

2014 Annual Drinking Water Quality Report

The City of West Linn is pleased to provide you with the 2014 Drinking Water Quality Report based on data collected during the 2013 calendar year. This document conforms to Federal Environmental Protection Agency (EPA) regulations requiring water utilities to provide the following information annually. The water we serve you is required to meet the water quality standards set by EPA.

Drinking Water Sources

The Source of Your Drinking Water

West Linn's drinking water comes from the Lower Clackamas River. The Clackamas River flows west from its headwaters on Ollalie Butte, just south of Mt. Hood, 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 interconnection with Lake Oswego.

In compliance with the 1996 Amendments to the Safe Drinking Water Act, a source water assessment for SFWB was completed in late 2002. The delineated drinking water protection area is occupied by a wide variety of land uses: residential/municipal, agricultural/forest, and commercial/industrial. 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.

For more information about the programs CRWP is implementing or to download a copy of the plan, please visit www.clackamasproviders.org.

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 storm water 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 storm water 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 storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 and even eliminate 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 set up to test water since 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 at:

www.epa.gov/safewater/lead

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to two minutes before using tap water.

Compliance with the Lead and Copper Rule

Our last Lead and Copper testing event was labeled "Round 17" and took place in June of 2012. Because we have not triggered any Action Levels for Lead or Copper for the last 3 years, we have been put on a reduced sampling schedule by the State. Our next Lead and Copper sampling events will take place in June 2015, 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. Bottle 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.

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

**We Are Here to Help:
Questions About Water Quality?
Call (503) 656-6081**



Your drinking water meets or exceeds all Federal and State requirements

Water Quality Testing Information

The results of tests performed in 2013 are presented on the water quality tables on pages 4 and 5. The City of West Linn and 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, you can contact Jim Whynot, Water Division Supervisor for the City of West Linn at:

Email: jwhynot@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

We encourage public interest and participation in our community's decisions affecting drinking water. Regular meetings of the West Linn City Council occur on the second and fourth Monday of each month at City Hall, 22500 Salamo Road, West Linn, at 6:30 p.m.



Learn more about the City of West Linn Water System
<http://westlinnoregon.gov/publicworks/water>

Definitions

Action Level: 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 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.

Nephelometric Turbidity Unit (NTU): A measure of how cloudy water is due to suspended particles in the water. Smaller # = clearer water. Turbidity has no health effects, however it can interfere with disinfection and provide a medium for microbial growth.

Non-Detects (ND): 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).

Regulated Contaminant: These are regulated by law to protect public health. The law specifies maximum contaminant levels allowed in drinking water.

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.

2013 Water Quality Test Results

Contaminant (Unit of Measure)	MCL (MRDL)	MCLG (MRDLG)	Measurement or Average (Range)	Sample Date	Major Sources in Drinking Water	Violation
DISINFECTANT RESIDUAL, DISINFECTION BY-PRODUCTS, AND BY-PRODUCT PRECURSORS						
Chlorine (ppm)	(4)	(4)	0.94 (0.35 – 1.23)	2013	Water additive used to control microbes	NO
Haloacetic Acids (ppb) Stage 1	60	N/A	37.4 (23.6 – 37.9)	2013	By-product of disinfection with chlorine, combined with organic matter	NO
Total Trihalomethane's (ppb) Stage 1	80	N/A	32.9 (24.8 – 35.4)	2013	By-product of disinfection with chlorine, combined with organic matter	NO
Haloacetic Acids (ppb) Stage 2	60	N/A	48.5 (39.0 – 48.5)	10/16/2013	By-product of disinfection with chlorine, combined with organic matter	NO
Total Trihalomethane's (ppb) Stage 2	80	N/A	47.4 (40.5 – 47.4)	10/16/2013	By-product of disinfection with chlorine, combined with organic matter	NO
Total Organic Carbon* – raw water(ppm)	TT	-	1.37 (0.77 – 3.69)	2013	Naturally present in the environment	NO
Total Organic Carbon* – finish water (ppm)	TT	-	0.79 (0.50–1.34)	2013	Naturally present in the environment	NO

In October 2013 "Stage 1" quarterly disinfection by-product sampling was replaced with "Stage 2" quarterly sampling, as directed by EPA and Oregon DWP. Stage 1 results at West Linn's four sampling locations were averaged together for an "annual running average". Under Stage 2, results for each of our four locations will be individually averaged to produce four "locational annual running averages". Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) are produced by a chemical reaction between chlorine and organic matter in the water. Optimizing disinfection in drinking water minimizes the production of these two disinfection by-products.

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

INORGANIC CONTAMINANTS						
Asbestos (MFL)	7	7	0.115	10/31/2011	Decay of asbestos cement water mains; Erosion of natural deposits	NO
Nitrate (ppm)	10	10	0.7	2/5/2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	NO
Lead (ppb) 30 Sampled at consumer taps (Tier 1)	AL = 15	0	90 th percentile = N/D	June 2012 (Round 17)	Corrosion of household plumbing; erosion of natural deposits	NO
Copper (ppm) 30 Sampled at consumer taps (Tier 1)	AL = 1.3	1.3	90 th percentile = 0.068	June 2012 (Round 17)	Corrosion of household plumbing; erosion of natural deposits	NO

