in the Clackamas River watershed. 33 people attended the Damascus workshop and 15 people attended the Estacada workshop. Video of the Damascus workshop can be downloaded at <http://www.ci.damascus.or.us/249/Video-Center> . See *Appendix B*.

Septic System Workshops for Realtors

CRWP and Water Environment Services staff continue to offer septic system workshops for realtors. In March a workshop was conducted for a group of Keller Williams Realtors regarding septic systems. It covered what new home buyers should know about septic systems before buying rural property as well as on the CRWP's Septic System Financial Assistance Program.

Septic System Financial Assistance Program

The CRWP continued to offer septic system owners that live within the Clackamas River watershed financial assistance for septic system inspections and repairs. Towards the end of the fiscal year the program was revamped to better compliment DEQ's new Oregon Septic Smart program. To generate more interest, information about the program was sent to all Oregon Septic Smart Businesses. A total of four \$100 septic system inspections and/or pumping rebates were processed and three applications for the repair cost share were processed. To be eligible for the program septic system owners had to live in the watershed upstream from CRWP drinking water intakes and use a DEQ Oregon Septic Smart certified business. See *Appendix C*.

Down the River Clean Up Sponsorship

For the fifth year in the a row the CRWP has provided funding to We Love Clean Rivers, Inc to hire an event coordinator for the Annual Clackamas Down the River Clean Up which took place in September of 2014. The 12th Annual Down the River Clean Up had the 2nd highest volunteer turn out for the event in 12 years. 401 volunteers participated in the event which cleaned up a total of 2.82 tons (5,640 lbs.) of refuse from the Clackamas River. That averages out to be 14 lbs of trash cleaned per volunteer. As an event sponsor the CRWP's logo is placed on event marketing and outreach material. In addition the CRWP had an educational booth at the after float BBQ and auction. See *Appendix D*.

Pesticide Reduction Efforts with the Clackamas County Soil and Water Conservation District

The CRWP worked with the CCSWCD to leverage funding for pesticide reduction workshops and two pesticide reduction programs. The Windsock Program and the Pesticide Sprayer Efficiency Cost Share Program. See [Appendix E](#).

Workshops - Three workshops were conducted during the 2014-15 fiscal year which the CRWP helped sponsor. They covered the following topics: COVERING YOUR ASSETS Hands-on Workshop on Sprayer Calibration and Application Assessment; Combining Effective IPM and Pesticide Risk Management in Nurseries; and a Nozzle Technology Workshop. Combined 89 people attended these workshops.

Windsock Program – The purpose of this program is to help agricultural producers apply pesticides without losing chemicals to drift from wind. Agricultural users can get a free calibrated windsock through the Clackamas County Soil and Water Conservation District. These windsocks are attached directly to the tractor for real time information to make quick, more accurate decisions on spraying practices to reduce pesticide drift. 20 windsocks were distributed in the first year of the program to producers growing several crops including nursery stock, Christmas trees, and vegetables.



Sprayer Efficiency Cost-Share Program – This program provides cost share on the replacement of a limited number of parts for commercial pesticide spray equipment of agricultural producers in the Clackamas River watershed. The purpose is to increase sprayer efficiency and reduce the amount of pesticide used. Reducing pesticides reduces the risk of polluting nearby waters that are used by humans, fish, and wildlife. This program got off to a slow start and no cost share applications were processed during the 2013-14 fiscal year.

Pesticide Reduction Efforts with the Clackamas River Basin Council Outreach Program

For the Seventh year in a row the CRWP has worked with Clackamas River Basin Council to support an outreach program for voluntary pesticide reduction through the distribution of educational fact sheets, consultations with landowners, and developing

outreach to residential property owners. This year's efforts have also included creating a pictorial fact sheet, working with Metro to hold a second Neighborhood Household Hazardous Waste Collection event (July 2015) in the watershed, and developing an Urban Pesticide Reduction Pledge Program which will be implemented in 2016. See *Appendix F*.

CRBC Financial Support

The CRWP continues to provide funding for operational support for the Clackamas River Basin Council. The Clackamas River Basin Council is working to protect and improve water quality, and fish and wildlife habitat in the Clackamas River basin.

Disaster Preparedness and Response

The Clackamas Watershed Spill Committee

In January of 2014 the CRWP hosted the third Clackamas River Spill Committee meeting. 14 people attended from DEQ, Clackamas County, ODOT, as well as local hazmat and first responders. The purpose of this meeting is to review the Hazardous Material GIS data that has been collected for the Clackamas River watershed and begin talking with our first responders about what additional information we would need to prepare a Geographic Response Plan(s) (GRP). GRP documents typically contain maps and descriptions of sensitive resources and identify targeted response strategies. Which include logistical information such as spill reporting contacts and equipment lists, as well as set priorities for various spill response scenarios. This information is used to help reduce decision-making time after a spill so that response strategies can be implemented immediately.

Public Outreach and Information Sharing

See the Public Outreach & Education Program section for additional information.

Annual Watershed Tour

Each October the CRWP hosts a watershed tour for CRWP member elected officials and interested citizens. The purpose of this year's tour was to provide our participants a different perspective of the Clackamas River by floating down the River from Carver Park to Clackamette Park. By doing this we hoped to highlight CRWP watershed protection efforts and potential pollution sources (recreation impacts on the river, tributaries, stormwater outfalls, hazardous chemical spills) as well as highlighting what our basin partner Water Environment Services is doing to improve water quality

through their stormwater management program and their restoration projects. A total of 32 people participated in the Tour/Float.

2014 Watershed Tour



Other Water Resource Activities

Stored Water Agreement with PGE

The CRWP continues to implement the Stored Water Agreement with PGE, providing us with the ability to call for water to be release from Timothy Lake at certain times of year for municipal water use.

Water Resource Related Committees

The Water Resource Manager continues to represent the interests of the CRWP on a number of different water resource related committees. These include: the Oregon Water Utilities Council (Chair), the Consortium Emergency Planning Committee, Clackamas County Homeland Security Task Force, the Clackamas Stewardship Partners, EcoBiz Pollution Prevention Outreach Team, ORAWRA, and the PNWS-AWWA Water Resource Committee.

Public Outreach & Education Program

This program provides public outreach, education, as well as conservation services and programs to CRWP members. Some of the activities described below are not provided for City of Lake Oswego and Clackamas River Water. The primary focus of the program is on education and outreach efforts to the public regarding source water protection and watershed issues, drinking water treatment and distribution, indoor and outdoor water use as well as 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. There are a number of individual programs or components that provide awareness, information, motivation and action for our customers. The following is a summary of what the public outreach and education program accomplished this past year.

Youth Education, Presentations, and Assembly Programs

The youth education program is an integral part of the CRWP outreach and education efforts. The goal of this program is to educate students about the Clackamas River watershed, the process for treating and distributing public drinking water, and water conservation issues so they develop overall awareness and water changing behaviors. The secondary goal is for students to take this information back to their parents.

The CRWP programs are offered at no cost to the schools and range from classroom presentations done by staff, assembly programs performed by contractors, as well as education resources for teachers. A total of 53 classroom presentations, assembly programs, and treatment plant tours were completed between July 1, 2014 and June 30, 2015 to approximately 7,143 students (these numbers do not include the Children's Clean Water Festival and the CCWET Celebrating Water Event). See [Appendix G](#) for a list of all of the schools that were offered the CRWP programs. See [Appendix H](#) for a breakout by CRWP member of where these programs were completed.

