



Rockwood Water People's Utility District

Water Quality Report

2010



WE ARE PLEASED TO PRESENT OUR ANNUAL WATER QUALITY REPORT FOR 2010.
Our water supply continues to meet all state and federal regulations.

Drinking Water Sources & Protection

Since the early 1900s, it has been our mission to deliver high quality water to our customers. We currently provide water from multiple sources: the City of Portland's Bull Run Watershed; the City of Portland's Columbia South Shore Well Field; and our own Cascade Well Field.

THE BULL RUN WATERSHED is located in the Mt. Hood National Forest. The watershed is only used for producing drinking water. Federal laws restrict public entry. No recreational, residential, or industrial uses occur within its boundaries. Current regulations, and the availability of the Columbia South Shore Well Field, allow the City of Portland to meet federal drinking water standards without filtering this high-quality Bull Run water supply.



The Portland Water Bureau has completed a Source Water Assessment for the Bull Run water supply to comply with the 1996 Safe Drinking Water Act amendments. The only known contaminants of concern for the Bull Run water supply are naturally occurring microbial contaminants such as *Giardia lamblia*, *Cryptosporidium*, fecal coliform bacteria, and total coliform bacteria. These organisms are found in virtually all freshwater ecosystems and are present in the Bull Run supply at very low levels. The Bull Run supply complies with all applicable state and federal regulations for source water, including the 1989 Surface Water Treatment Rule filtration-avoidance criteria. The Source Water Assessment report is available at www.portlandonline.com/water/swa and by calling 503-823-7404.

THE COLUMBIA SOUTH SHORE WELL FIELD provides high-quality drinking water from groundwater production wells located in three different aquifers. In 2010, the City of Portland supplemented the Bull Run drinking water supply with approximately 28 million gallons of groundwater over a 6-day period beginning on August 9th. This was done as part of a groundwater maintenance exercise. Portland actively protects its well field and manages programs to prevent groundwater pollution. To learn more about Portland's wellhead protection program, upcoming events and how to protect groundwater, go to www.portlandonline.com/water/groundwater or call Portland at 503-823-7404.

THE CASCADE WELL FIELD is jointly owned by Rockwood Water People's Utility District and the City of Gresham. We began the production, treatment and distribution operation of our joint system in 2004. It currently includes three wells that produce water from the Sand and Gravel Aquifer. We have also started our well field protection program to ensure production of reliable, high quality drinking water. Since these wells are located within close proximity of the City of Portland's well field, the plan is to expand the Columbia South Shore Well Field protection program to include our joint groundwater supply system. For information about the joint groundwater supply system, please contact District Manager Harvey Barnes at 503-665-4179.

The ability to supply water to our customers from more than one quality source is of tremendous value. This helps us:

- Maximize use of the least costly option, which helps us keep our annual water supply expenses down
- Alternate between sources to offset peak water use times of the year and help protect any one source from being over-tapped
- Plan for emergency situations where supply or distribution system services might be disrupted



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Drinking Water Treatment

The first step in the treatment process for the Portland Water Bureau's drinking water is disinfection using chlorine. Next, ammonia is added to form chloramines which ensure that disinfection remains adequate throughout the distribution system.



Portland also adds sodium hydroxide to increase the pH of the water to reduce corrosion of plumbing systems. This treatment helps control lead and copper levels at customers' taps should these metals be present in home plumbing. Rockwood adds chlorine and ammonia to the groundwater prior to blending it with Bull Run water to maintain consistent chlorine residuals. The pH of Rockwood's groundwater and blend is sufficiently high so no additional sodium hydroxide is added.

Drinking Water Testing

Your drinking water is monitored for approximately 200 regulated and unregulated contaminants in drinking water, including pesticides and radioactive contaminants. All monitoring data in this report is from 2010 unless otherwise noted.

Special Notice for Immuno-compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the **Safe Drinking Water Hotline at 800-426-4791**.

