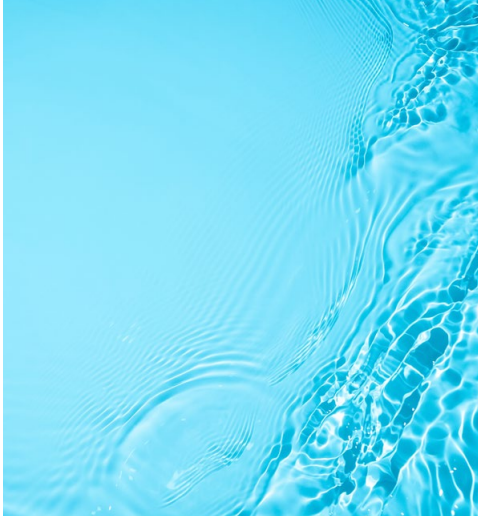


ANNUAL WATER QUALITY REPORT

Reporting Year 2023

Presented By

OAK LODGE WATER SERVICES

PWS ID#: 4101512

Our Commitment

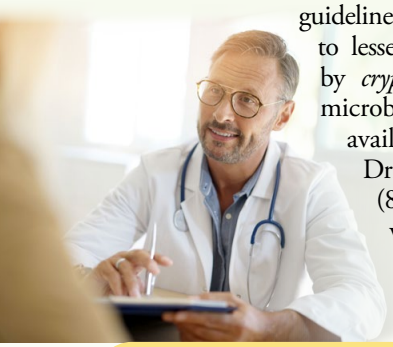
We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. Included are details about your source of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office and on our website. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. The updated Source Water Assessment conducted by DEQ in 2019 identified over 3,000 potential sources of pollution with the 8-hour time-of-travel upstream of the lower Clackamas River intakes. Many of these potential sources of pollution pose a moderate to high risk to the drinking water supply. These potential sources of pollution include sites on state and federal regulatory databases as well as point and nonpoint sources as identified in the 2003 Source Water Assessment.

Important Health Information

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, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. 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 or http://water.epa.gov/drink/hotline.



Questions?

For more information about this report, or for any questions relating to your drinking water, please call Marty Guenther, Pollution Prevention Specialist, at (503) 753-9689.

How is My Water Treated and Purified?

Drinking water for OLWS is produced by three treatment techniques: slow sand filtration, membrane filtration, or conventional filtration. The Allen F. Herr Water Treatment Facility began production in August 1999. OLWS, Sunrise Water Authority, and the City of Gladstone - known collectively as the North Clackamas County Water Commission (NCCWC) - jointly own the slow sand and membrane filtration systems.

OLWS customers receive their water from NCCWC. South Fork Water Board and Clackamas River Water use conventional water treatment and serve as backup supplies to NCCWC.

NCCWC began using slow sand filtration in August 1999. In 2005 it added membrane filtration, a state-of-the-art treatment technique that filters water through a series of small tubes with openings one micron in size. This ultrafiltered water allows for a continuous supply even when raw water turbidities rise in the winter months.

The slow sand filtration process operates as follows: Untreated water is pumped onto four half-acre beds. As the water passes through the filter media, the top six inches of sand provide an area where pathogenic organisms are trapped or ingested by nonpathogenic organisms. This treatment zone, known as the zoogleal mass, filters out particles and helps break down organic matter. Chlorine is added to the filtered water as a follow-up treatment measure to disinfect any pathogenic organisms that may have passed through the filter media. An adequate amount of chlorine is added to provide a detectable residual throughout the distribution system.

Membrane filtration processes operate as follows: raw water flows from the river into a cell where the filters are submerged. Each filter cell has 288 membrane modules, and each module has 9,500 individual hollow fibers. The flow is drawn through the walls of the membrane fibers by vacuum to the inside of the fiber by a pump. After the membranes have filtered a predetermined flow, the water goes through a backwash procedure for cleaning. The backwash procedure uses water and air to scour away the particles that have accumulated on the fibers. This water is then chlorinated and combined, typically, with the water from the slow sand filters.