Treatment Plant Tours

The Public Outreach & Education Program coordinates water treatment plant tours for the general public and CRWP member area schools. Participants are matched with tours of the treatment plant that their water comes from. This year 14 tours of the North Clackamas County Water Commission plant were given to schools



from the City of Gladstone, City of Happy Valley and the City of West Linn. Many of these tours were also paired with tours of the Tri-City wastewater treatment plant so that students could see the whole part of the human water cycle.

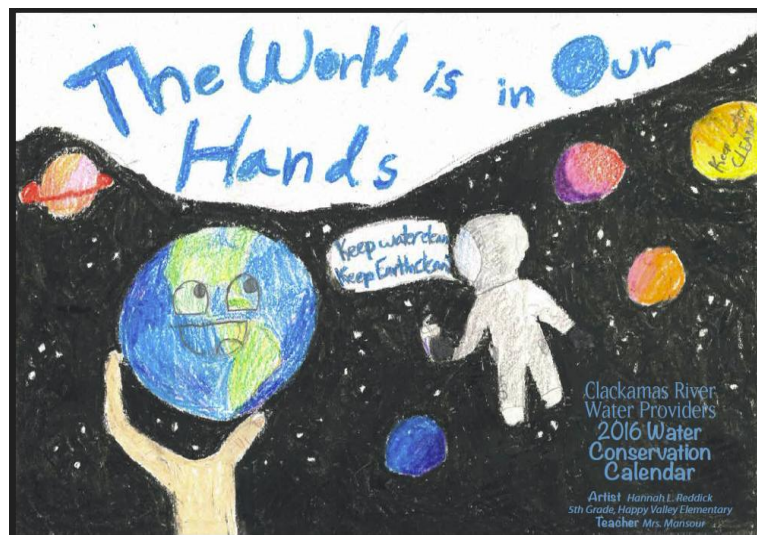
Mini Water Education Grants for teachers

The youth education program also offers Mini Water Education Grants to teachers. These grants up to \$250 are intended to provide supplemental funding for water related projects to encourage water education in the schools. We processed 4 grants for 12 teachers this past year. See [Appendix I](#) for more detailed information.

Water Conservation Calendar

The Water Conservation Calendar is a collaborative project with CRWP grade schools in which local students participate in a coloring contest with a water education theme. Thirteen pictures were chosen from all the entries submitted and used to create a Water Conservation Calendar. The theme for the 2016 calendar was “Our 1%”. Students were encouraged to create pictures depicting what they had learned about water and how much of the earth's water is fresh water and available to drink. Thirteen classes from eleven different elementary schools participated in the contest and approximately 455 pictures were submitted.

Each school that had at least one class participate in the contest will receive a box (125) of calendars to give out to family and friends or to use as fundraisers. Additional calendars are available to teachers, families, and the general public upon request, as well as being distributed throughout Clackamas River Water Provider education and outreach program members City Halls, Libraries and offices. See [Appendix J](#) for a list of which schools participated in the project.



Partnerships

Partnering with other water related agencies and organizations throughout the County is an important way to expand public outreach and education programs by leveraging funding, resources, and marketing opportunities; by collaborating on evaluating the effectiveness of outreach/community programs; and by coordinating information and programs to avoid duplication. The following is a summary of some of the projects CRWP staff is collaborating on with other water resource agencies.

10th Annual Clackamas County Water Education Team (CCWET) Celebrating Water Festival

CRWP staff continues to Co Chair the CCWET group. The group continued to meet regularly to work on the organization of the 10th Annual CCWET Water Festival. The Festival took place March 17th 2015 at Clackamas Community College. The festival played host to 5 schools with 18 classes and approximately 540 4th & 5th grade students from Clackamas County. The festival included 18 Exhibits and 2 Stage Shows performed by Will Hornyak & Recycleman and the Dumpster Divers, along with 35 High school volunteers from Rex Putnam, Clackamas High School and Sabin-Schellenberg Center.



Students at 10th Annual Celebrating Water Event

Support of Clackamas Community College Horticultural Department and Water Efficient Landscaping

The CRWP continues to support Clackamas Community College Horticultural Departments in a number of ways. This past year the CRWP put \$5000.00 in the Clackamas Community College Foundation for the instillation of two rain gardens. One to be installed at the Water Efficient Demonstration Garden kiosk another near the parking lot for rainwater retention and control. The Demonstration Garden kiosk

signage will also be updated with these funds. The purpose of this project is to educate our public on green methods of stormwater management and control. The projects are scheduled to be completed the 2015-16 school year.

Clackamas Community College Stormwater Management Workshop

This past year CRWP staff worked with the City of West Linn to develop and presented a Stormwater management workshop per the request of Clackamas Community College. The workshop was designed to teach landscape professionals about municipal stormwater management, design and maintenance requirements, and how it all relates to water quality and watershed health. Fifteen people attended the workshop. The workshop was approved for 4 continuing educational hours by the Landscape Contractors Board.

Mobile Garden

In 2014, the CRWP entered into a MOU with a number of other water resource organizations in Clackamas County for the maintenance and care of the mobile garden. The group takes the garden to various events throughout the spring and summer to educate the public about native and water efficient gardening. This summer will be the fourth year the group has had the garden.

Clackamas County Recycle at Work Program

The CRWP is in partnership with Clackamas County to support the Recycle at Work Program by providing the County with bathroom/kitchen faucet aerators and a number of brochures to help business owners within the CRWP service areas learn how to be more efficient with their water. The program conducts on-site assessments of current waste, water, energy and purchasing practices. Companies receive recommendations, tools and ongoing support to help them be more resource-efficient.

Community Events

The CRWP staff participated in a total of 20 community events within the CRWP service areas providing conservation, source water protection, drinking water information, and promotional items at these events. This gave staff the opportunity to engage in one on one conversations about water conservation and watershed issues with our customers. See [*Appendix K*](#) for the list of events.

Adult Presentations

CRWP staff participated in and/or presented at a total of 11 public education and water conservation presentations to adult audiences. These presentations gave staff the opportunity to talk to members of our community as well as peers regarding the Clackamas River Water Providers group and how we operate, where our water comes from, how we treat the river water for public use and why watershed protection and water conservation are so important. The goal of this program is to continue outreach to neighborhood associations, CPO's, local garden groups, or other civic groups interested in learning about where our water comes from, and how they can conserve water and protect our watershed. See [*Appendix L*](#) for the list of presentations completed.

Newsletters & Websites

CRWP staff continues to send CRWP public education and outreach member agencies articles and information throughout the year for their newsletters and websites. Topics ranged from general conservation, indoor conservation, to outdoor conservation tips watershed and water resource issues, as well as resources that are available through the CRWP such as the rebate program. In addition the CRWP has a quarterly e-newsletter that it distributes to CRWP members and interested parties, as well as being posted on the CRWP website. See [*Appendix M*](#) for an example of our quarterly E newsletter.

Conservation Outreach Materials

CRWP staff continues to develop outreach materials and use a number of promotional items with the CRWP logo and contact information on them such as seed cards, shower timers, indoor water audit kits and brochures. These were passed out to citizens at events, member offices and city halls, through the school programs, and mailed to customers upon request. A more detailed description of new outreach pieces created this past year are below.