What the EPA Says About Drinking Water Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. **More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater.**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in drinking water sources may include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from wildlife or septic systems.
- **Inorganic contaminants**, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as farming, urban stormwater runoff and home or business use.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive contaminants**, which can occur naturally.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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Drinking Water

Regulated Contaminants Detected in 2010

Regulated Contaminant	Minimum Detected	Maximum Detected	Maximum Contaminant Level (MCL) or Treatment Technique	Maximum Contaminant Level Goal (MCLG)	Sources of Contaminant
Source Water from Bull Run Watershed					
Turbidity	0.23 NTU	2.0 NTU	Cannot exceed 5 NTU more than 2 times in 12 months	Not applicable	Erosion of natural deposits
Giardia	Not Detected	8 samples of 10 liters each had 1 <i>Giardia</i> cyst	Treatment technique required: Disinfection to inactivate 99.9% of cysts	Not applicable	Animal wastes
Fecal Coliform Bacteria	Not Detected	3 samples each had 4 bacterial colonies (100 % of samples had 20 or fewer bacterial colonies per 100 milliliters of water)	At least 90% of samples measured during the previous 6 months must have 20 or fewer bacterial colonies per 100 milliliters of water	Not applicable	Animal wastes
Entry Points to Distribution System – from Bull Run Watershed and Portland’s Columbia South Shore Well Field					
Nutrients					
Nitrate Nitrogen	0.01 parts per million	0.09 parts per million	10 parts per million	10 parts per billion	Found in natural deposits; animal wastes
Metals and Minerals					
Antimony	<0.05 parts per billion	0.12 parts per billion	6 parts per billion	10 parts per million	Erosion of natural deposits
Arsenic	<0.5 parts per billion	1.4 parts per billion	10 parts per billion	0 parts per billion	Found in natural deposits
Barium	0.00079 parts per million	0.00959 parts per million	2 parts per million	2 parts per million	Found in natural deposits
Chromium (total)	< 0.2 parts per billion	0.3 parts per billion	100 parts per billion	100 parts per billion	Found in natural deposits
Copper¹	< 0.03 parts per million	0.0036 parts per million	AL= 1.3	1.3 parts per million	Found in natural deposits
Fluoride	< 0.050 parts per million	0.13 parts per million	4 parts per million	4 parts per million	Found in natural deposits
Lead	< 0.02 parts per billion	0.15 parts per billion	AL= 15	0 parts per billion	Found in natural deposits
Radionuclides					
Gross Beta²	3.4 picocuries per liter	3.4 picocuries per liter	50 picocuries per liter ³	0 picocuries per liter	From man-made sources and natural deposits
Distribution System of Reservoirs, Tanks and Mains – Rockwood					
Microbiological Contaminants					
Total Coliform Bacteria	Not detected	1 sample out of 60 in January and 1 sample out of 60 in September (1.67 % each) had detectable coliform bacteria	Must not detect coliform bacteria in more than 5.0% of samples in any month	0% of samples with detectable coliform bacteria	Found throughout the environment
Disinfection Byproducts					
Haloacetic Acids					
Running annual average at all sites	25 parts per billion		60 parts per billion	Not applicable	Byproduct of drinking water disinfection
Single result at any one site	10 parts per billion	41 parts per billion			
Total Trihalomethanes					
Running annual average of all sites	27 parts per billion		80 parts per billion	Not applicable	Byproduct of drinking water disinfection
Single result at any one site	21 parts per billion	34 parts per billion			
Disinfectant Residual					
Total Chlorine Residual	.19 parts per million	1.82 parts per million	4 parts per million	4 parts per million	Chlorine and ammonia are used to disinfect water

¹During the year, two different methods with different method reporting limits (MRLs) were used to analyze copper. The sample with results of <0.03 was analyzed by the method with the less sensitive MRL. ²These results are from 2009. The Oregon Department of Human Services – Drinking Water Program allows water utilities to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. ³The MCL for Gross Beta is 4 mrem/yr. EPA considers 50 picocuries per liter to be the level of concern for Gross beta.

Notes on Regulated Contaminants

TURBIDITY

Bull Run is an unfiltered surface water supply. Rules for public water systems have strict standards for unfiltered surface water supplies. Turbidity levels in unfiltered water must not exceed 5 NTU (nephelometric turbidity units) more than two times in a twelve-month period. The typical cause of turbidity is sediment suspended in the water that can interfere with disinfection and provide a medium for microbial growth. Large storm events can result in increased turbidity, causing the Portland Water Bureau to shut down the Bull Run system and serve water from the Columbia South Shore Well Field.

