



Our water supply surfaces at Clear Lake, bubbling to the surface through many feet of natural volcanic "filters."

Eugene residents enjoy some of the highest quality drinking water in the world.

The water comes from the pristine McKenzie River, which emerges from Clear Lake, high in the Cascade Mountains, before flowing 85 miles to Hayden Bridge Water Filtration Plant in Springfield, where the Eugene Water & Electric Board draws water from the river. For more information, go online to <u>EWEB's</u> source water assessment.

Source protection continues

EWEB works hard protecting this source for current and future generations, and has been proactive in addressing threats, including cyanobacteria harmful algal blooms (cyanoHABs). Some species of cyanobacteria produce cyanotoxins that are harmful to humans and pets.

In July 2018, in response to problems found in some Oregon watersheds, the Oregon Health Authority began regulating drinking water for the cyanotoxins microcystin and cylindrospermopsin. EWEB has performed all required monitoring and has not detected cyanotoxins at the filtration plant's water intake. "To ensure proactive monitoring and decision-making, EWEB continues to build on its source water protection, monitoring and treatment programs."

Observation and vigilance in place

Recent climate change research in the Pacific Northwest shows that with higher temperatures, earlier snow melt, and longer, drier summers, the McKenzie Watershed and surrounding areas will experience more abundant cyanoHABs that will start earlier in the spring and last longer into the fall.

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Climate change impacts are already causing increased wildfires, which can increase nutrients in reservoirs, fueling cyanoHAB production. EWEB is studying the impacts of the recent Rebel (2018) and Terwilliger (2019) wildfires on Cougar Reservoir with Oregon State University. We also partnered with the U.S. Geological Survey to install real-time water quality sensors below Cougar Reservoir, Blue River Reservoir, in the McKenzie River, and at the filtration plant water intake to measure blue green algae activity (and other water quality parameters) as an early warning system.

EWEB maintains a close partnership with the Army Corps of Engineers, which operates Cougar and Blue River reservoirs, where cyanoHABs occur. EWEB, the USGS, and the U.S. Army Corps of Engineers partnered to add a realtime water quality sensor in Cougar Reservoir in 2020. It measures blue green algae activity at multiple depths to direct sample collection efforts and can guide Army Corps reservoir operations to reduce downstream impacts to drinking water.

To ensure proactive monitoring and decision-making, EWEB continues to build on its source water protection, monitoring and treatment programs.

Treatment and filtration tactics

The most important line of defense to prevent cyanotoxins from entering Eugene's drinking water supply is the filtration plant, where staff monitors the early warning systems and reacts with appropriate treatment changes to mitigate for cyanotoxins.

Our Water Quality Lab recently added analytical equipment capable of quickly and accurately assessing the presence of cyanotoxins at low levels, and at much reduced cost compared with shipping to out-of-state laboratories. This allows EWEB to make rapid decisions about monitoring and water treatment strategies to mitigate any impacts to drinking water.

In addition, the filtration plant was converted to biological filtration in 2018 and this has demonstrated effectiveness in removing cyanotoxins. If cyanotoxins reach the filtration plant water intake, the biologically active filters can "eat" the toxins as a food source, effectively removing them as the water flows through the filters. EWEB can also utilize activated carbon and chlorination as effective means to treat cyanotoxins.



EWEB monitors for cyanotoxins throughout the watershed and at the water intake to the filtration plant during the cyanoHAB season at frequencies that surpass current OHA requirements. Visit our website to see the most recent toxin results.



EWEB's source water assessment, 2018-2019 State of the Watershed Report, and 10-Year Strategic Plan for Drinking Water Source Protection are available online: eweb.org/mckenzieprotection

Maintaining outstanding water quality is a shared responsibility.

While EWEB replaces sections of the distribution piping every year and is continually upgrading the treatment plant, there are steps customers can take to maintain water quality at home. The plumbing and fixtures that distribute water through your home can sometimes cause water quality issues such as discoloration, taste and odor:

Here are some easy ways that you can maintain high-quality drinking water in your home:





Flush cold-water faucets before using for cooking, drinking, or making baby formula.

