

ANNUAL WATER QUALITY REPORT

Reporting Year 2021



Presented By

OAK LODGE
WATER SERVICES

We've Come a Long Way

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. As in years past, we are committed to delivering the best-quality drinking water possible. The District remains vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach while continuing to serve the needs of all our customers. Thank you for allowing us the opportunity to serve you and your family.

How is My Water Treated and Purified?

Oak Lodge Water Services customers receive their water from the North Clackamas County Water Commission (NCCWC). The South Fork Water Board, with its conventional water treatment, also serves as a backup supply to the NCCWC. The NCCWC began using slow sand filtration in August 1999 and added membrane filtration processes in 2005.

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

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 the particles that have accumulated on the fibers. This water is then chlorinated and combined 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 to the raw water as coagulants. The water then enters hydraulic flocculators and goes to a sedimentation basin where the floc settles. The supernatant water is collected in weirs and sent to rapid filters. The filtered water is then chlorinated and provided to the NCCWC on an as-needed basis.

Where Does My Water Come From?

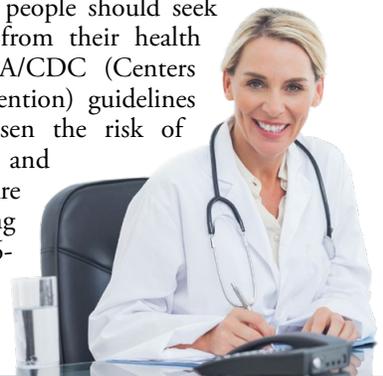
Oak Lodge Water Services District withdraws water from the Clackamas River, which is an extremely high-quality raw water source. The Clackamas River watershed covers almost 1,000 square miles, mostly located in Clackamas County, Oregon. Timothy Lake and Ollalie Lake make up the headwaters of the Clackamas River, and many tributary streams contribute to the flow of the river. Drinking water for Oak Lodge Water Services is produced by three treatment techniques: slow sand filtration, conventional filtration, and membrane filtration. The Allen F. Herr Water Treatment Facility began production in August 1999. Oak Lodge Water Services, Sunrise Water Authority, and the City of Gladstone - known as the North Clackamas County Water Commission (NCCWC) - jointly own the slow sand and membrane filtration systems. Water is occasionally received from the South Fork Water Board's conventional treatment plant facility. The South Fork Water Board's treatment facility was constructed in 1958 and started providing water to Oak Lodge customers in 2002. The South Fork Water Board's plant is used primarily as a backup supply.

The NCCWC added membrane filtration in 2005. Membrane filtration is 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 of water even when raw water turbidities rise in the winter months.

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

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 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.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals understand a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:



- Operating and maintaining equipment to clarify and purify water.
- Monitoring and inspecting machinery, meters, gauges, and operating conditions.
- Conducting tests and inspections on water and evaluating the results.
- Maintaining optimal water chemistry.
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels.
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

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 that 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;

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.

Regional Water Providers Consortium

Oak Lodge Water Services is a member of the Regional Water Providers Consortium. This year, the Consortium and its members are celebrating 25 years of service. Find out more about the Consortium and its work in water conservation, emergency preparedness, and regional coordination at regionalh2o.org.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only 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.

The state recommends monitoring for certain substances less often 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	0.00532	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2021	[4]	[4]	1.20	0.10–1.20	No	Water additive used to control microbes
Fecal coliform and <i>E. coli</i> (# positive samples)	2021	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive		0	NA	No	Human and animal fecal waste
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2021	60	NA	37	16–37	No	By-product of drinking water disinfection, HAA5
Nitrate [as Nitrogen] (ppm)	2021	10	10	0.312	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Coliform Bacteria ¹ (Positive samples)	2021	TT	NA	1	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2021	80	NA	73	30–73	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 ² (ppm)	2020	1.3	1.3	0.05	0/66	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead ³ (ppb)	2020	15	0	4	0/66	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits
UNREGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE			
Sodium (ppm)	2021	5.2	NA	NA			

¹We received a positive total coliform bacteria result on November 9, 2021. Repeat validation samples indicated that no total coliform bacteria were present.

²Copper samples are required every three years as directed by Oregon Health Authority. These results are from the 2020 sampling. The next sampling will take place in 2023.

³Lead samples are required every three years as directed by Oregon Health Authority. These results are from the 2020 sampling. The next sampling will take place in 2023.

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 that, if exceeded, triggers treatment or other requirements that 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.

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 2 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.

Source Water Assessment

In 2019, the Oregon Department of Environmental Quality (DEQ) and the Oregon Health Authority (OHA) updated the source water assessments for the public water systems that get their water supply from the Clackamas River. The Source Water Assessment Plan (SWAP) addresses the drinking water source area for the Estacada, Clackamas River Water, North Clackamas County Water Commission, South Fork Water Board, Lake Oswego Municipal Water, City of Tigard, and Sunrise Water Authority as well as their wholesale customers. In the SWAP, potential contaminants to our water system were identified and ranked by risks, which range from low to high depending on the category. The SWAP is available at our office and website.

Community Participation

You're invited to participate in our public forum and voice your concerns about your drinking water. The Board of Directors hold regular public meetings on the third Tuesday of each month beginning at 6:00 p.m. Visit the website at oaklodgewaterservices.org or call (503) 654-7765 to learn if the meeting will be online or in person at 14496 SE River Road, Oak Grove.

