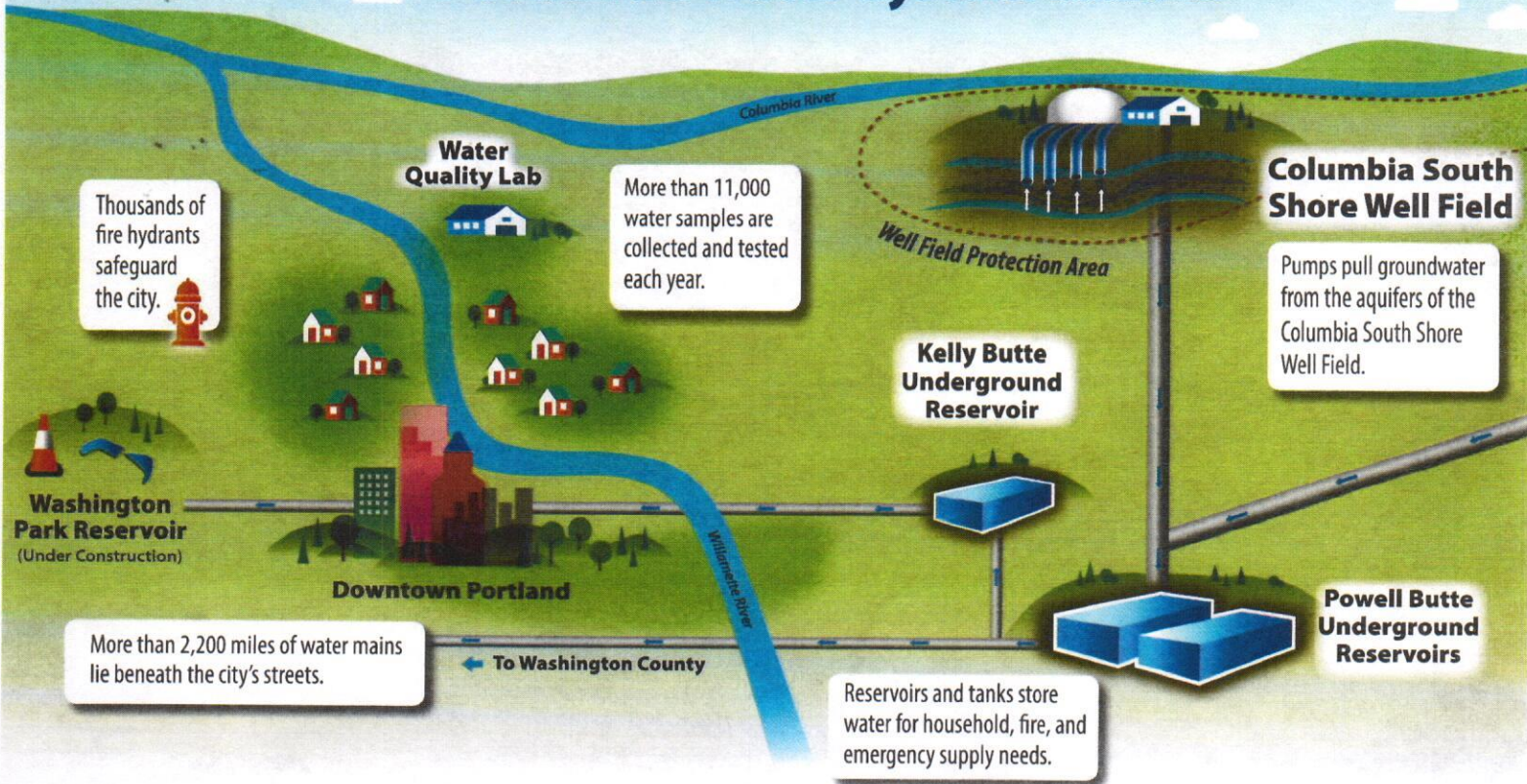


PORTLAND WATER BUREAU

# 2018 Drinking Water Quality Report



# Portland's Water System Established 1895



## From the Commissioner

Welcome to the Portland Water Bureau's *2018 Drinking Water Quality Report*. Over 123 years ago, City officials' foresight and planning laid the groundwork for the incredible and unique drinking water system we have today. The City is once again embarking on a long-term plan to upgrade our drinking water treatment, improve public health protection, and enhance our system's resilience in the face of current and future challenges.