Giardia

Wildlife in the watershed may be hosts to *Giardia lamblia*, the organism that causes giardiasis. Chlorine is used to control these organisms.

FECAL COLIFORM BACTERIA

The presence of fecal coliform bacteria in source water indicates that water may be contaminated with

animal wastes. Chlorine is used to control these bacteria.

NITRATE - NITROGEN

Nitrate, measured as nitrogen, can support microbial growth (bacteria and algae). Nitrate levels exceeding the standards can contribute to health problems.

ANTIMONY, ARSENIC, BARIUM, CHROMIUM (TOTAL), COPPER, FLUORIDE AND LEAD

These metals are elements found in the earth's crust which can dissolve into water that is in contact with natural deposits. At the levels found in Portland's drinking water, they are unlikely to contribute to adverse health effects. There is no MCL for lead at the entry point to the distribution system. Lead is regulated at customers' taps. See Lead and Copper Samplings at High Risk Residential Water Taps for more information.

GROSS BETA

Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Gross Beta was detected

in Portland's groundwater at the entry point to the distribution system in 2009. At levels detected in Portland's drinking water, Gross Beta is unlikely to contribute to adverse health effects.

DISINFECTION BYPRODUCTS

During disinfection, certain byproducts form as a result of chemical reactions between chlorine and naturally occurring organic matter in the water. These byproducts can have negative health effects. The disinfection process is carefully controlled to remain effective, while keeping byproduct levels low.

TOTAL CHLORINE RESIDUAL

Total chlorine residual is a measure of free chlorine and combined chlorine and ammonia in our distribution system. Chlorine residual is necessary to maintain disinfection throughout the distribution system. Adding ammonia to chlorine results in a more stable disinfectant and helps to minimize the formation of disinfection byproducts.

Definitions

ACTION LEVEL

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MAXIMUM CONTAMINANT LEVEL OR MCL

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MAXIMUM CONTAMINANT LEVEL GOAL OR MCLG

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MAXIMUM RESIDUAL DISINFECTANT LEVEL OR MRDL

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL OR MRDLG

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

PART PER MILLION

One part per million corresponds to one penny in \$10,000 or approximately one minute in two

years. One part per million is equal to 1,000 parts per billion.

PART PER BILLION

One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2,000 years. One part per billion is equal to 1,000 parts per trillion.

PICOCURIES PER LITER

Picocurie is a measurement of radioactivity. One picocurie is a trillion times smaller than one curie.

TREATMENT TECHNIQUE

A required process intended to reduce the level of a contaminant in drinking water.

Common Questions

How can I get my water tested?

Contact the LeadLine at 503-988-4000 or www.leadline.org for information about free lead in water testing. For more extensive testing, private laboratories can test your tap water for a fee. Not all labs are accredited to test for all contaminants. **For information about accredited labs, call the Oregon Department of Human Services, Oregon Environmental Laboratory Accreditation Program at 503-693-4122.**



Is fluoride added to my drinking water?

No. Fluoride is not added to our drinking water. Although fluoride is not detected in Bull Run surface water, it is a naturally occurring trace element in groundwater.



Is my water soft or hard?

Bull Run water is very soft. Hardness of Bull Run water is typically 4-13 parts per million (approximately ½ a grain of hardness per gallon). Groundwater from the Sand and Gravel aquifer has a hardness of approximately 52 parts per million, which is considered moderately hard.

Why conserve water when it rains so much?

Generally, it rains three seasons of the year in our region, but we use the most water during the summer season when it rains less. By the end of the summer, water from our surface water supply system can be substantially depleted. While we are planning to have multiple systems to draw from, it's best to use water wisely. If we improve our consumption habits now, we can help ensure that there will be enough water available for drinking, irrigation, manufacturing, fish, and emergencies such as fire fighting.



