

Water District No. 111 of King County Annual Water Quality Report 2016

A Brief Introduction

This is a snapshot of the quality of water served to you, your family, and the businesses within Water District #111 last year. Included are details about: where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and State standards. We are committed to providing you with the most accurate information regarding your drinking water. For additional information, call the District office at (253) 631-3770.

Some may be more vulnerable to possible contaminants in drinking water than the general population. Immune-compromised persons, such as persons undergoing chemotherapy; persons who have undergone organ transplants; those with HIV/AIDS or other immune system disorders; or some elderly and infants can be particularly at risk from infections. In this case, you should seek advice about drinking water from your health care provider. EPA/CDC guidelines on how to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Your Water Supply

The District maintains seven deep wells and an intertie booster station with the City of Auburn. As of December 2014 approximately 18,000 customers are served through the District's 5,802 water meters. The intertie station with Auburn provides 750,000 gallons of water daily or approximately 70% of the water needs in the winter; and approximately 25% in the summer. Our wells make up the remainder of our total supply requirements and provide a steady flow of water.

District Boundaries

Lake Meridian is centrally located within our District boundaries. The northern boundary is SE 240th Street and Highway 18 is the southern and eastern boundary with 298th on the southwest corner. 156th Avenue SE is the approximate eastern edge, while 124th Avenue SE is the western boundary.

Public Meetings

Our Board meetings are held the 2nd and the 4th Thursdays of every month at 9:00 AM in the District office. You are welcome to attend and learn more about your Water District and our efforts to provide a cost effective and dependable water supply.

Required Health Information from EPA

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 1-800-426-4791.

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, 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 before treatment 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 and residential uses.

Radioactive contaminants, these are naturally occurring.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also, come from gas stations, urban storm water runoff and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Water District #111 monitors and treats all of its water according to EPA regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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. Water District 111 is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If 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 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

The information on the following page lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Monitoring Waivers

The Washington State Department of Health has reduced the monitoring requirements for general pesticides, volatile organic contaminants, herbicides and insecticides because the source is not at risk of contamination. The last sample collected for these contaminants was found to meet all applicable EPA and Department of Health standards.

Spanish (Español)

Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúscalo o hable con alguien que lo entienda bien.



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	MCLG	MCL	Level Found	Range Found	Violation	Date of Sample	Typical Source of Contaminant
KCWD No. 111 Contaminants							
Inorganic Contaminants							
Nitrate (ppm)	10	10	<0.2 ppm	<0.2 ppm	No	2016	Run off from fertilizer use; leaching from septic tanks, sewage
Copper (30 houses tested) ppm	1.3	AL=1.3	0.39 ppm	<0.02 - 0.39 ppm	No	2015	Corrosion of household plumbing systems; erosion of natural deposits
Lead (30 houses tested) ppb	0	AL=.015	0.004 ppb	<0.001-0.004 ppb	No	2015	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride (substance) ppm	4	4	1.10 ppm	0.5-0.7ppm	No	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Disinfection Byproducts (ppb)							
Haloacetic Acids (HAA5) (ppb)	n/a	60	13.05 ppb	ND-14.2 ppb	No	2016	By-product of drinking water chlorination
Total Trihalomethanes (TCHM) (ppb)	n/a	80	27.6	2.3-28.1 ppb	No	2016	By-product of drinking water chlorination
Chlorine Residual (ppm)	4 (MDRL)	4 (MRDLG)	1.36 ppm	0.30-1.36 ppm	No	2016	Measure of disinfectant added to water
Microbiological Contaminants							
Total Coliform (positive samples/month)	0	Presence of coliform bacteria in 5% of monthly samples	0	NA	No	2016	Naturally present in the environment
City of Auburn Contaminants							
Inorganic Contaminants							
Fluoride (ppm)	4	4	0.2 ppm	0-0.2 ppm	No	2016	Discharge from metal degreasing sites and other factories
Turbidity, NTU	N/A	TT (5)	0.2 NTU	0-0.2 NTU	no	2016	Soil runoff
Arsenic (ppm)	N/A	.01	.001 ppm	ND-.001 ppm	No	2016	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Nitrate (ppm)	10	10	2.4 ppm	1-2.4 ppm	No	2016	Run off from fertilizer use; leaching from septic tanks, sewage
Disinfection Byproducts (ppb)							
Haloacetic Acids (HAA5) (ppb)	n/a	60	6 ppb	ND-6 ppb	No	2016	By-product of drinking water chlorination
Total Trihalomethanes (TCHM) (ppb)	n/a	80	23.1 ppb	2.2-23.1 ppb	No	2016	By-product of drinking water chlorination
Other Monitored Substance							
Sulfate (ppm)	N/A	250	12 ppm	ND-12 PPM	No	2016	Naturally present in the environment
Chorine Residual (ppm)	4	4	.64 ppm	0.37-0.89 ppm	No	2016	Measure of disinfectant added to water
Total Coliform (positive samples/month)	0	Presence of coliform bacteria in 5% of monthly samples	1	One of the samples collected on 11/2/2016 was positive. All required repeat samples were negative.	No	2016	Naturally present in the environment
Vanadium (ppb)	NA	0.2 ppb	4 ppb	0.53-4.0 ppb		2015	Vanadium occurs naturally in about 65 different minerals and in fossil fuel deposits
Strontium (ppb)	NA	0.3 ppb	110 ppb	11-110 ppb		2015	Strontium commonly occurs in nature
Chromium (ppb)	NA	0.3 ppb	0.56 ppb	0.21-0.56 ppb		2015	Chromium is an abundant element in the Earth's crust
Chromium-6(ppb)	NA	0.2 ppb	0.46 ppb	0.05-0.46 ppb		2015	Occurs naturally in various types of rock, soil, ore and volcanic dust as well as in plants, animals and humans
Chlorate(ppb)	NA	20 ppb	100 ppb	25-100 ppb		2015	Present in Nature
Testosterone(ppb)	NA	0.0001 ppb	0.00053 ppb	0.00053 ppb		2015	Testosterone is a steroid hormone from the androgen group and is found in humans and other vertebrates



