



[Drinking Water Quality Report for 2022](#)

Federal regulations require Lake Grove Water District to provide for our customers a yearly report of our drinking water quality. We're very pleased to provide you with this year's Annual Water Quality Report for data collected in 2022. We want to keep you informed about the excellent water we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. Our water source comes from the City of Portland, which primarily gets its water from the Bull Run Reservoir and City of Lake Oswego, which gets its water from the Clackamas River. The City of Lake Oswego's Water Quality Report and the City of Portland's Water Quality Report continue after Lake Grove Water District's report. We are pleased to report that our drinking water is safe and meets federal and state requirements.

We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held the third Monday of every month at 6:00 PM at 15555 Bangy Rd, Lake Oswego, OR 97035. The District office is located at 4550 Kruse Way, Suite 360, Lake Oswego, OR 97035.

Lake Grove Water District routinely monitors for microbiological constituents in your drinking water and for disinfection by-products, according to federal and state laws. In 2017, we started monitoring for lead and copper apart from the City of Portland. All test results are within the allowable levels. Please review the reports from both the City of Lake Oswego and the City of Portland. The test results demonstrate the high quality of the water we purchase from each of those cities. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a health risk. The residual of disinfection by-products was well below the Maximum Contaminate Level (MCL) of 80 parts per billion (ppb). On the basis of our own testing no contaminated was introduced into our distribution system.

Lake Grove Test Results for 2022

Variable	Amount Detected		MCL	MCLG	Possible Source of Contamination
	Minimum	Maximum			
Microbiological Contaminants					
Total Coliform Bacteria	N/D	N/D	0	0	Naturally present in the environment
Fecal Coliform and E.coli	N/D	N/D	0	0	Human and animal fecal waste

Contaminant	MCL	MCLG	Maximum Detected (Average)	Violation Yes/No	Source of Contamination
TTHM	80 ppb	0	12.1	No	By-product of drinking water chlorination
HAA5	60 ppb	0	7.9	No	By-product of drinking water chlorination

Contaminant	Action Level	Date Range	Number of Samples	90 th Percentile Level (mg/L)	Violation Yes/No	Possible Source of Contamination
Lead	0.015	Aug 2022	11	0.0060	No	Home plumbing
Copper	1.300	Aug 2022	11	0.0970	No	Home plumbing

Lake Grove Water District had no violations in 2022.

Water Quality Reports from the City of Portland and the City of Lake Oswego are on the following pages.



Portland Water Bureau's 2023 Drinking Water Quality Report

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Portland's drinking water sources

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

Source water assessments are completed to identify contaminants of concern for drinking water. For the Bull Run, the only contaminants of concern are naturally occurring microorganisms, such as *Giardia*, *Cryptosporidium*, fecal coliform bacteria, and total coliform bacteria. The Portland Water Bureau regularly tests Bull Run water for these microorganisms that live in virtually all freshwater ecosystems.

The Portland Water Bureau treats drinking water to control organisms that could make people sick but does not currently treat for *Cryptosporidium*. Portland is installing filtration to remove *Cryptosporidium* and other contaminants from drinking water by 2027.

Portland's source water assessment is available at portland.gov/water/resources/source-water-assessment or by calling 503-823-7525.

The Columbia South Shore Well Field, Portland's protected groundwater supply, provides drinking water from 25 active wells located in three different aquifers. The well field is between Portland International Airport and Blue Lake Park. Portland uses the well field for two purposes: to supplement



the Bull Run supply in the summer, and to temporarily replace the Bull Run supply during turbidity events, maintenance activities, and emergencies.

The Columbia South Shore Well Field is beneath homes and businesses with a variety of potential contaminant sources. The deep aquifers that are the primary sources of water supply have natural geologic protection from pollutants present at the land surface. Portland, Gresham, and Fairview work together to protect the well field. The cities' Groundwater Protection Programs work with residents and businesses in the well field to ensure that pollutants from this urban area do not impact the groundwater source.

More information about groundwater protection and groundwater education events:
portland.gov/water/groundwater

The Clackamas River Water District, City of Gresham, City of Lake Oswego, City of Milwaukie, 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 receive detailed water quality reports about these sources in addition to this report.

Frequently asked questions about water quality

What test results will I find in this report?

The Portland Water Bureau monitors drinking water for over 200 regulated and unregulated contaminants. This report lists all of the regulated contaminants the bureau detected in drinking water in 2022. **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?

Currently, Portland's drinking water treatment is a three-step process: **1) Chlorine** disinfects against organisms, such as bacteria and viruses, that could otherwise make people sick. **2) Ammonia** stabilizes chlorine to form a longer-lasting disinfectant. **3) Sodium carbonate and carbon dioxide** reduce the corrosion of metals such as lead. Portland's treatment will have additional improvements in the coming decade.