If a faucet has not been used for several hours or longer, run the water for 30 seconds to 2 minutes (or until the water feels cooler) before using the water for cooking or drinking. This will improve water quality by bringing in fresh water, and reduce lead levels if present in your home's plumbing.

Clean faucet screens.

At the tip of most faucets you will find an aerator screen. This screen blends air into the water, which cuts down on water use. But it can also trap sediments and metals from your pipes and hot water tank. This can impact water quality and may block water flow. Routinely clean screens and replace them as needed. Twist off to remove. You may need a wrench to loosen the aerator.



Maintain household water filtration devices.

The water delivered to your home meets and exceeds all federal and state drinking water requirements. Installing a home water device is a personal decision. Always maintain filters according to the manufacturer's guidelines. Unmaintained water filters can harbor bacteria and/or release contaminants.



Do not use hot tap water for cooking, drinking, or making baby formula.

Hot water can help dissolve metals such as lead into your drinking water. Always start with cold water and heat as necessary.



Maintain your hot water heater.

Hot water heaters can cause discoloration, particulates and odor at the faucet. Most manufacturers recommend flushing or maintaining of water heaters annually or every few years. The typical life span of a tank-style water heater is 10 years.



When water quality issues such as taste, odor or discoloration occur, try these troubleshooting solutions to help identify and address the problem:

Is the issue in the cold water, hot water, or both?

Cold only or both hot and cold water	Hot water only	Your water heater may need to be flushed or serviced. Most manufacturers recommend flushing or maintaining water heaters annually or every few years. Hiring a plumber may be required.			
Is the issue at all faucets inside and outside your home?					
Yes, all faucets	No, just a few specific faucets	Clean the aerator screen at the troublesome faucets and then flush the faucets by running cold water for two minutes. If the issue is taste/odor, check it by filling a glass and then stepping away from the sink before you test it in order to ensure you are not observing odors that are from the drain.			
Is the issue regarding high chlorine taste or odor?					

Yes	Νο	Try our household flushing procedure below. If the issue persists contact us at <u>water.quality@eweb.org</u> or call 541-685-7861.

EWEB is required to use chlorine in our water to control microbiological growth. Some people are more sensitive to chlorine taste/odor than others. Chlorine levels can fluctuate due to water age, water temperature, and other factors. You can filter your water, set a pitcher of water in your refrigerator overnight or add slices of lemon to help reduce chlorine taste/odor. Try our household flushing procedure and/or call us for more information about chlorine in your area.

Household flushing procedure

This procedure can be used to help with water discoloration as well as taste and odor issues.

 Turn on your outside spigot (closest to the street) at high flow for 10 minutes or until the water clears. Check to see if the issue that you experience inside is present at the spigot before and after flushing.
After flushing the outside spigot, run the cold-water faucets at high flow throughout the house for 5 minutes or until the water clears.
After flushing the inside faucets, remove and clean faucet aerators then reinstall them.
Check the water from different faucets throughout the house. Do you still have the issue? Is it from all taps or is it localized?
If the problem persists call EWEB Water Quality at 541-685-7861 or email water.quality@eweb.org.



EWEB Water: Consistently Outstanding

This report provides a snapshot of last year's water quality. The key conclusion is this: Your water met or exceeded all state and federal drinking water health standards. In fact, EWEB is proud to say that we have never violated a maximum contaminant level or any other water quality standard established by the EPA. For information on EWEB's drinking water monitoring program call 541-685-7861 or email water.quality@eweb.org.

The following contaminants were detected in the water. To view a comprehensive list of all the contaminants that EWEB tests for, go to the <u>2019 annual testing results</u>.

2019 Regulated Contaminants

Test	MCL	MCLG	Detection Range	Probable Source
Inorganics				
Fluoride (ppm)	4	4	ND - 0.057	Erosion of natural deposits

Disinfection Byproducts				
Total Trihalomethanes (ppb)	80	n/a	7.2 - 16.0 Highest LRAA = 17.3	Byproduct of drinking water disinfection
Haloacetic Acids (ppb)	60	n/a	5.3 - 9.8 Highest LRAA= 11.6	Byproduct of drinking water disinfection
Chlorine (ppm)	4	4	0.12 - 0.75	Added to control microbes
Total Organic Carbon (ppm)	TT	n/a	ND - 0.59	Naturally present in the environment

Microbiologicals				
Turbidity (ntu)	TT<0.3 NTU 95% of the time	n/a	Highest measurement - 0.084	Soil run-off

Radioactive Contaminants (Testing performed in 2017)					
Combined Radium (pCi/L)	5	0	ND - 0.19	Erosion of natural deposits	

See page 9 for definitions of terms.

