Clackamas River Water Providers

Working together to protect and conserve our drinking water.

Annual Report

For Fiscal Year 2013-14

September 2014

Annual Report

For Fiscal Year 2013-14

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 Tigard, City of Lake Oswego, 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) and 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 CRWP website continues to be updated on a regular basis. It includes information about CRWP members, our source water protection programs, and public outreach and water conservation programs, and is used as a tool for the Conservation Rebate Program.

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 FY 2013-14.

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), can help pinpoint changes in water quality based on land use in different part of the basin, or could 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/.

Macroinvertabrate 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 calls for sampling from the lower mainstem Clackamas River and its major tributaries once every year or two in order to produce a robust dataset necessary to identify changes in biological conditions when they occur. In September of 2013 the CRWP conducted it first round of macroinvertebrate sampling at six sites in the lower Clackamas River between river miles 0.5 and 25. Sites were selected to bracket the four drinking water points of diversion between river miles 0.8 and 3.1, the

Deep Creek subwatershed, and the cumulative impacts of the Estacada WWTP and River Mill Dam. A copy of this assessment can be found by going to http://www.clackamasproviders.org/images/stories/13-123_CRWP_Macros_FINAL_Rpt_12-18-13.pdf

Pollutant Load Modeling

In May of 2013 the CRWP hired Geosyntec to better understand the relative and cumulative impacts to the drinking water source quality from various land uses. To do this a pollutant load modeling tool (PLMT, or the "tool") was developed to readily assess baseline conditions and consider scenarios for management and risk reduction. The modeling tool will allow the CRWP to run "what if" scenarios associated with land use changes and their potential impact on drinking water, and evaluate the effectiveness of specific source protection projects. The project was completed in June of 2014.

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. Although, there was a small blue green algae bloom at North Fork Reservoir in August of 2013 the CRWP members did not need to test for toxins.

Herrera GIS Hazardous Material Spill Analysis

In the fall of 2013 the CRWP hired Herrera Environmental to complete a GIS risk analysis that looked at how hazardous material spills could affect drinking water quality in the Clackamas River watershed. The primary objectives of this analysis was to identify potential threats from accidental or intentional releases of dangerous or hazardous materials in the Clackamas River watershed focusing specifically on: transportation related spills, areas of historic and repeat spills, and facilities within the watershed with hazardous substance storage and/or potential contaminant sources. The final report can be found at http://www.clackamasproviders.org/images/stories/GIS_Hazardous_Materials_Risk_Analysis_Results_12102013-1.pdf

2013 319 grant for septic system monitoring

In the Fall of 2013 the CRWP received a $30,000 319 grant from DEQ. The purpose of this grant is to build off previous work with Clackamas Community College by providing the funding necessary to purchase equipment and reagents needed to complete a yearlong septic system water quality monitoring study in partnership with the College.

The purpose of this study is to:

- Identify sources of microbial contamination in the Clackamas River Watershed and determine their relative contribution (septic systems vs. agricultural).
- Establish a water quality baseline so that mitigation of septic system impacts could be tracked over time.
- Help determine best management practices to mitigate and reduce the influence of these kinds of contaminants.
- Provide students at CCC with valuable experience in watershed management, field and laboratory techniques.
- Educate community members living within the Clackamas River watershed regarding the results of this project as well as actions they can take to reduce contamination levels.

Education and Research Assistance

Clackamas Community College Interns

Staff from the CRWP and CRW continue to work with the Clackamas Community College's Water & Environmental Technology Program provide internship opportunities for CCC students to support CRWP related projects. This year the CRWP provided stipends to one intern winter term and to three interns spring term. The purpose of these internships was to develop standard operating procedures and protocols for the septic system monitoring program, so that the CRWP can understand the potential contribution of aging and failing septic systems to microbial contamination in the Clackamas River. In addition, one of the spring interns worked with the Public Outreach and Education coordinator helping to implement educational programs.

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 way's to better notify CRWP members of spills, overflows, or contamination events. In addition this is another tool to help educate and remind permitees that the Clackamas River is an important drinking water source.

EcoBiz 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 which developed and administers 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 FY 2013-14 fiscal year, CRWP funding helped pay for a large EcoBiz ad in the Chinook Book. The Chinook Book is a coupon book for local businesses in the Portland metro area that are do good things for the environment and the community.

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 2013 Annual Blue Green Algal Report, which included information on PGE's BGA Bloom Formation Study, as well as the results from the yearly monitoring program. The Blue Green Algae Team proposed a number of revisions to the Blue-Green Algae Monitoring Plan. These changes were filed with FERC. PGE's Mitigation Fund Committee did not meet this year.

Nonpoint Source Evaluation and Mitigation

SRF 2012 Drinking Water Source Protection Grant Implementation

In September of 2012 the CRWP received a $20,000 Drinking Water Source Protection Grant. The purpose of the grant was to address the potential risk that pharmaceuticals have for drinking water by using a two pronged approach. The first included the purchase and installation of Drug Drop Off Boxes around Clackamas County. The second included conducting septic system workshops and outreach because septic systems are also a potential pathway for pharmaceutical and personal care products to get into drinking water source water. This grant was implemented over two fiscal years.

Drug Drop Off Boxes – A total of five Drug Drop Off Boxes were purchased and installed around Clackamas County during FY 2012-13. In FY 2013-14 an additional 5,000 drug drop off brochures were printed and two more banners were created. In addition space was purchased for an article about the Boxes in the County's Good Choices Guide. The guide is published annually and is distributed to 26,000 Clackamas County residents. 20,000 copies are also distributed to Clackamas County Safe Communities, Providence Health Systems, OHSU, Think First Oregon, Doernbecher Children's Hospital and the North Clackamas School District. Information about the drug drop off boxes and a downloadable copy of the brochure can be found by going to http://www.clackamasproviders.org/water-resources/drug-take-back-boxes.html *See Appendix A*.

Septic System Workshops – A second Septic System workshop held on October 24, 2013 at the Estacada City Library was attend by 15 septic system owners and covered the same content as the workshop held in Happy Valley in April of 2013. The workshop was marketed by sending postcards to over 1300 septic system owners in the Clackamas River watershed that been identified as being high risk systems through the GIS Risk Analysis completed by the CRWP under a previous SRF grant. Press releases, partner websites, and local newsletters also helped to market the workshops. In addition, 3,000 more copies of the Septic System Maintenance brochure were printed and a new brochure "5 Things You Should Ask Before Buying a Home with s Septic System was created and 5,000 copies were printed for distribution. *See Appendix B*.

Septic System Financial Assistance Program

During the FY 2012-13 fiscal year, the CRWP worked with both the Clackamas County Soil & Water Conservation District and Water Environment Services to acquire funding from both of those organizations to implement a Septic System Assistance Program. Implementation of the program began during the winter of 2013 and a total of 14 $100 septic system inspections and/or pumping rebates were processed, and two $1,000 repair cost share check were processed. To be eligible for the program septic system owners had to live in the watershed upstream from CRWP drinking water intakes. *See Appendix C.*

Septic System Workshops for Realtors

CRWP and Water Environment Services staff gave a number of presentations (in February and June) to Oregon Realty realtors regarding septic systems, 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.

Down the River Clean Up Sponsorship

For the fourth 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 2013. This year's event, the 11th annual, attracted 355 volunteers and removed 3.11 tons of trash from the river. 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.

MS4 Pesticide Study Support

The new MS4 permit issued by ODEQ required Clackamas co-permittees to monitor stormwater for pesticide, specifying 16 compounds plus any pesticides currently used by co-permittees within the jurisdictional. These included 7 commonly used insecticides, 5 herbicides, and 3 fungicides. To meet this new requirement Clackamas MS4 co-permittees joined together to conduct a study with USGS to (1) Characterize pesticide concentrations in stormwater runoff from streams and stormwater outfalls in the areas covered by the Clackamas County MS4 permits; (2) Characterize pyrethroids and other current-use pesticide concentrations in streambed sediment during low-flow conditions and in sediments accumulated within stormwater outfall pipes; (3) Use GIS data to examine relations between urban land cover.

The CRWP contributed $10,000 in funding to expand the scope of this study by adding additional sample locations within the Clackamas River watershed. An interpretive report will be prepared by USGS during the 2014–15 federal fiscal year that describes the data collection, results including comparison of any pesticides detected in water versus sediment, evaluation of possible pesticide sources, and potential implications.

Pesticide Workshop for Nurseries

As part of a new Pesticide Efficiency and Integrated Pest Management program for Oregon nurseries, and the Pesticide Stewardship Partnership for the Clackamas Watershed (of which the CRWP is a member), a half-day workshop, on *Maximizing Pesticide Use Efficiency in Nurseries* was held in Boring at J. Frank Schmidt & Son Co. Nursery on February 20th. The Clackamas River Water Provides was one of the sponsors of this workshop. Over 55 people attended the workshop which covered options for increasing pesticide use efficiency, while reducing pesticide risks through

better pesticide selection, application management, and the use of forecasting tools while also reducing offsite losses to surface waters. *See appendix E*

Pesticide Reduction Outreach Program

For a sixth year the Clackamas River Basin Council (CRBC) has implemented a Pesticide Reduction Program on behalf of the CRWP. This year's program included two components: 1) creation of a new fact sheet for residential customers on how to dispose of pesticides, herbicides, and fertilizers, and 2) working with metro to hold a household hazardous waste event in Clackamas County. The event will take place on July 19, 2014. *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 December of 2013 the CRWP and staff from Water Environment Services, 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 committee and these meetings is to look at ways to prevent and respond to hazardous spills within the watershed. Most of this meeting was spent reviewing the Hazardous Materials Spill Risk Analysis Herrera had just completed for the CRWP. This included the purpose of the risk analysis, the analysis process, and the outcomes of the analysis, and how we can use this data in hazardous spill prevention efforts.

