



CITY OF
**West
Linn**

WestLinnOregon.gov

2018 *ANNUAL*

*WATER
QUALITY
REPORT*





Where does West Linn's water come from?

West Linn's drinking water is drawn from the Lower Clackamas River. The Clackamas River flows west from its headwaters on Ollalie Butte, south of Mt. Hood, for nearly 83 miles until it joins the Willamette River near Oregon City. The Clackamas River watershed covers almost 1,000 square miles, most of it located within Clackamas County. The South Fork Water Board (SFWB) treats our water at their facility in the Park Place area of Oregon City. SFWB is jointly owned by the City of West Linn and the City of Oregon City. West Linn also has an emergency-only water main connection with Lake Oswego.

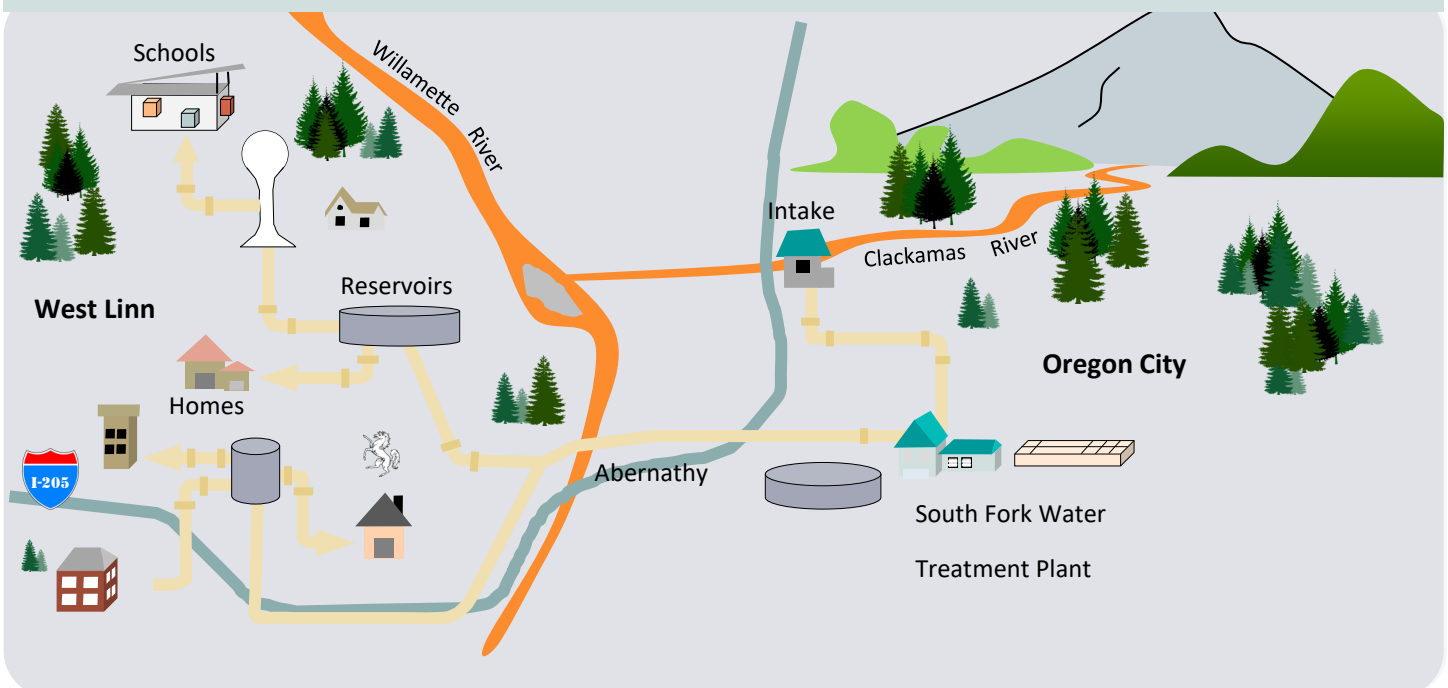
The Purpose of this Report

The City of West Linn is pleased to provide you with our 2018 Drinking Water Quality Report. This Report is based on data collected during the 2017 calendar year. It is important for customers to understand where their water comes from, how it is treated, and the actions we take to ensure its continued high quality.