*Nick Fish*

**Nick Fish**  
COMMISSIONER-IN-CHARGE

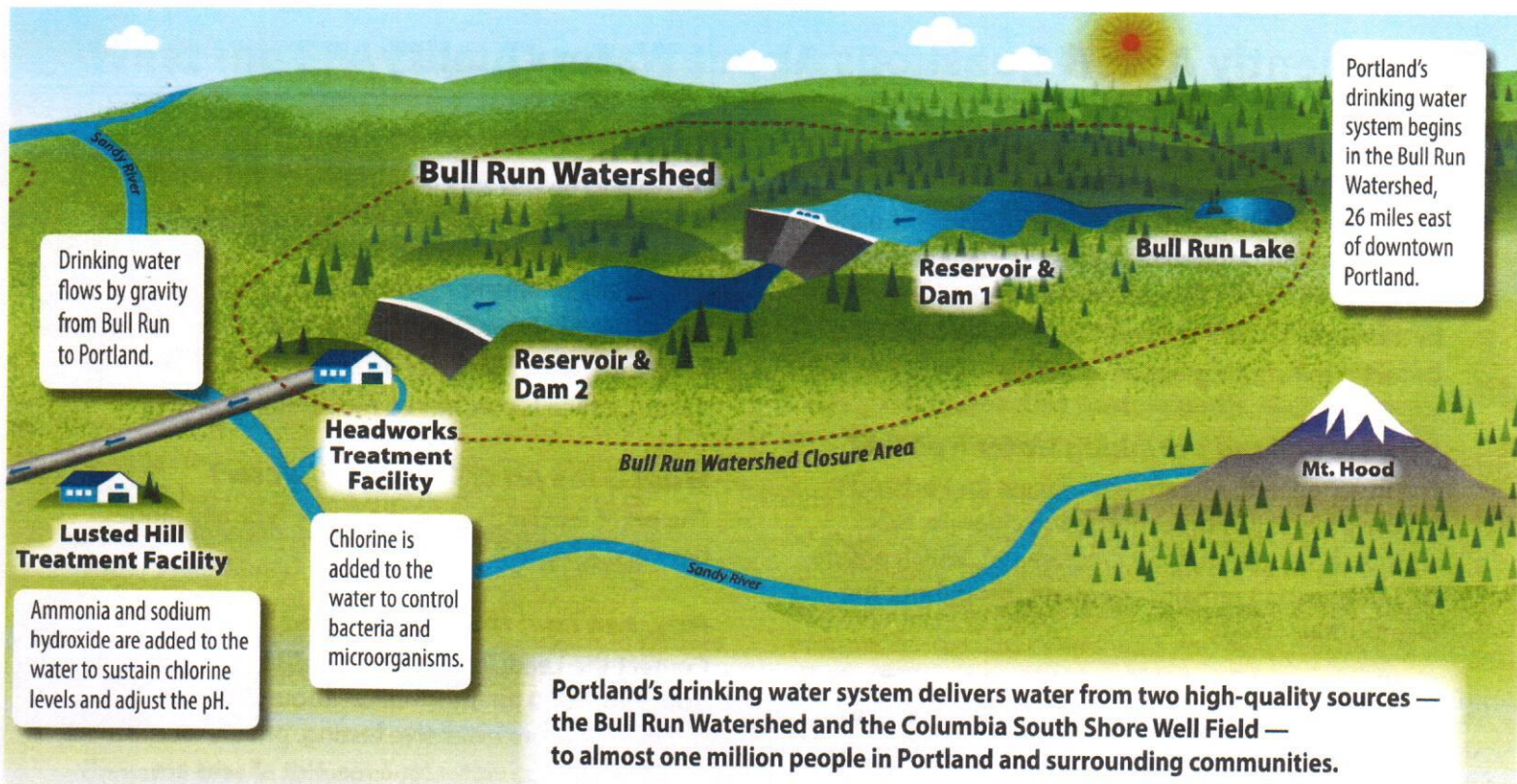


## From the Director

I am pleased to share the *2018 Drinking Water Quality Report* with our customers. This report provides customers with important information about the quality of their drinking water. This report also highlights a number of notable aspects of our drinking water system. You will see that we are fortunate to have two high-quality drinking water sources and that we routinely monitor for over 200 regulated and unregulated substances. You will also see that the dedicated staff of the Portland Water Bureau are working on important improvements to our system that will allow us to continue to provide high-quality drinking water that meets all or surpasses all drinking water standards.

*Michael Stuhr*

**Michael Stuhr, P.E.**  
DIRECTOR



## Portland's Drinking Water Sources

**The Bull Run Watershed**, Portland's protected surface water supply, is located in the Mt. Hood National Forest, 26 miles from Portland. The watershed is carefully managed to sustain and supply clean drinking water to a quarter of Oregon's population. In a typical year, the watershed receives an astounding 135 inches of precipitation (rain and snow), that flows into the Bull Run River and then into two reservoirs that store nearly 10 billion gallons of drinking water.

A Source Water Assessment completed in 2003 (available at [www.portlandoregon.gov/water/sourcewaterassessment](http://www.portlandoregon.gov/water/sourcewaterassessment) or by calling **503-823-7525**) identifies the only contaminants of concern as naturally occurring microbes such as *Giardia*, *Cryptosporidium*, fecal coliform bacteria, and total coliform bacteria. These organisms are found in virtually all freshwater ecosystems and may be present in the Bull Run supply at low levels. The Bull Run Watershed is an unfiltered drinking water source that is currently not treated for *Cryptosporidium*. However, the Portland Water Bureau is currently working to install drinking water filtration by September 2027, see page 7 for more information.