CRWP Emergency Table Top Exercise

In June of 2014 with funding provided by the EPA the CRWP hosted a Hazardous Material Spill Emergency Table Top Exercise. Over 40 people from CRWP member organizations, the Union Pacific Railroad, EPA, Clackamas County Public Health, Oregon Department of Environmental Quality, and a number of Clackamas County first responders participated in the exercise. The purpose of the exercise was to provide an opportunity for local, state, and federal agencies to explore the impacts of a train derailment incident and subsequent hazardous materials release into the Clackamas River. It was designed to build relationships between the railroad and responding and coordinating agencies, and provide a forum to better understand response capabilities

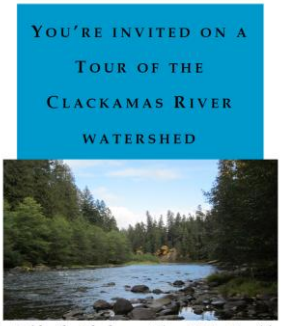
and opportunities to enhance coordination while protection our community's water supply.

Public Outreach and Information Sharing

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

Annual Watershed Tour

Each October the CRWP host a watershed tour for CRWP member elected officials and interested citizens. This year's tour focused on the upper Clackamas River watershed and included stops at PGE's North Fork Reservoir, and their new and improved juvenile and adult fish sorting facilities. Due to the Federal Government shut down the USFS was not able to participate as scheduled in the tour. Over 20 people participated in Tour including elected officials from the cities of Gladstone and Estacada, as well as officials from Oak Lodge Water District and CRW.



Hosted by the Clackamas River Water Providers

Other Water Resource Activities

Stored Water Agreement with PGE

The CRWP continues to implement the Stored Water Agreement with PGE, providing the CRWP 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 CRWP interests on a number of different water resource related committees. These include: the Oregon Water Utilities Council (Vice 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 all CRWP members with the exception of the 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 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.

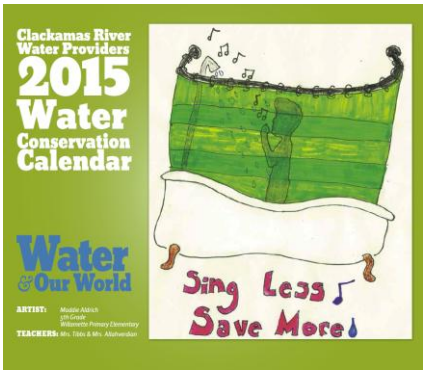
The CRWP programs are offered at no cost to the schools and range from classroom presentations done by staff, assembly programs performed by contractors, as well as education resources for teachers. A total of 93 classroom presentations and assembly programs were completed between July 1, 2013 and June 30, 2014 to approximately 8,436 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.

Mini Water Education Grants for teachers

The youth education program also offers Mini Water Education Grants to teachers. These $250 grants are intended to provide supplemental funding for water related

projects to encourage water education in the schools. We processed 5 grants for 10 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 were used to create a Water Conservation Calendar. The theme for the 2015 calendar was "Water and Our World" students were encouraged to create pictures depicting what they had learned about water and how it relates to us and our world. Eighteen classes from fourteen different elementary schools participated in the contest and approximately 600 pictures were submitted.

Each school that had at least one class participate in the contest receives 200 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.

In addition, for the 3rd year in a row the CRWP Children's calendar won the PNWS AWWA Excellence in Communication Award for a Large Utility, Print Communication.

Treatment Plant Tours

The Public Outreach & Education Program coordinates water treatment plant tours for the general public and CRWP member area schools. Tour participants are matched with tours of the treatment plant that their water comes from. This year nine tours of the North Clackamas County Water Commission and one of South Fork Water Board's treatment plant were given to schools from the City of Gladstone, City of Happy Valley, Oak Lodge Water District, and City of Oregon City area. 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.

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.

9th Annual Celebrating Water Event

CRWP Public Education & Outreach staff continued to serve as Co-Chair of the Clackamas County Water Education Team (CCWET) which hosted the 10th Annual Celebrating Water Event. This event held in April of 2014, had 24 exhibitors, two stage show acts, along with the assistance of 25 high school students who helped exhibitors and acted as classroom guides. Nineteen 4th/5th grade classes (665 students), 20 teachers and 130 adult chaperones from around Clackamas County participated in the event. This event provides the opportunity to teach kids about our water resources in a hands-on, fun and engaging environment. Like last year, this year another video was made by Clackamas County featuring the event.

Students at 9th Annual Celebrating Water Event

Community Events

The CRWP Public Outreach and Education staff participated in a total of 17 community events within the CRWP service area 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 conversation's 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 19 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 conservation 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. *See Appendix M* for an example of the CRWP 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 people upon request. In addition, this year a Community Water System poster was created to show a simplified illustration of how public water utilities work. Two models were purchased, a Water Cycle Model and a Groundwater Model. These interactive models demonstrates how the water cycle works and how water flows through the ground and how different land uses may affect the quality and quality of groundwater. A new CRWP banner highlighting CRWP members was created, and the conservation rebate brochure was updated to include the new washing machine rebate. *See Appendix N.*

Water Conservation Rebate Program

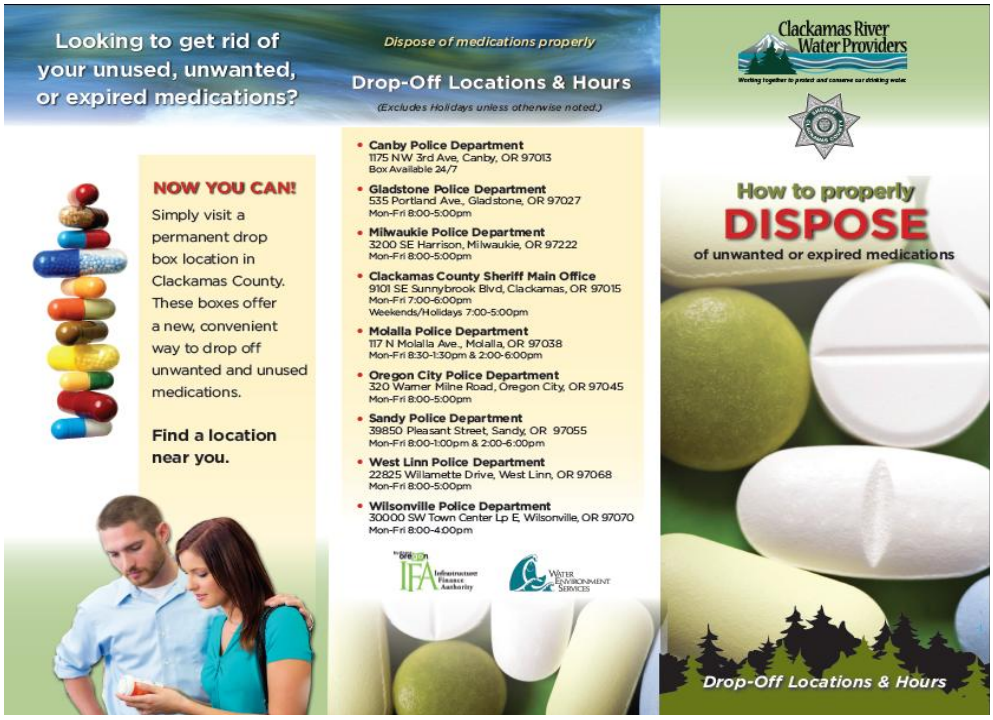
The CRWP public outreach and education program completed its 5th year administering the water conservation rebate program. The Rebate Program continues to be very popular with the CRWP customers. The Program offers a range of rebates to ensure that there is applicable to our vast range of customers. They consisted of a $100 rebate for replacing old toilets with new High Efficiency Toilets (HET), and a $50 rebate for hose bib timers and/or irrigation rain switch. Funds were depleted by May 2013. A total of 104 customers took advantage of the program. *See Appendix O*

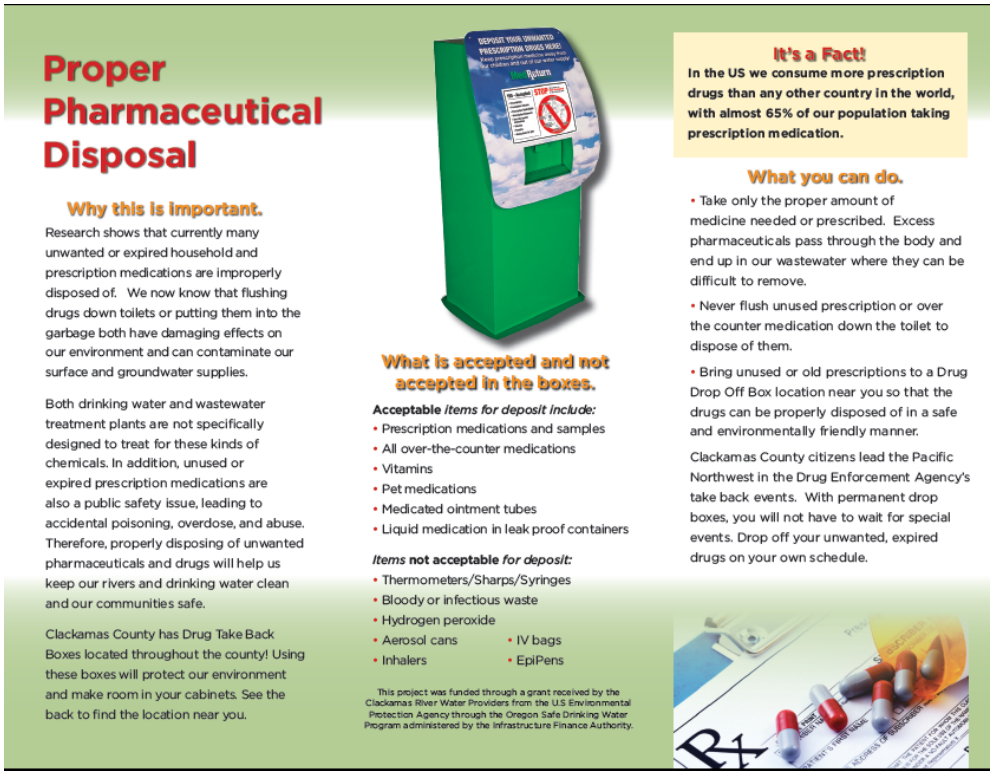
Conservation Related Committees

CRWP staff continues to attend meeting 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, acting Chair for the PNWS-AWWA Conservation Committee, a member of the PNWS-AWWA Public information Committee and Training Coordination committee.

