



City of Tualatin

Operations Department

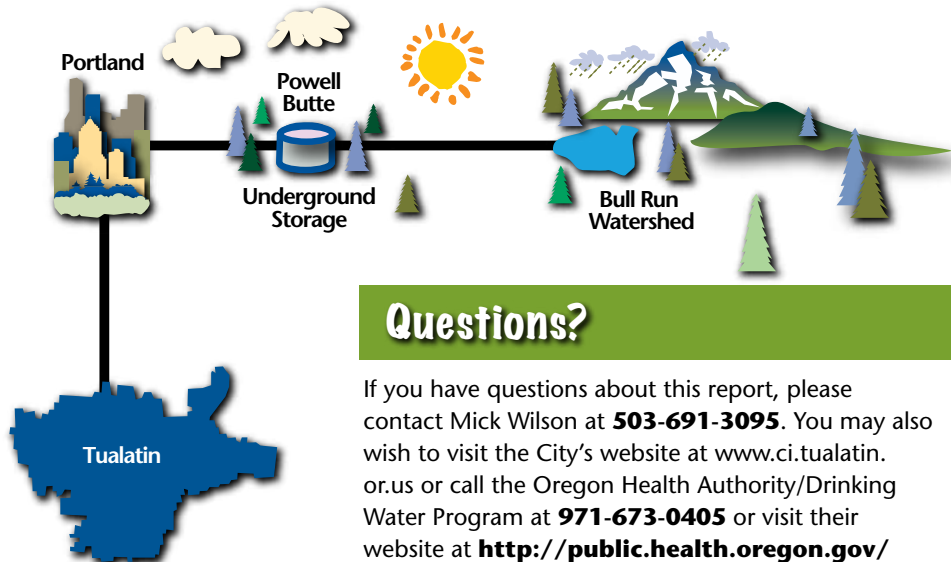
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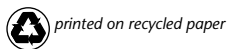
# 2010 water quality



## Questions?

If you have questions about this report, please contact Mick Wilson at **503-691-3095**. You may also wish to visit the City's website at [www.ci.tualatin.or.us](http://www.ci.tualatin.or.us) or call the Oregon Health Authority/Drinking Water Program at **971-673-0405** or visit their website at <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/index.aspx>

[www.ci.tualatin.or.us](http://www.ci.tualatin.or.us)



# your drinking water

## 2010 REPORT



TUALATIN, OREGON

Based on data from the calendar year 2010

*Este informe contiene informacion muy importante sobre su agua beber.  
Traduzcalo o hable con alguien que lo entienda bien.*



# your 2010 drinking water

Based on water quality data from the calendar year 2010

**If this information looks familiar, it should.** Tualatin has been mailing similar information to our customers for eleven years now. Why every year? It's the law. Drinking water regulations require us to produce and mail this information every year.

Most of the language is also required - Congress and the EPA want to be sure every community knows what is in their drinking water. We agree. So, providing residents and businesses in the Tualatin water service area with safe, dependable, high-quality water at a reasonable cost is a top priority. The City of Tualatin delivers water to more than 26,160 people every day and we think it is important for our customers to understand where their water comes from, how safe it is, and what actions we take to ensure its continuing high quality.

## Tualatin's Water Sources

The Bull Run Watershed is a surface water supply located in the Mt. Hood National Forest. A geological ridge separates the watershed from Mt. Hood. Current regulations allow Portland to meet federal drinking water standards without filtering this high-quality water supply. The watershed has an area of 102 square miles and typically receives 80-170 inches of rainfall each year. The heaviest rains occur from late fall through spring. Two reservoirs store water for use year-round, particularly during the dry summer months.