**The Columbia South Shore Well Field**, Portland's protected groundwater supply, provides high-quality drinking water from 26 active wells located in three different aquifers. Located on the south shore of the Columbia River, the well field is the second largest drinking water source in Oregon, and can produce up to 95 million gallons of water per day. The well field is used to supplement, or as an alternative to, the Bull Run supply during routine maintenance, turbidity events, emergencies, and when Portland needs additional summer supply.

In collaboration with Gresham and Fairview, the Portland Water Bureau works with businesses in the area to prevent hazardous material spills that could seep into the ground and impact groundwater. Portland also holds public events such as Aquifer Adventure, Cycle the Well Field, and Groundwater 101 to educate residents on how they can get involved. To learn more about the Well Field Protection Program or find upcoming events, visit [www.portlandoregon.gov/water/groundwater](http://www.portlandoregon.gov/water/groundwater) or call **503-823-7473**.

The Clackamas River Water District, City of Gresham, City of Lake Oswego, Rockwood Water People's Utility District, Sunrise Water Authority, and Tualatin Valley Water District provide drinking water to some Portland customers who live near service area boundaries. Customers who receive water from these providers will also receive detailed water quality reports about these sources in addition to this report.

# Frequently Asked Questions About Water Quality

## ***What test results are included in this report?***

The Portland Water Bureau monitors for over 200 regulated and unregulated contaminants in drinking water. All monitoring data in this report are from 2017.

**If a known, health-related contaminant is not listed in this report, the Portland Water Bureau did not detect it in drinking water.**

## ***How is Portland's drinking water treated?***

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

Finally, sodium hydroxide is added 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 commercial and household plumbing systems. See page 7 for upcoming treatment changes. See page 10 for more information about lead.

## ***Is Portland's water treated by filtration?***

No. Neither the groundwater nor the Bull Run source water is currently filtered. Groundwater is not required to be filtered. Since 1992, the Bull Run source has continued to meet the filtration avoidance criteria of the Surface Water Treatment Rule. However, after a series of *Cryptosporidium* detections in 2017, Portland is installing filtration by 2027. See pages 6 and 7 for more information.

## ***Is fluoride added to Portland's drinking water?***

No. The Portland Water Bureau does not add fluoride to the water. Fluoride is a naturally occurring trace element in surface and groundwater. You may want to consult with your dentist about fluoride treatment to help prevent tooth decay, especially for young children.

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

Portland's water is very soft. The hardness of Bull Run water is typically 3–8 parts per million (ppm), or approximately ¼ to ½ a grain of hardness per gallon. For periods of time Portland may supplement the Bull Run supply with groundwater. Portland's groundwater hardness is approximately 80 ppm (about 5 grains per gallon), which is considered moderately hard.

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

The pH of Portland's drinking water typically ranges between 7.5 and 8.5.

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

Contact the LeadLine at [www.leadline.org](http://www.leadline.org) or **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 Health Authority, Oregon Environmental Laboratory Accreditation Program at **503-693-4100**.

## ***What causes temporary discolored water?***

Since Portland's water is not filtered, natural sediment and organic material from the Bull Run Watershed is present in Portland's water supply. This can sometimes be seen in the fall as a harmless tea-colored tint. Sediment that has settled at the bottom of the water mains can be temporarily stirred up when the direction or flow of water changes due to hydrant use, nearby construction or maintenance activities, firefighting, or main breaks. Corrosion of older pipes inside buildings can also cause rusty water after water has been sitting in the pipes for several hours. More information is available at [www.portlandoregon.gov/water/discoloredwater](http://www.portlandoregon.gov/water/discoloredwater).

More Water Quality FAQs: [www.portlandoregon.gov/water/WQfaq](http://www.portlandoregon.gov/water/WQfaq)

More questions? \_\_\_\_\_  
Have water quality or pressure issues or concerns?

# What the EPA Says Can Be Found in Drinking Water

Across the United States, 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.

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.

Contaminants in drinking water sources may include: **microbial contaminants**, such as viruses, bacteria,

and protozoa from wildlife; **inorganic contaminants**, such as salts and metals, which are naturally occurring; **pesticides and herbicides**, which may come from farming, urban stormwater runoff, or home and business use; **organic chemical contaminants**, such as byproducts from industrial processes or the result of chlorine combining with the naturally occurring organic matter; and **radioactive contaminants**, such as radon, which is naturally occurring.

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 Safe Drinking Water Hotline at **800-426-4791** or at [www.epa.gov/safewater](http://www.epa.gov/safewater).