Staff is also involved with the Lane Community College Water and Environmental Technology Advisory Committee, 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 – Drug Drop Box Outreach Brochure





Appendix B - Septic System Workshop Postcard

Septic System Maintenance Brochure

DO's:

- Learn the location of your septic system, drainfield and reserve area, and keep a sketch of it with the maintenance records.
- Have your septic tank inspected by a licensed Maintenance Provider
- Keep your septic tank cover accessible for inspections and pumping. Install risers if necessary.
- Keep detailed records of repairs, pumping, inspections, permits, and other maintenance activities.
- Conserve water to avoid overloading the system; stagger wash load days and repair any leaks.
- Divert other sources of water (roof drains, house footing drains, sump pumps) away from system.
- Contact a professional when you experience problems with your system.
- Obtain a permit from Clackamas WES for all repairs and alterations.
- Use household cleaners in moderation and follow directions on labels.

DON'Ts:

- Enter a septic tank; toxic gases are produced in the tank that can be deadly within minutes.
- Drive, park, or do any activity that will compact the soil on top of the system.
- Plant anything over or near the drainfield except grass. Roots can damage the drain lines, and trees may shade the drainfield. Excessive irrigation over or near the system may also cause damage.
- Dig into the drainfield or cover it with any hard surface or building.
- Repair your system without a required permit from Clackamas Water Environment Services.
- Use a garbage disposal, compost food waste instead.
- Use septic tank additives.
- Use your system as a trash can for grease, coffee grinds, cigarette butts, diapers, sanitary napkins, tampons, condoms, paper towels, plastics, cat litter, latex paints, pesticides, any hazardous chemical, or other non-biodegradable substance.

SEPTIC INSPECTION RECORDS

DATE	COST	MAINTENANCE PROVIDER	DESCRIPTION OF WORK

Water Environment Services
Beyond clean water. www.clackamas.us/wes

150 Beavercreek Road
Oregon City, OR 97045
(503) 742-4740
Fax: (503) 742-4599
www.clackamas.us/wes

Clackamas River Water Providers · Conservation District · IFA Infrastructure Finance Authority · DEQ State of Oregon Department of Environmental Quality

Onsite Wastewater Treatment Systems

Onsite wastewater treatment systems (also known as septic systems) are the most common wastewater treatment systems in rural, unsewered areas of Clackamas County. Septic systems require routine maintenance to keep them functioning properly.

How Septic Systems Work...

A typical septic system contains two major components: a septic tank and a soil drainfield. Here is how they work!

The septic tank:

- Removes solids, protecting the soil drainfield from clogging and resulting in premature failure of the onsite system.
- Digests a portion of the solids and stores the remaining portion. Up to 50% of the solids that remain in the tank decompose. The remaining 50% accumulate in the bottom of the tank (known as sludge.) When the level of sludge exceeds the tank's holding capacity, the sewage has less time to settle before leaving the tank. Eventually, the sludge rises to a level that allows solids to enter the drainfield, resulting in damage to the field and the need for extensive repairs.

The soil drainfield:

- Is located underground in an unsaturated soil area on your property.
- Further treats the effluent through physical, chemical, and biological processes. The field consists of a series of underground perforated pipes installed in a one-foot deep layer of washed gravel, synthetic media bundles. or a series of plastic chamber units.

How Septic Systems Work... continued

- Here in the drainfield, the effluent is distributed, stored, and ultimately applied to the soil for treatment. *After filtering through the soil, the effluent enters the groundwater table.*

Operation and Maintenance

Owners of onsite systems must operate and maintain their systems in compliance with all permit conditions and applicable requirements in this division and must not create a public health hazard or pollute public waters. *OAR 340-71-0130 General Standards, Prohibitions, and Requirements.*

Inspection is a must and pumping may be required to keep your system in good working order.

TYPE OF SYSTEM	RECOMMENDED FREQUENCY OF INSPECTION
Septic System with Gravity Distribution	**EVERY 3 YEARS**
Septic System with a PUMP to Gravity Distribution	**EVERY 3 YEARS*** *Effluent filter should be checked every year and cleaned as necessary
Septic System with Pressure Distribution including Sand Filters, Gravel Filters, and Pressure Beds	**ANNUALLY**
Septic Systems using Alternative Treatment Technologies	**All REQUIRE ANNUAL OR SEMI-ANNUAL INSPECTIONS.**

During the inspection, the licensed maintenance provider will determine if all the components of the septic system are properly working, (e.g. pumps, filter, floats, pressure lines, drainfield, etc.) The licensed maintenance provider will verify the need for septic tank pumping. This will be determined by measuring the depth of septic sludge and scum in the tank.

It is time to pump when...

If the total depth of sludge plus the scum is more than one-third of the total volume of the tank. For example, if the total length of the measuring tool is 60 inches, the tank should be pumped if the dark sludge portion plus the scum portion is over 20 inches.

Why should I maintain my system?

COST! Failing sewage systems are expensive to repair or replace. It typically costs between $3,000 to $20,000 or more to repair or replace a failing system with a new, onsite wastewater treatment system.

Do's and Don'ts of Septic Systems

The performance and life span of your septic system is directly dependent on how the system is operated and maintained. With proper care, a typical system should operate relatively trouble free for between twenty and thirty years or more. The list of do's and don'ts on the following page are vital to the long-term, efficient performance of your onsite wastewater treatment system.

5 Things You Should Ask Before Buying a Home with A Septic System

Why Understanding Septic Systems Is Important

Onsite wastewater treatment systems (septic systems) are the most common wastewater treatment systems in rural, unsewered areas of Clackamas County. There are over 9,000 septic systems in the Clackamas River watershed and many more in Clackamas County.

Proper, routine maintenance of septic systems plays a critical role in protecting our environment, water quality, the health of your family and the health of those who live downstream.

Failing septic systems can contaminate nearby surface and ground water and can end up being very costly to fix.

US Environmental Protection Agency

The homeowner is responsible for the operation and maintenance of their system. If the system fails, the owner pays for the repair or replacement.

So before you buy property with a septic system, understand how septic systems work and how to tell if it has been well maintained.

FOR MORE INFORMATION

For technical assistance or questions about septic system permits, call Clackamas County Water Environment Services/Soils at 503-742-4740.

For more information regarding Septic System Financial Assistance for home owners in the Clackamas River watershed, call 503-723-3510.

For more information about the Oregon Department of Environmental Quality (DEQ) Onsite Wastewater Management (septic system) Program, call 541-686-7905.

To locate a licensed septic service professional in your area, visit DEQ at http://www.deq.state.or.us/wq/onsite/sdssearch.asp. Make certain the contractor has been trained in inspecting existing systems (some licensed professionals only install new septic systems or pump tanks).

Learn about the rural lifestyle, visit the Clackamas County Soil and Water Conservation District online library at http://conservationdistrict.org/ or call 503-210-6000.

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

Your partners in clean water:

Clackamas River Water Providers

DEQ State of Oregon Department of Environmental Quality

Clackamas County Soil and Water Conservation District Good dirt. Clean water.

Water Environment Services

What you should ask before buying a home with a septic system

#1 How do you tell if the property has a septic system?

If you are unsure if there is a septic system on the property or not, some tell-tale signs are:

- the property has a well
- there is a waterline coming into the home, but there is no water meter
- the property's water bill has $0.00 in sewer amount charged
- the property doesn't receive a bill from Water Environment Services or your city

#2 Do the current owners have drawings/ plans of where the septic system is located?

The home should have an "as built" drawing showing where the septic system is located. You can also check the yard for lids and manhole covers. If drawings are not available, contact a septic system contractor to help you locate the system, or call Clackamas County Water Environment Services to see if they have old records on file. ***503-742-4740.***

US Geological Survey

You may also ask if the system was installed with a permit. If not, it may be a very old system or illegally constructed. You may be required to upgrade or replace the system in the future and you could be liable if the system fails or causes a threat to public health.

#3 Are there records of inspection and pumping of the septic system?

Check the records of past maintenance. This will help identify if potentially costly repairs will need to be made. Documentation of the system should include the following:

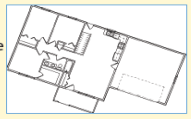
- Approximate age of the system
- Type of system
- Size of tank
- Type of tank material
- Condition and integrity of baffles
- Overall condition/integrity of tank
- Diagram of the location of the septic tank, distribution box, and drainfield (if possible) in relation to the house and rest of the property
- General site evaluation: any drainfield issues, ponding, odors, or other evidence of system failure
- Recommendations for any repairs needed
- Estimate of the next service date

#4 Is the system large enough and what type of yearly operation and maintenance of the septic system will be required?