Is Portland's water filtered?

No. Neither of Portland's sources is filtered. In response to a series of low-level detections of *Cryptosporidium* in Bull Run water since 2017, Portland is installing a filtration plant to treat for *Cryptosporidium*. Bull Run water will be filtered by 2027.

Does the Portland Water Bureau add fluoride to the water?

No. Fluoride naturally occurs in Portland's water at very low levels. You may want to ask your dentist or doctor about supplemental fluoride for preventing tooth decay. This is especially important for young children.



Is Portland's water soft or hard?

Bull Run water—Portland's main water supply—is very soft. It typically has a total hardness of 3–8 parts per million (ppm), or $\frac{1}{4}$ to $\frac{1}{2}$ a grain of hardness per gallon. Portland's groundwater supply is moderately hard: about 80 ppm, or about 5 grains per gallon.

What is the pH of Portland's water?

The pH of Portland's drinking water typically ranges between 8.0 and 9.0.

How can I get my water tested?

For free lead-in-water testing, contact the LeadLine at leadline.org or 503-988-4000. For other testing, you can pay a private, accredited laboratory to test your tap water. For information about accredited labs, contact the Oregon Health Authority at ORELAP.Info@state.or.us or 503-693-4100.

Commented [MS1]: Green: only applicable for systems that are a part of Portland's customer lead testing program.

What causes temporarily discolored water?

Sediment and organic material from the Bull Run Watershed settle at the bottom of water mains. These can sometimes be stirred up during hydrant use or a main break. They can also be seen in the fall as a harmless tea-colored tint. Discolored water can also be caused by older pipes in buildings that add rust to the water. More information: portland.gov/water/DiscoloredWater

How should property managers maintain water quality in large buildings?

Managers of large buildings should implement a water management program to protect their water quality and address the risk of *Legionella* growth. This is especially important for healthcare facilities and residential buildings for people 65 or older. More information: portland.gov/water/WQBuilding

Commented [MS2]: Red: required for all

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 Environmental Protection Agency (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 naturally-occurring salts and metals; **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 naturally occurring organic matter; and **radioactive contaminants**, such as naturally occurring radon.

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



**Portland Water Bureau
2023 Drinking Water Quality Report**

water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791 or at [epa.gov/safewater](https://www.epa.gov/safewater).

Contaminants detected in 2022

Regulated contaminant	Detected in Portland's water		EPA standard		Sources of contaminant	
	Minimum	Maximum	MCL or TT	MCLG		
Untreated source water						
Turbidity (NTU)	0.25	4.74	5	N/A	Erosion of natural deposits	
Fecal coliform bacteria (% >20 colonies/100 mL in 6 months)	Not detected	0.6%	10%	N/A	Animal wastes	
<i>Giardia</i> (#/L)	Not detected	0.04	TT	N/A	Animal wastes	
Treated drinking water						
Metals and nutrients at the entry points						
Arsenic (ppb)	<0.50	1.05	10	0	Found in natural deposits	
Barium (ppm)	0.00074	0.0107	2	2	Found in natural deposits	
Copper (ppm)	<0.00050	0.00065	1.3	1.3	Found in natural deposits	
Fluoride (ppm)	<0.025	0.15	4	4	Found in natural deposits	
Nitrate (as nitrogen) (ppm)	<0.010	0.14	10	10	Found in natural aquifer deposits, animal wastes	
Nitrite (as nitrogen) (ppm)	<0.005	0.007	1	1	Found in natural aquifer deposits, animal wastes	
Total Nitrate + nitrite (as nitrogen) (ppm)	<0.010	0.15	10	10	Found in natural aquifer deposits, animal wastes	
Microbial contaminants in the distribution system						
Total coliform bacteria (% positive per month)	0	0	TT	N/A	Found throughout the environment	
Disinfection residual and byproducts in the distribution system						
Total chlorine residual (ppm)	Running annual average	1.17	1.17	4 [MRDL]	4 [MRDLG]	Chlorine used to disinfect water
	Range of single results at all sites	0.85	1.85	N/A	N/A	
Haloacetic acids (ppb)	Running annual average at any one site	7.9	7.9	60	N/A	Byproduct of drinking water disinfection
	Range of single results at all sites	7.9	7.9	N/A	N/A	
Total trihalomethanes (ppb)	Running annual average at any one site	12.1	12.1	80	N/A	Byproduct of drinking water disinfection
	Range of single results at all sites	12.1	12.1	N/A	N/A	



Unregulated contaminant	Detected in Portland's water			Sources of contaminant
	Minimum	Average	Maximum	
Treated drinking water				
Manganese (ppm)	0.0012	0.0193	0.0318	Found in natural deposits
Radon (pCi/L)	<12	167	333	
Sodium (ppm)	3.4	10.6	15	

Find additional results at: portland.gov/water/TestResults

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.

