



**BLUE ROCK**  
Water Co.

2019 DRINKING WATER QUALITY REPORT

Northwest Water System  
(PWS#61947 2)

# WHAT IS THIS REPORT?

The Environmental Protection Agency requires public water suppliers that serve the same people year-round (community water systems) to provide consumer confidence reports to their customers. These reports are also known as annual water quality reports. This report summarizes information regarding water sources used, any detected contaminants, compliance, and educational information.

Blue Rock Water Company is pleased to report that your drinking water complies with federal and state drinking water quality standards. This report summarizes the company's 2019 water quality testing program. We are pleased to report that our Northwest water system never violated a maximum contaminant level or any other water quality standard.

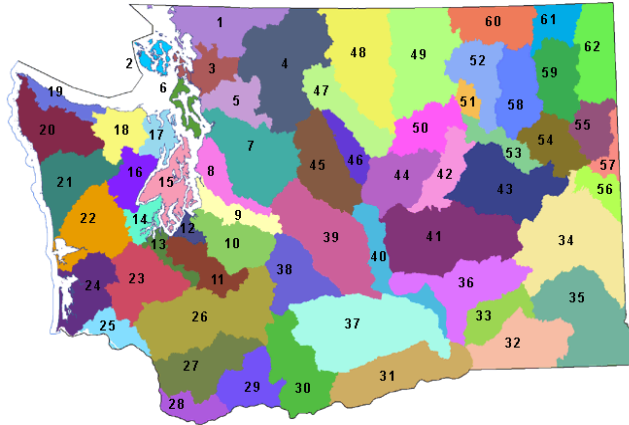
## Where does your water come from?

Blue Rock Water company's drinking water comes from springs and groundwater as well as some intertie water supplies. Most of Blue Rock Water Company's supply is

groundwater that originates throughout the state of Washington watersheds on both sides of the Cascades.

## Our water sources

Blue Rock Water Company's water sources are from the following water resource areas Cedar-Sammamish, Elwha-Dungeness, Island, Kitsap, Lower Lake Roosevelt, Nisqually, Quilcene-Snow, Snohomish, and Stillaguamish.



## The distribution system

Gravity and pumps feed our drinking to a system

of water tanks before continuing to your home. Miles of pipe carries water to Blue Rock Water customers. Blue Rock's Alderlake, Marbello, Marysville, Northwest, Sunwood, and Skyview systems all have added chlorine as a disinfectant to make sure the water is free from harmful microorganisms. Blue Rock monitors chlorine levels to ensure proper dosages.

Water Resource Area	Description	Group A Water Systems
WRIA 8	Cedar-Sammamish	Vashon <sup>1</sup>
WRIA 18	Elwha-Dungeness	Lower <sup>1</sup>
WRIA 6	Island	Parkwood
WRIA 15	Kitsap	85 Acres, Cliftonwood, Fragaria Landing, Hunt I&II, Hunt III and Stavis I
WRIA 53	Lower Lake Roosevelt	Sunnyhills
WRIA 11	Nisqually	Alder Lake
WRIA 17	Quilcene-Snow	Tala Point
WRIA 7	Snohomish	Cascade Crest, Cherry Creek, Marbello, Marysville, Northwest, Skyview, Suddenview & Vista Glen
WRIA 5	Stillaguamish	Stilliridge

<sup>1</sup> Denotes Group B water system

# SOURCES OF DRINKING WATER



Sources of drinking 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. It can also pick up substances resulting from human activity and the presence of animals. Contaminants may include the following:

## Microbial contaminants

Viruses, bacteria and other microbes that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

## Inorganic contaminants

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

Chemical substances resulting from a variety of sources, such as agricultural and urban stormwater runoff, and residential uses.

Organic chemical contaminants Substances including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, that may come from gas stations, urban stormwater runoff and septic systems.

## Radioactive contaminants

Substances that can be naturally occurring or be the result of oil and gas production, and mining activities.

# WHAT'S IN YOUR DRINKING WATER AND WHAT IS NOT

The Washington Department of Health gives all surface water a susceptibility rating of "high" regardless of whether there are any sources of contaminants in the watershed. Information on the source water assessments is available at [fortress.wa.gov/doh/swap](https://fortress.wa.gov/doh/swap).

## Contaminants and Regulations

The Environmental Protection Agency and the Washington State Board of Health develop regulations that limit the amount of certain contaminants in water provided by public water systems to ensure that the tap water is safe to drink.