Unregulated Contaminants Detected in 2010

Contaminant	Minimum Detected	Average Detected	Maximum Amount Detected	Source of Contaminant
Entry Points to Distribution System – from the Bull Run and the Rockwood/Gresham Cascade Well Field				
Sodium	Not Applicable	Not Applicable	3.13 parts per million	Added to water during treatment; found in natural deposits
Sulfate	Not Applicable	Not Applicable	.384 parts per million	Found in natural deposits
Entry Points to Distribution System – from the Bull Run and Portland's Columbia South Shore Well Field				
Nickel	< 0.2 parts per billion	< 0.2 parts per billion	0.7 parts per billion	Found in natural deposits
Radon	3.10 picocuries per liter	310 picocuries per liter	310 picocuries per liter	Found in natural deposits
Sodium	2.5 parts per million	8.8 parts per million	24.4 parts per million	Added to water during treatment; erosion of natural deposits
Vanadium	4.9 parts per billion	4.9 parts per billion	4.9 parts per billion	Found in natural deposits

*See note on Regulated and Unregulated Contaminants for more information.

Notes on Unregulated Contaminants

Unregulated contaminant monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

NICKEL

Nickel is a metal found in the earth's crust; it can dissolve into water that is in contact with natural deposits. There is currently no maximum contaminant level for nickel. At the levels found in Portland's drinking water, it is unlikely to contribute to adverse health effects.

RADON

Radon is a naturally occurring radioactive gas that cannot be seen, tasted, or smelled. Radon has not been detected in the Bull Run supply. It has been detected at varying levels in the groundwater wells. For information about radon, call the EPA's Radon Hotline (800-SOS-RADON) or www.epa.gov/radon/rnwater.html.

SODIUM

Sodium is a metal found in the Earth's crust; it can dissolve into water that is in contact with natural deposits or added to water during treatment. There is currently no drinking water standard for sodium. Sodium is an essential nutrient. At the levels found in drinking water, it is unlikely to contribute to adverse health effects.

SULFATE

EPA has not established a maximum contaminant level for sulfate. Sulfates are a combination of sulfur and oxygen and are part of naturally occurring minerals in some soil and rock formations that contain groundwater. The sulfur mineral dissolves over time and is released into the groundwater. At the levels found in drinking water, it is unlikely to contribute to adverse health effects.

VANADIUM

Vanadium is a metal found in the earth's crust, which can dissolve into water that is in contact with natural deposits. Based on concerns regarding vanadium as a potential emerging contaminant, the Portland Water Bureau tested water from the Columbia South Shore Well Field for vanadium in 2010. All of the results for vanadium were below the 50 ppb Notification Level set by the State of California. At these levels it is unlikely to contribute to adverse health effects.

The LT2 Rule

In January 2006, the federal Environmental Protection Agency (EPA) issued a drinking water rule called the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) principally to reduce the risks of illness from *Cryptosporidium*, a protozoan parasite found in the intestines and fecal material of most mammals. If ingested, infectious forms of *Cryptosporidium* can cause cryptosporidiosis which results in gastrointestinal illness in humans and more serious illness in immunocompromised populations (see note to Immunocompromised populations on page 2 of this report). The LT2 rule has two principal requirements which affect Portland's water system: 1) the installation of additional treatment processes to address *Cryptosporidium* in Bull Run source water by 2014, and 2) ending the use of uncovered finished drinking water reservoirs in Mt. Tabor and Washington Parks.

COMPLIANCE WITH ADDITIONAL TREATMENT REQUIREMENTS Portland's Request for a Treatment Variance

The Safe Drinking Water Act enables the City of Portland to apply for a variance to the surface water treatment requirements of the LT2 rule if it can demonstrate that such treatment isn't necessary to protect public health. In

December 2009, the Portland Water Bureau began a comprehensive water sampling program to investigate whether *Cryptosporidium* is a public health risk in the Bull Run watershed. For a one year period the City conducted intensive testing of water samples from its untreated source water. After collecting 449 water samples at the water supply intake and an additional 315 samples from several upstream watershed locations, zero instances of *Cryptosporidium* were detected. These results build on those from previous testing for *Cryptosporidium* in the Bull Run watershed. Although *Cryptosporidium* has been detected in the past, monthly tests from the watershed have not detected the pathogen since August 2002.

The absence of *Cryptosporidium* in the City's water quality sampling results is consistent with the natural conditions and legal protections in place for the Bull Run watershed which serve to reduce the risk of *Cryptosporidium* exposure for Portland's drinking water.

