2018
Drinking Water Report

WALTER WALKER WATER WORKS

State ID #202767, King County

Quality. Service. Value.®

Table of Contents

ABOUT YOUR WATER QUALITY

Washington Water Service (Washington Water) is committed to being a leader in providing communities and customers with traditional and innovative utility services. Washington Water is proud of its service record and is staffed with courteous and knowledgeable water professionals who are dedicated to meeting your needs. While we are proud of our past record, we continually strive to improve upon the quality of services we provide to you, our valued customer.

This 2018 Drinking Water Report is your annual update on the quality and safety of your drinking water. It includes the most recent water quality results through the monitoring period ending December 31, 2018, in accordance with state and federal regulations (not all testing is required every year). This report also provides access through references and telephone numbers to source water assessments, health effects information, and other water system topics. This allows you to make personal health-based decisions regarding your drinking water consumption and become more involved in decisions which may affect your health.

Most importantly, this report shows that your drinking water source meets all primary and secondary EPA and Department of Health standards.

We hope you find this information helpful.

Your Water System

WHERE DOES MY WATER COME FROM?

Your water is purchased from the City of Snoqualmie and is booster pumped into the Walter Walker distribution mains at an intertie on 80th Street. The city has six groundwater sources (one spring and five wells). The majority of your water comes from the city's Canyon Springs source. The spring is located above the North Fork of the Snoqualmie River and has served the city since 1953. In 2008, the city constructed a disinfection facility to treat the water with chlorine to meet Department of Health standards. No filtration of the spring source is required.

On occasion, water from the city's North and South Wellfields may be blended into the spring water before it reaches the Walter Walker system. These wells were developed for the city by the Snoqualmie Ridge I and II developments. All five wells have iron and manganese treatment. The three wells in the North Wellfield are also treated for arsenic. Ferric chloride is injected before filtration to bond with the arsenic to enlarge the particles for filtration. The filtered well water is then treated with chlorine for disinfection purposes.

SOURCE WATER PROTECTION INFORMATION.

Drinking water comes from groundwater (wells and springs) and surface water (rivers, lakes, streams). Protecting these drinking water sources is key to sustaining safe drinking water supplies for this and future generations.

What you can do to protect source water:

- Ensure that your septic system is properly maintained.
- Use chemical fertilizers and pesticides sparingly, if at all.
- Don't dump any hazardous waste on the ground. This includes: motor oil, pesticides, paint or paint cans, mothballs, flea collars, household cleaners, medicines, etc.

Check the SWAP information for your water system:

The Washington State Department of Health Office of Drinking Water has compiled Source Water Assessment Program (SWAP) data for all community water systems in Washington. A source water assessment includes:

- A delineation (definition) of the source water protection area,
- An inventory of potential sources of contamination, and
- A susceptibility determination (how susceptible the source is to contamination).

An interactive map with data for your water system is available at: fortress.wa.gov/doh/swap/

Possible Contaminants

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's Safe Drinking Water Hotline at (800) 426-4791.

Common sources of drinking water — both tap and bottled water — include rivers, lakes, streams, ponds, and reservoirs (surface water), and wells and springs (groundwater). As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. Water can also 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, parasites, 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.

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

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.

In order to ensure that tap water is safe to drink, the Washington State Department of Health (DOH) and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Washington State Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

VULNERABLE POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people 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 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 microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Key Definitions

ACTION LEVEL (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

LEAD AND COPPER 90TH PERCENTILE VALUE: Out of every 10 homes sampled, 9 were at or below this level. This must be less than or equal to the AL or additional steps must be taken.

MAXIMUM CONTAINMENT LEVEL (MCL): The highest level of a contaminant 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): 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.

µMHOS/CM: A measure of specific conductance.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL): 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): 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.

N/A: Not applicable.

NOT DETECTED (ND): The result is less than the state reportable detection limit.

NEPHELOMETRIC TURBIDITY UNIT (NTU): A measure of water clarity.

PPB: Parts per billion (µg/L, micrograms per liter)

PPM: Parts per million (mg/L, milligrams per liter)

STATE DETECTION REPORTING LIMIT (SDRL): The minimum reportable detection of an analyte as established by DOH. If the test result is less than the SDRL, the contaminant is considered to be not detected.

SECONDARY MAXIMUM CONTAMINANT LEVEL (SMCL): These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

2018 Water Quality

Your water is tested for more than 100 contaminants for which state and federal standards have been set.

Tables 1 & 2 list all primary contaminants that were detected at or above the state detection reporting limit (SDRL), along with their respective MCLs. Primary MCLs (primary standards) protect public health by limiting the levels of these contaminants in drinking water.