N/A: not applicable

Some contaminants do not have a health-based level or goal defined by the EPA, or the MCL or MCLG does not apply to that result.

NTU: nephelometric turbidity unit

A unit for measuring the turbidity, or cloudiness, of a water sample.

ppm: parts per million

Water providers use ppm to describe a small amount of a substance within the water. In terms of time, one part per million is about 32 seconds out of one year.

ppb: parts per billion

Water providers use ppb to describe a very small amount of a substance within the water. In terms of time, one part per billion is about 3 seconds out of 100 years.

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pCi/L: picocuries per liter

Picocurie is a measurement of radioactivity.

TT: treatment technique

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

About these contaminants

Arsenic, barium, copper, fluoride, and manganese

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, these are unlikely to result in negative health effects.

Fecal coliform bacteria

To comply 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 reported 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*, a microorganism that can cause gastrointestinal illness. The treatment technique is to remove 99.9 percent of *Giardia* cysts. The Portland Water Bureau uses chlorine to control *Giardia*.

Haloacetic acids and total trihalomethanes

Disinfection byproducts form when chlorine interacts with naturally occurring organic material in the water. High levels of disinfection byproducts can cause health problems in people. Portland adds ammonia to form a more stable disinfectant, which helps minimize disinfection byproducts.

Nitrate and nitrite (as nitrogen)

Nitrate and nitrite, measured as nitrogen, can lead to bacterial and algal growth in the water. At levels that exceed the standard, nitrate and nitrite can contribute to health problems. At the levels found in Portland's drinking water, nitrate and nitrite are unlikely to result in negative health effects.

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, people in Portland are unlikely to have negative health effects from radon in water. Find more information about radon from the EPA at [epa.gov/radon](https://www.epa.gov/radon).



Sodium

There is currently no drinking water standard for sodium. At the levels found in drinking water, it is unlikely to result in negative health effects.

Total chlorine residual

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

Total coliform bacteria

Coliforms are bacteria that are naturally present in the environment. Coliform bacteria usually do not make people sick. 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.

The Portland Water Bureau is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During July 2022, the Portland Water Bureau did not complete all monitoring or testing for coliform bacteria, and therefore cannot be sure of the quality of your drinking water during that time. In July 2022, the Portland Water Bureau tested 238 water samples for coliform bacteria, not meeting the requirement of testing at least 240 samples per month. The Portland Water Bureau returned to compliance the following month. The Portland Water Bureau takes this very seriously and updated our coliform testing plans to ensure that they are consistently meeting testing requirements.

Commented [MS4]: Blue: PWB's monitoring violation. This is not required for wholesaler CCRs, but will be included in CCRs that you order from PWB.

Turbidity

Turbidity is the cloudiness of a water sample. In Portland's system, increased turbidity usually comes from large storms, which suspend organic material in Bull Run water. Increased turbidity can interfere with disinfection and provide an environment for microorganisms to grow. Since the Portland Water Bureau does not yet filter Bull Run water, the treatment technique is that turbidity cannot exceed 5 NTU more than two times in twelve months. When turbidity rises in the Bull Run source, Portland switches to its Columbia South Shore Well Field source.

Reducing exposure to lead

What to know about lead

The Portland Water Bureau cares about the health of the families in our community and is committed to helping you reduce your exposure to lead. If present, lead at elevated levels can cause serious health problems, especially for pregnant people and young children.

Commented [MS5]: Red: required for all

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. 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. Lead



is rarely found in Portland's source waters and there are no known lead service lines in the water system. 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 installed before 2014.

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 painted antique furniture, barro pottery, cultural cosmetics (sindoor, kumkum, tikka, roli, and kohl) and turmeric purchased overseas.

What you can do

When your water has been sitting for several hours, such as overnight or while you are away at 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 (leadline.org or 503-988-4000)**. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from EPA's Safe Drinking Water Hotline: 800-426-4791 or [epa.gov/safewater/lead](https://www.epa.gov/safewater/lead).

Additional steps to reduce exposure to lead from plumbing

- Run your water to flush the lead out.
- Use cold, fresh water for cooking, drinking, and preparing baby formula.
- Do not boil water to remove lead.
- Test your child's blood for lead.
- Test your water for lead.
- Consider using a filter certified to remove lead.
- Clean your faucet aerators every few months.
- Consider replacing pre-2014 faucets or fixtures.

More information to keep your family safe from lead: [leadline.org](https://www.leadline.org) or **503-988-4000**.