Indoor Home Water Audit Kit

The Public Outreach and Education staff worked with a local designer to develop a Home Water Audit Kit. The kit consist of a shower and faucet flow meter bag, a drip gauge, toilet leak detection tablets, and a booklet providing the customer with all of the tools needed to determine their indoor home water use and to teach them how to manage their water more efficiently. See [*Appendix N*](#).

2015 Summer Brochure

The Public Outreach and Education staff developed a 2015 summer brochure focusing on outdoor water management. Members were encouraged to use the brochure as a bill

stuffer and/ or place the brochure on their individual websites. In addition 2000 brochures were printed for staff to hand out during the summer events and local Farmer's Markets. *See [Appendix O](#)*.

CRWP Stage Show Banners

This past year stage show performers were provided with a banner to set up during their shows highlighting the Clackamas River Water Provider members as sponsors of the show. The CRWP currently works with 3 different companies performing 5 different shows for the schools in our service areas. *See [Appendix P](#)*.

How Water System Work Booklet

In our continuing effort to educate the public on the value of water and how our water systems work a multipage booklet was developed to further expand on public water system operations. The booklet describes various programs and processes that help us move water from the source to the customer's tap.

See [Appendix Q](#).

Water Conservation Rebate Program

The CRWP public outreach and education program completed its 6th year administering the Water Conservation Rebate Program. The Rebate Program continues to be very popular with the CRWP customers. The Program offers a range of rebates to ensure that there is applicability to our vast range of customers. They consisted of a \$100 rebate for replacing old toilets with new High Efficiency Toilets (HET), a \$75 rebate when customers purchase a new Energy Star certified residential clothes washer, a \$50 rebate for hose bib timers and/or irrigation rain switch, and up to \$60 (20 per account at \$3 each) if customers replaced their old inefficient irrigation spray nozzles with efficient water conserving models. The program is marketed through the distribution of a brochure at CRWP member's offices, and at local Home Depots and Lowes, and to the public at summer events and farmer's markets, as well as through the CRWP website. Funds were depleted by June 2015. A total of 137 customers took advantage of the program. *See [Appendix R](#)*.

Conservation Related Committees

CRWP staff continues to attend meetings and represent the CRWP interests on a number of different public outreach and conservation related committees. These include the Regional Water Provider's Consortium Conservation Committee, the Children's Clean Water Festival Planning Committee, acting Co Chair of the Clackamas

County Water Education Team (CCWET), a member of the Clackamas Sustainability Cooperative, and a member of the PNWS-AWWA Conservation Committee and of the PNWS-AWWA Public Information Committee.

Staff is also a member of the Oregon Landscape Contractors Board and a long time member of the Oregon Landscape Contractors Exam Review Committee which is responsible for reviewing exams that Oregon landscape professionals are required to take for professional certification.

Appendix A - EcoBiz Outreach

ECOBIZ

Help Protect the Clackamas River

Nearly 300,000 people rely on the Clackamas River for drinking water. Please follow these common sense practices to protect our drinking water and improve the health of the river.

Smarter Landscaping

Reduce Chemicals & Fertilizers

Reduce or eliminate the use of herbicides and pesticides by pulling weeds manually or mechanically. If you need to spray, avoid rainy or windy days. When applying granular fertilizer, sweep up the excess so it doesn't go to the river when it rains.

Stormwater Management

When water on the ground enters the soil, that's called infiltration. To reduce the amount of chemicals entering our rivers and streams, slow down your stormwater and allow for infiltration. **Go the extra mile:** Install a rain garden or parking swale to treat the stormwater on-site.

Water Saving Plants

Replace turf with native or drought tolerant plants. If you keep a lawn, aerate to reduce runoff and allow the water to infiltrate into the soil.

Efficient Irrigation

Hire a qualified irrigation professional to help reduce overspray, prevent runoff, and install water saving devices, like Smart Controllers.

"Eco" Lawns

Utilize lawns with multiple plant varieties to save water and reduce chemical use. When properly maintained, eco lawns are an attractive alternative to traditional lawns.



Chemical & Waste Storage

Manage Storage Areas

To limit chemical discharges and reduce waste on your property, follow these best practices:

1. Sort and properly dispose of unneeded chemicals, equipment and waste. **2. Cover waste** stored outside, especially chemicals, scrap metal, and tires. **3. Add secondary containment** for tanks & drums over 50 gallons.



Report Spills

If you become aware of a significant spill or inappropriate discharge of wastewater into a storm sewer system, **contact Clackamas County Water Environment Services (WES) immediately at 503-742-4567** from 7:30 am-5:30 pm Monday through Thursday. After hours, call the county's dispatch center **503-655-8211** (*non-emergency number*) or **911** (*hazard/emergency*), and ask the dispatcher to notify WES.

Spill Kits & Plans

Place labeled spill kits where liquids are stored or transferred. Post a spill response plan outlining what to do in case of a spill. Contact mfrister@pprc.org to receive a free spill kit and sample spill plan.



Please try to avoid washing vehicles

Storm water systems in this area drain to the Clackamas River.

Avoid washing vehicles or equipment in parking lots or streets. Use a commercial car wash that recycles water.

To learn more, contact Mitch Frister with the Pacific NW Pollution Prevention Resource Center at mfrister@pprc.org. Visit www.ecobiz.org/landscapes to find Eco-friendly landscapers.

Spill kit photo reprinted with permission from New Pig Corporation. Landscape photos courtesy of Willamette Landscape Services, DeSantis Landscapes, & Landscape East & West



ECOBIZ Choose a certified landscaper

EcoBiz Certified Landscapers are dedicated to reducing or eliminating harmful pesticides, saving water, and finding the right plant for the right place. On your next project, choose an EcoBiz Landscaper to *help protect our air, water and local wildlife*. Visit www.ecobiz.org/landscapes to learn more.



Landscape Services

	DESIGN	INSTALL	MAINTENANCE	IRRIGATION	SPECIALTY
Ann Nickerson Landscape Design, Inc. 503-846-1352 - www.ann.nickerson.net	●				
Apogee Landscapes 503-312-1811 - www.apogeelandscapes.com	●	●	●	●	●
Baseline Landscapes 503-998-1155 - www.baselinelandscapes.com	●	●	●	●	●
Clean Air Lawn Care www.cleanairlawncareportland.com			●		
Collier Arbor Care 503-722-7267 - www.collierarbor.com			●		●
DeSantis Landscapes 503-639-0151 - www.desantislandscapes.com	●	●	●	●	●
Design Resource Group 503-421-9829 - www.drglandscaping.com	●	●	●	●	●
Donna Giguere Landscape Design 503-777-1177 - www.giguere landscapedesign.com	●				
Down to Earth Irrigation 503-723-6212	●	●	●	●	

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Landscape Services

	DESIGN	INSTALL	MAINTENANCE	IRRIGATION	SPECIALTY
Drakes 7 Dees Inc 503-256-2223 - www.drakes7dees.com	●	●	●	●	●
Eco-Logic Permaculture & Landscape Design 971-258-2867 - www.ecologiclandscape.com	●	●	●		●
Independence Gardens 503-929-7170 - www.independencgardenspdx.com	●	●	●		
Landscape East & West 503-256-5302 - www.landscapeeast.com	●	●	●	●	●
Pacific Landscape Management 503-648-3900 - www.pacscape.com	●	●	●	●	●
Rachel's Landscape Design 503-475-7286 - www.rachelslandscapedesign.com	●				
Rejuvenation Artisans Landscapes 503-774-1616 - www.rejuve.net	●	●	●		●
River City Gardens 503-293-6114 - rivercitygardens.com	●	●			
Seed Garden Designs 971-322-3191 - www.seedgardendesigns.com	●		●		●
Urban Ecosystems LLC 503-236-0213 - www.urbanecosystems.net	●	●	●		●
Willamette Landscape Services 503-625-9600 - www.willamettelandscape.com	●	●	●	●	●
Winterbloom, Inc 503-598-0219 - www.winterbloominc.com	●	●	●	●	

