



2016 Drinking Water Report

Ravens Reach Water System
State ID #01031B, Kitsap County



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About Your Water Quality

Washington Water Service Company (WWSC) is committed to being a leader in providing communities and customers with traditional and innovative utility services. WWSC 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 2016 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, 2016, 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

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/eh/dw/swap/maps

WHERE DOES MY WATER COME FROM?

Your water comes from one well (groundwater). The well is 180 feet deep and located in the NW corner of the development.

To remove elevated levels of naturally occurring iron and manganese from the source water, chlorine and potassium permanganate are added to oxidize and settle out these nuisance minerals. The water is then filtered to remove them.



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 Contaminant 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.

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

NTU: Nephelometric turbidity unit (a measure of water clarity).

ppb: Parts per billion ($\mu\text{g/L}$, micrograms per liter)

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

Secondary Maximum Contaminant Level (SMCL): These standards are developed as guidelines to protect the aesthetic qualities of drinking water and are not health based.

$\mu\text{mhos/cm}$: Measure of specific conductance.

2016 Water Quality Table

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 reporting level (SRL), along with their respective MCLs. The SRL is the minimum reporting level required by DOH (each analytical parameter has an SRL). 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	Your Water		Violation?	Major Sources in Drinking Water
Arsenic ¹	2009	ppb	10	0	3		No	Erosion of natural deposits (e.g., volcanic rock in Washington state); runoff from orchards; runoff from glass and electronics production wastes
Disinfectant (an additive)	Year Tested	Units	MRDL	MRDLG	Running Average	Range	Violation?	Major Sources in Drinking Water
Free Chlorine Residual	2016	ppm	4	4	0.19	0.03–0.90	No	Water additive used to control microbes
Disinfection Byproducts	Year Tested	Units	MCL	MCLG	Your Water		Violation?	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2014	ppb	80	N/A	9.9		No	Byproduct of drinking water disinfection
Haloacetic Acids (HAA5)	2014	ppb	60	N/A	8.1		No	Byproduct of drinking water disinfection

¹Most recent testing done, in accordance with the regulations. Your drinking water source was granted a 9-year monitoring waiver for most 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 (< 0.2 ppm in 2016).**

2016 Water Quality Table

(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	90 th Percentile	Samples > AL	Violation?	Major Sources in Drinking Water
Copper	2014	ppm	1.3	0.58	0 of 5	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead	2014	ppb	15	1	0 of 5	No	Corrosion of household plumbing systems; erosion of natural deposits

TABLE 3: SECONDARY CONTAMINANTS

Secondary Contaminants	Year Tested ¹	Units	SMCL	Your Water	Violation?	Major Sources in Drinking Water
Iron	2015	ppm	0.30	< 0.1	No	Leaching from natural deposits; industrial wastes
Manganese	2015	ppm	0.05	< 0.01	No	Leaching from natural deposits
Chloride	2009	ppm	250	3	No	Runoff/leaching from natural deposits; seawater influence
Sodium ²	2009	ppm	n/a	9	No	Erosion of natural deposits; seawater influence
Hardness ³	2009	ppm	n/a	90	No	Erosion of natural deposits
Conductivity	2009	µmhos/cm	700	171	No	Substances that form natural deposits; seawater influence

¹Iron and manganese are required to be sampled and tested every three years by the Dept of Health for compliance purposes, as a condition of the 9-year inorganics monitoring waiver (see footnote 1, Table 1). This compliance sampling was done in 2015. However, with a treatment system now in service since 2009, iron and manganese are actually tested monthly to confirm that the system is working as designed (investigative samples). All monthly samples in 2016 were well below the SMCLs.

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

³When 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.

About Lead

In Washington state, lead in drinking water comes primarily from materials and components used in household plumbing. If present, elevated levels of lead can cause serious health problems, especially in pregnant women and young children.

When a drinking water tap has not been used for six hours or more, you can minimize the potential for lead exposure by flushing the tap until the water is noticeably colder (30 seconds to two minutes) before using the water for drinking or cooking. Hot water is likely to contain higher levels of lead. Only use water from the cold-water tap for drinking, cooking, and making baby formula.

If you are concerned about lead in your water, you may wish to have your home's water tested.

Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline at (800) 426-4791, or online at www.epa.gov/your-drinking-water.



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 (2011–2016 for VOCs; 2008–2016 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 (2011–2016), 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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www.doh.wa.gov/ehp/dw

Thank you.

Thanks for taking the time to learn more about your water quality!



OUR WATER QUALITY COMMITMENT:

As Our Contracted Partners, You Can Count on Washington Water Employees to...

- Provide you with the highest quality water possible
- Sample, test, and treat your water on a regular basis
- Work diligently to meet every water quality standard on every system, every day
- Maintain the water distribution system reliability
- Provide you with the highest level of customer service possible