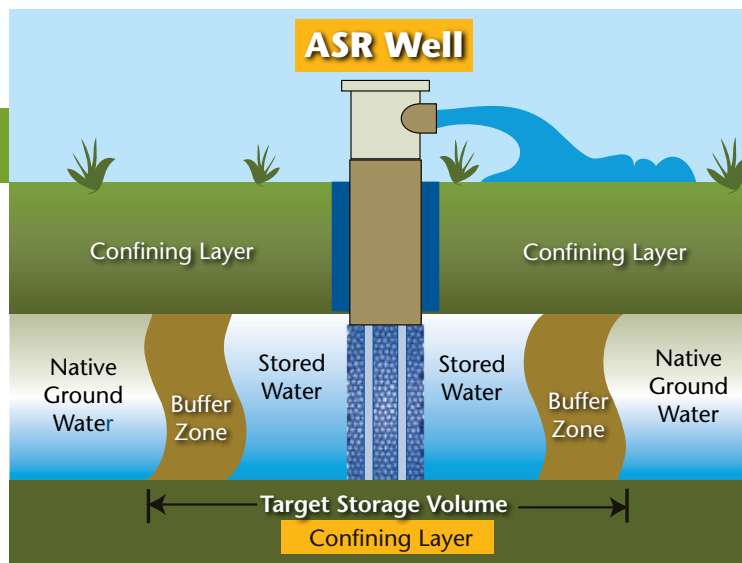
The watershed is reserved solely for producing drinking water. Federal laws restrict human entry. No recreational, residential, or industrial uses occur within its boundaries. The Portland Water Bureau carefully monitors water quality and quantity. The Oregon Department of Human Services - Drinking Water Program regularly inspects the watershed and related treatment and distribution facilities.

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 surface water, including the 1989 Surface Water Treatment Rule filtration avoidance criteria. The Source Water Assessment report is available at [www.portlandonline.com/water](http://www.portlandonline.com/water) and by calling 503-823-7404.

**The Columbia South Shore Well Field** is a groundwater source of drinking water that provides high-quality water from 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 has a long history of groundwater protection. The wellhead protection area encompasses portions of Portland, Gresham, and Fairview. Together, these cities regulate businesses in the wellhead protection area to prevent hazardous materials spills that could seep into the ground.



## Tualatin's Aquifer Storage and Recovery Program

The ASR Program injects water into an aquifer through wells or by surface spreading and infiltration and then pumps it out when water is needed. The aquifer essentially functions as a water bank. Deposits are made in times of surplus, typically during the rainy season, and withdrawals occur when available water falls short of demand.



## Frequently Asked Questions About Water

### **Is my water treated by filtration?**

No, Bull Run water is currently not filtered. The Bull Run source meets the filtration avoidance criteria of the Surface Water Treatment Rule. The state approved Portland's compliance with these criteria in 1992.

### **Does Tualatin add fluoride to drinking water?**

Tualatin does not add fluoride to the water. No fluoride is detected in Bull Run water, but it is a naturally occurring trace element in groundwater. The US Public Health Service and the Centers for Disease Control and Prevention (CDC) consider the fluoride levels in Tualatin's water sources to be lower than optimal for helping to prevent dental decay. You may want to consult with your dentist about fluoride treatment to help prevent tooth decay, especially for young children.

### **Is Tualatin's water soft or hard?**

Tualatin's water is very soft. Hardness of Bull Run water is typically 6-11 parts per million (approximately ½ a grain of hardness per gallon). The groundwater hardness is approximately 86 parts per million (about 5 grains per gallon), which is considered moderately hard.

### **What is the pH of Tualatin's water?**

In the distribution system, pH typically ranges from 7.2 to 8.2.

### **Who can I call about water quality or pressure concerns?**

The Operations Department, 503-691-3091, can answer your questions and concerns about water quality or pressure. Someone is available Monday-Friday from 8am-5pm. If you have an emergency after these hours, please contact the after-hours number at 503-629-0111. This is Washington County Dispatch. They will notify the on-call person.

### **How can I get my water tested?**

Call the LeadLine at 503-988-4000 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 503-229-5505.