Because public entry and any associated recreational, agricultural or development activities are prohibited in the Bull Run watershed, wildlife is the only significant potential *Cryptosporidium* source in the watershed. Analysis of wildlife in the predominant old growth forest conditions in the watershed indicates that total population density

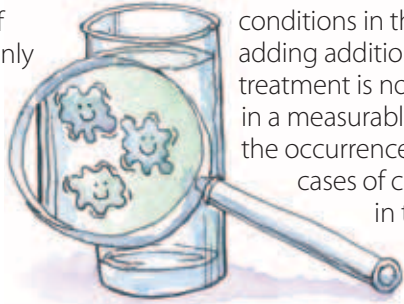


of animals is relatively low and that incidence of animals shedding *Cryptosporidium* in the watershed is extremely low. Since December 2009, the Water Bureau has collected and analyzed 251 wildlife scat samples in and around the watershed

for the presence of *Cryptosporidium*. Only a single sample tested positive containing just two individual *Cryptosporidium* oocysts.

Vegetation and hydrologic conditions in the watershed may further reduce the limited risk of *Cryptosporidium* contamination by restricting the movement of potential pathogens through the watershed. The dense forest canopy, mild slopes and porous soil conditions in the watershed result in most water flows occurring below the ground surface. This flow through vegetation and soil can trap pathogens preventing them from reaching streams and the supply reservoirs.

An analysis of available health related data appears to show that the majority of the reported



cases of cryptosporidiosis in the Portland region are sporadic in nature and that there was no evidence which would suggest that drinking water has been a significant source of cryptosporidiosis. This health data shows that under current

conditions in the Bull Run adding additional water treatment is not likely to result in a measurable decrease in the occurrence of reported cases of cryptosporidiosis in the community.

Based on these sampling results and analysis, the City is submitting a treatment variance request to the Oregon Drinking Water Program in spring 2011 and anticipates hearing back regarding its request by the end of 2011.

UV TREATMENT AS A LAST RESORT

In the event the Oregon Drinking Water Program rejects the City of Portland's request for a treatment variance, the City is also in the process of designing an Ultraviolet light (UV) treatment facility to meet the treatment requirements of the LT2 rule. The UV design phase is scheduled to be completed by the end of 2011

when a final decision on the City's eligibility for a treatment variance is anticipated. This timing will enable the City to meet the April 1, 2014, deadline for constructing the UV treatment facility, if it proves to be necessary.

UNCOVERED FINISHED DRINKING RESERVOIRS: STORAGE REPLACEMENT UNDERWAY

In November 2009, the City requested direction from EPA regarding the possibility of a variance to the uncovered finished drinking reservoir requirements of the LT2 rule. In December 2009, the EPA replied back that no such option exists. As required by the LT2 Rule, the City is currently implementing a multi-year plan to develop alternative enclosed storage and end the use of its open finished drinking water reservoirs in Mt. Tabor and Washington Parks by December 31, 2020. **For updates on the Portland Water Bureau's response to the LT2 rule visit www.portlandonline.com/water/LT2.**

Chromium-6

The progress on research into chromium-6 made news in December 2010 when the

Environmental Working Group, an environmental advocacy group, said it had found chromium-6 in the water of 31 cities and urged the EPA to adopt new rules regarding the regulation of this compound.

Currently, there are no federal regulations or requirements to test for chromium-6 in drinking water. In January 2011, the EPA issued recommendations for enhanced chromium-6 monitoring of surface water supplies quarterly and groundwater supplies semi-annually. The Portland Water Bureau (PWB) is voluntarily following these recommendations and has contracted with an accredited laboratory to conduct chromium-6 analysis of the Bull Run water supply quarterly and groundwater in summer 2011.

Chromium is a naturally occurring element found in rocks, animals, plants, soil, and in volcanic dust and gases. Chromium can exist in a variety of forms, but is typically found in the environment and

drinking water in two main forms: trivalent chromium (chromium-3) and hexavalent chromium (chromium-6). Chromium-3 occurs naturally in the environment and is an essential human dietary nutrient. Chromium-6 is the more toxic form and is generally associated with industrial processes. Recent studies have shown that ingestion of drinking water or food containing chromium-6 may also cause cancer in laboratory mice and rats.