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	MCLG	MCL	Level Found	Range Found	Violation	Date of Sample	Typical Source of Contaminant
Covington Water District Contaminants							
Inorganic Contaminants							
Nitrate (ppm)	10	10	0.3 ppm	0-0.3 ppm	No	2016	Run off from fertilizer use; leaching from septic tanks, sewage
Copper (30 houses tested) ppm	1.3	AL=15 ppb	1.3 ppm	0.14 ppm	No	2016	Corrosion of household plumbing systems, erosion of natural deposits
Lead (30 houses tested) ppb	0	AL=15ppb	0 ppb	2 ppb	No	2016	Corrosion of household plumbing systems, erosion of natural deposits
Fluoride (substance) ppm	4	4	.67 ppm	0.67-1.5 ppm	No	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Disinfection Byproducts (ppb)							
Haloacetic Acids (HAA5) (ppb)	n/a	60	16.6 ppb	5.08-15.38 ppb	No	2016	By-product of drinking water chlorination
Total Trihalomethanes (TCHM) (ppb)	n/a	80	31.9 ppb	7.2-23.98 ppb	No	2016	By-product of drinking water chlorination
Chlorine Residual (ppm)	4 (MDRL)	4 (MRDLG)	1.34 ppm	0.05-1.34 ppm	No	2016	Measure of disinfectant added to water
Microbiological Contaminants							
Total Coliform (positive samples/month)	0	Presence of coliform bacteria in 5% of monthly samples	1 of 604 samples taken All repeat samples were negative	NA	No	2016	Naturally present in the environment
Chlorate (ppb)	NA	NA	120 ppb	20-120 ppb	NA	2015	Disinfection Interaction
Strontium (ppb)	NA	NA	71 ppb	12-71 ppb	NA	2015	Natural Erosion
Vanadium (ppb)	NA	NA	0.66 ppb	0.21-0.66 ppb	NA	2015	Natural Erosion
Hexavalent Chromium	NA	NA	0.13 ppb	0.05-0.13 ppb	NA	2015	Natural Erosion

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
NA	NA: Not applicable
NR	NR: Monitoring not required, but recommended
Important Drinking Water Definitions	
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known expected risk to health. MCLGs allow for a margin of safety
MCL	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
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow
MRDLG	MRDLG: Maximum residual disinfection 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
MRDL	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

Monitoring and reporting of compliance data violations:

The Washington State Department of Health has reduced the monitoring requirements for general pesticides, volatile organic contaminants herbicides and insecticides because the source is not at risk of contamination. The last District sample collected for the above described contaminants was found to meet all applicable EPA and Department of Health Standards.

*Fluoride is monitored regularly throughout the water system. The samples ranged from 0.5 to 0.9 ppm. The District is now capable of fluoridating all of the Districts sources.

Water Use Efficiency Rule

On January 22, 2007, the Water Use Efficiency (WUE) rule became effective to help conserve water for both the environment and future generations by requiring water suppliers to use water more efficiently. Water District 111 is pleased to report that we are in compliance with the WUE requirements. WD111 had 8.8% system distribution leakage for the 2016 reporting period; which is below the 10% water loss standard. District personnel will continue to identify distribution leaks and repair them immediately. Since 2008 the District has had a 7.58% reduction in gallons per day per ERU (Equivalent Residential Unit). The District has over the past year seen very low consumption. These numbers reflect that. Therefore, based on the District's current approved (2009) Comprehensive Water Plan, customers have surpassed our 6-year water use efficiency goal. We know there are many factors that impact these results: economics, weather as well as any conservation measures and public awareness. While the current consumption is low, we know from historical consumption numbers that they will fluctuate and likely increase at some point in time. The District expects it will meet its water use efficiency goal of 1% reduction in gallons per day per ERU, as stated in the current approved Comprehensive Water Plan. The District will be submitting a new Comprehensive Water Plan in the next few months which will include the new water use efficiency goals within.

Water is a precious, limited resource. In the Pacific Northwest, water for our growing population competes with other uses that often depend on the same water source. Other uses can include agriculture, industry, recreation and maintaining an adequate stream flow for fish. Using water efficiently is particularly important during summer months when it rains less and user demand is high.

Following is a summary of the Water Use Efficiency Rule:

What are the Requirements?

Washington State has one of the most comprehensive regulatory WUE programs in the nation by requiring municipal water suppliers to demonstrate their efficient use of water. Specifically, municipal water suppliers must:

- Publicly establish water saving goals specifically directed towards their customers.
- Evaluate or implement specific water saving measures to achieve customer goals.
- Develop a WUE planning program to support the goals.
- Install meters on all connections by January 22, 2017.
- Meet a 10 percent water loss standard.
- Report annually on progress towards achieving goals and water loss.

What is the Purpose of the Water Use Efficiency Rule?

Water systems must have a reliable supply of water to meet current and future needs. Using water efficiently helps water systems protect against:

- Temporary water service interruptions during peak usage.
- Long-term or repeated water disruptions due to limited supply.
- Contamination of the water supply due to leaky pipes.

The WUE requirements also achieve the following:

- Contribute to long-term water supply reliability.
- Promote good stewardship of the state's water resources.
- Ensure efficient operation and management of water systems.
- Reduce energy needs and save money.

For more information regarding Washington State water requirements visit: <http://www.doh.wa.gov/ehp/dw/default.htm>