



ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

OAK  LODGE

Presented By

Oak Lodge Water Services District



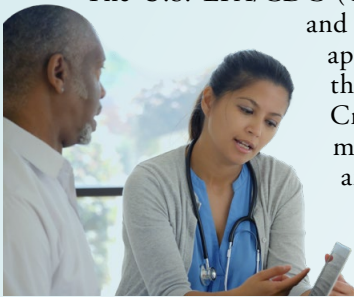
Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. 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, community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family. We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

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>.



Community Participation

You are invited to participate in our public forum and voice any concerns about your drinking water. The Board of Directors holds 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 occur online or in-person at 14496 SE River Road, Oak Grove, OR.

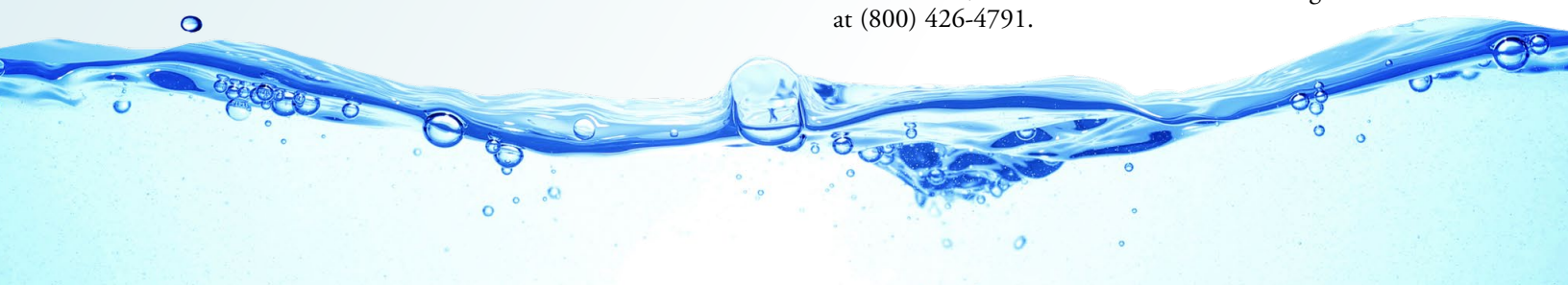
Substances That Could Be in Water

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:

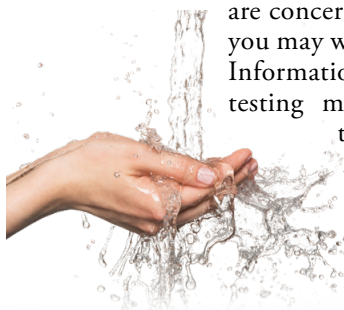
Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial 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.



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



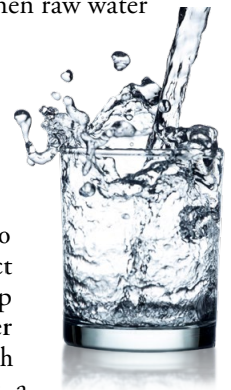
are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

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We remain vigilant in
delivering the best-quality
drinking water
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Where Does My Water Come From?

The District withdraws water from Clackamas River. The Clackamas River 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 Olallie Lake make up the headwaters of the Clackamas River, and many tributary streams contribute to the flow of the river. Drinking water for the District is produced by three filtration treatment techniques: slow sand, conventional, and membrane. The Allen F. Herr Water Treatment Facility began production in August 1999. North Clackamas County Water Commission (NCCWC) is a partnership between the District, Sunrise Water Authority, and the City of Gladstone. Together we jointly own the slow sand and membrane filtration systems. 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 ultra-filtered water allows for a continuous supply of water even when raw water turbidities rise in the winter months.

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 District customers in 2002. The District has two entities that are used for backup supply, which includes South Fork Water Board and Clackamas River Water. South Fork Water Board treats water using a conventional plant facility and Clackamas River Water use a direct filtration plant facility.