## Water Quality and Pressure in Your Home

Water quality is a shared responsibility between the Portland Water Bureau and its customers. Portland's **Water Quality at Home** page has information about managing water quality in your home, including:

- Investigating and resolving common water quality issues, including discolored water and taste or odor issues.
- Investigating and resolving common water pressure and flow problems, including low pressure.
- Ordering a free lead-in-water test kit, to determine if your home's plumbing contains lead.
- Determining if a home water filter can help address taste preferences, water quality issues caused by home plumbing, or health-related concerns.
- Troubleshooting water heater issues.
- Reducing chlorine taste and odors if you are sensitive to chlorine.

**Water Quality at Home:**

[www.portlandoregon.gov/water/WQhome](http://www.portlandoregon.gov/water/WQhome)



→ **Contact the Water Quality Line**

[WBWaterLine@portlandoregon.gov](mailto:WBWaterLine@portlandoregon.gov) | 503-823-7525

# Monitoring for *Cryptosporidium*

In March 2012, the Oregon Health Authority (OHA) issued the Portland Water Bureau a variance from the state and federal drinking water rules requiring the treatment of raw water from the Bull Run Watershed for the parasite *Cryptosporidium*. A variance is state permission not to meet a maximum contaminant level (MCL) or a treatment technique under certain conditions. OHA issued the Portland Water Bureau the treatment variance for *Cryptosporidium* based on substantial data and analyses presented in the *LT2 Treatment Variance Request for the Bull Run drinking water source*. Among the conditions of the variance was monitoring at the Bull Run raw water intake to demonstrate a level of *Cryptosporidium* that was equal or better than what would be expected with treatment. After years of not detecting any *Cryptosporidium* at the Bull Run intake, it was detected above this level in 2017 from January through March and September through December. As a result of the January through March detections, OHA revoked the Bull Run Treatment Variance on December 18, 2018.

The Portland Water Bureau does not currently treat for *Cryptosporidium*, but is required to do so under the drinking water regulations. Now that the variance has been revoked, Portland is working to install filtration by 2027 under a compliance schedule with OHA (see page 7). In the meantime, the Portland Water Bureau is implementing interim measures such as watershed protection and additional monitoring to protect public health. Consultation with public health officials has concluded that, at this time, customers do not need to take any additional precautions.

Exposure to *Cryptosporidium* can cause cryptosporidiosis, a serious illness. Symptoms can include diarrhea, vomiting, fever, and stomach pain. People with healthy immune systems recover without medical treatment. According to the Centers for Disease Control and Prevention (CDC), people with severely weakened immune systems are at risk for more serious disease. Symptoms may be more severe and could lead to serious life-threatening illness. Examples of people with weakened immune systems include those with AIDS, those with inherited diseases that affect the immune system, and cancer and transplant patients who are taking certain immunosuppressive drugs.

The Environmental Protection Agency has estimated that a small percentage of the population could experience gastrointestinal illness from *Cryptosporidium* and advises that customers who are immunocompromised and receive their drinking water from the Bull Run Watershed consult with their health care professional about the safety of drinking the tap water.

## 2017 Results of *Cryptosporidium* Monitoring at the Raw Water Intake

Number of Samples	Total Volume (L)	Oocysts Detected
378	11,511.9	43

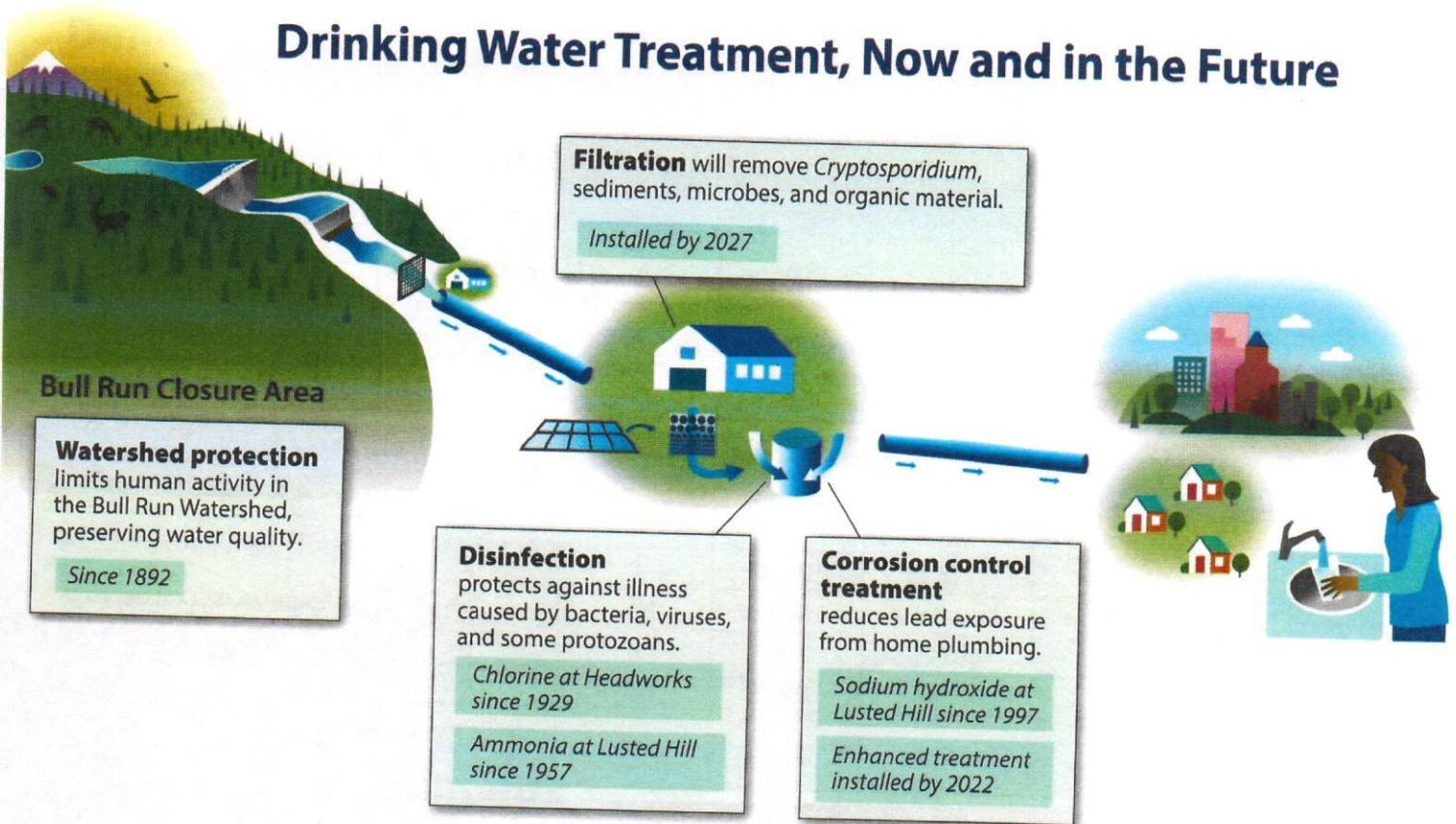
## Special Notice for Immuno-Compromised Persons