## Drinking Water Treatment

The Portland Water Bureau treats drinking water with chloramines. This process starts with chlorine to disinfect the water. Next, Portland adds ammonia to 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 the customers' home plumbing.

## Water Testing

The Portland Water Bureau monitors for approximately 200 regulated and unregulated contaminants in drinking water, including pesticides and radioactive contaminants. All monitoring data in this report are from 2010. If a health-related contaminant is not listed in this report, the Portland Water Bureau did not detect it in drinking water.

## The EPA's Views on 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/](http://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 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.

## Notes on Unregulated Contaminants

Unregulated contaminant monitoring helps the EPA 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 Portland's groundwater wells. For information about radon, call the EPA's Radon Hotline (800-SOS-RADON) or [www.epa.gov/radon/rnwater.html](http://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.

**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.

## Definitions

- **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 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 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.
- **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.
- **Treatment Technique** - A required process intended to reduce the level of a contaminant in drinking water.
- **Action Level** - The concentration of a contaminant which, if exceeded, triggers treatment and other requirements that a water system must follow.
- **Part Per Million** - One ppm corresponds to one penny in \$10,000 or approximately one minute in two years. One part per million is equal to 1000 parts per billion.
- **Part Per Billion** - One ppb corresponds to one penny in \$10,000,000 or approximately one minute in 2000 years.
- **Picocuries Per Liter** - Picocurie is a measure of radioactivity. One picocurie is a trillion times smaller than one curie.

## Water Quality Data

### UNREGULATED CONTAMINANTS - ENTRY TO DISTRIBUTION SYSTEM

Contaminant	Minimum Detected	Average Detected	Maximum Detected	Typical Source
Nickel	<0.2 ppb	<0.2 ppb	0.7 ppb	Found in natural deposits
Sodium	2.5 ppm	8.5 ppm	24.4 ppm	Added in treatment Found in natural deposits
Radon	310 picocuries per liter	310 picocuries per liter	310 picocuries per liter	Found in natural deposits
Vanadium	4.9 ppb	4.9 ppb	4.9 ppb	Found in natural deposits

The Oregon Health Authority - 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. Some results, though representative, are more than one year old.



## REGULATED CONTAMINANTS

# Water Quality Data

SOURCE WATER FROM BULL RUN WATERSHED

Regulated Contaminant	Minimum Detected	Maximum Detected	MCL or Treatment Technique	MCLG	Typical Source
Turbidity	0.23 NTU	2.0 NTU	Can't exceed 5 NTU more than 2x per year	N/A	Erosion of natural deposits
Giardia	Not Detected	8 samples of 10 liters had 1 Giardia cyst	Treatment Required: Disinfection to 99% of cysts	N/A	Animal wastes
Fecal Coliform Bacteria	Not Detected	3 samples had 4 colonies* per 100ml water * 100% of samples had 20 or fewer bacterial colonies	90% of samples/last 6 months/20 or fewer colonies per 100ml water	N/A	Animal wastes

## NUTRIENTS

ENTRY POINTS TO DISTRIBUTION SYSTEM - BULL RUN/COLUMBIA SOUTH SHORE WELL FIELD

Nitrate Nitrogen	<0.01 ppm	0.09 ppm	10 ppm	10 ppm	Natural aquifer deposits; animal wastes
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## METALS & MINERALS

ENTRY POINTS TO DISTRIBUTION SYSTEM - BULL RUN/GROUNDWATER WELL FIELD

Antimony	<0.05 ppb	0.12 ppb	6 ppb	6 ppb	Natural aquifer deposits
Arsenic	<0.05 ppb	1.4 ppb	10 ppb	0 ppb	Natural aquifer deposits
Barium	<0.00079 ppm	0.00959 ppm	2 ppm	2 ppm	Natural aquifer deposits
Chromium (total)	<0.2 ppb	0.3 ppb	100 ppb	100 ppb	Natural aquifer deposits
Copper*	<0.03ppm	0.0036 ppm	N/A	1.3 ppm	Natural aquifer deposits
Fluoride	<0.050 ppm	0.13 ppm	4 ppm	4 ppm	Natural aquifer deposits