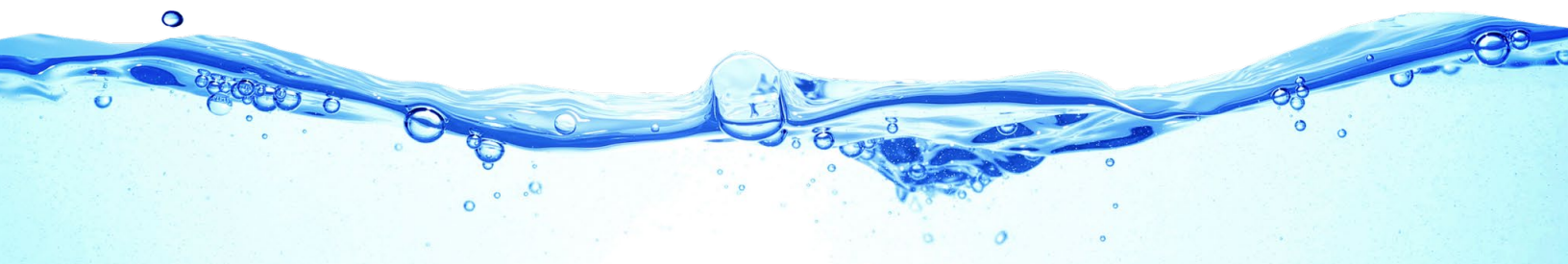
Approximately 100 miles of water mains make up the distribution system that carries water to District customers. The District has four reservoirs with a combined storage of 15.6 million gallons.



Start your
emergency prep
with
water.

helped you gauge your personal preparedness: Did you have plenty of shelf-stable food in the pantry and some extra toilet paper, or did you have to go to the store to stock up? If you had already spent time preparing for “The Big One,” you’ll find that you’re more prepared for other emergencies as well. Find out more about how you can prepare for emergencies at regionalh2o.org/emergency-preparedness.

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.



Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available on the District website at oaklodgewaterservices.org/WRF or call (503) 654-7765 to access a hard copy. 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. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources. 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.



Testing for *Cryptosporidium*

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water and/or finished water indicates the presence of these organisms. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

How is My Water Treated and Purified?

Oak Lodge Water Services District 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 zooglycal 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 is a process where water and air are used to scour the particles that have accumulated on the fibers. This water is then chlorinated and combined, at most times, 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.



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.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2020	2	2	0.00274	0.002–0.00274	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2020	[4]	[4]	1.28	0.11–1.28	No	Water additive used to control microbes
Fecal coliform and <i>E. coli</i> (# positive samples)	2020	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	0	0	NA	No	Human and animal fecal waste
Haloacetic Acids [HAAs] ¹ (ppb)	2020	60	NA	59	23–59	No	By-product of drinking water disinfection, HAA5
Nitrate [as Nitrogen] (ppm)	2020	10	10	0.158	0.158–0.158	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2020	80	NA	74	27–74	No	By-product of drinking water disinfection
Total Coliform Bacteria (Positive samples)	2020	TT	NA	0	NA	No	Naturally present in the environment

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 (90 TH PERCENTILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.05	0/66	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	4	0/66	No	Lead services lines; Corrosion of household plumbing systems including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2020	250	NA	ND	NA	No	Runoff/leaching from natural deposits



UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
HAA5 ² (ppb)	2020	61	35–61
HAA9 (ppb)	2020	63	37–63
Manganese (ppb)	2020	0.92	NA
Sodium (ppm)	2020	5.6	5.6–5.6

¹The values reported here are from routine quarterly sampling which is required by the Oregon Health Authority Drinking Water Program.

²The value reported here is from a non-routine sample which was required by the US EPA as part of the Unregulated Contaminant Monitoring Rule 4, and so is not reported with the routine HAA5 values that are reported above. Although this value represents a single exceedance of the MCL, it is not considered a violation because the District's LRAA (Locational Running Annual Average) is below the MCL.

Definitions

90th Percentile: 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

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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