Permit records usually indicate the size of the system in gallons per day and the drain field was likely based on the number of bedrooms. Every septic system has yearly maintenance costs. These costs vary depending on the system. If more people are using the system than originally intended, maintenance costs may increase. Note that Alternative Treatment Technology Systems are required to be under a maintenance contract throughout the life of the system. Make sure you understand the costs before you buy.

#5 Does the location of the septic system allow for future home/property improvements ?

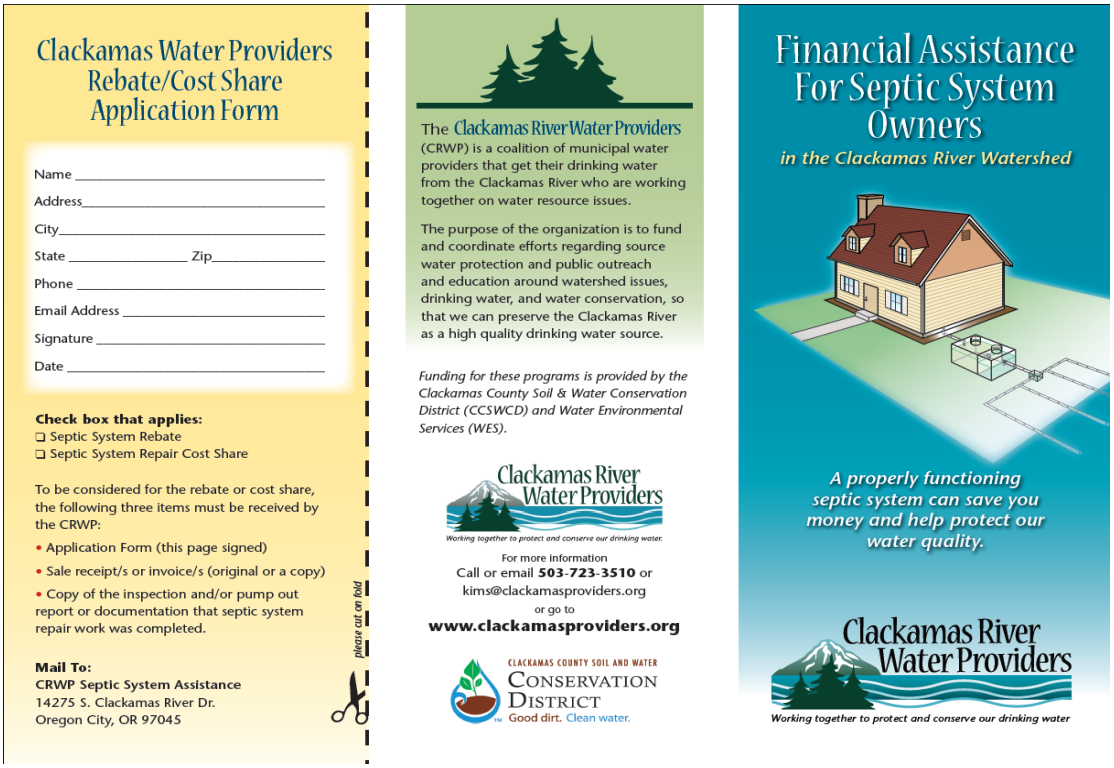
Consider future improvements you may want to make to the house or property such as decks, hardscapes, home additions, or new building on the property. Digging, planting, or the placement of hard surfaces over the drainfield of a septic system will damage or ruin the system, limiting what can be done on the property. Additions to the house may require a larger system and or drainfield. Note if there is a suitable area set aside for a replacement system should the current one fail—this "reserve area" cannot be built on.



If you think you are going to want make any changes to the property, check with Clackamas County Water Environment Services regarding rules and regulations.

Don't take chances, know before you buy!

Appendix C - Financial Assistance for Septic System Owners



Clackamas Water Providers Rebate/Cost Share Application Form

Name _____

Address _____

City _____

State _____ Zip _____

Phone _____

Email Address _____

Signature _____

Date _____

Check box that applies:
❑ Septic System 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 inspection and/or pump out 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 by the Clackamas County Soil & Water Conservation District (CCSWCD) and Water Environmental Services (WES).

Clackamas River Water Providers
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.

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

Eligibility Requirements for the Rebate 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 need to use a Department of Environmental Quality (DEQ) approved contractor. Go to the following link to find DEQ-approved contractors.

http://www.deq.state.or.us/wq/onsite/sdssearch.asp

- 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 systems inspected or pumped out within the past three years, you are not eligible for the rebate program.
- For rebates, provide the CRWP with a receipt and copy of the inspection/pump-out report for reimbursement. For Cost Share Program, provide the CRWP with a receipt 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 Rebates

CRWP is offering a $100 rebate towards the cost of a septic system inspection and/or pump-out.

The CRWP encourages homeowners to get full inspections done for their septic systems, including locating the distribution box and drainfield and determining whether these components are properly functioning.

However, if homeowners choose only to get their tank pumped, they should, at a minimum, ask for documentation of the following:

- Approximate age of the system
- Type of system
- Size of tank
- Type of tank material
- Condition and integrity of baffles
- Overall condition/integrity of tank
- Diagram of the location of the septic tank, distribution box, and drainfield (if possible) in relation to the house and rest of the property
- General site evaluation: any drainfield issues, ponding, odors, or other evidence of system failure
- Recommendations for any repairs needed and an estimate for the next service date

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 line, pressure distribution line, hydrosplitter, distribution box, drop box, and/or absorption facility

Repair work that is <u>not</u> 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

Have questions?
Call 503-753-3210

Appendix D – Down the River Clean Up

Appendix E – Pesticide Workshop for Nurseries

IPPC
integrated plant protection center

SAVE THE DATE for a NEW NURSERY WORKSHOP!

Reduce Waste and Save Money
Maximizing Pesticide Use Efficiency in Nurseries

February 20, 2014 10:00am – 3:00pm *Lunch Provided*	J. Frank Schmidt & Son Co. Conference Room 9500 SE 327th Avenue Boring, Oregon 97009

Learn more efficient and effective strategies and practical approaches to minimize pesticide waste and risks to surface and groundwater. This workshop will:

- Enable nursery managers and other professionals to enhance their knowledge and skills to increase pesticide use efficiency.
- Provide opportunities for cost savings, increased plant quality and lower risks, including surface water protection.
- Discuss pest and disease forecasting tools, and weather and sprayer adjustments. Offer interactive learning opportunities, access to innovative resources, and provide experience in the use of decision support tools.

There is no charge for the workshop. Please register at http://www.oeconline.org/nursery. Lunch will be provided if you register by February 10th. *Three ODA recertification credits have been requested.*

Brought to you by:

OSU Oregon State University

OREGON ASSOCIATION OF NURSERIES

oec Oregon Environmental Council It's Your Oregon

In Coordination with: Clackamas County Soil and Water Conservation District and Clackamas River Basin Council

With Financial Support by: USDA NIFA Extension-IPM, National Fish and Wildlife Foundation Governor's Fund for the Environment, and Clackamas River Water Providers

Appendix F - Pesticide Reduction Outreach Program

Think Smart About Pesticides

How to dispose of unwanted and outdated pesticides, herbicides, & fertilizers

Wondering what to do with those old and unused pesticides?

Chemicals in the Clackamas

Keep em' out! Pesticides are a concern in the Clackamas watershed. Water samples collected by the United States Geological Survey (USGS) between 2000-2005 and water quality monitoring by the Department of Environmental Quality (DEQ) since 2005 in the Clackamas River and its tributaries, have found pesticides present with some exceedances of water quality standards.

Pesticides enter and pollute our waterways through soil leaching, flooding, surface and groundwater runoff. These chemicals not only contaminate our drinking water but can also hurt non-target organisms such as plants, birds, beneficial insects, fish and other aquatic life. In addition, these substances can also interfere with the operation of our wastewater treatment systems. Proper use, handling, storage, and disposal of pesticides can reduce risks of contamination of our rivers, lakes, and even the air. Choosing safer alternative products whenever you can will help protect the health and safety of you, your family, and our natural areas. For natural gardening tips , visit: www.oregonmetro.gov/tools-living/yard-and-garden.

One of the easiest ways to safely dispose of pesticides is to use them up according to label instructions. Also, check your inventory before buying more to avoid excess product. If you have any leftovers, share them with friends, neighbors, or charitable groups. And don't keep pesticides more than two years old. For other ways to get rid of unwanted or outdated pesticides, **see reverse side for disposal resources**.

Hazardous Waste

We're all guilty of it — all those household products that pile up year to year under our sinks, in the garden shed, basement or garage. Yet these common products used in our homes and yards can harm people, pets, fish, wildlife and the health of our waterways. Many of these materials are considered Household Hazardous Waste (HHW) because they contain potentially dangerous chemicals that when disposed of improperly, can pose significant hazards to human health and the environment. These products will contain "signal words" on their labels such as: danger, corrosive, flammable, toxic, poisonous, combustible, or explosive. Reading labels before purchasing and using a product is essential.

Common hazardous products include:

- Pesticides, herbicides, fertilizers, and poisons
- Paints and stains
- Solvents and thinners
- Corrosives
- Fuels and propane tanks
- Automotive fluids and antifreeze
- Mercury-containing products (fluorescent light bulbs)
- Batteries
- Fire extinguishers
- Household cleaners and disinfectants
- Aerosol spray products
- Pool and spa chemicals
- Art and hobby chemicals
- Sharps (medical needle syringes)

All of the above types of hazardous materials and others should never be poured or dumped down the sink, into the toilet, on the ground, down a sewer or street drain, or put in your garbage can. Do not burn, bury, or mix.