Chromium can transform from one form to another in water and soil, depending on the conditions present.

EPA's final toxicological review of chromium-6 is expected sometime this year. This risk assessment will

form the basis of any regulations that may be developed. PWB will continue to work closely with the EPA and with organizations such as the American Water Works Association to monitor this issue as developments emerge.

This health data shows that under current conditions in the Bull Run adding additional water treatment is not likely to result in a measurable decrease in the occurrence of reported cases of cryptosporidiosis in the community.

Lead & Copper Sampling at High-risk Residential Water Taps

Regulated Contaminant	90th Percentile Values	Number of Sites Exceeding the Action Level	Lead and Copper Rule Exceedance	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant
Copper					
	0.34 parts per million	0 samples exceeded the copper action level of 1.3 parts per million.	More than 10% of the homes tested have copper levels greater than 1.3 parts per million	1.3 parts per million	Corrosion of household and commercial building plumbing systems
Lead					
	12 parts per billion	10 of 112 samples (8.9%) exceeded the lead action level of 15 parts per billion	More than 10% of the homes tested have lead levels greater than 15 parts per billion	0 parts per billion	Corrosion of household and commercial building plumbing systems

Reducing Exposure to Lead

We have removed all known lead service connections from our distribution system. Exposure to lead through drinking water is possible if materials in a building's plumbing contain lead. The level of lead in water can increase when water stands in contact with lead-based solder and brass faucets containing lead.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested.

INFORMATION ON LEAD IN DRINKING WATER, TESTING METHODS & STEPS TO MINIMIZE EXPOSURE:

LeadLine
503-988-4000
www.leadline.org

Safe Drinking Water Hotline
800 426-4791
www.epa.gov/safewater/lead

People are exposed to lead in many other ways. In our community, dust from paint in homes built before 1978 is the most common source of exposure to lead. Other sources include soil, pottery, traditional folk medicines or cosmetics, some sports equipment such as fishing weights and ammunition, and some occupations and hobbies.

CORROSION TREATMENT

Corrosion control treatment reduces corrosion in plumbing by increasing the pH of the water. Comparison of monitoring results with and without pH adjustment shows over 50 percent reduction in lead and 80 percent reduction in copper at the tap with pH adjustment.

WATER TESTING

Twice each year the Portland Water Bureau and its wholesale customers, including Rockwood Water PUD, monitor for lead in tap water from a sample group of more than 100 homes. These are homes in our service area where the plumbing is known to contain lead solder which is more likely to contribute to elevated lead levels. These houses represent a worst-case scenario for lead in water. Samples are collected after the water has been standing in the household plumbing for more than 6 hours. A Lead and Copper Rule exceedance for lead occurs when more than 10 percent of these homes exceed the lead action level of 15 parts per billion. In the most recent round of testing, less than 10 percent of homes exceeded the lead action level.

If you are concerned that your home tap water may have lead, call the LeadLine for a free lead-in-water test kit and to learn ways to reduce your exposure to all sources of lead. This program targets testing the water in households most at risk from lead in water. These are homes built between 1970 and 1985 with pregnant women or children ages six or younger in the home.

Easy Steps to Avoid Possible Exposure to Lead from Plumbing

- **Run your water to flush the lead out.** If the water has not been used for several hours, run each tap for 30 seconds to 2 minutes or until it becomes colder before drinking or cooking. This flushes water which may contain lead from the pipes.
- **Use cold, fresh water for cooking and preparing baby formula.** Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. Do not use water from the hot water tap to make baby formula.
- **Do not boil water to remove lead.** Boiling water will not reduce lead.
- **Consider using a filter.** Check whether it reduces lead – not all filters do. Be sure to maintain and replace a filter device in accordance with the manufacturer's instructions to protect water quality. Contact NSF International at 800-NSF-8010 or www.nsf.org for information on performance standards for water filters.
- **Test your water for lead.** Call the LeadLine at 503-988-4000 to find out how to get a FREE lead-in-water test.
- **Test your child for lead.** Ask your physician or call the LeadLine to find out how to have your child tested for lead. A blood lead level test is the only way to know if your child is being exposed to lead.
- **Regularly clean your faucet aerator.** Particles containing lead from solder or household plumbing can become trapped in your faucet aerator. Regularly cleaning every few months will remove these particles and reduce your exposure to lead.
- **Consider buying low-lead fixtures.** New brass faucets, fittings, and valves, may contribute to lead in your drinking water. Federal law currently allows brass fixtures, such as faucets, to contain up to 8% lead. These fixtures are labeled as "lead free." When buying new fixtures, consumers should seek out those with the lowest lead content. Visit www.nsf.org to learn more about lead content in plumbing fixtures.