Notes on EWEB Detected Contaminants

The following provides additional information about the contaminants that were detected:

Chlorine

EWEB adds chlorine to our water during the disinfection process to protect against microorganisms such as Giardia and E. coli.

Fluoride / Combined Radium

These naturally occurring substances, found in the mineral composition of our watershed, were detected at extremely low levels — well below regulatory standards. The State allows us to monitor for some contaminants less than once per year. Though representative, the Combined Radium results are from 2017.

Copper

Copper is found in natural deposits and is also widely used in household plumbing materials.

Disinfection Byproducts (DBPs)

Disinfectants are an essential element in drinking water treatment because of the barrier they provide against waterborne disease-causing microorganisms. DBPs form when disinfectants used to treat drinking water react with naturally occurring materials in the water (e.g., decomposing plant and other organic material).

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Total Organic Carbon

A measure of naturally occurring organic materials in water.

Turbidity

Turbidity is a measure of the cloudiness of water. Turbidity can interfere with disinfection. EWEB's filtration process effectively removes turbidity.



EWEB Copper and Lead Sampling Results

EWEB is responsible for providing high-quality drinking water, but cannot control the variety of materials used in household plumbing components. EWEB collects samples from 50 high-risk residential water taps once every three years.

The following table represents our most recent testing results from 2018:

Contaminant	Action Level (AL)	MCLG	90th Percentile Result	Samples Exceeding Action Level (AL)	Source of Contaminant
Copper (ppm)	AL=1.3	1.3	0.074	0	Corrosion of
Lead (ppb)	AL=15	ο	5.1	1	household plumbing systems

See page 9 for definitions of terms.

How Lead Could Get into Your Drinking Water



How We Prevent Lead in Our Drinking Water System

Each of us cares about our family's health and well-being. Elevated levels of lead can cause serious health problems, and pregnant women and young children are especially vulnerable. For decades, we have tested our water for lead. This testing shows that there is no lead in the water that enters the distribution piping. We also adjust the pH of the water to reduce corrosion in our pipe systems and to help prevent lead from leaching out of old household plumbing fixtures.

EWEB is considered optimized by the Oregon Health Authority in our corrosion prevention and is in compliance with all lead regulations.

Reduce Your Lead Exposure

Boiling water will not reduce or remove lead from water. Here are a few tips to reduce lead exposure from your tap water:

Run your tap

Before drinking, flush your pipes by running your tap, taking a shower, doing laundry or a load of dishes.

Clean your aerator every few months to remove any particles. Your faucet aerator can trap particles that contain lead.

Consider buying low-lead fixtures As of January 4, 2014, all pipes, fittings and fixtures must contain less than 0.25 percent lead. Faucets made after 2014 are always the best option at sinks that

are frequently used for drinking and cooking. <u>Learn how to identify lead-free products</u>.

Use only cold water to drink, cook and make baby formula

Hot water makes it easier for lead to leach from your pipes into the drinking water.

Consider using a water filter

Contact <u>National Sanitation Founda-</u> <u>tion International</u> at 1-800-673-8010 for information about certified water filters. Follow all filter maintenance instructions to keep your water safe.

For additional information on lead in drinking water, testing methods and steps you can take to minimize exposure you can contact the Safe Drinking Water Hotline (1-800-426-4791) or visit the <u>EPA's</u> website.

What to do if you are concerned about Lead in your drinking water

YOU CAN have your tap water tested for the presence of lead. <u>Click here</u> for a list of certified laboratories.

YOU CAN <u>verify the type of piping that you have in your home</u>. This is especially important if your home was built prior to 1986.

YOU CAN ask your child's doctor to have a lead blood level test done. The Centers for Disease Control and Prevention recommends that public health actions be initiated when the level of lead in a child's blood is 5 micrograms per deciliter (μ g/dL) or more.