Lead and copper testing results from homes with higher risk of lead in water

The Portland Water Bureau offers free lead-in-water tests to anyone in the service area. Twice each year, the Portland Water Bureau also collects water samples from a group of over 100 homes that have lead solder and are more likely to have higher levels of lead in water. Testing results from 2022 were below the EPA action level.

Commented [MS6]: Red: required for all

Commented [MS7]: If your system is not part of Portland's customer lead testing program, replace this green highlighted text with the following required language:

If you are concerned about lead in your water, you may wish to have your water tested.

Commented [MS8]: Green: only for systems part of Portland's customer lead testing program

Commented [MS9]: Yellow: only for JMP systems



Regulated contaminant	Detected in residential water taps		EPA standard		Sources of contaminant
	Fall 2022 results ¹	Homes exceeding action level ²	Action level ²	MCLG ³	
Lead (ppb) ³	11.7	5 out of 108 (4.6%)	15	0	Corrosion of household and commercial building plumbing systems
Copper (ppm) ³	0.171	0 out of 108 (0%)	1.3	1.3	

Commented [MS10]: Yellow data only applicable for JMP systems. Non-JMP systems will need to replace these values with their lead and copper results.

¹ 90th Percentile: 90 percent of the sample results were less than the values shown.

² Action level: The concentration of a contaminant which, if exceeded, triggers treatment or requirements of which a water system must follow.

³ 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.

Monitoring for *Cryptosporidium*

Cryptosporidium is a potentially disease-causing microorganism that lives in virtually all freshwater ecosystems. Drinking water treatment for *Cryptosporidium* is required by state and federal regulations. For five years, the Oregon Health Authority (OHA) did not require the Portland Water Bureau to treat for *Cryptosporidium* based on data showing that *Cryptosporidium* was rarely found in the Bull Run Watershed. Since 2017, test results have shown low-level detections of *Cryptosporidium* primarily during the rainy season. As a result, OHA determined that treatment is now necessary.

The Portland Water Bureau does not currently treat for *Cryptosporidium*, but is required to do so under drinking water regulations. Portland is working to install filtration by 2027 under a compliance schedule with OHA. 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 continues to conclude that the general public does not need to take any additional precautions.

Commented [MS11]: Red: PWB encourages you to include this text in your CCR.

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.



2022 Results of *Cryptosporidium* monitoring at the raw water intake

Number of samples		Concentration detected (oocysts/L)	
Total tested	Positive for <i>Cryptosporidium</i>	Minimum	Maximum
179	46	Not detected	0.08

More information: portland.gov/water/crypto

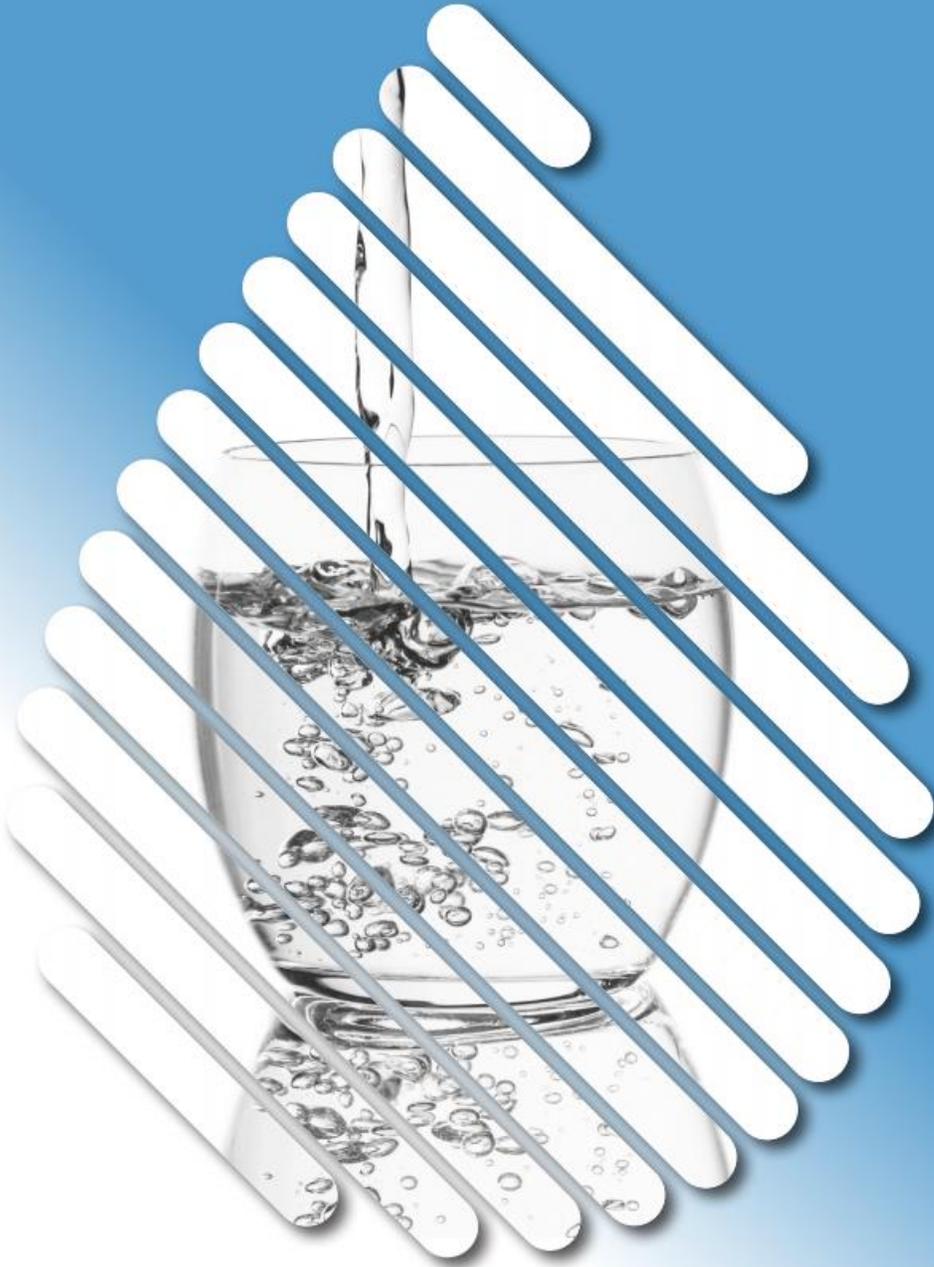
Special notice for immunocompromised persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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**.