Where to safely dispose of hazardous waste

Garbage, recycling, household hazardous waste (HHW) or organics can be taken year-round to Metro's hazardous waste facilities located at:

- **Metro South Transfer Station — 2001 Washington St., Oregon City**
- **Metro Central Transfer Station — 6161 NW 61st Ave., Portland**

Do not dispose of HHW at curbside!

For questions, call **Metro Recycling Information** at **503-234-3000**. Additional information, including fees can be found at www.oregonmetro.gov/tools-living/garbage-and-recycling. Also refer to the **"The Hazardless Home Handbook"** at http://library.oregonmetro.gov/files/hazardless_home_handbook_2006.pdf for helpful tips. If you live outside the Metro tri-county area, call **1-800-RECYCLE (1-800-732-9253)** about hazardous waste facilities or HHW collection events in your community. Contact your local garbage hauler, local government solid waste department, or DEQ.

Metro also hosts free household hazardous waste collection events from March through November across the Portland metropolitan area which includes communities in Clackamas, Multnomah, and Washington counties. Though there is no charge to bring toxic trash, there is a 35-gallon limit per load and no containers should be larger than 5 gallons. Materials should be prepared and transported properly (see below) to minimize risks to you and others from accidental spills or mixing of dangerous materials. More information, including a schedule of **Neighborhood Collection Events** can be viewed online at www.oregonmetro.gov/tools-living/garbage-and-recycling/neighborhood-collection-events.

How to prepare hazardous materials

Keep products in original containers with labels intact or label contents yourself to ensure that materials are safely and correctly disposed of by staff. Products should never be mixed as dangerous reactions can occur between materials. Prevent leaks and spills by sealing all containers. To properly seal, use a secondary leak-proof container to secure a leaking container. Do not use plastic bags. When transporting, store materials away from the driver, passengers, or pets. Use sturdy boxes to pack containers in the trunk of your vehicle. (Note: containers , boxes, and gasoline cans will not be returned to you).

Round up those pesticides & fertilizers for proper disposal!

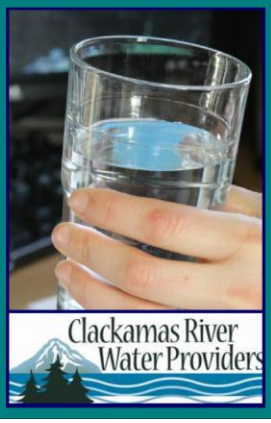
Disposal of household pesticides and fertilizers

Pesticides (insect, rodent and weed killers, and fungicides): If not banned, expired, or restricted (check with OSU County Extension Office), the best way to dispose of pesticides is to use them up or give away to a responsible party. Empty pesticide containers can be triple–rinsed with water (if made of plastic or glass or with plastic foil liners). Use the rinse water that now includes pesticide residue as regular strength pesticide and refer to label directions. After wrapping the empty container in newspaper, dispose of in the garbage. Unwanted pesticides should be taken to a hazardous waste facility or collection event.

Fertilizers (chemical): It's best to use up or give away. If a fertilizer does not contain pesticides (does not say "weed" or "weed killer" anywhere), empty containers or packaging can be disposed of in the garbage. Leftover fertilizers can be placed in a heavy-duty plastic bag before disposal. Follow pesticide directions above for fertilizers that contain pesticides.

Clackamas River Basin Council

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



Resources and References

Clackamas County
http://www.clackamas.us/recycling/
Clackamas County Soil and Water Conservation District (SWCD)
www.conservationdistrict.org
Clackamas River Basin Council
www.clackamasriver.org
Environmental Protection Agency (EPA)
http://www.epa.gov/pesticides/
Metro
http://www.oregonmetro.gov/tools-living
National Pesticide Information Center at Oregon State University
http://npic.orst.edu/
Oregon Department of Agriculture
http://www.oregon.gov/ODA/PEST/pages/disposal.aspx
Oregon Department of Environmental Quality (DEQ)
http://www.deq.state.or.us/lq/sw/hhw/index.htm
Oregon State University County Extension Office
http://extension.oregonstate.edu/

Appendix G – CRWP Schools

There are 40 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 Elementary
- 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 Program & Presentation

A total of **93** classroom presentations and assembly programs were completed between July 1, 2013 and June 30, 2014 totaling 8,428 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 = 2

City of Gladstone
Total # presentation = 17

Oak Lodge Water District
Total # presentations = 11

South Fork Water
Total # presentations = 23 Oregon City
Total # presentations = 7 West Linn

Sunrise Water Authority
Total # presentations = 33

Children's Clean Water Festival
52 classes
22 Schools
36 presentations
14 exhibitors
3 stage shows
Total # of students = 1465

Clackamas County Water Education Team Celebrating Water Event
19 classes
130 Adult chaperones
25 high school volunteers
24 exhibitors
2 stage shows
Total # of students = 665

Appendix H - continued

Youth Education Presentation Tracking				
Date	**Location**	**Program**	**# of Students**	**District/Area**
7/19/2013	Village Green Park Happy Valley	Mad Science "What Do You Know About H2O?"	#300	Sunrise
7/22/2013	Oak Grove Elementary	Mad Science "What Do You Know About H2O?"	#100	Oak Lodge
9/18/2013	Clackamas High School	NCCWC Plant Tour	#35	Sunrise
9/19/2013	Clackamas High School	NCCWC Plant Tour	#35	Sunrise
10/1/2013	Oregon Trail	Non-Point Source Model	(3) 4th grade classes #105	Sunrise
10/18/2013	Candy Lane Elem	Will Hornyak	#310	Oak Lodge
10/22/2013	Gardiner Middle School	Non-Point Source Model	(3) 6th grade classes #105	SF Oregon City
10/24/2013	Gardiner Middle School	Water Treatment Model	(3) 6th grade classes #105	SF Oregon City
10/24/2013	Sunset Elem.	Will Hornyak	#350	SF West Linn
11/4/2013	Happy Valley Elementary	Salmon Game	(2) 4th/5th grade classes #76	Sunrise
11/5/2013	Clackamas River Elem.	Will Hornyak	#275	Estacada
11/7/2013	Happy Valley Elem.	NCCWC Plant Tour	#35	Sunrise
11/12/2013	Gardiner Middle School	Non-Point Source Model	(3) 6th grade classes #105	SR Oregon City
11/14/2013	Gardiner Middle School	Drinking/waste water Model	(3) 6th grade classes #105	SF Oregon City
11/14/2013	Concord Elem.	Will Hornyak	#400	Oak Lodge
11/18/2013	Willamette Primary	Will Hornyak	#600	SF West Linn
11/15/2013	Oregon Trail Elementary	Will Hornyak	#250	Sunrise
12/10/2013	Clackamas River Elementary	Mad Science, "Where's The Water Watson?	#288	Estacada
1/7/2014	John McLoughlin Elem.	Recycleman	#250	SF Oregon City
1/9/2014	John McLoughlin Elem	Incredible Journey	(4) 2nd Grade #140	SF Oregon City
1/16/2014	Cedaroak Park Elem	Mad Science	#60	SF West Linn
1/27/2014	Holcomb Elem	Where's Rosie	#40	SF Oregon City

1/28/2014	Oregon trail	"Where the Water Watson?" Mad Science	#76	Sunrise
2/11/2014	Clackamas High School	CRWP Staff talk about Public water and Watershed	(2) Science Classes #65	Sunrise
2/18/2014	Spring Mt. Elem	Incredible Journey	(2) 3rd grade #76	Sunrise
2/25/2014	Scouters Mt. Elem.	Mad Science	#156	Sunrise
2/25/2014	Riverside Elem	"Where's Rosie?"	#76	Estacada
2/28/2014	Concord Elem.	Mad Science	RWPC #100	Oak Lodge
3/4/2014	Spring Water Environmental	Mad Science	#100	SF Oregon City
3/6/2014	Oak Grove Elem.	Mad Science	#140	Oak Lodge
3/12/2014	Kraxberger Middle	Source to the Tap	(4) 6th grade #152	Gladstone
3/13/2014	Kraxberger Middle	Taste-imony to Tap Water	(4) 6th grade #152	Gladstone
3/18/2014	Concord Elem.	South Fork Water Board Tour	#38	Oak Lodge
3/20/2014	Holcomb Elem.	Recycleman	(2) shows #300	SF Oregon City
3/31/2014	Kraxberger Middle	Taste-imony to Tap Water and Source to the Tap	(2 presentations) One 6th grade class	Gladstone
4/7/2014	Grace Christian School Gladstone	Mad Science "Where's the Water Watson?"	RWPC #100	Gladstone
4/8/2014	Jennings Lodge Elem.	Will Hornyak	#405	Oak Lodge
4/8/2014	Kraxberger Middle	(2) Tours NCCWC	#72	Gladstone
4/14/2014	?" John Wetten Elem.	"Where's Rosie?"	(3) shows #105	Gladstone
4/15/2014	Kraxberger Middle	Tour NCCWC	#38	Gladstone
4/17/2013	Rex Putnam	Tours NCCWC	(3) classes #114	Oak Lodge
4/23/2014	Deep Creek Elem.	Mad Science "Where's the Water Watson?"	#120	Damascus
4/23/2014	Spring Mt. Elem.	Recycleman	#350	Sunrise
4/29/2014	Scouter's Mountain	Will hornyak	#400	Sunrise
4/30/2014	Springwater Environmental	Recycleman	#200	SF Oregon City
5/2/2014	John Wetten Elem.	Mad Science	#150	Gladstone
5/13/2014	Willamette Primary	Source to the Tap	(2) Presentations #76	SF west Linn
5/15/2014	Willamette Primary	Non-Point Source model	(2) Presentations #76	SF west Linn

5/29/2014	Mount Scott Elem.	Rainstick	(2) Presentations #76	Sunrise
6/3/2014	Mount Scott Elem.	Mad Science "What Do You Know About H2o?"	#190	Sunrise
6/5/2014	Vern Duncan Elem.	Rainstick	(5) presentations #190	Sunrise
6/6/2014	Rock Creek Middle	Forest To the tap & Water Talk	(6) presentations #228	Sunrise

Appendix I - Mini Water Education Grants

Grants were issued to the following schools.