For additional information, please visit:

EUGENE WATER & ELECTRIC BOARD

How EWEB prevents lead in drinking water

OREGON HEALTH AUTHORITY

- Lead fact sheet
- <u>Oregon healthy school facilities</u>

US ENVIRONMENTAL PROTECTION AGENCY

Learn about Lead

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• Lead in Drinking Water



90th Percentile Value

This means that 90 percent of the samples collected were equal to or below the value reported.

Action Level (AL)

The concentration of a contaminant, which, if exceeded, triggers treatment.

Highest Locational Running Annual Average (LRAA)

The highest calculated average of multiple results at a single location in a 12-month period.

Definitions

Maximum Contaminant Level (MCL)

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

Maximum Contaminant Level Goal (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.

Nephelometric Turbidity Units (NTU) A measure of water clarity.

Non-Detect (ND)

Contaminant not detectable using current monitoring equipment.

Non-Applicable (n/a)

ppm: Parts Per Million

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

ppb: Parts Per Billion

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

Treatment Technique (TT)

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

Boil-Water Advisories

A boil-water advisory is a precautionary notice issued by a public drinking water system or by health authorities to consumers when a community's drinking water is or could be contaminated by diseasecausing organisms. It is a preventive measure that is intended to protect the health of water consumers when there is an actual or significant possibility that contamination may be present within the drinking water system.

In 2019, EWEB issued six boil-water advisories due to loss of water pressure in the distribution pipes. The loss of water pressure can result in the backflow or infiltration of unclean water into EWEB's water pipes, posing a potential risk to the health of our customers. EWEB staff communicated each advisory to impacted customers by knocking on doors and leaving door hangers on each property within the affected area.

In each case, the system was repaired and water pressure restored within a few hours. EWEB then collected water samples to test for the presence of bacteria. Results from these tests were available after 18 hours, and in all cases EWEB was able to notify the affected customers that the water was safe for consumption. The health of the community is our top priority and EWEB will continue to follow best management practices to reduce the risk of contamination entering the water system.

The following list details the boil water advisories for 2019:

Date	Location	Customers Affected
4/14/2019	West 7th Avenue	1
6/24/2019	Alva Park Drive	15
7/23/2019	Brookside Drive	5
8/21/2019	Hawkins Lane	22
9/4/2019	Ocean Street	7
11/3/2019	Donovan Street	4

DRINKING WATER BOIL WATER BEFORE USING BOIL WATER BEFORE USING



An EWEB staff member will leave a door hanger advising customers to boil their water as a precaution against any possible contamination as required by the Oregon Health Authority.

For more information, visit eweb.org or call 541-685-7595

Distance with a selection could be water warning is lifted. Water is safe to use and consume





that there are no issues with the water, an EWEB staff member will leave a door hanger communicating water is safe to use and consume.

e information, visit eweb.org or call 541-685-7

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What the EPA says about Drinking Water Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate 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 or visiting the <u>website</u>. The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in drinking water sources may include:

Microbial

contaminants such as viruses and bacteria, which may come from wildlife or septic systems. Inorganic contaminants such as salts and metals, which can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges and farming.

Pesticides and herbicides which may come from a variety of sources such as farming and forestry activities, urban storm water runoff, and home or business landscaping activities.

Organic chemical contaminants

including synthetic and volatile organic chemicals, which are byproducts of industrial processes. These substances also can come from gas stations, urban storm water runoff and septic systems.

Radioactive

contaminants can occur naturally or may result from oil and gas production and mining activities.

Special Health Considerations

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

EPA/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 (1-800-426-4791).



Online posting saves mailing and printing costs

EWEB saves thousands of dollars in paper and printing costs as well as postage fees by making this document available online. Please consider the environment before printing.





- In a water emergency please call 541-685-7595.
- For water quality questions, please call 541-685-7861, or email water.quality@eweb.org.
- For general EWEB questions, call 541-685-7000, or visit eweb.org.
- EWEB commissioners hold public meetings the first Tuesday of each month. For more information, go to <u>eweb.org</u>.
- To request a printed copy of this document, call 541-685-7835, or email water.quality@eweb.org.

Para una copia de este informe en espanol, contacte Joe Harwood en 541-685-7471 o joe.harwood@eweb.org.