### 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 people 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)/Centers for Disease Control and Prevention (CDC) 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**.



# Drinking Water Treatment, Now and in the Future



The Portland Water Bureau is in the process of two major treatment improvements for Bull Run drinking water. While the Bull Run is a well-protected watershed requiring minimal treatment for drinking water, enhanced treatment will better meet current regulations, provide increased public health protection from lead in household plumbing and *Cryptosporidium*, provide more consistent water quality, and serve as an investment against future regulations.

## Corrosion Control Improvement Project

Corrosion control treatment makes the water less corrosive to building plumbing, reducing the amount of metals that can enter drinking water. This is particularly effective for reducing lead in water (see page 10). The Portland Water Bureau has been reducing lead in water by treating Bull Run water with sodium hydroxide for corrosion control since 1997. However, new evidence shows that there is no safe level of lead exposure. This led the Portland Water Bureau to install enhanced corrosion control by 2022. This will increase the alkalinity and pH of the drinking water to further reduce the amount of lead at customer taps.

### More information:

[www.portlandoregon.gov/water/corrosioncontrol](http://www.portlandoregon.gov/water/corrosioncontrol)

## Bull Run Filtration Project

The high-quality and well-protected nature of the Bull Run Watershed has allowed the Portland Water Bureau to qualify for a filtration exemption since 1992. However, after a series of detections for *Cryptosporidium*, Portland City Council directed the Portland Water Bureau to add filtration treatment to Bull Run drinking water. This is a major undertaking and will result in a new drinking water treatment plant for the Bull Run. The new treatment plant will be online by 2027.

In addition to providing treatment for *Cryptosporidium*, the addition of filtration will provide more consistent water quality through the distribution system, increase the reliability of the Bull Run by enabling treatment for most instances of increased turbidity, and filter algae and remove sediment from the water. Constructing a new treatment plant now is also an investment in our future by better preparing the Portland Water Bureau to meet future regulations.

### More information:

[www.portlandoregon.gov/water/filtration](http://www.portlandoregon.gov/water/filtration)

# Contaminants Detected in 2017

Regulated Contaminant	Detected in Portland's Water		EPA's Limit		Sources of Contaminant
	Minimum	Maximum	MCL or TT	MCLG	
<b>Untreated Source Water from the Bull Run Watershed</b>					
Turbidity (NTU)	0.20	3.06	5	N/A	Erosion of natural deposits
Fecal Coliform Bacteria (% >20 colonies/100 mL in 6 months)	Not Detected	1.6%	10%	N/A	Animal wastes
<i>Giardia</i> (#/1L)	Not Detected	0.27	TT	N/A	Animal wastes

<b>Treated Drinking Water from Bull Run Watershed and Columbia South Shore Well Field Entry Points to the Distribution System</b>					
Arsenic (ppb)	<0.50	0.94	10	0	Found in natural deposits
Barium (ppm)	0.00073	0.00975	2	2	
Copper (ppm)	<0.00050	0.00101	N/A	1.3	
Fluoride (ppm)	<0.025	0.160	4	4	
Lead (ppb)	<0.05	0.11	N/A	0	
Nitrate – Nitrogen (ppm)	0.013	0.140	10	10	Found in natural aquifer deposits; animal wastes