Call the LeadLine at 503-988-4000 or visit www.leadline.org for information about lead hazards, free lead-in-water testing, free childhood blood lead testing and referrals to other lead reduction services.

Highlights of 2010

Cascade Well 5 Completed ►

In May of 2010, Cascade well 5 was completed and put into service. As expected, it produces over 5,000 gallons per minute (GPM). With this addition, the Cascade Well System, made up of three wells: Cascade wells 3 and 4, and the newest, Cascade well 5, can produce a total of 12,000 GPM or over 17 million gallons per day. The Cascade Well System, jointly owned by Rockwood Water PUD and the City of Gresham, also includes a four million gallon reservoir, a booster pump station capable of pumping 12,000 GPM, and a chlorination system.

The Cascade Well System is used mostly to offset summer demands in order to minimize the amount of water Rockwood and the City of Gresham purchase from Portland's Bull Run System. By using groundwater to supplement water purchased from Portland, millions of dollars have been saved by avoiding the purchase of large volumes of water during high use demand times. In the event of an emergency with Portland's supply system, the Cascade Well System can produce enough water to meet the average daily demands of customers served by Rockwood and Gresham. As demand requires, additional capacity will be added in the future.



Stark Street Transmission Main Replacement ▼

The District completed nearly 6500 feet of 24" main line in Stark Street last year from 190th east on Stark to 214th. The second phase of the transmission main line on 190th between Stark and Division was completed in January 2011. The primary need for the upgrade is to provide a secondary source for the eastern part of the district. The new line will also provide additional capacity throughout the district. The third phase, 214th east to 223rd will likely be constructed later this year.



Community Partnerships ►

As a member of the Rockwood community, the District:

- Partnered with the cities of Portland, Gresham and Fairview to provide indoor water conservation devices to Mt. Hood Head Start program families.
- Served as a planning committee member/ sponsor and provided staffing for the Portland Metro area Children's Clean Water Festival (CCWF); provided bus funding for Rockwood schools Glenfair Elementary and Portland Adventist to attend. Over 1400, 4th & 5th grade students, attended the festival to learn all about water through interactive classroom activities, exhibits, and stage show performances.
- Attended and provided children's activities, water conservation devices and educational materials for two Centennial Community Association events: "Inside the Gates" (to support development of Parklane Park) and Family Night at Parklane Park.
- Provided outdoor water conservation devices for SnowCap's community gardens.
- Sponsored a Mad Science *What Do You Know About H₂O* performance and provided water education materials for the Multnomah Education Service District's Migrant Summer Education Program at North Gresham Elementary School.

- Helped sponsor children's activities for the Glenfair Neighborhood Association's National Night Out held at Glenfair Park.
- Sponsored three *Where's Rosie* Puppet Show performances and provided water education materials at Multnomah County's Rockwood, Gresham and Troutdale libraries in conjunction with the summer reading program. *Where's Rosie* teaches children about the importance of the water cycle and water conservation.



Additional Mainline Replacements ▼

Over the last year, the District replaced an additional 6400 feet of main lines in various neighborhoods throughout our service area as part of our annual replacement program.



Highlights

Outdoor Conservation Tips

Summer watering can cause water bills to jump! In fact, about 32% of your total yearly water bill goes to summer outdoor watering. A large part of this may simply be the result of over-watering – something that can be controlled.

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.



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.
- Fertilize 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.

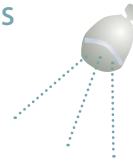
Helping Save You Water

Water-Saving Devices

Stop by or call our office at 503-665-4179 to request your choice of these **FREE** conservation devices.

LOW-FLOW SHOWERHEADS

Install a high efficiency showerhead and you could save about 1 gallon per minute.