2013 Water Quality Test Results

Contaminant (Unit of Measure)	MCL (MRDL)	MCLG (MRDLG)	Measurement or Average (Range)	Sample Date	Major Sources in Drinking Water	Violation
MICROBIOLOGICAL CONTAMINANTS						
Turbidity* (NTU)	TT = 0.3 in 95% of samples	—	(0.02 – 0.22)	2013	Soil runoff	NO

**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. 100% of samples tested were below the treatment technique level of 0.3 NTU.*

SECONDARY STANDARDS*						
Chloride (ppm)	250	—	5.1	2/5/2013	Erosion of natural deposits	NO
Iron (ppm)	0.3	—	0.031	2/5/2013	Erosion of natural deposits	NO
Total Dissolved Solids (ppm)	500	—	60	2/5/2013	Erosion of natural deposits	NO
Zinc (ppm)	5	—	0.048	2/5/2013	Erosion of natural deposits	NO

**Secondary standards are guidelines for contaminants that may cause aesthetic effects in drinking water.*

UNREGULATED CONTAMINANTS*						
Sodium (ppm)	20**	—	7.1	2/5/2013	Erosion of natural deposits; added during treatment process (soda ash)	N/A
Bromodichloromethane (ppb)	—	—	2	7/16/2013	By-product of disinfection with chlorine, combined with organic matter	N/A
Chloroform (ppb)	—	—	13.8	7/16/2013	By-product of disinfection with chlorine, combined with organic matter	N/A

**Monitoring for unregulated contaminants helps the EPA to determine where certain contaminants occur and whether they need to regulate those contaminants in the future.*

***Recommended maximum level.*

Key to Tables:

AL = Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MFL = Million fibers per liter

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

NTU = Nephelometric Turbidity Units

N/D = Non Detects. Lab analysis shows no presence.

ppb = Parts Per Billion or Micrograms Per Liter (ug/L)

ppm = Parts Per Million or Milligrams Per Liter (mg/L)

SMCL = Secondary Maximum Contaminant Level

TT = Treatment Technique

Frequently Asked Questions

Sometimes I can taste or smell chlorine in the water. Why? Can I get rid of the smell?

Laws require that water systems maintain a disinfectant residual throughout the system. This ensures our drinking water remains safe from microbial contamination. The average chlorine residual in West Linn is 0.94 ppm, a residual below 4 ppm is considered safe by the US EPA. If you are sensitive to the taste of chlorine you can remove it from the water by keeping an open or loosely covered pitcher of water in the refrigerator to let the chlorine dissipate or run the water through a filter that is rated to remove chlorine.

Is there fluoride in my drinking water?

No fluoride is added to West Linn's drinking water. Naturally occurring fluoride in the Clackamas River is less than 0.5 ppm (the detection limit for fluoride analysis). Consult with your dentist to see if supplemental fluoride is recommended for your family.

What is a backflow device? Why do I have to test it?

Yard sprinklers, fire suppression systems, water fountains, and well interconnections are required to have a backflow prevention device. This device prevents water that has entered the auxiliary system from accidentally flowing back into the drinking water lines of your home or the City main system. Especially in yards, pesticides and animal feces can easily infiltrate sprinkler system heads and risk contamination of our clean drinking water. Annual testing is needed to ensure these critical pieces of machinery are functioning properly.

Water Questions? We Have Answers!

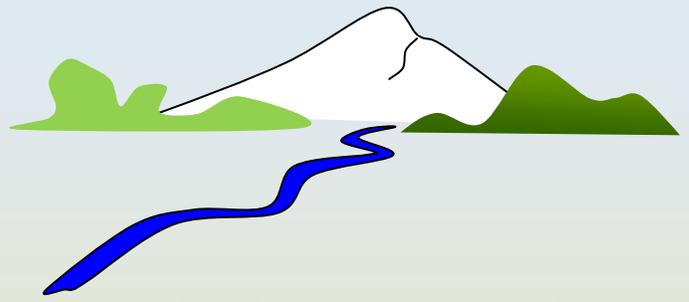
Water Quality Question?
Call (503) 656-6081

Water Billing Question?
(503) 656-4261

Water Emergency?
(503) 656-6081

After-hours Water Emergency?
(503) 635-0238

HOW IS MY DRINKING WATER TREATED?



Water from the Clackamas River is converted into safe drinking water for West Linn customers at the South Fork Water Board (SFWB) Treatment Plant in Oregon City through a conventional treatment process.

WATER INTAKE

Water is drawn out of the Clackamas River just west of I-205 and pumped to the water treatment plant.

COAGULATION

Alum and polymer chemicals are added to the water causing small particles to attract one another and form larger particles.

FLOCCULATION

Gentle stirring of the water brings the particles together to form larger clumps called "floc."

SEDIMENTATION

Water velocity is reduced allowing gravity to settle out the floc.

FILTRATION

Any remaining particles are removed as water flows through filters of sand and anthracite coal.

CORROSION CONTROL

Soda ash is added to increase the pH of the water, reducing its ability to deteriorate piping material and plumbing fixtures.

DISINFECTION

Sodium hypochlorite (a liquid form of chlorine) is added to kill any disease-causing organisms in the water. It is important to have a small amount of chlorine remain in the water as it travels throughout the distribution system to ensure microorganisms do not have an opportunity to survive.

DISTRIBUTION

Water is pumped from Oregon City underneath the I-205 bridge to West Linn's reservoirs and distribution piping where it reaches you!

Learn more about SFWB and the treatment process at www.sfwb.com