Commented [MS12]: Red: required for all



2023



THERE WHEN YOU NEED IT: High Quality Drinking Water

City of Lake Oswego Water Quality Report
Drinking water quality data from 2022

 LOOREGON  @CITYOFLAKEOSWEGO  @LAKEOSWEGOINFO

THERE WHEN YOU NEED IT: HIGH QUALITY DRINKING WATER

Your 2023 Water Quality Report is based on data collected during the 2022 calendar year. The City of Lake Oswego prepares this report in accordance with Federal and State regulations to bring our customers the best available information about the water they drink.

Clean drinking water is an essential resource that we rely on every day. It is easy to take for granted when we turn on our taps and always get clean, fresh water. Knowing where your water comes from, how it is treated, what it is tested for, and how it reaches your tap is important to understand.

KNOW YOUR WATER:

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Where does Lake Oswego’s water come from?

Source Information

Your drinking water originates in the Clackamas River watershed, which is one of the highest quality water sources in the state. This watershed encompasses 940 square miles and begins in the Mount Hood National Forest. Water is withdrawn from the Clackamas River, then pumped through a pipeline buried beneath the Willamette River to the Lake Oswego Tigard Water Treatment Plant located in West Linn.

A Clackamas River Watershed Source Water Assessment was completed in 2019. The report is available at www.deq.state.or.us/wq/dwp/docs/uswareports/USWA_00457LakeOswego.pdf

How is your drinking water treated?

The Lake Oswego Tigard water treatment process is a multi-step process using ballasted flocculation, intermediate ozone, biological filtration, and disinfection / pH adjustment:

- **Ballasted Flocculation** uses micro-sand and a coagulant to settle dirt, sediment and contaminants out of the water.
- **Ozone** is then added to remove unpleasant taste and odor compounds and to provide advanced treatment.
- **Biological Filtration** through a deep bed of granular activated carbon and silica sand removes any remaining tiny microbes and contaminants, such as cryptosporidium. Beneficial biological activity removes organic molecules that can produce disinfection byproducts.
- Once filtered, the water is **disinfected** using a small amount of chlorine and the **pH is adjusted** to prevent **corrosion** of household plumbing.

Behind-the-Scenes with Your Water Superheroes!

No matter the weather or the emergency, there are hardworking water professionals braving the elements to maintain all the infrastructure needed to ensure high-quality drinking water is there when you need it! Meet some of our dedicated water professionals, who work behind-the-scenes around the clock, to ensure the Lake Oswego community enjoys nature's most precious resource.

Austin Martinez - Utility Worker

1. What is your favorite or least favorite part of your job?

My favorite thing about the job is being able to work with such a great crew, and being able to work outside and cover different duties each day bringing a nice variety to the workload.

2. Why are you passionate about working in the water industry?

I've always been interested in environmental science and mechanical work and we get to see both sides of those duties. I grew up around water and have a few family members who also work in the industry.

3. What does H2O/drinking water mean to you?

It's an essential and vital source. We can live without electricity/phones/wifi/vehicles etc. but without water, there wouldn't be life.