## RADIONUCLIDES

ENTRY POINTS TO DISTRIBUTION SYSTEM - BULL RUN/GROUNDWATER WELL FIELD

Gross Beta	3.4 picocuries per liter	3.4 picocuries per liter	N/A screening level picocuries 50 per liter	0 picocuries per liter	Decay of natural deposits
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## DISINFECTION BYPRODUCTS

TUALATIN DISTRIBUTION SYSTEM - RESERVOIRS/TANKS/MAINS

Haloacetic Acids Annual Average (All) Single result (one site)	18 ppb 13 ppb	N/A 26 ppb	60 ppb N/A	N/A N/A	Byproduct of drinking water disinfection
Total Trihalomethanes Annual Average (All) Single result (one site)	27 ppb 20 ppb	N/A 34 ppb	80 ppb N/A	N/A N/A	Byproduct of drinking water disinfection

## REGULATED CONTAMINANTS

TUALATIN DISTRIBUTION SYSTEM - RESERVOIRS/TANKS/MAINS

Regulated Contaminant	Minimum Detected	Maximum Detected	MRDL	MRDLG	Typical Source
Total Chlorine Residual	.08 ppm	1.75 ppm	4 ppm	4 ppm	Chlorine and ammonia disinfection

\* During the year, two 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.

## 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). The typical cause of turbidity is tiny particles of sediment in the water which 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 effective in inactivating *Giardia*.

**Total Chlorine Residual** - 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. Total chlorine residual is a measure of free chlorine and combined chlorine and ammonia in our distribution system.

**Fecal Coliform Bacteria** - The presence of fecal coliform bacteria in source water indicates that water may be contaminated with animal wastes. Although fecal coliforms are typically measured for compliance, there are instances when the Portland Water Bureau submits total coliform bacteria for compliance sampling. 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, 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 maximum contaminant level (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. The screening level for Gross Beta is not health-based, but is a level at which additional and increased monitoring would be necessary.

**Total Coliform Bacteria** - Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present.



**E. Coli Bacteria** - E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They can pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

**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. Trihalomethanes and haloacetic acids (regulated disinfection byproducts) were detected in Portland's water. 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, 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.

## Backflow Prevention Device Test Due June 1st

Residential properties with any of the following items are required to have an approved backflow prevention device installed and tested by June 1 of each year: (1) in-ground irrigation system; (2) active well; (3) in-ground swimming pool/spa; (4) ornamental fountain; (5) fish pond; (6) solar heating system; or (7) residential fire sprinkler system. A passing test report must be submitted by you or your testing agency to the City of Tualatin Operations Department, Attn: E. Castro, 18880 SW Martinazzi Avenue, Tualatin, Oregon 97062.

We appreciate your ongoing cooperation regarding this program. By working together, we can be sure our drinking water remains safe to drink and free of contaminants. If your system is no longer in use and the backflow assembly has been disconnected, an inspection by the City is required. If you would like to schedule an appointment for an inspection or have any other questions, please contact Ernie Castro, Operations Department, at 503-691-3098.

## Special Notice for Immuno-Compromised Persons

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



# Water Quality Data

## LEAD AND COPPER

SAMPLING AT RESIDENTIAL WATER TAPS

90th Percentile Values	Number of Sites Over AL	Exceeding Lead & Copper Rule	MCLG	Typical Source
Copper 0.34 ppm	0 samples exceeded AL (1.3 ppm)	Over 10% of homes tested had levels < 1.3 ppm	1.3 ppm	Corrosion of household and commercial plumbing systems
Lead 12 ppb	10 of 112 samples exceeded AL (15 ppb)	Over 10% of homes tested had levels < 15 ppb	0 ppb	Corrosion of household and commercial plumbing systems

**Action Level** - The concentration of a contaminant which, if exceeded, triggers treatment and other requirements that a water system must follow.