South Fork:
Willamette Primary-West Linn – (3) 5th grade Teachers
Willamette Primary-West Linn – (2) 4th grade Teachers

Oak Lodge Water District:
Concord Elementary – (1) 2nd/3rd grade Teacher
Candy Lane-(3) 4th grade Teachers

Sunrise Water Authority:
Happy Valley Elem. -(1) 4th grade Teacher

Appendix J –2015 CRWP Children's Calendar

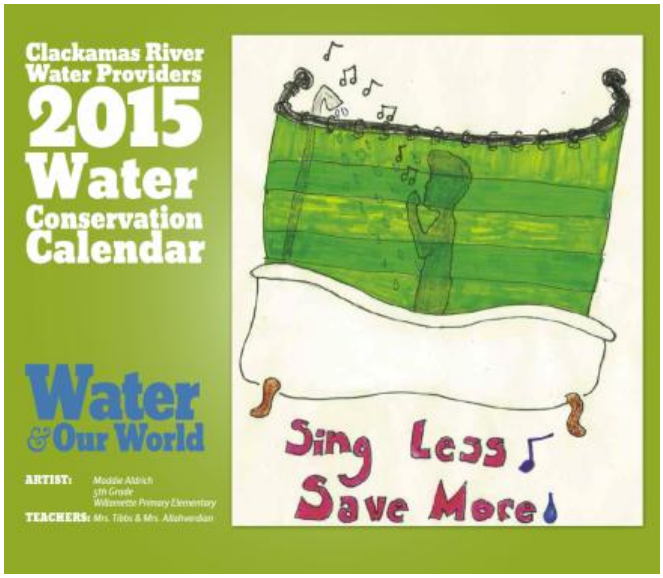
14 schools and 18 classes participated in the 2015 CRWP Children's Calendar coloring contest. Approximately 600 pictures were submitted. The following is a breakdown of which CRWP members schools participated in the calendar project.

South Fork Water Board
Holcomb Elementary (Oregon City)
John Mcloughlin Elementary (Oregon City)
Gaffney Lane Elementary (Oregon City)
Willamette Primary (West Linn)

Sunrise Water Authority
Spring Mountain (Happy Valley)
Sunnyside Elementary (Happy Valley)
Happy Valley Elementary (Happy Valley)
Oregon Trail Elementary (Happy Valley)
Scouters Mountain (Happy Valley)
Vern Duncan Elementary (Happy Valley)

Oak Lodge Water District
View Acres Elementary
Concord Elementary
Candy Lane elementary

Estacada
Clackamas River Elementary



Appendix K – Community Events

CRWP staff participated in 17 Community Events throughout CRWP service areas between July 1, 2013 and June 30, 2014.

7/4/2013	Happy Valley 4th of July Event	CRWP
7/20/2013	West Linn Old Time Fair	CRWP
7/27/2013	Day In Damascus	CRWP
8/3/2013	Damascus Farmers Market	CRWP
8/8/2013	Gladstone Festival	CRWP
8/12-18/2013	Clackamas County Fair	CRWP
8/24/2013	Estacada Farmers Market	CRWP
9/8/2013	CRBC Down the River Clean Up	CRWP
10/5/2013	CRWP Watershed Tour	CRWP
10/6/2013	CRBC Shade Your Stream Event	CRWP
11/2/2013	Oak Lodge Sanitary Water Shed Event	CRWP
3/1/2014	Yard Garden and Patio Show, Regional Water Providers booth	RWPC
3/22/2014	Exhibitor at the Annual Tree School, Clackamas Community College	CRWP
4/2/2014	Children's Clean Water Festival	CRWP
4/15/2014	Clackamas County Water Education Team, Water Festival	CRWP
5/3/2014	Oregon City Pioneer Family Festival	CRWP
6/14/2014	CRBC Tour the Clackamas	CRWP

Appendix L – Adult Presentations

CRWP staff participated in and/or presented at 19 adult presentations between July 1, 2013 and June 30, 2014.

7/29/2013	AIT Environmental Science class	CRWP
7/31/2013	AIT Environmental Science class	CRWP
7/31/2013	RWPC TV Shoot Water Wise gardening	CRWP
8/21-22/2013	CCWET teacher Workshop	CRWP
9/9/2013	City of Estacada City Council Meeting	CRWP
9/11/2013	PNWS AWWA Southern Oregon Sub section Short School (2) Presentations	CRWP
10/14/2013	AIT Environmental Science class	CRWP
10/15/2013	AIT Environmental Science class	CRWP
1/27/2014	AIT Environmental Science class	CRWP
1/29/2014	AIT Environmental Science class	CRWP
2/20/2014	Pest management Workshop, Boring Or	CRWP
2/26/2014	Oregon Association of Clean Water Agencies, "Communicating the Value of Water" presentation	CRWP
4/21/2014	AIT Environmental Science class	CRWP
4/24/2014	AIT Environmental Science class	CRWP
5/27/2014	Oregon City Optimist Club	CRWP
6/17&19/2014	CCC AWWA Short School (3) Presentations	CRWP

Appendix M – CRWP E Newsletter

CRWP Spring/Summer 2014

Great Reasons to Start Saving Water!

Help keep the environment clean by saving water and energy at home.

Using less water means using less electricity, natural gas or oil required to heat the water and release less pollutants into the air from burning fossil fuels. Less water means less sewage and saving more on the sewage bill, or savings on septic tank maintenance and prolonging the life of the drain field.

By using less water development of new water sources to meet community demands may be reduced or eliminated. High-quality surface and groundwater sources are becoming harder to find at reasonable cost.

•Upgrades to public water facilities i.e., treatment. storage, and distribution systems may be delayed.

•Public water operations that depend on demand (pumping and chemical costs, for example) may be reduced.

•Using less water could hold down utility rate increases by allowing your water utility to maximize productivity of its existing treatment facilities and equipment.

To make conserving water even easier the Clackamas River Water Providers have free indoor and outdoor Water Conservation information, booklets, calendars and tools.

Learn more, by visiting the Clackamas River Water Providers website at http://www.clackamasproviders.org or contact the Water Conservation Program Coordinator at christine@clackamasproviders.org or (503) 723-3511.

Inside this issue:

Clackamas River Water Providers Mini Irrigation System Audit

Most automated in-ground irrigation systems cannot provide enough water to operate all the sprinkler heads at once. For this reason the system is separated into two or more "zones." Each zone operates independently and is turned on and off by a timer called the "controller."

1. Turn on the water supply to the system.
2. Using the controller, cycle each zone and observe the sprinkler heads.
3. Turn off the system.
4. Repair, replace, or adjust any sprinkler heads that are broken or spraying water where they shouldn't (like on the sidewalk or driveway).
5. Trim any grass or shrubs that deflect the spray of water from the sprinkler heads.
6. Set tuna-sized cans every three feet over the entire lawn.
7. Turn on the system.
8. Run each zone for exactly 5 minutes. If water begins running off the lawn before the 5 minutes are up, note how much time has elapsed.
9. Measure the water in each can, and record the measurements.

•If the amount of water in each can is nearly the same, pick up the cans and proceed to the next step.