4. What is one thing you would like more customers know about their drinking water?

That L.O. water comes from one of the cleanest sources of water, the Clackamas River which is constantly supplied from melting snow and glacial pack that provides nice, clear, simple and safe to consume water.



Roxanne Edgar - WTP Operator

1. What is your favorite or least favorite part of your job?

The early mornings – being awake for beautiful sunrises.

2. Why are you passionate about working in the water industry?

Clean water is a foundation of our civilization, and I love being part of the team that brings it to customers.

3. What does H2O/drinking water mean to you?

Water is a precious resource.

4. What is one thing you would like more customers know about their drinking water?

We go to a lot of effort to make sure your water is clean and drinkable, there's no need to buy bottled water.

Usman Ahmad - Accounting Specialist in Utility Billing

1. What is your favorite or least favorite part of your job?

My favorite part about my job is that it never gets boring. There are always new things to learn and new challenges that come up. I also love working with my colleagues.

2. Why are you passionate about working in the water/utility billing industry?

I like working in the utilities industry because the work is interesting and challenging. I enjoy working with people to solve problems and I can use my skills and knowledge to help people in their everyday lives.

3. What does H2O/drinking water mean to you?

I believe drinking water more often is one of the easier changes to make when developing healthier habits. It doesn't require you to go out of your way to access water and being able to benefit from it.

4. What is one thing you would like more customers know about their drinking water?

The City of Lake Oswego does an exceptional job to provide clean and safe drinking water to its residents. There are a lot of people working very hard to ensure that our water meets the highest standards.



Kyle Frias - Utility Worker

1. What is your favorite or least favorite part of your job?

A favorite for myself is the many different dynamics from our day to day duties. One day we might be installing a new fire hydrant or water service, the next day or night we could be repairing a water main or plowing snow off roads.

2. Why are you passionate about working in the water industry?

Responsibility to keep and maintain clean drinking water to the city and surrounding water districts. To work and strive for each job or task to be done correct and safe with a great water team.

3. What does H2O/drinking water mean to you?

Drinking water to me is a very important key to maintaining daily life. A vital resource that shouldn't go unappreciated.

4. What is one thing you would like more customers know about their drinking water?

Appreciation for the ease of flushing a toilet or turning a faucet on.

YOUR LO WATER BY THE NUMBERS

Your Drinking Water Meets or Exceeds Every State and Federal Standard

Your drinking water is tested every day. More than 90 contaminants are regularly sampled for, both before and after the water is treated, to ensure it meets the more than 120 water quality standards for drinking water set by the Environmental Protection Agency (EPA) and the State of Oregon.

The accompanying table shows the results of water quality testing for 2022. Every regulated substance detected in Lake Oswego's drinking water is listed. All of the substances were either not detected or were detected at levels well below limits set by the EPA and State of Oregon for safe drinking water.

For a complete listing of all test results, go to the Oregon Drinking Water Service website: <https://yourwater.oregon.gov/inventory.php?pwsno=00457>.

Contaminants (Units)	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
Chlorine (CL ²) (ppm)	4	4	0.95 (average)	0.31	1.37	2022	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	11.1 (highest quarterly average)	2.3	15.9	2022	No	By-product of drinking water chlorination
Total Trihalomethanes/ (TTHMs) (ppb)	NA	80	16.5 (highest quarterly average)	3.0	18.0	2022	No	By-product of drinking water disinfection
Bromate (ppb)	0	10	0.36	ND	1.8	2022	No	By-product of drinking water treatment with Ozone
Microbiological								
Fecal Coliform/E. Coli (positive samples)	0	0	0	Not Detected		2022	No	Human and animal waste
Total Coliform (% positive samples/month)	0	5	0	Not Detected		2022	No	Naturally present in the environment
Turbidity (NTU)	NA	TT 0.3 in 95% of samples	100% of samples meet turbidity standards	Highest single measurement: 0.0132		2022	No	Soil runoff
Inorganic								
Copper - action level at consumer taps (ppm)	1.3	AL=1.3	90 th percentile: .042 Homes exceeding AL: 0			2020	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	AL=15	90 th percentile: 1.8 Homes exceeding AL: 0			2020	No	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Contaminant Monitoring Rule 2019 Results

The Lake Oswego Tigard Water Partnership has complied with the fourth round of the EPA's Unregulated Contaminant Monitoring Rule (UCMR 4). A full list of contaminants tested and their results are available upon request. Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. The unregulated contaminants that were detected in Lake Oswego sampling are listed above, along with their level of detection. For more information, call 503-635-0394 or email watertest@lakeoswego.city.