<b>Treated Drinking Water from Points throughout the Distribution System of Reservoirs, Tanks and Mains</b>					
<i>Microbiological Contaminants</i>					
Total Coliform Bacteria (% positive per month)	Not Detected	0.76%	N/A	N/A	Found throughout the environment
<i>Disinfectant Residual</i>					
Total Chlorine Residual running annual average (ppm)	1.71	1.75	4 [MRDL]	4 [MRDLG]	Chlorine used to disinfect water
Total Chlorine Residual at any one site (ppm)	0.37	2.74	N/A	N/A	
<i>Disinfection Byproducts</i>					
<b>Haloacetic Acids</b>					
Running annual average at any one site (ppb)	1.0	40.8	60	N/A	Byproduct of drinking water disinfection
Single result at any one site (ppb)	<2.0	54.8	N/A		
<b>Total Trihalomethanes</b>					
Running annual average at any one site (ppb)	20.3	33.6	80	N/A	Byproduct of drinking water disinfection
Single result at any one site (ppb)	14.0	56.0	N/A		

Unregulated Contaminant	Detected in Portland's Water			Sources of Contaminant
	Minimum	Average	Maximum	
<b>Treated Source Water from the Bull Run Watershed and Columbia South Shore Well Field</b>				
Radon (pCi/L)	<50	165	330	Found in natural deposits
Sodium (ppm)	3.3	5.8	12.0	

For more detailed water quality analyses, view our Triannual Reports at [www.portlandoregon.gov/water/triannual](http://www.portlandoregon.gov/water/triannual).



## ADDENDUM

### WATER QUALITY REPORT 2018

Raleigh Water District participates in the joint monitoring program with the City of Portland. This joint monitoring program allows the District to use samples from Portland's system, to meet most of the monitoring requirements.

The following tables list the additional sampling that the District performed within our own system in 2017.

Regulated Contaminants					
Distribution System	Minimum Detected	Maximum Detected	MRDL	MRDLG	Source of Contaminant
Chlorine Residual	0.20 ppm	2.06 ppm	4 ppm	4 ppm	Chloramines are used to disinfect water.
Total Coliform Bacteria Raleigh Water District Distribution System	0 samples in MONTH (0 out of 5) had detectable coliform bacteria	0 samples in MONTH (0 out of 5) had detectable coliform bacteria	<u>MCL</u> Must not detect coliform bacteria in more than 1 sample in any month	<u>MCLG</u> N/A	Found throughout the environment
<u>Disinfection Byproducts</u> Total Trihalomethanes Running Annual Average of all sites.  Single result at any one site.	30.35 ppb  23.8 ppb	30.35 ppb  36.9 ppb	<u>MCL</u> 80 ppb	<u>MCLG</u> Not Applicable	Byproduct of drinking water disinfection
<u>Haloacetic Acids</u> Running Annual Average of all sites.  Single Result at any one site	34.5 ppb  29.6 ppb	34.5 ppb  39.4 ppb	<u>MCL</u> 60ppb	Not Applicable	Byproduct of drinking water disinfection

If you have any questions or comments about this report, please call Raleigh Water District at **503-292-4894**.

# Definitions

## **MCL: Maximum Contaminant Level**

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.

## **MCLG: Maximum Contaminant Level Goal**

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.

## **MRDL: Maximum Residual Disinfectant Level**

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.

## **MRDLG: Maximum Residual Disinfectant Level Goal**

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.

# Notes on Contaminants

## **Arsenic, Barium, Copper, Fluoride and Lead**

These metals are elements found in the earth's crust. They 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. For more information about lead, see page 10.

## **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 are regulated disinfection byproducts that have been detected in Portland's water. Adding ammonia to chlorine results in a more stable disinfectant and helps to minimize the formation of disinfection byproducts.

## **Fecal Coliform Bacteria**

As part of Portland's compliance with the filtration avoidance criteria of the Surface Water Treatment Rule, water is tested for fecal coliform bacteria before disinfectant is added. The presence of fecal coliform bacteria in source water indicates that water may be contaminated with animal wastes. This is measured in percent of samples with more than 20 colonies in 100 milliliters of water during any six-month period. The Portland Water Bureau uses chlorine to control these bacteria.

## **Giardia**

Wildlife in the watershed may be hosts to *Giardia*, the organism that causes giardiasis. The treatment technique (TT) is to remove 99.9 percent of the organisms. The Portland Water Bureau uses chlorine to control these organisms.

## **Nitrate - Nitrogen**

Nitrate, measured as nitrogen, can support microbial growth (bacteria and algae). Nitrate levels exceeding the standards can contribute to health problems. At the levels found in Portland's drinking water, nitrate is unlikely to contribute to adverse health effects.