Updated April 2015. Photos provided by Landscape East & West, DeSantis Landscapes, and Willamette Landscape Services. EcoBiz is sponsored by:



Chinook Book Ads 2015/16



ECOBIZ

find auto shops & car washes
that protect our environment



ecobiz.org/auto

Sponsored by



ECOBIZ

find landscapers who
protect our environment



ecobiz.org/landscape

Sponsored by



Photo credits: Landscape East & West, Rejuvenation Artisans, and Willamette Landscape Services.

Appendix B - Septic System Workshop Postcard

***Don't miss out!
You have two chances to attend!***

Know Your Septic System

Check it, Fix it, Maintain it!

**Tuesday, April 7th
6:00 - 8:00pm
City of Damascus Council Chambers
19920 SE Highway 212
Damascus, Oregon 97089**

**Thursday, April 30th
6:00 - 8:00pm
Estacada Public Library
825 NW Wade St.
Estacada, OR 97023**

- **FREE** Workshop includes nitrate screening of well water.
- Clackamas Watershed attendees are eligible for \$200 Septic System Inspection Rebate.
- **Class size is limited, so registration is required.**

The workshop will cover:

- how septic systems work
- operation and maintenance
- signs of failure, codes, and permits
- financial and technical assistance

To register, contact Cathy at Clackamas County Soil and Water Conservation District (503) 210-6000 or cmqueeney@conservationdistrict.org

***Save time and money by
maintaining what you have!***

Sponsored by: Clackamas River Water Providers, Clackamas County Soil and Water Conservation District, Clackamas County, City of Damascus, and Oregon Department of Environmental Quality

Appendix C - Septic System Financial Assistance Brochure

Clackamas Water Providers Rebate/Cost Share Application Form

Name _____
 Address _____
 City _____
 State _____ Zip _____
 Phone _____
 Email Address _____
 Signature _____
 Date _____



Check box that applies:
 Septic System Inspection Rebate
 Septic System Repair Cost Share

To be considered for the rebate or cost share, the following three items must be received by the CRWP:

- Application Form (this page signed)
- Sale receipt/s or invoice/s (original or a copy)
- Copy of the existing System Evaluation Report or documentation that septic system repair work was completed.

Mail To:
 CRWP Septic System Assistance
 14275 S. Clackamas River Dr.
 Oregon City, OR 97045


Please cut on fold

The Clackamas River Water Providers
 (CRWP) is a coalition of municipal water providers that get their drinking water from the Clackamas River who are working together on water resource issues.


The purpose of the organization is to fund and coordinate efforts regarding source water protection and public outreach and education around watershed issues, drinking water, and water conservation, so that we can preserve the Clackamas River as a high quality drinking water source.

Funding for these programs is provided in part by the Clackamas County Soil & Water Conservation District (CCSWCD) and Water Environmental Services (WES).



Working together to protect and conserve our drinking water.

For more information
 Call or email **503-723-3510** or
 kims@clackamasproviders.org
 or go to
www.clackamasproviders.org



CLACKAMAS COUNTY SOIL AND WATER
CONSERVATION DISTRICT
 Good dirt. Clean water.

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.



Working together to protect and conserve our drinking water

Eligibility Requirements for Rate or Cost Share Programs:

- Your septic system must be located in the Clackamas River watershed and be up-stream of Clackamas River Water Providers drinking water intakes. If you are not sure your home is located within the watershed please call 503-723-3510.
- Homeowners must use a contractor that is on the Department of Environmental Quality's (DEQ's) approved Oregon Septic Smart Inspector list for septic system repairs and/or inspections. Go to the following list to find DEQ approved contractors:
www.oregon.gov/deq/WQ/Documents/Onsite/OSSInspectorList.pdf
- For repairs, check with Clackamas County WES to see if you will need a permit to conduct the repair work.
- If you have had your system inspected within the past three years are not eligible for the rebate program.
- Inspection and/or repair work has to have been completed within the last 6 months to qualify.
- For Rebate Program provide the CRWP with a receipt/invoice and copy of the DEQ's Existing System Evaluation Report for reimbursement.
- For Cost Share Program provide the CRWP with a receipt/invoice and documentation of the work completed for reimbursement.

The Clackamas River Water Providers (CRWP) have two different financial assistance programs available for Septic System owners who live within the Clackamas River watershed. Both programs have limited funds and are available on a first-come, first serve basis until funds are depleted.

Septic System Inspection Rebate

\$200 Existing System Evaluation/ Inspection Rebate - Inspecting your septic system is a good way to make sure your system is working correctly and to identify any problems before they get too big.

Typical gravity fed systems should be inspected at least every three years. Alternative treatment technology systems (ATTs) and sand filter systems should be inspected every year. The inspection should also include pumping of the tank as part of the inspection.

As of 2014, the Oregon Department of Environmental Quality requires the use of an Existing System Evaluation Report for septic system inspections. This new form helps to standardize the way in which septic system inspections are performed and reported and helps to make homeowners aware of all of the components of a comprehensive septic system inspection.

An inspection will provide you with legitimate information that can drastically reduce the risk of costly future septic expenses.

**Have questions?
Call 503-723-3510**

Septic System Repair Cost Share

The CRWP will reimburse 50% of the cost up to \$1,000 of necessary septic system repairs.

This is not intended for routine maintenance or pumping, nor for the wholesale replacement of a septic or dosing tank, drainfield, sand filter or alternative treatment technology system.

Repair Work that would qualify for cost share/reimbursement:

- Repairs to the existing septic tank and its components: lid, baffles, effluent filters, etc., including pump repair or replacement
- Repairs to an effluent sewer pipe, pressure distribution line, hydrosplitter, distribution box, drop box, and/or absorption facility

Repair work that is not covered by the program:

- Digging to locate the tank
- Installation of septic system risers
- Work tasks associated with digging up or removing structures that were built on top of the system (driveways, decks, etc.)
- Landscaping after work is complete
- The cost of any required septic permit
- Septic systems serving non-residential uses

Appendix D – Down the River Clean Up

Registration Open: Clackamas Down River Clean Up, Sept 7



Aug 4, 2014 by [LoveCleanRivers](#)

Happy August River Friends!

We Love Clean Rivers and Clackamas River Basin Council are excited to announce that [Pre-Registration](#) is now live for the 12th Annual Down the River Clean Up on the Clackamas to take place on Sunday, Sept 7th at Barton Park. Event Raft Rider spots are limited, and Private Boater POD spaces are first come first serve, so please sign up today [HERE!](#)

Key volunteers, such as [Material Recovery Leaders/Assistants](#), [Kayak POD Leaders](#), [Garbage Scows](#), and [Event Raft Captains](#), are still needed. If you'd like to sign up for one of these awesome, and very important roles, please email coordinator@welovecleanrivers.org with which role you'd like to do.