## Lead in Drinking Water and Household Plumbing

### IMPORTANT INFORMATION ABOUT LEAD

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. The City of Tualatin, along with the Portland Water Bureau, is 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, and steps you can take to minimize exposure is available from the LeadLine, 503-988-4000, [www.leadline.org](http://www.leadline.org) or the Safe Drinking Water Hotline 800-426-4791, [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

People are exposed to lead in many other ways. 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.



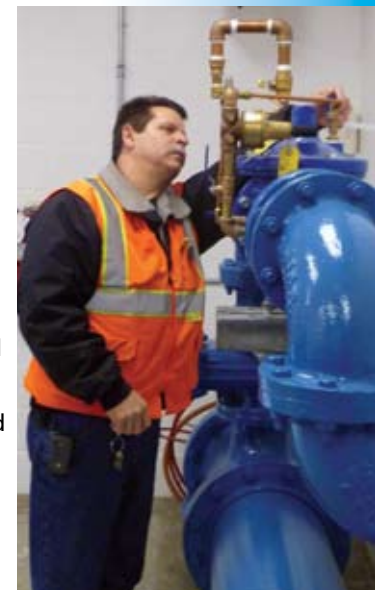
## Reduce Your Exposure To Lead

To reduce your exposure to lead from plumbing, the City of Tualatin encourages you to follow these easy steps:

- 1. RUN YOUR WATER TO FLUSH OUT LEAD.** Before drinking or cooking, run water for 30 seconds to 2 minutes (or until colder) when the tap has not been used for several hours.
- 2. 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.
- 3. DO NOT BOIL WATER TO REMOVE LEAD.** Boiling water will not reduce lead.
- 4. CONSIDER USING A FILTER.** One that reduces lead – not all filters do. Contact NSF International at 800-NSF-8010 or [www.nsf.org](http://www.nsf.org) for more information on filters.
- 5. TEST YOUR WATER FOR LEAD.** Call the LeadLine at 503-988-4000 to find out how to get a FREE lead-in-water test.
- 6. TEST YOUR CHILD FOR LEAD.** Ask your physician. A blood lead-level test is the only way to know if your child is being exposed to lead. Or call the Leadline.
- 7. CONSIDER BUYING LOW-LEAD FIXTURES.** New brass faucets, fittings, and valves may contribute to lead in your drinking water. Federal law currently allows end-use brass fixtures, such as faucets, to contain up to 8% lead. These fixtures are labeled as “lead free.” When buying new fixtures, seek out those with the lowest lead content. Visit [www.nsf.org](http://www.nsf.org) to learn more about lead content in plumbing fixtures.

**Corrosion Treatment.** The Portland Water Bureau's 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 at the tap with pH adjustment.

**Water Testing.** Twice each year, the City of Tualatin, along with all other wholesale water users and the Portland Water Bureau, monitors 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. Samples are collected after the water has been standing in the household plumbing for more than six hours. These houses represent a worst-case scenario for lead in water. A Lead and Copper Rule exceedance for lead is when more than 10 percent of these homes exceed the lead action level of 15 parts per billion.



## Lead in Drinking Water (continued)

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, where pregnant women or children age six or younger live.