## **N/A: Not Applicable**

Some contaminants do not have a health-based level or goal defined by the EPA.

## **NTU: Nephelometric Turbidity Units**

The unit of measurement of turbidity or cloudiness in water as measured by the amount of light passing through a sample.

## **ppm: Parts 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.

## **ppb: Parts Per Billion**

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

## **piC/L: Picocuries Per Liter**

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

## **TT: Treatment Technique**

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

## **Radon**

Radon is a naturally occurring radioactive gas that cannot be seen, tasted, or smelled. Radon can be detected at very low levels in the Bull Run water supply and at varying levels in Portland's groundwater supply. Based on the historical levels of radon in groundwater combined with the limited amount of groundwater used, radon is unlikely to contribute to adverse health effects. For information about radon, call the EPA's Radon Hotline, **(800-SOS-RADON)** or [www.epa.gov/radon](http://www.epa.gov/radon).

## **Sodium**

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.

## **Total Chlorine Residual**

Total chlorine residual is a measure of free chlorine and combined chlorine and ammonia in Portland's distribution system. Chlorine residual is a low level of chlorine remaining in water and is designed to maintain disinfection through the entire distribution system.

## **Total Coliform Bacteria**

Coliforms are bacteria that are naturally present in the environment. They are used as an indicator that other potentially-harmful bacteria may be present. If more than 5 percent of samples in a month are positive for total coliforms, an investigation must be conducted to identify and correct any possible causes. The Portland Water Bureau uses chlorine to control these bacteria.

## **Turbidity**

Turbidity is a measure of the water's clarity. Increased turbidity is typically caused by large storms that suspend organic material in the Bull Run source water. This can interfere with disinfection and provide an environment for microbial growth. Since Bull Run water is not filtered, the treatment technique (TT) is that turbidity cannot exceed 5 NTU more than 2 times in 12 months. The Portland Water Bureau shuts down the Bull Run system and serves water from the Columbia South Shore Well Field when turbidity in the Bull Run rises.

# Reducing Exposure to Lead

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. While lead is rarely found in Portland's source waters and there are no known lead service lines in the water system, lead can be found in some homes. The Portland Water Bureau is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components in homes or buildings. In Portland, lead enters drinking water from the corrosion (wearing away) of household plumbing materials containing lead. These materials include lead-based solder used to join copper pipe — commonly used in homes built or plumbed between 1970 and 1985 — and brass components and faucets.

If present, lead at elevated levels can cause serious health problems, especially for pregnant people and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

When your water has been sitting for several hours, such as overnight or after returning from work or school, 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 can request a free lead-in-water test from the LeadLine. 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)**.

In Portland, the most common sources of lead exposure are lead-based paint, household dust, soil, and plumbing materials. Lead is also found in other household objects such as toys, cosmetics, and pottery.

## Water Testing

Twice each year, lead and copper are tested at customers' homes that have lead solder and where levels are the highest. Testing results exceed the action level for lead when more than 10 percent of results from these homes are above 15 parts per billion. In testing conducted in October 2017, more than 10 percent of homes, 18 of 134, exceeded the lead action level. As a result of exceeding the action level, the Portland Water Bureau has been informing customers, encouraging them to follow the easy steps to reduce exposure to lead in water (see bottom of opposite page), and implementing corrective measures.

## Protecting Public Health

The Portland Water Bureau's Lead Hazard Reduction Program is a comprehensive approach to reduce exposure to lead. Through this program the Portland Water Bureau provides:

### Corrosion Control Treatment

Reduces corrosion of lead in plumbing by increasing the pH of the water. This pH adjustment has reduced lead in tap water by up to 70 percent. Portland has begun the process of further improving corrosion control treatment. These improvements will be in place no later than 2022. See page 7 for more information.

### Lead-in-Water Testing

Provides free lead-in-water testing to everyone, but targets testing the water in households most at-risk from lead in water. These are homes built between 1970 and 1985.

### Education, Outreach and Testing

Funds agencies and organizations that provide education, outreach, and testing on all sources of lead.

### Home Lead Hazard Reduction

Supports the Portland Housing Bureau's Lead Hazard Control Program to provide grants to minimize lead paint hazards in homes.

## Lead and Copper Sampling at High-Risk Residential Water Taps

Regulated Contaminant	Detected in Residential Water Taps		EPA's Limits		Sources of Contaminants
	Fall 2017 Results	Homes Exceeding Action Level <sup>1</sup>	Action Level <sup>1</sup>	MCLG <sup>2</sup>	
<b>Lead and Copper Sampling at High-Risk Residential Water Taps</b>					
Lead (ppb) <sup>2</sup>	17	18 out of 134 (13.4%)	15	0	Corrosion of household and commercial building plumbing systems
Copper (ppm) <sup>2</sup>	0.26	0 out of 134 (0%)	1.3	1.3	

<sup>1</sup> Action Level definition: The concentration of a contaminant which, if exceeded, triggers treatment or requirements of which a water system must follow.