## Your Health

Drinking water, including bottled water, may contain small amounts of some contaminants. The presence of contaminants does indicate that the water poses a health risk. Consumers can obtain more information about contaminants and potential health effects by contacting the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791) or by visiting [epa.gov/ground-water-and-drinking-water](https://epa.gov/ground-water-and-drinking-water).

## Special Health Needs

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people 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. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791) or by visiting [epa.gov/ground-water-and-drinking-water](https://epa.gov/ground-water-and-drinking-water).

# ABOUT LEAD AND COPPER

If present, elevated levels of lead can cause health problems, especially for pregnant women and young children. There is no detectable level of lead in our water.

## Sources of Lead

Although there is no detectable lead in our source water, sometimes there are elevated levels of lead and copper in some home tap samples because of the corrosion of household plumbing systems. In Washington state, lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Learn more about water quality and lead in drinking water at [doh.wa.gov/CommunityandEnvironment/DrinkingWater/Contaminants/Lead](https://doh.wa.gov/CommunityandEnvironment/DrinkingWater/Contaminants/Lead).



## Learn About Your Plumbing

Blue Rock Water Company is responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. Consumers need to be aware of their plumbing and how it can affect your drinking water quality. Where you live, when your plumbing was installed, and what type of plumbing you have can impact your potential exposure to lead and copper.

Information about lead in drinking water, testing, and steps you can take to minimize exposure is available at the Safe Drinking Water Hotline (800-426-4791) or by visiting [epa.gov/ground-water-and-drinking-water](https://epa.gov/ground-water-and-drinking-water).

## HOW TO MINIMIZE YOUR EXPOSURE TO LEAD

### Flush

If water has not been used in the home for a few hours, such as first thing in the morning or when getting home from work, run the kitchen or any bathroom faucet for five minutes. You also can run the dishwasher, take a shower, or do a load of laundry to help flush water in your home's plumbing before drinking or cooking. Use only cold water for drinking, cooking, and making infant formula. Boiling the water does not remove lead.



### Filter

Use filtered water for drinking (including making tea and coffee), cooking (particularly when making foods like rice, beans, and soup) and preparing infant formula. Be sure the filter is NSF certified to remove lead. Visit [nsf.org](https://nsf.org) for filter options.



### Maintain

Regularly clean your faucet's screen, also known as an aerator. You can find an instructional video at [denverwater.org/Lead](https://denverwater.org/Lead). Replace filters at the manufacturer's recommended schedule.



# ABOUT MANGANESE

Manganese occurs naturally in both surface and ground waters that encounter manganese-bearing soils. Like iron, manganese is considered a secondary contaminant based on **aesthetic effects such as taste or staining**. Even at low levels, manganese can be a nuisance. Therefore, the state of Washington

Department of Health's limit for manganese is 0.05 mg/l because of aesthetic reasons.



## CROSS-CONNECTIONS

A cross-connection is any actual or potential physical connection between a public water system or the consumer's water system and any source of non-potable liquid, solid, or gas that could contaminate the potable water supply by backflow. Cross-connections exist in all plumbing systems. There are numerous well-documented cases where drinking water has been contaminated via unprotected cross-connections. These cases have caused illness, injury, and in some cases, death to consumers served by the system.

In December 1970, wine back flowed into the public water system in Cincinnati, Ohio. At a winery in the City, someone inadvertently left open a water valve to a wine distilling tank after flushing out the tank. During a subsequent fermenting process, wine back flowed from the tank into the city water mains and out of the faucets of nearby homeowners. This reversal of flow through the water piping occurred because the pressure in the wine distilling tank was greater than the pressure in the City water system.

The task of eliminating all cross-connections is enormous, but Blue Rock Water Company partners with its customers to protect the safety and quality of the water supply. To learn more about cross-connection and steps to safeguard your drinking water at the Department of Health's cross-connection website.

# DEFINITIONS USED IN THE REPORT

## How Do I Read This Report?

The **Maximum Allowable** column provides you with the maximum level established by the Environmental Protection Agency (EPA) or the Department of Health (DOH). These are standards that all drinking water suppliers serving over 15 customers must meet.

The **Minimum/Maximum Range** and **Average Value** show you the contaminant level detected in the water analysis test.

