

# *Annual Drinking Water Quality Report*

## City of Turner 2018

We're very pleased to provide you with this year's Annual Quality Water Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. We purchase our water from the City of Salem, which is treated surface water drawn from the North Fork of the Santiam River at Geren Island near Stayton. ***We're pleased to report that our drinking water is safe and meets federal and state requirements.*** This report shows our water quality and what it means.

If you have any questions about this report or concerning your water utility, please contact **Public Works Director Aaron Bales at (503) 743-2155**. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled City Council meetings. They are held on the 2<sup>nd</sup> and 4<sup>th</sup> Thursday each month at 7:00 p.m., at the Turner City Hall, 5255 Chicago St., Turner OR 97392.

**The City of Turner and City of Salem** routinely monitors for constituents in your drinking water according to Federal and State laws. The table below shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, **2018**. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

Unfortunately, algal toxins were detected in the City of Salem distribution system in the early summer of 2018, specifically Cylindrospermopsin and Microcystin. With the assistance of the City of Salem, the City of Turner conducted tests throughout our distribution system. The City of Turner did not have any positive tests for Cylindrospermopsin. At the time of this event, both toxins were listed on the Environmental Protection Agency's unregulated contaminant list, meaning water systems are not required to perform regular testing. However, in an effort to protect public health, the City of Salem voluntarily collects water samples within the watershed, throughout the treatment process and distribution system. This was performed daily during the extent of the algae bloom event. Preliminary results of these samples showed concerning toxin levels, which led to the issuance of two "Do Not Drink" notices for specific vulnerable populations. Due to the City of Turner buying our water from the City of Salem, the Oregon Health Department mandated the City of Turner issue the "Do Not Drink" notices the same as Salem.

With the exception of the algal toxin event, City of Salem and City of Turner drinking water met or surpassed every public health requirement—more than 120 drinking water standards—set by the Oregon Health Authority and the EPA.

To help you better understand the terms in the table below, we've provided the following definitions:

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*Million Fibers per Liter (MFL)* - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

*Treatment Technique (TT)* - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

*Maximum Contaminant Level (MCL)* - (mandatory language) The “Maximum Allowed” (MCL) is 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.

*Maximum Contaminant Level Goal (MCLG)* - (mandatory language) The “Goal”(MCLG) is 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.

*Maximum Residual Disinfectant Level (MRDL)* – (mandatory language) 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.

*Maximum Residual Disinfectant Level Goal (MRDLG)* – (mandatory language) 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.

2018 Water Quality Data									
from Geren Island Treatment Facility, Distribution System, and Salem Water Customers									
TEST	DATE TESTED	UNIT	MCLG (MRDLG)	MCL (MRDL)	DETECTED LEVEL	LOWEST RANGE	HIGHEST RANGE	VIOLATION	MAJOR SOURCES
<b>Inorganic</b>									
Fluoride	2018	ppm	4	4	Average: 0.64	0.58	0.77	NO	Erosion of natural deposits; water additive—promotes strong teeth
Copper	2018	ppm	1.3	AL – 1.3	0.026	One sample collected		NO	Corrosion of household plumbing systems
Nitrate	2018	ppm	10	10	0.10	One sample collected		NO	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Nitrate-Nitrite	2018	ppm	10	10	0.10	One sample collected		NO	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Barium <sup>1</sup>	2016	ppm	2	2	0.002	One sample collected		NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper <sup>1</sup>	2016	ppm	1.3	AL – 1.3	90th Percentile: 0.342 Homes exceeding: 0	< 0.03	0.56	NO	Corrosion of household plumbing systems
Lead <sup>1</sup>	2016	ppb	0	AL – 15	90th Percentile: 5.9 Homes exceeding: 2	< 1.0	23	NO	Corrosion of household plumbing systems
<b>Microbiological</b>									
Turbidity	2018	NTU	N/A	TT	100% of samples meet turbidity standards Average: 0.11	0.05	0.47	NO	Erosion and soil runoff
Total coliform	2018	No units	N/A	TT	1,440 samples collected	None	0 positive of 120 samples or 0.0%	NO	Naturally present in the environment
<i>E. coli</i> bacteria	2017	No units	0	Routine and repeat samples are total coliform-positive and either <i>E. coli</i> -positive or the water supplier fails to collect repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i>	<i>E. coli</i> bacteria were not detected	None	None	NO	Human and animal fecal waste
<b>Disinfection By-Products, By-Product Precursors, and Disinfectant Residual</b>									
Haloacetic acids	2018	ppb	0	60	Locational Running Annual Average: 32	ND	52	NO	By-product of drinking water disinfection
Total Trihalomethanes	2018	ppb	0	80	Locational Running Annual Average: 32	9.2	47	NO	By-product of drinking water disinfection
Haloacetic acids <sup>1</sup>	2017	ppb	0	60	Entry Point: 12	One sample collected		NO	By-product of drinking water disinfection
Total Trihalomethanes	2018	ppb	0	80	Entry Point: 6.3	One sample collected		NO	By-product of drinking water disinfection
Total Organic Carbon	2018	ppm	N/A	TT	Raw Water Annual Average: 0.97	0.88	1.0	NO	Naturally present in the environment
Chlorine Residual	2018	ppm	4.0	4.0	Entry Point Average: 1.37	0.97	2.38	NO	Remaining chlorine from disinfection process
<b>Organic Constituents</b>									
2,4-D <sup>1</sup>	2017	ppb	70	70	0.11	ND	0.11	NO	Runoff from herbicide used on row crops
<b>Unregulated Constituents</b>									
Sodium	2018	ppm		20 <sup>2</sup>	5.6	One sample collected		NO	Erosion of natural deposits

Cyanotoxin Test Results*										
SITE LOCATION	TEST	DATE TESTED	UNIT	HEALTH ADVISORY LEVEL FOR VULNERABLE POPULATION	HEALTH ADVISORY LEVEL FOR ALL POPULATION	LOWEST RESULT	HIGHEST RESULT	ADVISORY ISSUED?	ADVISORY TYPE	ADVISORY DATES
Finished Water-Entry Point: Aldersgate	Microcystin	May-October 2018	ppb	0.3	1.6	ND	0.7545	YES	Vulnerable Population	May 29-June 2, June 6-July 3
	Cylindrospermopsin			0.7	3	ND	6.9635			
	Anatoxin-a			0.3	1.6	ND	0.0123			

*Microbiological Contaminants:*

(3) Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

(11) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

(15) Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

(17) Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

(18) 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.

(20) Nitrate. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

(21) Nitrite. Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

(24) 2,4-D. Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.

(74) TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

What does this mean? As you can see from the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels. In addition the Oregon Health Authority presented an award to our system for **Outstanding Performance** as a result of our last Sanitary Survey. The Sanitary Survey is an inspection of all facets of a drinking water system. This award reflects the commitment that your Water System Operators and City government have to providing safe drinking water. Your Operators continually attend training in which they earn Continuing Education Units required to maintain their licenses and also to stay abreast of changes, new methods and refresher of skills to provide the City's water customers with the best possible product.

We constantly monitor for various constituents in the water supply to meet all regulatory requirements. All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

**Nitrates:** As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

**Lead:** Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. 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. Info on testing methods and minimizing exposure may be found at safe drinking water hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

Thank you for allowing us to continue providing your family with clean, quality water. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. This past year the City has accomplished several notable improvements to our water system.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office if you have questions. We at City of Turner work around the clock to provide top quality water to every tap.