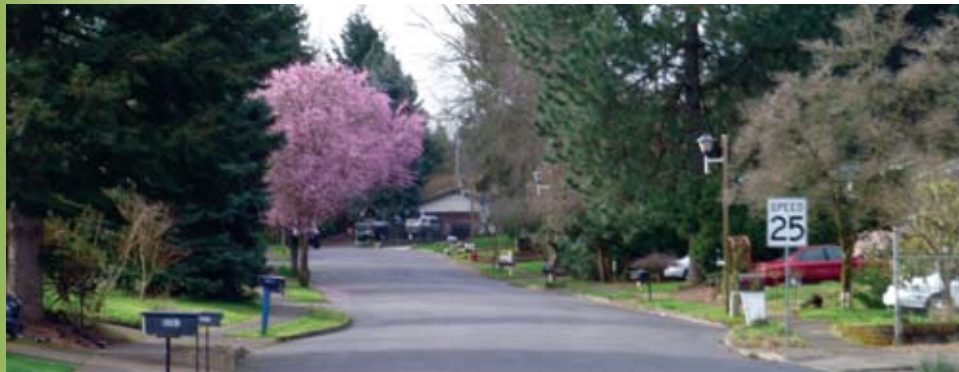
Lead enters drinking water primarily as a result of corrosion, or wearing away, of materials containing lead in household plumbing. These materials include lead-based solder used to join copper pipe and brass and chrome-plated brass faucets. The Portland Water Bureau's corrosion treatment reduces corrosion in plumbing by increasing the pH of the water. In addition to reducing lead exposure in drinking water, the City of Tualatin supports programs to reduce exposure to lead from all sources, especially lead paint. To learn how you can access these programs and ways to reduce your exposure to all sources of lead, contact the **LeadLine 503-988-4000** or visit **www.leadline.org** for information about lead hazards, free lead-in-water testing, and free childhood blood lead-level testing.

## New Projects



### Apache Water Main Replacement Project

The City has budgeted money for the construction of approximately 1,300 linear feet of 8-inch ductile iron pipe, with new services to existing homes on Apache Drive from Boones Ferry Road to Sagert Street. This will replace existing 6-inch (AC) asbestos cement pipe.



## Water Conservation Tips

Conserving water is good for the environment, for wildlife, and for our future. And saving water isn't difficult. All it takes is a little awareness and know-how to conserve hundreds of gallons of water each month - or even each week.

Just how important is water conservation? Consider these facts:

- A leaking toilet can waste up to 2,700 gallons of water a month.
- Most gardens could thrive with 25%-40% less water.
- One small leak from a faucet can waste 50 gallons of water a day.

In June 2008, the City adopted a Water Management & Conservation Plan (WMCP). Adoption of this plan holds the City compliant with the Portland Regional Water Sales Agreement. The WMCP is based on the 2005 Water Master Plan which projects additional demands over the next 20+ years. This plan includes **water conservation** activities.



### INDOOR TIPS

- Install a low-flow shower head and you can save 12 gallons every five minutes.
- Collect water that runs until the shower gets hot and use it to water plants.
- Save more than three gallons every time you flush by installing a low-flow toilet.
- Install Energy Star-approved dishwashers, can save an average of 5gal. of water per load or 792gal. per year!
- Make sure your faucet has an aerator installed, which can save up to 13% in daily faucet use.
- Install an Energy Star-approved washing machine. Average washers use up to 55 gallons of water per load, compared to as little as 20 gallons for Energy Star-approved models.

### OUTDOOR TIPS

- Plant water-efficient grass.
- Replace your lawn with other plants, including those native to the Pacific Northwest.
- Use soaker hoses or drip irrigation on trees, shrubs, and planting beds to apply water directly to the soil.
- Use a hose with a shut-off nozzle to save an average of 10 gallons per minute.
- Use commercial car washes that recycle water on-site or send it to a water treatment facility, where it is cleaned and returned to the water cycle.

- 10% of homes have leaks that waste over 90 gallons of water daily.
- A leaky faucet can waste more than 3,100 gallons per year.
- Leaks can account for, on average, 10,000 gallons of water wasted in the home every year, which is enough to fill a backyard swimming pool.

### DAILY WATER USE PER PERSON-INDOORS (Source AWWA)

Showers - 11.6 gallons	Toilet - 18.5 gallons
Washing machine - 15 gallons	Bath - 1.2 gallons
Dishwasher - 1 gallon	Faucets - 10.9 gallons