This document conforms to Federal Environmental Protection Agency (EPA) regulations that require water utilities to provide the following information annually. The water we serve you meets or exceeds the water quality standards set by the EPA.

A source water assessment for the SFWB was completed in 2002 in compliance with the 1996 Amendments to the Safe Drinking Water Act. The Clackamas River watershed protection area is occupied by a wide variety of residential, agricultural, forest, commercial and industrial land uses. A total of 1,127 potential contaminant sources were identified within this area that could, if improperly managed or released, impact the water quality in the watershed. In 2010, the Clackamas River Water Providers (CRWP) completed a Drinking Water Protection Plan for the Clackamas River. The purpose of this plan is to provide CRWP with a road map of potential strategies and programs to implement over the next decade and beyond to preserve the Clackamas River as a high quality drinking water source. CRWP strives to keep its water treatment requirement as low as possible, while ensuring optimum water quality for our communities.

West Linn's Drinking Water System



EPA INFORMATION ABOUT DRINKING WATER CONTAMINANTS

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 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, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the
EPA Safe Drinking Water Hotline at 1.800.426.4791.

Important Information About Lead

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. The City of West Linn is responsible for providing high quality drinking water, but cannot control the variety of materials used in home 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 drinking water, you may wish to have your water tested. The City of West Linn is not able to test water as we are not a water testing laboratory. To get a list of accredited labs, visit the Oregon Health Authority's Drinking Water Program website. 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:

www.epa.gov/safewater/lead

Compliance with the Lead and Copper Rule

Our last Lead and Copper testing event was labeled "Round 18" and took place in June of 2015. Because we are on a reduced sampling schedule by the State, our next Lead and Copper sampling events will take place in June 2018 and 2021.

Health Conditions And Your Water

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA and Centers for Disease Control and Prevention provide guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants and are available from the Safe Drinking Water Hotline (800-426-4791). Please read this report carefully, and if you have questions, call the resource numbers supplied.

Bottled Water

Bottled water that you may otherwise purchase comes under different standards and requirements than those required of tap water. Bottled water manufacturers are regulated by the Food and Drug Administration (FDA). Please be an informed consumer and check the sources and standards of your drinking water.

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 the water poses a health risk.

Water Quality Testing Information

The results of tests performed in 2017 are presented on the water quality tables on pages 5 and 6. The City of West Linn and the SFWB Treatment Plant routinely monitor for contaminants in your drinking water as required by Federal and State laws. Only contaminants found to be present in the drinking water are listed in the following tables. Your drinking water is tested for more than 90 other contaminants. To view all testing results and compliance records visit the Oregon Health Authority website at <https://yourwater.oregon.gov/> and under WS ID Look Up enter 00944. West Linn's full ID is OR4100944. The South Fork Water Board water system identification number is 00591.

Additional Information

For more information about West Linn's drinking water, please contact Matt Kaatz Water Division Supervisor for the City of West Linn at:

Email: mkaatz@westlinnoregon.gov

Phone: (503) 656-6081

West Linn is a member of the American Water Works Association, a national organization dedicated to safe and sustainable water, and the South Fork Water Board, the wholesale supplier of your drinking water.

American Water Works Association:

www.awwa.org

South Fork Water Board:

www.sfwb.org

West Linn is also a member of the Regional Water Providers Consortium. The Consortium and its 20 water provider members have worked together for more than 20 years on projects that increase the resiliency of the region's water systems. For example, last fall, Consortium members participated in an exercise that tested a regional interconnections mapping tool to see how water could be moved between water systems during an emergency. Find out more about how the Consortium provides leadership in the planning, management, stewardship, and resiliency of drinking water in the Portland metropolitan region at www.regionalh2o.org.