Complete event details, such as Day Schedule, Shuttle Schedule, Volunteer Waivers, Directions, Parking Vouchers and much more [can be found and printed in advance on our website here.](#)

We'd like to do a HUGE SHOUT OUT to all of our amazing [2014 event sponsors and in kind supporters](#) to date. This special event would not be possible without them; we are truly appreciative for their commitment to keep our rivers clean!!



Appendix E – Pesticide Reduction Workshops

Oregon State University, The Ohio State University, and USDA/ARS present

2014

COVERING YOUR ASSETS

Hands-on Workshop on Sprayer Calibration and Application Assessment

Wednesday, August 13, 3:00 pm - 9:00 pm

at

Hans Nelson and Sons Nursery

31020 SE Waybill Rd., Boring Oregon 97009-9427

- Learn about sprayer operation and care.
- Attendees will have an opportunity to learn both manual and electronic calibration in a hands-on setting with a variety of sprayers.
- Participants will be taught how to use calibration information to figure out optimal application volumes.
- Spray application evaluation techniques and software will be demonstrated in the field including how to use Deposit Scan, DRIFTSIM, water sensitive papers, fluorescent dye/black lights.



Photo Credit: Jason Faucera, Clackamas County SWCD

This is a two-part workshop starting with the afternoon sprayer overview and calibration workshop followed by the evening application assessment demonstrations. For registration information, [click here](#) or call: Jan Egli at (503) 678-1264, jan.egli@oregonstate.edu

Cost: \$20.00 (dinner included with registration). Pre-registration required.

We have applied for Pesticide License Recertification Credit Hours.

Oregon State University Extension Service offers educational programs, activities, and materials without discrimination based on race, color, religion, sex, sexual orientation, national origin, age, marital status, disability, and disabled veteran or Vietnam-era veteran status. OSU Extension Service is an Equal Opportunity Employer. Reasonable accommodations will be provided to those with physical or mental disabilities in order to attend Extension programs. Please contact the Extension office in advance to make arrangements.

Support provided by the Clackamas Basin Pesticide Stewardship Partnership



Save the Date!

Combining Effective IPM and Pesticide Risk Management in Nurseries

Save the Date!

Tuesday February 3, 2015 9:00 a.m. to Noon

Boring - Damascus Grange
27861 SE Grange St., Boring OR 97009

- Clackamas River Basin water monitoring update and compounds of concern
- Uses of pesticides of concern and available IPM alternatives
- Pesticide management checklists for decision-making and mitigating risk
- **Pesticide license recertification credit hours (3 credits) offered**
- Come early for a cup of coffee and a chance to network
- **Workshop is free!** (Doors open @ 8:30 a.m.)
Registration is recommended - so we have enough seats and snacks!
Call 503-210-6000 or e-mail cmcqueeney@conservationdistrict.org



You are invited!

Please join us for a discussion on nozzle technology and exploration of nozzle types that meet the needs of farmers to make efficient applications in a variety of conditions. Learn about a new program to financially assist Clackamas County growers in replacing the nozzles on their sprayer. Attendance is by invitation only!

*June 18, 2015
3:00 p.m. to 6:00 p.m.*

*GK Machine Inc has graciously offered to host this event at
10590 Donald Rd. NE
Donald, OR 97020*

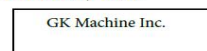
Marion Soil and Water Conservation District will provide food for this event.

WinField Solutions LLC will bring their sprayer booth to demonstrate spray patterns for various nozzles!

Do you know two growers in Clackamas County who would truly benefit from better spray nozzles? We need your expertise and help to reach growers who need support to replace their nozzles.

If you would like more information call Lisa at 503-210-6002 or lkilders@conservationdistrict.org

Your hosts for this event are Clackamas and Marion Soil and Water Conservation Districts, Clackamas River Water Providers, OSU Integrated Plant Protection Center, GK Machine and WinField Solutions, LLC



Windsock Program Flyer

Watch the Wind to Reduce Pesticide Drift

Since 2000, monitoring conducted by Oregon Department of Environmental Quality has detected pesticides in Clackamas River tributaries at concentrations that exceed benchmarks set to protect fish and invertebrates

Pesticides of concern include:

- bifenthrin: Capture 2EC, Brigade 2EC, Brigade WSB, Wisdom
- chlorothalonil: Bravo Weather Stik, Chloronil 720
- chlorpyrifos: Yuma and Lorsban Advanced
- oxyfluorfen: Goal2XL, Goal Tender

Pesticide Stewardship Partnership Monitoring Summary
- Clackamas River Watershed (February 2014)

To help agricultural producers apply pesticides without losing chemicals to drift from wind, Clackamas County Soil and Water Conservation District is offering calibrated windsocks

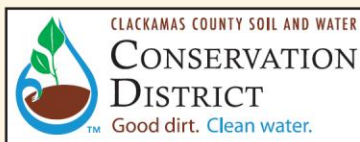


Windsocks are attached directly to the tractor for real time information to make quick, more accurate decisions on spraying practices for reducing drift



Windsocks are calibrated to indicate wind speed from 2 to 12 miles per hour

If you are a producer in Clackamas County and are interested in receiving a windsock for your sprayer, contact the District at 503-210-6000



Additional funding support provided by



Appendix F - Pesticide Reduction Outreach Program



This pictorial fact sheet was developed by the Clackamas River Basin Council and was made possible through funding from the Clackamas River Water Providers.



Clackamas River Basin Council: www.clackamasriver.org/community/fact-sheets

Clackamas Basin Pesticide Stewardship Partnership: www.oregon.gov/ODA/shared/Documents/Publications/PesticidesPARC/ClackamasPSPFactSheet112614.pdf

Appendix G - CRWP Schools

There are 41 schools in the Clackamas River Water Providers combined service area that were offered CRWP youth education programs. Below is a list of these schools.

City of Estacada Schools

- Clackamas River Elementary
- Estacada Jr. High School
- Estacada High School

City of Gladstone Schools

- John Wetten Elementary
- Kraxberger Middle School
- Gladstone High school

Oak Lodge Water District Schools

- Concord Elementary
- Candy Lane Elementary
- Jennings Lodge Elementary
- Oak Grove Elementary
- Riverside Elementary
- View Acres Elementary
- Rex Putnam High School

South Fork - Oregon City Schools

- Gaffney Lane Elementary
- Holcomb Elementary
- John McLoughlin Elementary
- Gardiner Middle School
- Oregon City High School
- Spring Water Environmental Sciences School
- Alliance Charter Academy

South Fork - West Linn Schools

- Bolton Primary
- Cedaroak Park Primary
- Sunset Primary
- Trillium Creek Primary
- Willamette Primary
- Rosemount Ridge Middle School
- West Linn High School
- 3 River Charter School

Sunrise Water Authority Schools

- Deep Creek Damascus K-8
- Lewis and Clark Montessori Public Charter School
- Happy Valley Elementary
- Mt. Scott Elementary
- Oregon Trail Elementary
- Spring Mountain Elementary
- Sunnyside Elementary
- Verne Duncan Elementary
- Scouters Mountain Middle School
- Rock Creek Middle School
- Happy Valley Middle School
- Damascus Middle School
- Clackamas High School