Table 3 lists secondary contaminants of interest to many consumers, as well as any unregulated contaminant detections. Secondary contaminants have no known health effects but can affect the aesthetic properties of water (taste, odor, and appearance). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation.

TABLE 1: PRIMARY CONTAMINANTS

Inorganic Chemicals	Year Tested	Units	MCL	MCLG	City's Spring (S01)	City's Wells (WF S05, S09)	Violation?	Major Sources in Drinking Water
Arsenic[1]	2011, or 2018	ppb	10	0	< 1	2–4	**No**	Erosion of natural deposits (e.g., volcanic rock in Washington state); runoff from orchards; runoff from glass and electronics production wastes
Nitrate	2018	ppm	10	10	0.7	< 0.2	**No**	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Disinfectant (an additive)	**Year Tested**	**Units**	**MRDL**	**MRDLG**	**Running Average**	**Range**	**Violation?**	**Major Sources in Drinking Water**
Free Chlorine Residual	2018	ppm	4	4	0.30	<0.02–0.54	**No**	Water additive used to control microbes (chlorine is added by the City at its sources; no additional chlorine is added by Washington Water)
Disinfection Byproducts	**Year Tested[2]**	**Units**	**MCL**	**MCLG**	**Your Water**		**Violation?**	**Major Sources in Drinking Water**
Total Trihalomethanes (TTHM)	2017	ppb	80	N/A	18		**No**	Byproduct of drinking water disinfection
Haloacetic Acids (HAA5)	2017	ppb	60	N/A	2		**No**	Byproduct of drinking water disinfection

[1] The City of Snoqualmie's spring source (S01) and south wellfield (WF S09) were last tested for arsenic in 2011 as part of routine Inorganic Chemicals testing (28 different tests) required every 9 years, with a monitoring waiver. See footnote 1 on pg 7, and pg 10, for more information on waivers. The spring was < 1 ppb arsenic and the south wellfield was 2 ppb arsenic. The north wellfield (WF S05) has arsenic removal treatment. Arsenic is tested there monthly to monitor treatment performance. In 2018, the highest running annual average arsenic concentration for WF S05 was 4 ppb. Compliance with the arsenic MCL of 10 ppb is based on the running annual average, not on any one individual monthly arsenic result. The range of monthly results was 3–4 ppb.

[2] Most recent testing done, in accordance with the regulations (every three years).

2018 Water Quality

(Continued)

TABLE 2: LEAD AND COPPER

Samples are collected at customer kitchen or bathroom taps. Residences considered to be at highest risk for corrosion are selected for sampling (i.e., those with lead and copper in internal plumbing, based on specific EPA tiering criteria and available home construction details from county web sites). The number of homes sampled is based on population served by the water system. This testing is done every three years.

Primary Contaminants	Year Tested	Units	AL	90th Percentile	Samples > AL	Violation?	Major Sources in Drinking Water
Copper	2016	ppm	1.3	0.30	0 of 5	**No**	Corrosion of household plumbing systems; erosion of natural deposits
Lead	2016	ppb	15	2	0 of 5	**No**	Corrosion of household plumbing systems; erosion of natural deposits

TABLE 3: SECONDARY AND UNREGULATED CONTAMINANTS

Secondary Contaminants	Year Tested[1]	Units	SMCL	City's Spring (S01)	City's Wells (WF S05, S09)	Violation?	Major Sources in Drinking Water
Iron	2011	ppm	0.30	< 0.1	< 0.1	**No**	Leaching from natural deposits; industrial wastes
Manganese	2011, or 2015	ppm	0.05	< 0.01	< 0.01	**No**	Leaching from natural deposits
Chloride	2011	ppm	250	4	5–18	**No**	Runoff/leaching from natural deposits; seawater influence
Sodium[2]	2011	ppm	n/a	< 5	10–19	**No**	Erosion of natural deposits; seawater influence
Hardness[3]	2011	ppm	n/a	35	72–95	**No**	Erosion of natural deposits

[1] Most recent testing done, in accordance with the regulations. The City of Snoqualmie's sources were granted 9-year monitoring waivers for inorganic chemicals (IOC) by the DOH, based on water quality history. With a waiver, one IOC sample (28 inorganic tests) is required every 9 years, rather than every 3 years. DOH uses the monitoring waivers allowed by EPA because they save systems money without compromising public health. The waivers are good for such a long time because inorganic chemicals in groundwater do not change over time, since the source is natural and consistent. **Nitrate is never waived (see Table 1). Manganese is due next in 2019, as a condition of the waiver. Full IOC testing is due next in 2020.**

[2] The EPA recommends 20 ppm sodium as a level of concern for consumers who must restrict their dietary intake.