Table Definitions

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

Contaminant: Any physical, chemical, biological, or radiological substance or matter in water that creates a possible health hazard.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's 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 the addition of a disinfectant is necessary for the 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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers longer than 10 micro meters.

Minimum Reporting Level (MRL): the smallest measured concentration of a substance that can be reliably measured by using a given analytical method.

Nephelometric Turbidity Unit (NTU): A measure of how cloudy water is due to suspended particles in the water. Smaller # = clearer water.

Non-Detects (N/D): Laboratory analysis indicates that the contaminant is not present or that it is present at levels too low for modern laboratory equipment to detect.

Non-Regulated Contaminant: These have guidelines set to assure good aesthetic quality and to identify levels of substances that may affect taste, odor, or color of water.

Parts per million (ppm) or Milligrams per liter (mg/L): One ppm is comparable to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (mcg/L): One ppb is comparable to a single penny in \$10,000,000 or the first 16 inches on a trip to the moon.

Range: The lowest to the highest values for all samples tested for each contaminant (this value is listed only where applicable).

Secondary Maximum Contamination Level (SMCL): The level of a secondary contaminant which when exceeded may adversely affect the aesthetic quality of the water which thereby may deter public acceptance of it or may interfere with water treatment methods.

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

2017 Water Quality Monitoring Test Results

Substance/Contaminant (Unit of Measure)	MCL (MRDL)	MCLG (MRDLG)	West Linn Measurement or Average (Range)	Sample Date	Major Sources in Drinking Water	In Compliance?
Disinfectant Residual, Disinfection By-Products & By-Product Precursors*						
Chlorine (ppm)	(4)	(4)	0.87 (0.23 - 1.47)	Daily; plus 30 samples taken monthly	Water additive used to control microbes	Yes
Haloacetic Acids (ppb)	60	--	35.7* (22.6-48.2)	3rd week of each new quarter in 2017	By-product of drinking water chlorination	Yes
Total Trihalomethanes ¹ (ppb)	80	--	33.1* (15.7-41.2)			
Total Organic Carbon** - <i>Raw Water</i> ² (ppm)	TT	--	0.67 (ND - 1.03)	2017	Naturally present in the environment	Yes
Total Organic Carbon** - <i>Finished Water</i> ² (ppm)	TT	--	0.10 (ND - 0.62)			
Microbiological Contaminants						
Turbidity *** (NTU)	TT = 0.3 in 95% of samples	--	0.08	Continuous: every 2 hours during water treatment plant operation	Soil runoff	Yes
Inorganic Contaminants						
Barium (ppm)	2	2	0.00335	02/14/2017	Erosion of natural deposits; discharge from drilling wastes and metal refineries	Yes
Fluoride (ppb)	4	4	0.20	2/14/2017	Erosion of natural deposits; is discharge from fertilizers and aluminum factories	Yes
Nitrate (ppm)	10	10	0.356	2/14/2016	Runoff/leaching from fertilizer use; leaching from septic tanks & sewage; erosion of natural deposits	Yes
Lead (ppb) ⁴	AL = 15	0	90 th % = 3	6/10/2015	Corrosion of household plumbing; erosion of natural deposits	Yes
Copper (ppm) ⁴	AL = 1.3	1.3	90 th % = 0.056			
Secondary Standards ^{****}						
Chloride (ppm)	250	--	4.9			
Sulfate (ppm)	250	--	4.3	2/14/2017	Erosion of natural deposits	Yes
Total Dissolved Solids (ppm)	500	--	544.0			
Zinc (ppm)	5	--	0.053			

*Highest Locational Running Annual Average is the highest calculated annual average at a single location. West Linn samples for disinfection by-products quarterly, at 4 locations.

**Total Organic Carbon (TOC) has no health effects, however TOC provides a medium for the formation of disinfection by-products.