The **last column tells you whether or not the test complies** with regulations. A "YES" indicates that the range detected is within EPA regulations.

**AL (Action Level):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

**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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**Mg/L (milligrams per liter):** number of milligrams of a substance in one liter of water.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant (e.g., chlorine, chloramines, chlorine dioxide) is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant 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.

**N/A:** Not applicable. The EPA has not set MCLGs for these substances or the tests were not required this year.

**N/D:** Not detected.

**ppm (parts per million):** parts per million, or milligrams per liter.

**pCi/l (parts per billion):** One pico-curie per liter of air. One trillionth of a curie. Unit of radioactivity corresponding to  $3.7 \times 10^{10}$  disintegrations per second.

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

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

**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 that include bacteria, viruses, and parasites. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

## NORTHWEST WATER SYSTEM (61947 2 SNOHOMISH COUNTY)

Substance	Major Source	Units	Maximum Goal (MCLG)	Maximum Allowable (MCL)	Test Year	Average Value	Low	High	Comply
<b>Microbiological contaminants</b>									
Total Coliform Bacteria	Naturally present in the environment	Present /Absent	0	>5% of monthly samples	2019	A	NA		Yes
<b>Radioactive contaminants</b>									
Gross Alpha <sup>1</sup>	Erosion of natural deposits	pCi/l	0	15					
Radium 228 <sup>1</sup>	Erosion of natural deposits	pCi/l	0	5					
1 US Environmental Protection Agency (USEPA) regulations require monitoring for the presence of radioactive contaminants every six years. The Utility is NOT required to test for radioactive contaminants every six years.									
<b>Inorganic contaminants (IOC)</b>									
Arsenic	Erosion of natural deposits	mg/L	N/A	0.0104					
Copper <sup>2</sup>	Corrosion of household plumbing: erosion of natural deposits; Leaching from wood preservatives	ppm	1.3000	1.3000	2019	.05253	0.0200	0.116	Yes
Lead <sup>2</sup>	Corrosion of household plumbing: erosion of natural deposits	ppm	0.0000	15.000	2019	0.00715	0.001	0.0379	Yes
Nitrate	Runoff from fertilizer use; Leaching from septic tanks; sewage; erosion of natural deposits.	ppm	10.000	10.000	2019	0.5000	0.5000	0.5000	Yes
Manganese <sup>4</sup>	Erosion of natural deposits	ppm	N/A	0.05 (SMCL)					
Iron	Erosion of natural deposits	ppm	N/A	0.3 (SMCL)					
Complete IOC <sup>3</sup>		ppm							
2 US Environmental Protection Agency (USEPA) regulations require monitoring for the presence of lead and copper at household taps every three years. The next round of required sampling will be conducted in 2022. 3 The Utility is NOT required to test for Complete IOC every nine years. 4 The Utility is NOT required to test for Manganese every three years.									
<b>ICR disinfection by-products</b>									
TTHM (Total trihalomethanes)	By-product of drinking chlorination	ug/L	N/A	80.4000	2019	35.500	35.500	35.500	Yes
Haloacetic Acids (HAA5)	By-product of drinking chlorination	ug/L	N/A	60.4000	2019	31.100	31.100	31.100	Yes
5 The Utility is required to test for ICR disinfection only for chlorinated water supplies every year. The next round of required sampling will be in 2020.									
<b>Volatile organic contaminants (VOC)<sup>6</sup></b>									
1,1 - DICHLOROETHYLENE	Discharge from industrial chemical factories	mg/L	0.0070	0.0070					
1,1,1 - TRICHLOROETHANE	Discharge from metal degreasing sites and other factories	mg/L	0.2000	0.2000					
1,1,2 - TRICHLOROETHANE	Discharge from industrial chemical factories	mg/L	-	0.0050					
1,2 - DICHLOROETHANE	Discharge from industrial chemical factories	mg/L	-	0.0050					
1,2 - DICHLOROPROPANE	Discharge from industrial chemical factories	mg/L	-	0.0050					