[3] When reading the hardness value, 0–75 ppm is considered "soft" water, 75–150 ppm is "moderately hard," 150–300 ppm is "hard," and > 300 ppm is "very hard". To convert to grains per gallon of hardness, divide total hardness by 17.1.

2018 Water Quality

(Continued)

Secondary Contaminants	Year Tested	Units	SMCL	City's Spring (S01)	City's Wells (WF S05, S09)	Violation?	Major Sources in Drinking Water
Conductivity	2011	µmhos/cm	700	86	192–259	**No**	Substances that form natural deposits; seawater influence
Turbidity[4]	2011	NTU	n/a	< 0.1	0.1–0.5	**No**	Soil runoff
Color	2011	color units	15	< 5	< 5	**No**	Naturally occurring organic materials
Unregulated Contaminants	**Year Tested**	**Units**	**SMCL**	**City's Spring (S01)**	**City's Wells (WF S05, S09)**	**Violation?**	**Major Sources in Drinking Water**
Lead[5]	2011	ppb	n/a	1	< 1	**No**	Corrosion of household plumbing systems; erosion of natural deposits
Copper[5]	2011	ppm	n/a	0.02	< 0.02—0.03	**No**	Corrosion of household plumbing systems; erosion of natural deposits

[4]There is currently no trigger or MCL value for groundwater turbidity.

[5]Lead and copper are regulated at customer taps (see Table 2 for those results), not at the source, which is what these results represent. This is because lead and copper in drinking water do not typically come from the water source. They come from the plumbing that serves, or is inside, the customer's home, from corrosion of lead and copper-containing plumbing or fixtures, or the lead solder that connects copper pipes.

About Lead

As you know, lead has been in the news a lot lately. Washington Water wants to assure you about the quality of your water.

Washington Water is compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about your home's plumbing? In Washington state, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures). Therefore, the Lead and Copper Rule is a critical part of our water quality monitoring program, and we follow it completely. This rule requires us to test water *inside* a representative number of homes that have plumbing most likely to contain lead and/or lead solder. This test, along with other water quality testing, tells us if the water is corrosive enough to cause lead from home plumbing to leach into the water. If the Action Level (the concentration of a contaminant which, when exceeded, triggers action which a water system must follow before it becomes a health concern) is exceeded, either at a customer's home or systemwide, we work with the customer to investigate the issue. If the problem is systemwide, we will implement corrosion control treatment at the source before the lead levels create a health issue.

Elevated levels of lead, if present, can cause serious health problems, especially for pregnant women and children. If your home's plumbing contains lead piping or pipe fittings, lead solder, or brass fixtures that may contain lead, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two 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 by a lab. 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.

Results of our lead monitoring program, conducted in accordance with the Lead and Copper Rule, can be found in Water Quality Tables 2 and 3.

About Monitoring Waivers

(Reduced Monitoring)

ORGANIC CHEMICALS

Drinking water sources are sampled and tested a minimum of every six to nine years for an array of organic chemicals including volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs), such as herbicides and pesticides. VOCs are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

Sampling frequencies for these groups of organic chemicals can vary depending on the county in which your water system is located, whether the source has been granted a monitoring waiver, and whether there have been past detections of any of these organic contaminants.

Monitoring waivers are granted by the DOH and are based on a source's susceptibility rating (risk of contamination), water quality history, and information gathered from across the state.

If there were detections of organic contaminants obtained during the most recent round of compliance monitoring (2013–2018 for VOCs; 2010–2018 for SOCs), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

RADIOACTIVE CONTAMINANTS

Drinking water sources are sampled and tested a minimum of every six years for radioactive contaminants (radium 228 and gross alpha). These contaminants can be naturally occurring or the result of oil and gas production and mining activities.

If there were any detections obtained during the most recent round of compliance monitoring (2013–2018), they are shown in the water quality data tables. If there are none reported in the tables, there were none detected.

Important Contact Information

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2018 Water Use Efficiency

Water is a precious, limited resource. In the Pacific Northwest, drinking water for our growing population competes with other uses that include agriculture, industry, recreation, and maintaining an adequate stream flow for fish.

Washington Water Service strives to be a leader in the water industry and we encourage our customers to be good stewards of our water resources. We monitor the amount of water we withdraw from aquifers in Washington and track water losses along with water sold to our customers to ensure compliance. Results for 2018 are as follows:

- **Total production:** 1.464 billion gallons
- **Total authorized usage:** 1.321 billion gallons
- **Total unaccounted water:** 9.8%
- **Metered connections:** 17,346
- **Unmetered Connections:** 9.

Our 2018 Water Use Efficiency Progress Report is available online at www.wawater.com. If you would like a paper copy, please call our office.