***Turbidity is a measure of cloudiness caused by suspended particles in the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. Turbidity is monitored continuously, every 2 hours during treatment plant operation. The value reported is the highest single measurement for the year. 100% of samples tested were below the treatment technique level of 0.3 NTU.

****Secondary standards have no MCLs. Numbers listed are guidelines for contaminants that may cause aesthetic effects in drinking water such as staining of plumbing fixtures, tastes, and odors.

Monitoring for Unregulated Contaminants

Monitoring for unregulated contaminants helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

Unregulated Contaminants				
Substance/Contaminant (Unit of Measure)	MCL	West Linn Measurement	Sample Date	Major Sources in Drinking Water
Bromodichloromethane (ppb)	—	1.9	7/12/2016	By-product of chlorine disinfection, combined with organic matter
Dibromochloromethane (ppb)	—	0.5		
Chloroform (ppb)	—	11.9		
Sodium (ppm)	20*	7.2	2/16/2016	Erosion of natural deposits; added during

*Recommended maximum sodium level.

In May 2014, West Linn began additional monitoring for unregulated contaminants on a quarterly basis for a period of one year only, as required by EPA. Approximately 6,000 public water systems conducted this special monitoring to provide scientifically valid data on the occurrence of these contaminants. West Linn water was tested for 21 contaminants; five were detected and are listed below. *Find more information about the UCMR 3 here: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3>*

The Third Unregulated Contaminant Monitoring Rule (UCMR 3*)				
Substance/Contaminant (Unit of Measure)	Average (ppb)	Range (ppb)	Sample Date	Use or Source
Chlorate	53.5	34-67	2/4/15	Used as an agricultural defoliant or desiccant and in the production of chlorine dioxide
Hexavalent Chromium	0.14	0.062 - 0.22	2/4/15	Erosion of natural deposits; used in various manufacturing processes
Total Chromium	0.22	ND - 0.24		
Strontium	37.8	29 - 47		
Vanadium	1.23	0.75 - 2.10		

WATER QUESTIONS?

We Have Answers!

Water Quality Question?

(503) 656-6081

Water Billing Question?

(503) 656-4261

Water Emergency?

(503) 656-6081

After-hours Water Emergency?

(503) 635-0238

REMINDER :

ITS THAT TIME AGAIN TO HAVE YOUR BACKFLOW PREVENTER TESTED.

ALL WEST LINN WATER CUSTOMERS THAT HAVE IRRIGATION SYSTEMS ARE REQUIRED TO HAVE THEIR BACKFLOW PREVENTION ASSEMBLIES TESTED BEFORE JULY 1ST



Water System Maintenance



Water system flushing signs have been placed in areas of West Linn where the The City of West Linn Water Department is actively working on a city wide valve exercising / flushing program. The purpose of this program is to exercise each of the over 4000 water valves in the water system to ensure proper operation. Along with exercising each water valve city crews will also be conducting routine maintenance on fire hydrants within the water system, this work could result in discolored water. If you experience discolored water it is recommended that you flush the cold water side of the sinks, bathtubs or hose bibs on the house to remove any discolored water. Discolored water has no harmful effects and is safe to drink. If you have further questions regarding the City of West Linn's valve maintenance / flushing program please contact Public Works at 503-656-6081.



Photo of Specialized equipment used to assist staff in conducting water system valve maintenance.



DID YOU KNOW?

The City of West Linn recently became the 139th Agency in North America and only the 4th in Oregon to be Accredited by the American Public Works Association.



West Linn's Bolton Reservoir before and after pictures. 100 year old 2.5 MG tank pictured above and New 4.0 MG tank pictured below



Customers may request a mailed paper copy of this report by contacting Public Works at (503) 656-6081 or by email at mkaatz@westlinnoregon.gov



The City of West Linn will provide auxiliary aid services to persons with disabilities. To request an ADA accommodation of this information in an alternate format please contact Public Works at (503) 656-6081 or by email at mkaatz@westlinnoregon.gov