Appendix H – Youth Education Programs & Presentations

A total of **53** classroom presentations, assembly programs, and treatment plant tours were completed between October 1, 2014 and June 30, 2015 totaling about 7,143 students. Below is a breakdown of where these programs and presentations were completed. *This number does not include the number of children reached through the Children’s Clean Water Festival and the CCWET Celebrating Water Event; these events are listed at the bottom of the page with number of children reached.*

City of Estacada

Total # presentation = 0

City of Gladstone

Total # presentation = 18

Oak Lodge Water District

Total # presentations = 8

South Fork Water

Total # presentations = 4 Oregon City

Total # presentations = 7 West Linn

Sunrise Water Authority

Total # presentations = 16

22nd Annual Children’s Clean Water Festival

52 classes

21 Schools

34 presentations

15 exhibitors

3 stage shows

Total # of students = 1390

10th Annual Clackamas County Water Education Team Celebrating Water Event

18 classes

120 Adult chaperones

35 high school volunteers

18 exhibitors

2 stage shows

Total # of students = 540

Appendix H - continued

Youth Education Presentation Tracking				
Date	Location	Program	# of Students	District/Area
10/23/2014	Happy Valley Elementary	NCCWC Plant Tour	#35	Sunrise
10/6/2014	Happy Valley Elementary	NCCWC Plant Tour	#35	Sunrise
10/18/2014	Willamette Primary	Salmon Game	(2) #70	SF West Linn
12/3/2014	Cedar Oak Primary	Will Hornyak	#500	SF West Linn
12/15/2014	Gaffney Lane	Mad Science, "What DO You Know About H2O?"	250	SF Oregon city
12/17/2014	Riverside Elem	Salmon Game	(2) 70	Oak Lodge
1/12/2015	Happy Valley Elementary	Mad Science, "Where's The Water Watson?"	288	Sunrise
1/13/2015	Oregon trail Elem	Will Hornyak	#350	Sunrise
1/30/2015	Sunnyside Elem	Will Hornyak	#500	Sunrise
1/30/2015	Spring Mountain Elementary	Incredible Journey	(3) #105	Sunrise
2/9/2015	Kraxberger Middle	Source to the Tap	(4) #152	Gladstone
2/10/2015	Kraxberger Middle	Taste-imony to Tap Water	(4) #152	Gladstone
2/11/2015	Kraxberger Middle	Source to the Tap Taste-imony to Tap Water	(1) #38	Gladstone
2/12/2015	Kraxberger Middle	NCCWC Plant Tour	(2) #76	Gladstone
2/17/2015	Kraxberger Middle	NCCWC Plant Tour	(2) #76	Gladstone
2/20/2015	Oregon Trail Elementary	Mad Science "Where's the Water Watson?"	#600	Sunrise
3/2/2015	Candy Lane Elementary	Will Hornyak	#250	Oak Lodge
3/11/2015	Oregon Trail Elementary	Mad Science, "Where's the Water Watson?"	#288	Sunrise
3/30/2015	Riverside Elem	Mad Science, "What Do You Know About H2O?"	#250	Oak Lodge
3/30/2015	John Wetten Elem	Mad Science, "Where's the Water Watson?"	#250	Gladstone
3/31/2015	John Wetten Elem	Will Hornyak	500	Gladstone
4/14/2015	Willamette Preschool	"Water Cycle Play"	12	SF West Linn
4/14/2015	John Mcloughlin Elem	"Where the Water Watson?" Mad Science	#288	SF Oregon City
4/15/2015	Rex Putnam High	NCCWC Plant Tour	(3) #90	Oak Lodge

4/15/2015	John Mcloughlin Elem	Mad Science "What Do You Know About H2O?"	#288	SF Oregon City
4/17/2015	Spring Water Environmental	Will Hornyak	#100	SF Oregon City
4/21/2015	Oregon trail Elem KAP	Build Your Own Watershed	#25	Sunrise
4/21/2015	Scouters Mt. Elem	Mad Science	#200	Sunrise
4/24/2015	Willamette Primary	Mad Science "Where's the Water Watson?"	#250	SF West Linn
4/30/2015	Riverside Elem	Mad Science "Where's The Water Watson?"	#200	Oak Lodge
5/21/2015	John Wetten	Will Hornyak	(2) #400	Gladstone
5/26/2015	Verne Duncan Elementary	(1) Tours NCCWC	#35	Sunrise
5/26/2015	Mt. Scott Elem	Mad Science	#250	Sunrise
5/29/2015	Grace Christian School	Mad Science "What Do You Know?"	#30	Gladstone
6/2/2015	Willamette Primary	Treatment Plant Tours	(2) #70	SF West Linn
6/3/2015	Verne Duncan	Treatment Plant Tour	#35	Sunrise
6/4/2015	Verne Duncan	Treatment Plant Tour	#35	Sunrise

Appendix I - Mini Water Education Grants

Grants were issued to the following schools.

South Fork:

Willamette Primary-West Linn – (2) 3rd grade Teachers and (2) 5th grade Teachers

Sunrise Water Authority:

Happy Valley Elementary - (5) 4th/5th grade Teachers

Oak Lodge Water District:

Candy Lane Elementary - (3) 4th grade Teachers

Appendix J –2016 CRWP Children's Calendar

11 schools and 13 classes participated in the 2016 CRWP Children's Calendar coloring contest. Approximately 455 pictures were submitted. The following is a breakdown of which CRWP members schools participated in the calendar project.

South Fork Water Board

Holcomb Elementary (Oregon City)
John Mcloughlin Elementary (Oregon City)
Gaffney Lane Elementary (Oregon City)
Willamette Primary (West Linn)
Spring Water Environmental (Oregon City)

Sunrise Water Authority

Sunnyside Elementary (Happy Valley)
Happy Valley Elementary (Happy Valley)
Deep Creek Damascus K-8 (Damascus)
Verne Duncan Elementary (Happy Valley)

Estacada

Clackamas River Elementary

Gladstone

John Wetten Elementary

Appendix K – Community Events

CRWP staff participated in 20 Community Events throughout CRWP service areas between July 1, 2014 and June 30, 2015.

7/4/2014	Happy Valley 4 th of July Event	CRWP
7/12/2014	Estacada Farmers Market	CRWP
7/19/2014	West Linn Old Time Fair	CRWP
7/26/2014	Day In Damascus	CRWP
7/30/2014	West Linn Farmer's Market	CRWP
8/2/2014	Gladstone Cultural Festival	CRWP
8/12-17/2014	Clackamas County Fair	CRWP
8/23/2014	Oregon City Farmer's Market	CRWP
9/13/2014	Sunnyside Farmer's Market	CRWP
10/4/2014	CRWP Watershed Tour	CRWP
2/21/2015	Lewis & Clark Montesorri School Event	CRWP
3/21/2015	Exhibitor at the Annual Tree School, Clackamas Community College	CRWP
3/28/2015	Better Living Show	RWPC
4/10/2015	Children's Clean Water Festival	CRWP
4/17/2015	Clackamas County Water Education Team, Water Festival	CRWP
5/8/2015	Clackamas Community College Plant Sale	CRWP
6/6/2015	Estacada Farmer's Market	CRWP
6/20/2015	Candy Lane Event	CRWP
6/21/2015	West Linn Farmer's Market	CRWP
6/27/2015	Sunnyside Farmer's Market	CRWP

Appendix L – Adult Presentations

CRWP staff participated in and/or presented at, 11 adult presentations between July 1, 2014 and June 30, 2015.