For a complete listing of all test results, go to the Oregon Drinking Water Service website: <https://yourwater.oregon.gov/inventory.php?pwsno=00457>

What Else Do We Look For In Our Water?

The following list of chemicals and compounds are what we test for on a regular basis. Most chemicals are measured in parts per billion (ppb) or parts per million (ppm).

- **Volatile Organic Compound:** (21 compounds) manmade chemical compounds such as cleaning fluids, degreasers and plastics.
- **Synthetic Organic Compounds:** (30 compounds) manmade chemicals, including insecticides and herbicides.
- **Inorganic Compounds:** (16 compounds) naturally occurring minerals and chemicals that are released into water through erosion and leaching of mineral deposits.

Cryptosporidium

Cryptosporidium is a microorganism (protozoan) naturally present in surface water supplies throughout the world. Surface water supplies are particularly vulnerable if they receive runoff or pollution from human or animal wastes. Since wildlife inhabit the Clackamas River Watersheds, managing agencies regularly monitor for *Cryptosporidium*. Occasionally, this monitoring detects low levels of *Cryptosporidium*.

New national standards further reduce the risks of illness from *Cryptosporidium*. Symptoms of infection include nausea, abdominal cramps and diarrhea. Most healthy individuals are able to overcome the disease within a few weeks. However, immunocompromised people have more difficulty and are at greater risk of developing severe, life threatening illnesses. Immunocompromised individuals are encouraged to consult their doctor regarding appropriate precautions to avoid infection.

Cryptosporidium must be ingested for it to cause disease and may be spread through means other than drinking water.

Sources of Contaminants

In order to ensure that tap water is safe to drink, the EPA sets regulatory limits on the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration sets limits for contaminants in bottled water which must provide the same protection for public health.

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 earth's surface or through the ground it dissolves naturally occurring minerals and, in some cases, radioactive material. Drinking water can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water throughout the United States include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from wildlife or septic systems e.g. coliform and Giardia.
- **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 may come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can occur naturally, e.g. radon.

Glossary: EPA Water Quality Definitions

Action Level (AL): the concentration of a contaminant which, if exceeded, triggers a treatment or other requirements a water system must follow.

Maximum Contaminant Level (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 technology.

Maximum Contaminant Level Goal (MCLG): the level of a contaminant in drinking water below which there is no known risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (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 (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 contamination.

Nephelometric Turbidity Units (NTU): the standard unit of measurement used in water analysis to measure turbidity in a water sample. Turbidity is a measure of how clear the water looks.

Parts per Million (ppm): one part per million is equivalent to half of an aspirin tablet dissolved in a full bathtub of water (approximately 50 gallons).

Parts per Billion (ppb): one part per billion is equivalent to half of an aspirin tablet dissolved in 1,000 bathtubs of water (approximately 50,000 gallons).

pH: a scale that measures how acidic or basic drinking water (or another substance) is.

Treatment Technique (TT): a required process intended to reduce the level of a contaminant in drinking water.

Drinking and Bottled Water Notice

Drinking water, including bottled water, may be reasonably expected to contain small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's **Safe Drinking Water Hotline** at 1-800-426-4791.



A Penny Per Gallon

You pay less than a penny per gallon of high-quality tap water, delivered to your home. By comparison, a 16-ounce container of bottled water costs approximately \$1.00.

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 persons, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the **Safe Drinking Water Hotline** 1-800-426-4791 or visiting epa.gov/safewater.

Lead Safety

Lake Oswego's water system meets State and Federal requirements for lead. Results from customer sampling demonstrate that the system is optimized to prevent lead from getting into the water.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead is rarely found above detectable levels in the City of Lake Oswego's source water, the Clackamas River.

The main source of lead in drinking water is typically from household plumbing or components associated with water service lines. The City of Lake Oswego is responsible for providing high-quality drinking water, but cannot control the variety of materials used in private 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 two minutes before using water for drinking or cooking.

Free Lead Testing

If you are concerned about lead in your water, you may wish to have your water tested. The City offers FREE lead testing to its water customers— you can pick up a test kit and instructions at the 2nd floor reception desk at City Hall.



Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the **Safe Drinking Water Hotline** or at epa.gov/safewater/lead.

Do you have a Backflow Device?

It's time to think about backflow testing! Backflow assemblies separate drinking water from non-drinking water sources such as irrigation systems, fire protection systems, medical equipment, and private pump systems. These devices help protect our public water system from possible contamination. Backflow devices are required by the City and the State of Oregon.

All backflows must be tested no later than July 15 of each calendar year. For more information and a complete list of certified backflow testers, please visit www.lakeoswego.city/backflow or call 503-534-5674.



Cyanotoxin Monitoring Rule

In 2018, the Oregon Health Authority developed a drinking water rule that requires many drinking water systems in the state to test for cyanotoxins, and notify the public about the test results.