SHOWER TIMERS

It's never too late to develop the good habit of conserving water by taking shorter showers. Each minute you shave off your shower time saves up to 2.5 gallons.



TABLETS

A simple way to test toilets for leaks. Just drop a dye tablet in the toilet tank and don't flush for 15 minutes. If color appears in the bowl, the toilet has a leak.



TOILET FILL CYCLE DIVERTERS

This device directs more water to the tank and less to the bowl during refill. The goal is for the tank and bowl to finish filling in the same amount of time (or as close as possible). Estimated savings are ½ gallon per flush (gpf).



HOSE NOZZLES

Add a shut-off nozzle to your garden hose and save about 5-7 gallons each minute your hose is on.



WATERING GAUGES

Use a watering gauge to measure your sprinkler output. Most lawns need 1 inch of water per week except during really hot weather.



FAUCET AERATORS

Install an aerator on your bathroom or kitchen faucet and save about 1 gallon per minute. An aerator reduces the flow from the faucet, and uses air to maintain good water pressure.



Home Water Assessments

Rockwood Water People's Utility District is working with Energy Trust of Oregon to offer customers a **FREE Water Audit** and Home Energy Review. An Energy Trust advisor will visit your home and do a walk-through to identify areas where energy and water are typically lost, including: insufficient or leaking water fixtures (toilets, faucets, showerheads); insulation levels in the attic/ceiling, walls, floors and ducts; heating system; air sealing and windows; ventilation; moisture problems; and old appliances. **You will also receive FREE water and energy-saving products** that help make your home more efficient: high-performance showerheads, water-saving faucet aerators, and Energy Star qualified compact fluorescent light bulbs. After the review, you'll receive a prioritized list of customized recommendations for your home and a list of cash incentives that may be available for qualifying, water and energy-saving improvements.

To schedule your **FREE Water Audit and Home Energy Review**, call Energy Trust at 1-866-368-7878 or visit www.energytrust.org. Make sure to ask for a Water Audit and Home Energy Review.

*To qualify, you must have a Rockwood Water People's Utility District residential water customer account and heat your home with Portland General Electric, Pacific Power, NW Natural or Cascade Natural Gas.

High-Efficiency Toilet Rebate Programs

SINGLE FAMILY RESIDENTIAL CUSTOMERS

A high-efficiency toilet (HET) can save you water and money. Rockwood Water PUD single-family residential customers can receive up to (2) \$100 rebates when replacing an old toilet with a new WaterSense® labeled HET toilet. To earn the WaterSense label, toilets must use no more than 1.28 gpf and meet rigorous performance criteria.

Rebates are available on a first-come, first-served basis and subject to the availability of funds. **For a complete list of eligible toilets and a rebate application form that includes eligibility requirements, visit www.rwpud.org or call our office at 503-665-4179.**



DUPLEX, TRIPLEX AND FOURPLEX CUSTOMERS

Property owners and managers can significantly reduce water bills by replacing inefficient toilets with a new high-efficiency, 1.28 gallons per flush, WaterSense® labeled toilet and may be eligible for up to (4) \$50 rebates per account.

Applicants must be a multi-family residential customer with a duplex, triplex or fourplex property. Rebates are available on a first-come, first-served basis and subject to the availability of funds. **An application reservation number is required. For program guidelines and a rebate application form, call the District office at 503-665-4179.**

home savings

Rockwood Water People's Utility District

19601 NE Halsey St
Portland, Oregon 97230
503-665-4179
www.rwpud.org
Public Water System #4100668



FOR ADDITIONAL INFORMATION:

Oregon Department of Human Services
Drinking Water Program
971-673-0405 www.oregon.gov/DHS/ph/dwp/

Drinking water regulations require us to produce and mail this report every year. Most of the information in this report is also required – Congress and the Environmental Protection Agency want to be sure people know what is in their drinking water.

Get Involved!

Contact our office and let us know how we are doing. Your comments are always welcome.

Attend the District's Board of Directors meetings to participate in decisions that affect your water service. Board meetings are held the fourth Wednesday of each month at 7 pm at the District office. **Visit www.rwpud.org for more information.**

Volunteer to serve on the District's Budget Committee and participate in developing the annual budget.

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POSTAL CUSTOMER

PRSR STD
US POSTAGE
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