7/21/2014	AIT Environmental Science class	CRWP
7/16/2014	RWPC TV Shoot Water Wise gardening	CRWP
8/14-15/2014	CCWET teacher Workshop	CRWP
9/16/2014	Oak Lodge Water Board Meeting	CRWP
10/20/2014	AIT Environmental Science class	CRWP
12/9/2014	Savanna Oaks Neighborhood Association meeting	CRWP
1/26/2015	Clackamas Community College YP Guest Speaker Event	CRWP
1/29/2015	AIT Environmental Science class	CRWP
2/6/2015	Stormwater Management Workshop Clackamas Community College	CRWP
6/16, 18/2015	PNWS AWWA Waterworks School Clackamas Community College	CRWP

Appendix M – CRWP Quarterly Newsletter



What's Inside:

- Weekly Watering P1
- Summer Gardens P1
- Stewardship P2
- Water System P2
- Conservation P3
- Interview P3
- Protection P4
- Rebates P5

Weekly Watering Number

The Regional Water Providers Consortium contracts with a weather forecasting service to provide a free weather forecast and Weekly Watering Number each Thursday (April - September). The Weekly Watering Number is based on historical data (evapotranspiration, rain fall, and other data points) from the previous week, but it is used to determine how much to water lawns and landscapes during the current week.

The Weekly Watering Number is the amount of water in inches that your lawn will need that week. You can also use the Weekly Watering Number for watering other types of plants, by using these general guidelines:

- **Shrubs:** 50% of the Weekly Watering Number
- **Perennials:** 50% of the Weekly Watering Number
- **Vegetables:** 75% of the Weekly Watering Number (new starts may require more water)
- **Trees:** Newly planted trees need regular watering for up to the first couple of years, while established trees may need a deep soak or two in summer.

Be sure to check with your local garden center or landscape professional for more specific information on how much water your plants needs. For more information about the Regional Water Providers Consortium and the current weekly watering number visit their website at www.conserveh2o.org.

Summer Gardening

Summer is here, and the garden is a perfect place to think about efficient water usage.

One of the most obvious ways to be water wise in the garden is to consider the method water is being delivered to the plants. Much of the water dispersed through sprinklers and hoses by enthusiastic gardeners evaporates before it ever reaches its intended source - thirsty roots. The two best ways to water a garden is by the use of drip irrigation and soaker hoses. These methods deliver water directly to the root zone of plants and minimize evaporation.

Drip irrigation is excellent for home use. This highly efficient watering method consists of a system of nozzles that deliver small quantities of water at low pressure directly to where it does the most good - the root zones of plants. Drip (or trickle) irrigation can save 30%-70% of the water used by overhead sprinkler systems.

A soaker hose is a canvas or rubber hose with perforations. It is most effective when it lies on top or slightly below soil level and mulch is placed over the soil and hose. You can install the hose in the spring and leave it in place all season.

Another important consideration is when to water. Heat and wind cause water to evaporate more quickly. By watering early in the morning, when the air is calm, evaporation is kept to a minimum, and results are the best. Watering in the evening is the next best.

Mulch and compost are two other components that can help conserve water. Mulch can serve as a ground cover that reduces water evaporation from the soil and reduces the number of weeds that would otherwise compete with the plant for available soil moisture. Peat moss, composted leaves (leaf mold), composted manure, composted kitchen vegetable scraps and grass clippings will all improve soil structure and enhance moisture-retaining capabilities.

Veggie Tips

Plant in blocks, rather than rows. This creates shade for roots and reduces evaporation. Control weeds that compete with vegetables for water. Group plants with similar water needs in the same section of the garden for easy irrigation. Cucumber, zucchini, and squash, for example, require similar water applications. Protect plants and soil from wind with windbreaks to reduce evaporation.

Christine Hollenbeck Public Education and Conservation Program Coordinator (503) 723-3511 christine@clackamasproviders.org
 Kim Swan Water Resource Manager (503) 723-3510 kims@clackamasproviders.org

Appendix N – Indoor Water Audit Kit

take a look

Saving Water Makes Cents!

home water audit kit

Clackamas River Water Providers (CRWP)
Encourages you to take a look at your home water system to identify ways you can conserve water and be more efficient with our precious water resource.

FOR MORE INFORMATION: To request free conservation devices for your home or for information on how to participate in our Conservation Rebate Program, please visit us at www.clackamasproviders.org or call **503-723-3511**.

PLEASE NOTE: This water audit is for indoor use only.

Members of the Clackamas River Water Providers:
Clackamas River Water, City of Estacada, City of Gladstone, City of Lake Oswego, Oak Lodge Water District, South Fork Water Board (Oregon City & West Linn), Sunrise Water Authority (Happy Valley & Damascus), and City of Tigard.

For Testing Home Water Use


This kit includes: Toilet leak detection tablets • Flow meter bag • Drip gauge

CRWP Public Education and Outreach Coordinator
14275 S Clackamas River Drive
Oregon City, OR 97045
503-723-3511
christine@clackamasproviders.org

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

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

Appendix O – Summer Brochure



**WATER LEAN.
GROW GREEN.**


The snowpack for our region this past winter was below average. But our rain fall in the spring was just about average. Water conservation is always important and becomes even more so as we move into warmer, drier months. The Clackamas River Water Providers will continue to provide tips on water conservation throughout the season. For more indoor/outdoor conservation tips visit our website at www.clackamasproviders.org

A HEALTHY GARDEN DOESN'T NECESSARILY NEED A LOT OF WATER.
By amending your soil, choosing the right plants for the right place, and watering properly, you could save hundreds or even thousands of gallons of water a year. Efficient outdoor watering saves you money and reduces your environmental impact.

ANYONE CAN WATER LEAN AND GROW GREEN.

As your water provider we value the wise and efficient use of water, one of our most precious natural resources.

Members of the Clackamas River Water Providers:
Clackamas River Water, City of Estacada, City of Gladstone, City of Lake Oswego, Oak Lodge Water District, South Fork Water Board (Oregon City & West Linn), Sunrise Water Authority (Happy Valley & Damascus), and City of Tigard.



Working together to protect and conserve our drinking water.

Clackamas River Water Providers
14275 S. Clackamas River Dr.
Oregon City, OR 97045
(503) 7233511
christine@clackamasproviders.org

WATER LEAN AND GROW GREEN WITH THESE SIMPLE TIPS

USE WATER WISELY

The greatest waste of water is watering too much, too often. Proper watering habits keep fertilizers and pesticides from running off into our streams and rivers.

- 💧 Prevent run-off by splitting your watering times into two applications with a break in between.
- 💧 Check your irrigation systems frequently for broken sprinkler heads, leaks and other problems.
- 💧 Water early in the morning or late at night to avoid excessive evaporation.
- 💧 Adjust your irrigation timer based on the weather. When automatic timers are set properly they can save water, money and time.
- 💧 Replace your lawn with low-water-use plants and/or hardscaped areas.
- 💧 The less water we use the more water we can leave in the rivers for fish.

CHOOSE THE RIGHT PLANT FOR THE RIGHT PLACE

Every plant has specific soil, water and light needs. Matching plant needs to different areas in your yard will foster better growth.