What are cyanotoxins?

Cyanobacteria, naturally occur in lakes and streams. Under certain conditions, such as in warm water containing an abundance of nutrients, they can rapidly form harmful algal blooms (HABs). These blooms are capable of producing toxins known as cyanotoxins. Cyanotoxins are compounds that are capable of harming humans. The OHA has issued safe drinking water limits for the cyanotoxins microcystins and cylindrospermopsin, listed below.

Algal Toxin	Health Advisory (Vulnerable Population)	Health Advisory (All Population)	Health Advisory (Recreational Advisory)	Sample Date	Your Water
Total Microcystins	0.3 µg/L	1.6 µg/L	4 µg/L	2022	Not Detected
Cylindrospermopsin	0.7 µg/L	3 µg/L	8 µg/L	2022	Not Detected

Q&A about H2O

Are there cyanotoxins in my drinking water?

No, there has never been any toxin detected in the Lake Oswego drinking water. The Lake Oswego Tigard Water Partnership, along with the Clackamas River Water Providers have monitored the Clackamas Watershed for many years for cyanotoxins. Although we have detected low levels of these compounds in the North Fork Reservoir and on the Clackamas, no toxin has been detected in the finished drinking water.

Can the water treatment plant remove cyanotoxins?

Yes! Your water treatment plant was designed with Ballasted Flocculation, Ozone treatment, Biological Filtration, and final disinfection with chlorine to effectively treat these compounds.

Why does my water have a chlorine taste and odor?

Public water systems are required by state and federal safe drinking water laws to maintain a residual chlorine level in the water to keep it safe from microbial contamination. Low levels of chlorine, below 4 ppm, are considered safe for drinking water by the EPA. If you do not like the taste of chlorine in the water you can remove it by placing an open pitcher of water in the refrigerator to let the chlorine dissipate or run the water through an activated carbon filter that is rated to remove chlorine.

Is my water hard or soft?

The water from the Clackamas River is considered soft. It is around 25 ppm or 1.5 grains per gallon of hardness.

Is fluoride added to our drinking water?

No. The Lake Oswego Tigard Water Treatment Plant does not add fluoride to the water and there is no detectable natural fluoride in the Clackamas River source. 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.

My water is brownish in color, what should I do?

Sediment often settles in our water pipes and from time to time that may be disturbed which can color the water coming out of our taps. We recommend running your shower or tubs at full speed at the same time for about ten minutes to flush the water in your lines.



THANK YOU FOR TAKING THE TIME TO KNOW YOUR WATER!

LAKEOSWEGO.CITY/2023-WATER-REPORT



WIN \$100 TOWARDS YOUR NEXT UTILITY BILL



SCAN ME

Contest Rules:

- Entrants must be a Lake Oswego water customer to win.
- Visit <https://bit.ly/3EWsxQ4> or scan QR code above.
- Only one entry is allowed per customer.
- Entrants must complete and submit all the required information on the online form by June 30, 2023.
- One winner will be randomly selected and announced in July 2023.

MORE INFORMATION?

We are here for you!

lakeoswego.city/publicworks

Water Quality and Treatment: 503-635-0394

or watertest@lakeoswego.city

Utility Billing: 503-635-0265

Water Operations: 503-635-0280

Water Conservation: 503-675-3747

Lake Oswego Tigard Water Partnership

lotigardwater.org

United States Environmental Protection Agency

Safe Drinking Water Hotline

1-800-426-4791

epa.gov

Oregon Health Authority

Drinking Water Services

1-503-731-4010

public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/index.aspx

HealthyEnvironments/

DrinkingWater/Pages/index.aspx

Regional Water Providers Consortium

regionalh2o.org

Clackamas River Water Providers

clackamasproviders.org

Clackamas River Basin Council

clackamasriver.org

Get Involved

You are invited to attend Lake Oswego City Council meetings and Lake Oswego Tigard Water Partnership Committee meetings. Visit lakeoswego.city/citycouncil or lotigardwater.org for meeting details.

If you are interested in a tour of our water treatment plant, call 503-635-0394.

Looking to save money on your water bill?

From your kitchen to your garden, there are little things you can do to make a big difference on your bill. Get all the tips at: lakeoswego.city/conservation

To schedule a FREE water audit of your irrigation system, call 503-675-3747.

Sign Up for the Public Alerts Emergency Notification System!

The City uses the ClackCo Public Alerts emergency notification software system to distribute emergency messages via phone, text or email to registered participants. Important messages like a shelter-in-place, water contamination, boil water notices, gas leaks or wildfires can be relayed using this system. All water customers who are served by the City will be covered by ClackCo Public Alerts and are urged to sign up! Enroll at clackamas.us/publicalerts