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Substance	Major Source	Units	Maximum Goal (MCLG)	Maximum Allowable (MCL)	Test Year	Average Value	Low	High	Comply
<b>Volatile organic contaminants (VOC)<sup>6</sup></b>									
1,2,4, - TRICHLOROBENZENE	Discharge from textile finishing factories	mg/L	0.0700	0.0700					
BENZENE	Discharge from industrial chemical factories	mg/L							
CARBON TETRACHLORIDE	Discharge from chemical plants and other industrial activities	mg/L	-	0.0050					
CHLOROBENZENE	Discharge from chemical and agricultural chemical factories	mg/L	0.1000	0.1000					
CIS - 1,2 - DICHLOROETHYLENE	Discharge from industrial chemical factories	mg/L	0.0700	0.0700					
ETHYLBENZENE	Discharge from petroleum refineries	mg/L	0.7000	0.7000					
O - DICHLOROBENZENE	Discharge from industrial chemical factories	mg/L	0.6000	0.6000					
P - DICHLOROBENZENE	Discharge from industrial chemical factories	mg/L	0.0750	0.0750					
STYRENE	Discharge from rubber and plastic factories; leaching from landfills	mg/L	0.1000	0.1000					
T - 1,2 - DICHLOROETHYLENE	Discharge from industrial chemical factories	mg/L	0.1000	0.1000					
TETRACHLOROETHYLENE	Discharge from factories and dry cleaners	mg/L	-	0.0050					
TOLUENE	Discharge from petroleum factories	mg/L	1.0000	1.0000					
VINYL CHLORIDE	Leaching from PVC pipes; discharge from plastic factories	mg/L	-	0.0020					
6 The Utility is NOT required to test for VOCs every six years.									
<b>Synthetic organic contaminants including pesticides and herbicides (SOC)<sup>7</sup></b>									
1,2-DIBROMO-3-CHLOROPROPANE	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	mg/L	2.0000	2.0000					
2,4 - D	Runoff from herbicide used on row crops	ug/L	70.000	70.000					
2,4,5 - TP (SILVEX)	Residue of banned herbicide	ug/L	50.000	50.000					
ALACHLOR	Runoff from herbicide used on row crops	ug/L	200.00	200.00					
ATRAZINE	Runoff/leaching from pesticide use	ug/L	3.000	3.000					
BENZO(A)PYRENE	Leaching from linings of water storage tanks and distribution lines	ug/L	0.2000	0.2000					
DALAPON	Runoff from herbicide used on rights of way	ug/L	200.000	200.000					
DI(ETHYLHEXYL)-ADIPATE	Discharge from chemical factories	ug/L	400.000	400.000					
DI(ETHYLHEXYL)-PHTHALATE	Discharge from rubber and chemical factories	ug/L	6.0000	6.0000					
DINOSEB	Runoff from herbicide used on soybeans and vegetables	ug/L	7.0000	7.0000					
ENDRIN	Residue of banned insecticide	ug/L	2.0000	2.0000					
HEPTACHLOR	Residue of banned termiticide	ug/L	0.4000	0.4000					



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Substance	Major Source	Units	Maximum Goal (MCLG)	Maximum Allowable (MCL)	Test Year	Average Value	Low	High	Comply
Synthetic organic contaminants including pesticides and herbicides (SOC) <sup>7</sup>									
HEPTACHLOR EPOXIDE	Breakdown of heptachlor	ug/L	0.2000	0.2000					
HEXACHLOROBENZENE	Discharge from metal refineries and agricultural chemical factories	ug/L	0.1000	0.1000					
HEXACHLOROCYCLO-PENTADIENE	Discharge from chemical factories	ug/L	5.000	5.000					
LINDANE (BHC - GAMMA)	Runoff/leaching from insecticide used on cattle, lumber, gardens	ug/L	0.2000	0.2000					
METHOXYCHLOR	from insecticide used on fruits, vegetables, alfalfa, livestock	ug/L	4.000	4.000					
PCBS (Total Aroclors)	Runoff from landfills; discharge of waste chemicals	ug/L	0.5000	0.5000					
PENTACHLOROPHENOL	Discharge from wood preserving factories	ug/L	1.0000	1.0000					
PICLORAM	Herbicide runoff	ug/L	500.000	500.000					
SIMAZINE	Herbicide runoff	ug/L	4.000	4.000					
TOXAPHENE	Runoff/leaching from insecticide used on cotton and cattle	ug/L	3.000	3.000					
TRICHLOROETHYLENE	Discharge from metal degreasing sites and other factories	ug/L	5.000	5.000					
7 The Utility is NOT required to test for Herbicides every nine years.									



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*For more information on water  
quality visit [bluerockmgt.com](http://bluerockmgt.com)*