- 🌸 Choose plants adapted to your yard conditions.
- 🌸 Learn your yard's light exposure, soil types and naturally available water.
- 🌸 Group plants with similar needs together.
- 🌸 Explore drought-resistant plants; many look beautiful and need little supplemental water once established.
- 🌸 Choose native plants; they provide habitat for local wildlife and enhance our region's native character.

TAKE CARE OF YOUR LAWN

A healthy lawn needs less water, pesticides, and fertilizers. Typical Willamette Valley lawns need only 1 inch of water a week, unless it is extremely hot.

- 🌿 Aerate lawns in the early summer to allow water and air to reach the roots.
- 🌿 Water lawns 1 inch of water a week – add a bit more when the weather is unusually hot.
- 🌿 Mow high to shade roots from the sun and help retain moisture.
- 🌿 Mulch grass clippings to green up your lawn naturally.
- 🌿 Fertilizer organically to protect kids, pets, and the environment.
- 🌿 Skip the weed and feed products. Many of these can damage soil as well as pollute our waterways.

BUILD HEALTHY SOIL WITH COMPOST/SOIL AMENDMENTS

Healthy plants and lawns use less water and are more resistant to disease, pests, and the effects of drought. Healthy soil holds water like a sponge, slowly releasing moisture when plants need it most.

- 🌱 Adding amendments to improve soil encourages deeper root systems and will reduce water and fertilizer needs.
- 🌱 Avoid using pesticides and weed killer. They can harm worms and other soil organisms.
- 🌱 Spot-treat weeds or dig them by hand.
- 🌱 Take a soil sample to your local lab or county extension for a health analysis.
- 🌱 Healthy soil reduces runoff – and less runoff means less pollution and waste in streams and rivers.

Appendix P - Stage Show Banner

Welcome!
this water
PRESENTATION
is brought to you by:

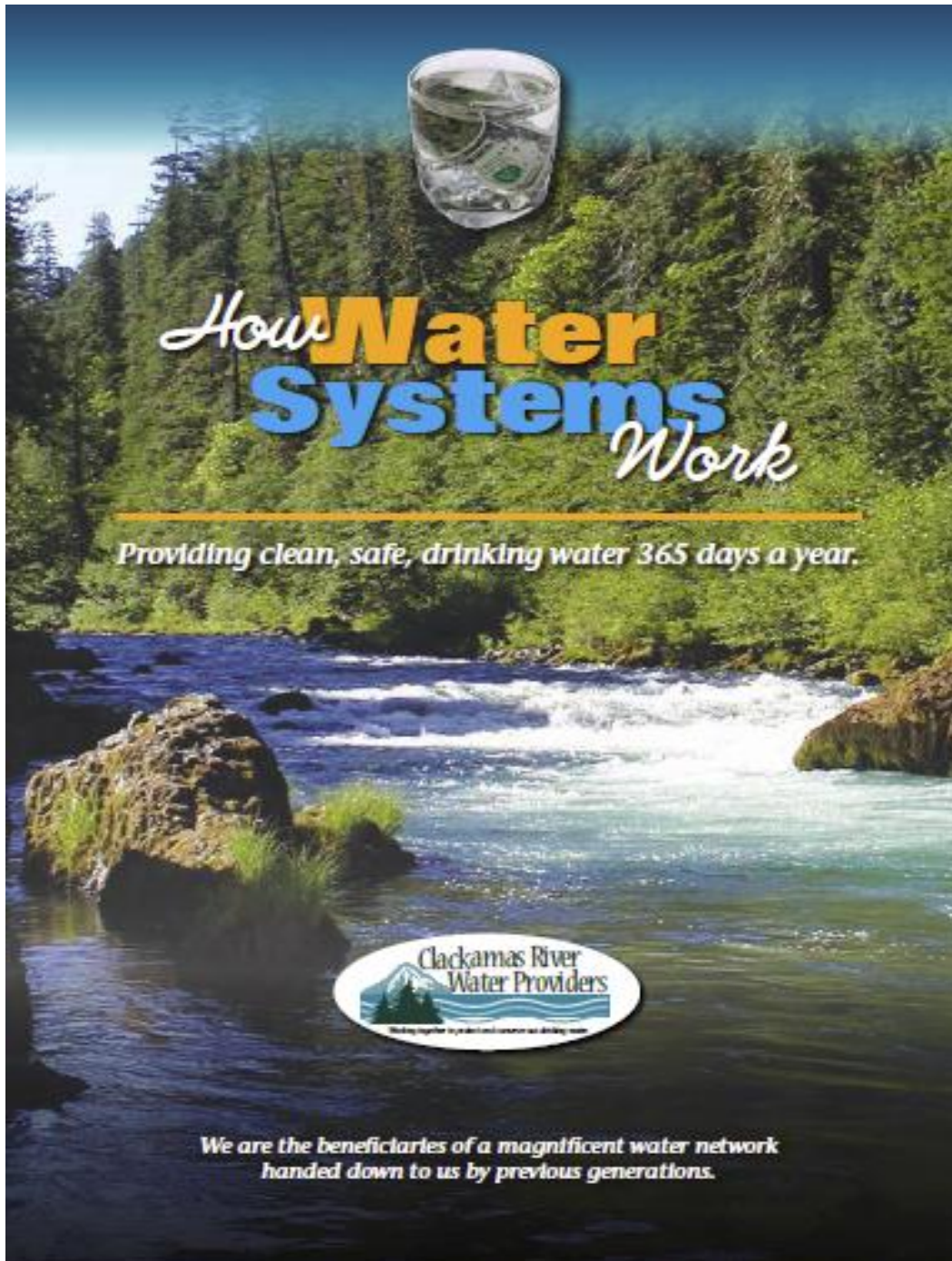
**Clackamas River
Water Providers**
We Work Together to protect and conserve our drinking water.

Protecting the Clackamas River is one of our top priorities. Maintaining the high quality of our drinking water source can help minimize future treatment costs, allowing us to keep the cost of water low while continuing to protect public health and safety.

Proud members of the CRWP:
Clackamas River Water, City of Estacada, City of Gladstone, City of Lake Oswego, Oak Lodge Water District, South Fork Water Board (Oregon City & West Linn), Sunrise Water Authority (Happy Valley & Damascus), and City of Tigard.

www.clackamasproviders.org

Appendix Q – How Water Systems Work Booklet



Appendix R - Conservation Rebate Program

The CRWP Rebate Program consisted of a \$100 rebate for replacing old toilets with new EPA High Efficiency Toilets (HET), a \$75 rebate when customers purchase a new Energy Star certified residential clothes washer, a \$50 rebate for hose bib timers and/or irrigation rain switch, and up to \$60 (20 per account at \$3 each) if customers replaced their old inefficient irrigation spray nozzles with efficient water conserving models. This past year 137 CRWP customers participated in the program.

City of Estacada

Toilet rebates = 1

City of Gladstone

Total rebates = 12

Toilet rebates = 9

Washing machine = 3

Oak Lodge Water District

Total rebates = 23

Toilet rebates = 13

Washing machine = 9

Hose timer = 1

South Fork Water

Oregon City = 33

Toilet rebates = 13

Washing machine = 19

Hose timer = 1

West Linn = 33

Toilet rebates = 23

Washing machine = 10

Sunrise Water Authority

Damascus = 4

Toilet rebates = 2

Washing machine = 2

Happy Valley = 31

Toilet rebates = 24

Washing machine = 4

Rain sensor = 2

Irrigation nozzle = 2