<sup>2</sup> See page 9 for definitions.

# Home Plumbing Can Add Lead to Your Drinking Water

**Reduce your exposure to all sources of lead.**

Contact the **LeadLine** at [www.leadline.org](http://www.leadline.org) or **503-988-4000**

- Free lead-in-water testing
- Free childhood blood lead testing
- Free lead reduction services

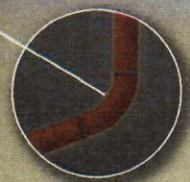


**MAY CONTAIN LEAD**



### Faucets and Fixtures

Faucets installed before 2014 could contain leaded brass.



### Lead Solder

Lead solder was commonly used to join copper pipe before 1985.

**LEAD FREE**

**Water Main**  
Portland Water Bureau never used lead pipes in the water mains.

**Lead Pigtails**  
Used prior to WWII. All known pigtails removed by 1998.

**Service Lines**  
Portland Water Bureau never used lead pipes for the service line.

**Water Meter**  
Portland Water Bureau has used lead-free meters since 1986. As a result, over 90% of homes have a lead-free meter.

## Easy steps to reduce possible exposure to lead from household plumbing



**Run your water to flush the lead out.** If the water has not been used for several hours, before drinking or cooking, run the tap for 30 seconds to 2 minutes or until it becomes colder. 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.



**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.



### Test your water for lead.

Contact the LeadLine at [www.leadline.org](http://www.leadline.org) or **503-988-4000** to find out how to get a FREE lead-in-water test.



### Consider using a filter.

Check whether it reduces lead—not all filters do. To protect water quality, maintain and replace a filter device in accordance with the manufacturer's instructions. For information on performance standards for water filters: [www.nsf.org](http://www.nsf.org) or **800-NSF-8010**.



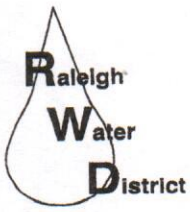
### Regularly clean your faucet aerator.

Particles containing lead from solder or household plumbing can become trapped in your faucet aerator. Regular cleaning every few months will remove these particles and reduce your exposure to lead.



### Consider buying low-lead fixtures.

As of 2014, all pipes, fittings and fixtures are required to contain less than 0.25% lead. When buying new fixtures, you should seek out those with the lowest lead content.



## RALEIGH WATER DISTRICT

5010 SW Scholls Ferry Road  
Portland, Oregon 97225  
503-292-4894

## Questions? We're Here to Help

You have a range of options for contacting the Portland Water Bureau on topics from programs and projects to issues with your account and information about public meetings.

### Central Information Line

8 a.m. – 5 p.m., Monday – Friday  
503-823-7404

For general information about projects, programs, and public meetings.

You can also learn more on our website:  
[www.portlandoregon.gov/water](http://www.portlandoregon.gov/water)

### Water Quality Line

8:30 a.m. – 4:30 p.m., Monday – Friday  
503-823-7525  
[WBWaterLine@portlandoregon.gov](mailto:WBWaterLine@portlandoregon.gov)

For questions regarding water quality or water pressure.

### Emergency Line

24 hours, 7 days a week  
503-823-4874

For water system emergencies.

### Customer Service

8 a.m. – 5 p.m., Monday – Friday  
503-823-7770

[PWBCustomerService@portlandoregon.gov](mailto:PWBCustomerService@portlandoregon.gov)

For questions or information about your account.



### For Additional Information

Oregon Health Authority  
Drinking Water Services: 971-673-0405

<http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater>

Portland Water Bureau's Water System ID: 4100657

### Look for us on Facebook and Twitter:

 [www.facebook.com/portlandwaterbureau](http://www.facebook.com/portlandwaterbureau)  
 [@portlandwater](https://twitter.com/portlandwater)



The Portland Water Bureau is a member of the Regional Water Providers Consortium. Find out more at [www.regionalh2o.org](http://www.regionalh2o.org).

Para obtener una copia de este informe en español, por favor llame al siguiente número o visite el sitio Web que aparece abajo:

Для получения копии этого отчета на русском языке позвоните по указанному ниже номеру телефона или зайдите на указанный ниже вебсайт:

Để có được một bản sao của báo cáo này bằng Tiếng Việt, xin vui lòng gọi số điện thoại hoặc truy cập vào trang web dưới đây:

要索取这份报告的中文复本, 请拨打下列电话号码或访问下列网站

[www.portlandoregon.gov/water/wqreport](http://www.portlandoregon.gov/water/wqreport)  
**(503) 823-7525**

Please contact us for translation or interpretation, or for accommodations for people with disabilities.

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[www.portlandoregon.gov/water/access](http://www.portlandoregon.gov/water/access)  
503-823-7525 (TTY 503-823-6868)

Copies of this report and past reports are available at:  
[www.portlandoregon.gov/water/wqreport](http://www.portlandoregon.gov/water/wqreport)