The water from South Fork Water Board is treated in the following conventional fashion: Water is pumped to a basin where alum and polymer are added as coagulants. The water then enters hydraulic flocculators and goes to a sedimentation basin, where the floc settles. At this point, the relatively clear water is collected and sent to rapid filters. The filtered water is chlorinated and provided to the NCCWC as needed.

Clackamas River Water uses the following three-step process: Filtration removes a wide range of contaminants, such as particles and microorganisms, from the water. The smallest amount of chlorine is added that will maintain disinfection to the farthest reaches of the distribution system. Corrosion control adjusts the pH to minimize corrosion in home plumbing that could lead to lead exposure. This is accomplished by slightly adjusting pH, alkalinity, or both.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

> **"When the well is dry, we know the worth of water."**
>
> *—Benjamin Franklin*

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

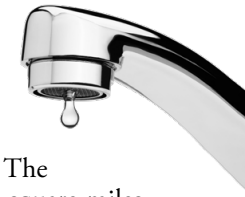
Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You're invited to participate in our public forum and voice your concerns about your drinking water. The board of directors holds regular public meetings on the third Tuesday of each month at 6:00 p.m. You're welcome to attend through Zoom or in person at 14496 SE River Road, Oak Grove. Visit OakLodgeWaterServices.org or call (503) 654-7765 for more information.

Where Does My Water Come From?



Oak Lodge Water Services (OLWS) withdraws water from Clackamas River, an extremely high-quality raw water source. The Clackamas River watershed covers almost 1,000 square miles, mostly located in Clackamas County. Timothy Lake and Olallie Lake make up the headwaters of the Clackamas River, and many tributary streams contribute to the flow of the river.

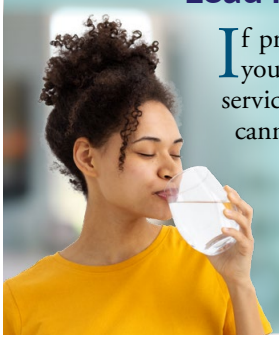
Water is occasionally received from the South Fork Water Board and Clackamas River Water. Both treatment plants draw water from Clackamas River. The South Fork Water Board and Clackamas River Water plants are primarily used as a backup supply.

Approximately 100 miles of water mains make up the distribution system that carries water to OLWS customers. OLWS has four reservoirs with a combined storage of 15.6 million gallons.

Think Before You Flush!

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of our waterways by disposing responsibly. To find a convenient drop-off location near you, please visit https://bit.ly/3IeRyXy.

Lead in Home Plumbing



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. In addition to listed substances, OLWS sampled for lithium and 29 per- and polyfluoroalkyl substances (PFAS) twice in 2023, but none of these analytes were detected. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

In 2023 OLWS only had excursions for pH. OLWS purchases water from NCCWC, which has a different pH parameter from OLWS. As such, OLWS is working with Oregon Health Authority to review the discrepancy between the two entities' requirements.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2021	2	2	0.0053200	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2023	[4]	[4]	1.27	0.13–1.27	No	Water additive used to control microbes
Nitrate [as nitrogen] (ppm)	2023	10	10	0.563	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2023	80	NA	53.8	28.5–53.8	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2023	1.3	1.3	0.091	1/31	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2023	15	0	0.0040	1/31	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

BY THE NUMBERS

5.1
TRILLION
The dollar value needed to keep water, wastewater, and stormwater systems in good repair.

12
THOUSAND
The average amount in gallons of water used to produce one megawatt-hour of electricity.

2
How often in minutes a water main breaks.

47.5
TRILLION
The amount in gallons of water used to meet U.S. electric power needs in 2020.

1.7
TRILLION
The gallons of drinking water lost each year to faulty, aging, or leaky pipes.

33
The percentage of water sector employees who will be eligible to retire in 2033.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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.

NA: Not applicable.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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