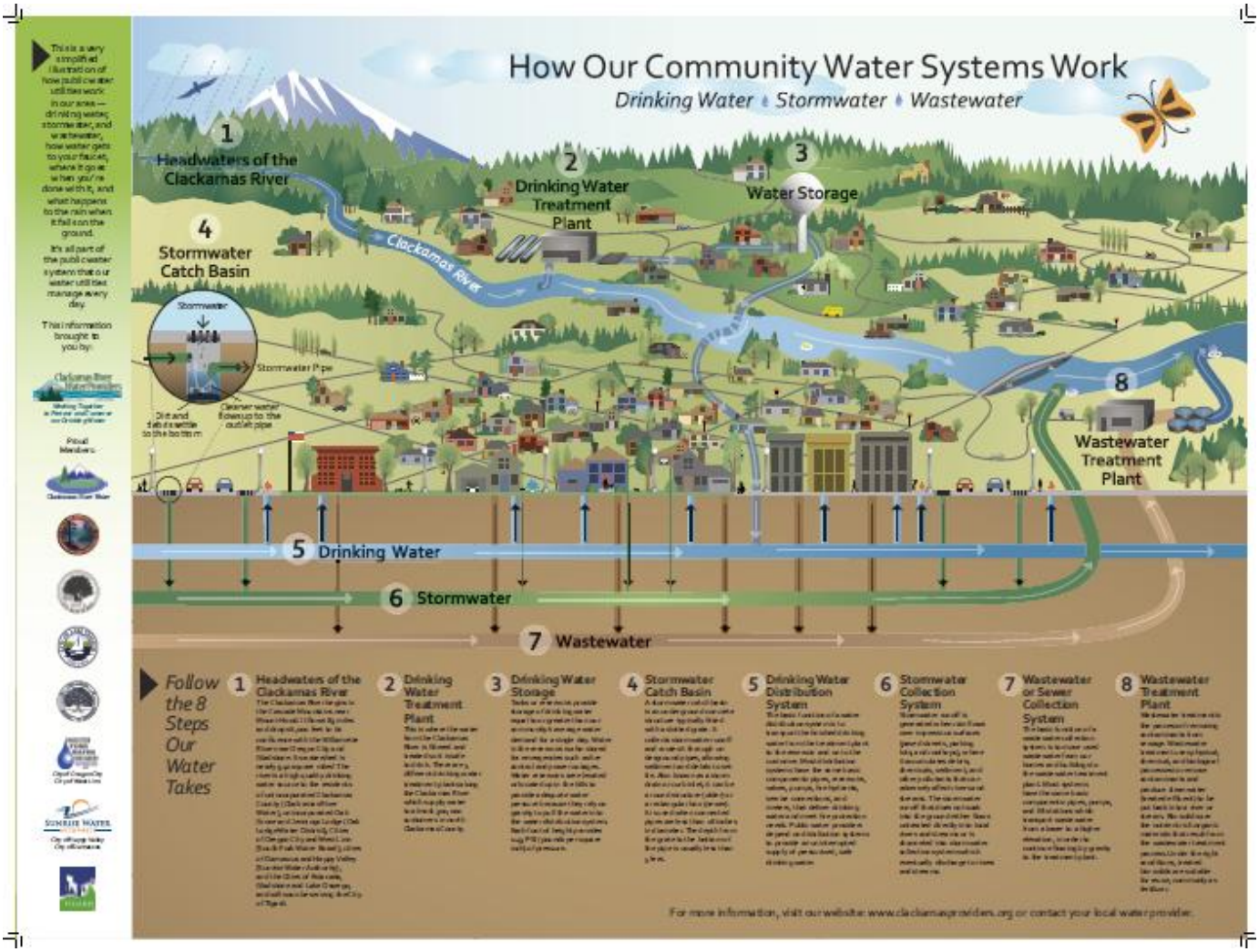
•If the amount of water in each can

For more information Contact us:

•Christine Hollenbeck
Public Education and Conservation Program Coordinator
(503) 723-3511
christine@clackamasproviders.org

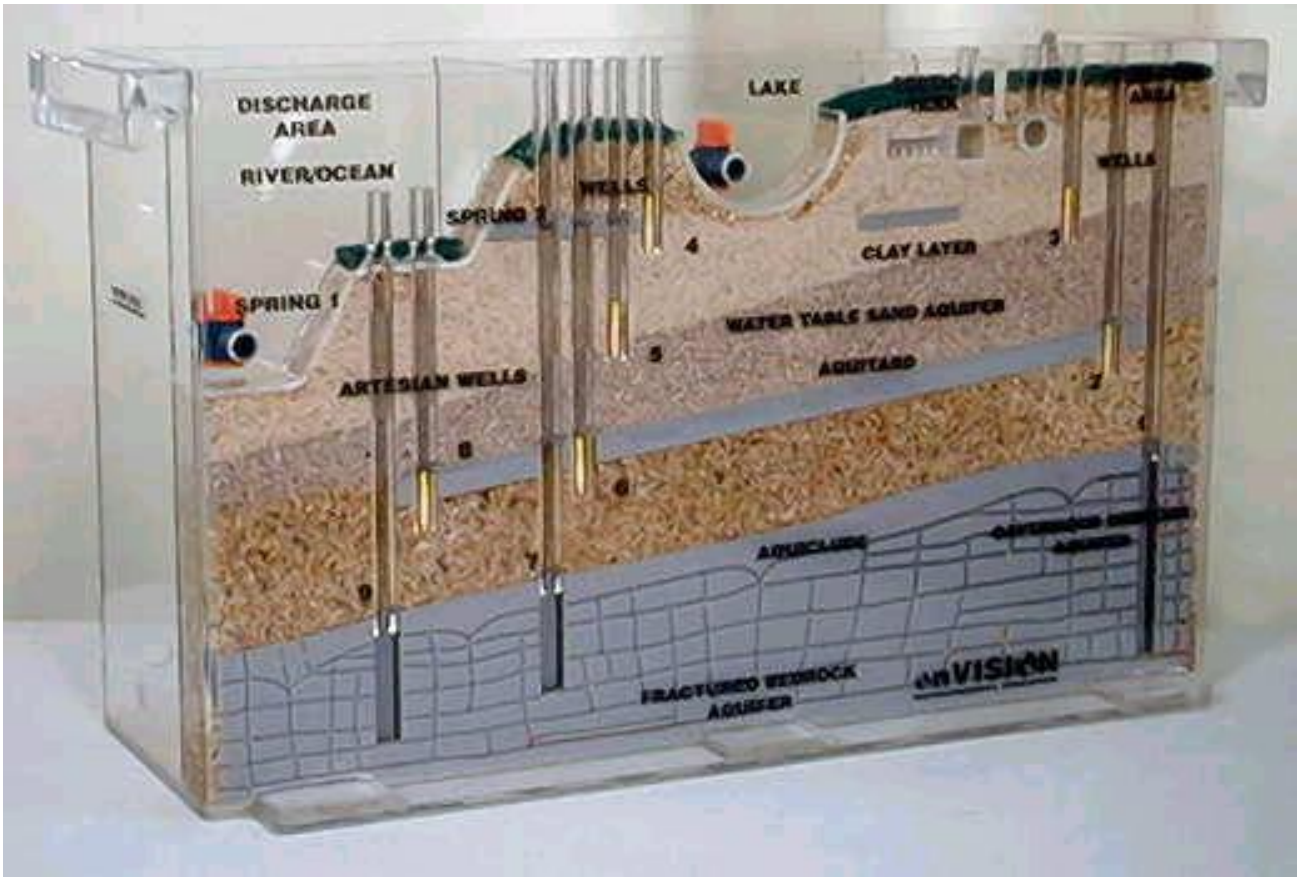
•Kim Swan
Water Resource Manager
(503) 723-3510
kims@clackamasproviders.org

Appendix N
Community Water Poster

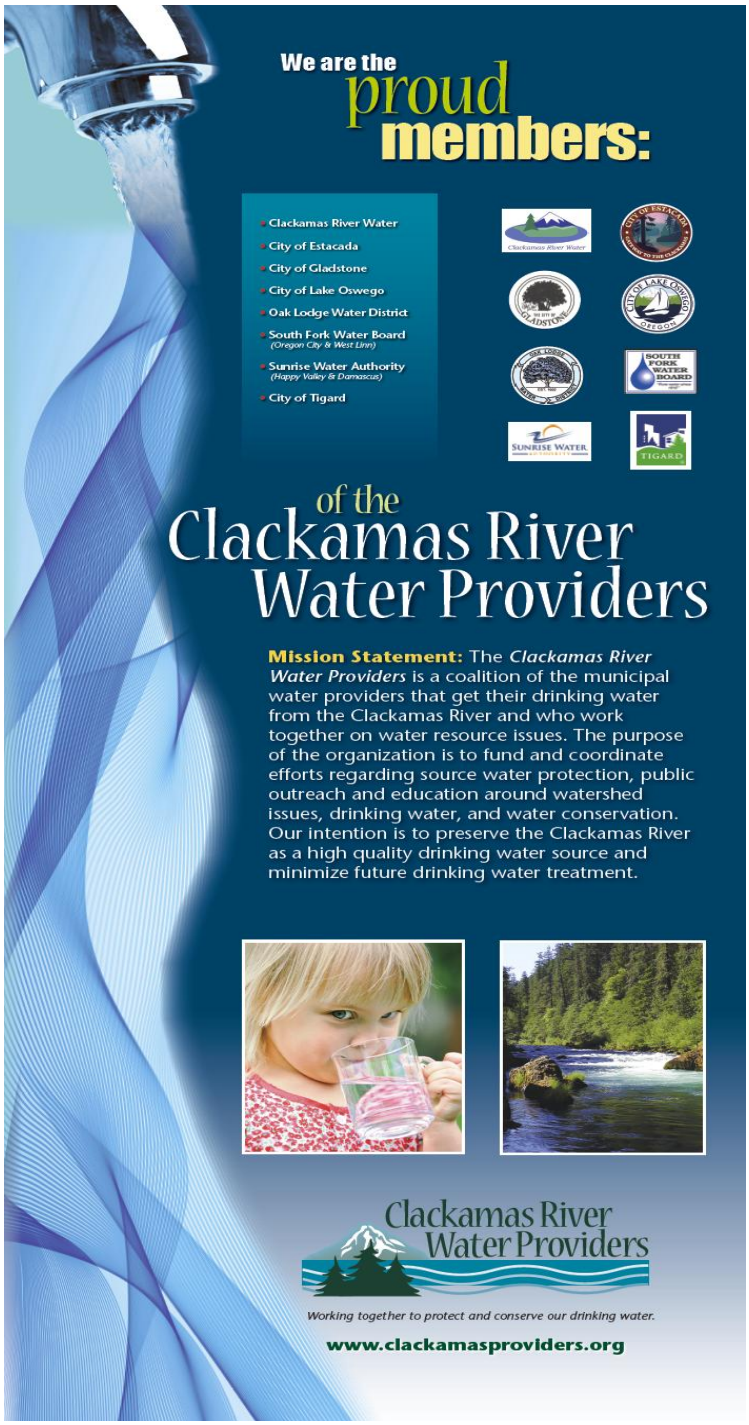


Appendix N
Water Cycle Model

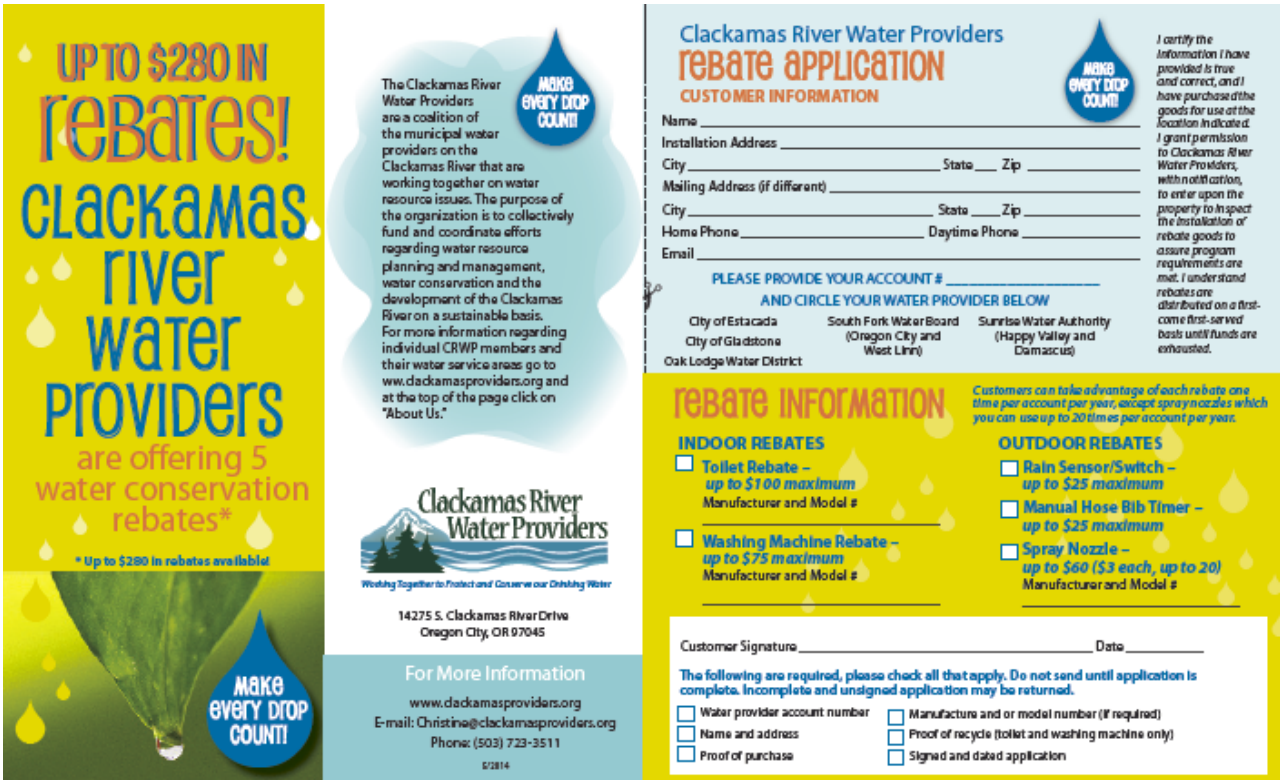
Appendix N
Ground Water Model



Appendix N
CRWP logo Banner



Appendix N
Rebate Brochure Update



UP TO $280 IN rebates!

Clackamas river water providers

are offering 5 water conservation rebates*

* Up to $280 in rebates available!

Make every drop count!

The Clackamas River Water Providers are a coalition of the municipal water providers on the Clackamas River that are working together on water resource issues. The purpose of the organization is to collectively fund and coordinate efforts regarding water resource planning and management, water conservation and the development of the Clackamas River on a sustainable basis. For more information regarding individual CRWP members and their water service areas go to ww.clackamasproviders.org and at the top of the page click on "About Us."

Clackamas River Water Providers

Working Together to Protect and Conserve our Drinking Water

14275 S. Clackamas River Drive
Oregon City, OR 97045

For More Information

www.clackamasproviders.org
E-mail: Christine@clackamasproviders.org
Phone: (503) 723-3511

5/2014

Clackamas River Water Providers

rebate application

CUSTOMER INFORMATION

Name _____

Installation Address _____

City _____ State ___ Zip _____

Mailing Address (if different) _____

City _____ State ___ Zip _____

Home Phone _____ Daytime Phone _____

Email _____

PLEASE PROVIDE YOUR ACCOUNT # _____

AND CIRCLE YOUR WATER PROVIDER BELOW

City of Estacada
City of Gladstone
Oak Lodge Water District
South Fork Water Board (Oregon City and West Linn)
Sunrise Water Authority (Happy Valley and Damascus)

I certify the information I have provided is true and correct, and I have purchased the goods for use at the location indicated. I grant permission to Clackamas River Water Providers, with notification, to enter upon the property to inspect the installation of rebate goods to assure program requirements are met. I understand rebates are distributed on a first-come first-served basis until funds are exhausted.

rebate information

Customers can take advantage of each rebate one time per account per year, except spray nozzles which you can use up to 20 times per account per year.

INDOOR REBATES

☐ Toilet Rebate – *up to $100 maximum*
Manufacturer and Model # _____

☐ Washing Machine Rebate – *up to $75 maximum*
Manufacturer and Model # _____

OUTDOOR REBATES

☐ Rain Sensor/Switch – *up to $25 maximum*

☐ Manual Hose Bib Timer – *up to $25 maximum*

☐ Spray Nozzle – *up to $60 ($3 each, up to 20)*
Manufacturer and Model # _____

Customer Signature _____ Date _____

The following are required, please check all that apply. Do not send until application is complete. Incomplete and unsigned application may be returned.

☐ Water provider account number
☐ Name and address
☐ Proof of purchase
☐ Manufacture and or model number (if required)
☐ Proof of recycle (toilet and washing machine only)
☐ Signed and dated application

Saving Water = Saving Money!

Up to $280 in savings each year!

INDOOR REBATES – 2 CHOICES!

We're offering 2 choices in indoor rebates. Customers can take advantage of each rebate one time per year per account.

1 WASHING MACHINE

Up to $75 rebate – 1 per account. Model # required.

- Machines being replaced must be Energy Star certified residential clothes washers

2 TOILET REBATE

Up to $100 rebate – 1 per account. Model # required.

- When you replace a toilet that uses 1.6 gallons per flush (gpf) or more with a new WaterSense® certified HET toilet.

For a complete list of eligible toilets: www.epa.gov/watersense/product_search.html

OUTDOOR REBATES – 3 CHOICES!

We're offering 3 choices in outdoor rebates. Customers can take advantage of each rebate one time per year per account, except spray nozzles which you can use up to 20 times per account per year.

3 RAIN SENSOR/SWITCH:

Up to $25 rebate – 1 per account
Temporarily shuts off your automatic irrigation system when it rains.

4 MANUAL HOSE BIB TIMER:

Up to $25 rebate – 1 per account
Never forget to turn off water!
Automatically turn off sprinklers at pre-set times.

5 SPRAY NOZZLES:

Up to $60 rebate – 20 per account at $3 each maximum. Model # required.
Replace inefficient pop-up spray nozzles with efficient water conserving models.

Approved Makes and Models: (Please check appropriate box)

- Hunter MP Rotator: Model 1000 ☐ 2000 ☐ 3000 ☐
- Rainbird Rotary Nozzles: Model R13-18 ☐ R17-24 ☐
- Toro Precision Series (Rotary): Model PRN ☐
- Toro Precision Series (Sprays): Model PSN ☐
- All others must be of similar function and equal or exceed performance of pre-approved models to be considered.
- Make: _____
  Model: _____

rebate eligibility requirements

Applicant *must* meet the following criteria

For a full list of eligibility requirements please visit www.clackamasproviders.org/water-conservation/conservation-rebates/rebate-eligibility-requirements.html

- You must be a Clackamas River Water Providers single-family residential customer or a small business (50 employees or less) which owns its own site.
- You must receive water from one of the following water providers:
  - City of Estacada
  - City of Gladstone
  - Oak Lodge Water District
  - South Fork Water Board (Oregon City and West Linn)
  - Sunrise Water Authority (Happy Valley and Damascus)

  and your account must be active and in good standing.
- The application must be received within 3 months of purchase.
- A copy or original of the dated sales receipt (or invoice) that specifies the brand/model must be included with the rebate form. The brand/model purchased must match the qualifying item exactly.
- The HET 1.28 (gpf) toilet you purchase must be WaterSense® labeled. For a complete list of eligible toilets, visit: www.epa.gov/watersense/product_search.html
- For HET toilet rebates, the toilet brand/model must match the eligible model list exactly. Tank and bowl numbers cannot be mixed and matched from different models – they have been tested in specific combinations for performance and efficiency.
- For a complete list of eligible Washing Machines, visit: www.energystar.gov/productfinder/product/certified-clothes-washer.
- You must recycle your old toilet (and/or) washing machine. Visit our website at www.clackamasproviders.org for a recycling site near you. There may be a nominal fee. A copy of the receipt is required to be eligible.
- Rebate items must be installed at the property associated with your water account.
- Rebates are available on a first-come, first-served basis. The program will end when funds are depleted. The total rebate per item will not exceed the receipt amount.
- Prior to approval, an on-site inspection may be required by CRWP.

Appendix O – Water Conservation Rebate Program

The CRWP water conservation rebate program consists of two rebates. One for up to $100 rebate for replacing old toilets with new HET toilets, two, up to a $50 rebate for hose bib timers and/or rain sensors. 104 CRWP customers participated in the program.

City of Estacada
Total rebates = 4

City of Gladstone
Total rebates = 13

Oak Lodge Water District
Total rebates = 13

South Fork Water
Oregon City = 18
West Linn = 26

Sunrise Water Authority
Damascus = 4
Happy Valley = 24
Clackamas = 2