Water District 19 Water Quality Report

Water District 19 office

This Report is designed to give you, our customer, an overview of Water District 19's operation and water quality test results for 2024. You will learn where your water comes from, where it goes and the steps we take to provide water that is reliable and safe to drink.

At Water District 19 we provide our customers with drinking water that meets or exceeds the stringent standards set by the state and federal governments. We monitor the water quality of our system 24 hours a day, 7 days a week. From the sources, tanks and water treatment plant to the pipes that carry the water to your home - we work to ensure the highest quality water is available. Daily laboratory sampling is performed at our Water Treatment Plant and Well sites along with daily field analyses. Monthly samples are collected and sent to a state certified laboratory to test for coliform bacteria/e-coli. Other regulated contaminants are sampled on a schedule dictated by the Washington State Department of Health. Our water quality consistently exceeds US Environmental Protection Agency (EPA) standards. Results of the most recent analyses are on pages 2 and 3 of this report.

Over time, our understanding of water quality and treatment evolves as new technologies and information becomes available. Emerging concerns such as manganese and PFAS or forever chemicals are discussed on page 4.

All water quality information is available to the public during office hours (M - F, 8 a.m. to 4 p.m.). Additionally, the Washington State Department of Health, Office of Drinking Water maintains a comprehensive database of every water system in the state, called Sentry Internet, which can be accessed at: **https://fortress.wa.gov/doh/eh/portal/odw/si/Intro.aspx**. Water District 19's system I.D. is **38900**. Enter this I.D. number to access all of our records, including all of our regulated water quality test results and any exceedances.
If you have any concerns regarding the quality of your water, contact the District office and we will investigate it immediately.

In the digital version of this report, words or phrases which are bold faced and underlined are linked to web resources to deepen your understanding of topics touched on in this report. Click on word or phrase to activate link. A digital version of this report can be accessed on our website: **www.water19.com**.

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PUBLIC PARTICIPATION OPPORTUNITIES

The Board of Commissioners meetings occur on the second Tuesday of every month at 6:00 p.m. at the District office and are always open to the public. Check the website for other posted special meetings

WATER DISTRICT 19

SOURCES: WHERE YOUR DRINKING WATER COMES FROM

Water District 19 utilizes both surface water and groundwater sources. We have 3 reservoirs which store the water after it has been treated. In 2024 Wells provided 51% of the district's water supply.

Surface Water: Our surface water comes from Beall and Ellis Creeks. Water from the creeks is pumped to our Water Treatment Plant just outside of Vashon town. There the water is filtered and chlorinated before being pumped directly into the distribution system and fills the million-gallon (MG) storage tank, located at our wellfield.

Groundwater: We have 6 wells:3 at the wellfield on 103rd Ave. SW, the Morgan Hill Well on SW 216th St., the Vashon Meadows Well, and the Beall Well. The wellfield is our primary groundwater source. Beall Well was not in operation in 2024.

Reservoirs: We have three reservoirs (tanks). Two are located at our wellfield and the other is at Morgan Hill. At the wellfield, pumped groundwater is chlorinated before entering a 625,000-gallon storage tank. This water is transferred to the million-gallon (MG) tank, where it is blended with surface water. We are a 'gravity feed' system; meaning water level in the 80 ft. MG tank determines the minimum pressure for our distribution system. Morgan Hill well water is chlorinated and stored in a 100,000-gallon tank on site before being pumped into the distribution system.

Source Water Protection: The District owns much of the land surrounding the watershed to protect our creeks. Access is limited to our sites and land not owned by us is residential, which is considered a low risk. Our wells are predominantly in the deep aquifer and are also considered to be low in contamination

SURFACE WATER TREATMENT PROCESS

Surface water enters the treatment plant and is treated with National Science Foundation (NSF) certified chemicals which aid filtration. The water then passes through the filtration process. Post filtration, the water is chlorinated and stored in the clear well (a type of reservoir). Once in the clear well, the water flows through a series of baffles and chambers to provide adequate contact time for disinfection. This contact time ensures the chlorine will be effective against pathogens such as bacteria and viruses. Water is then pumped from the clear well into the distribution system. Water quality is monitored continuously throughout this process. We consistently produce water which meets the Department of Health's Treatment Optimization Program (TOP). TOP goals are more stringent than the treatment requirements set forth by the EPA.

WATER QUALITY: WHAT'S IN YOUR DRINKING WATER

CHLORINATION AND DISINFECTION

We use liquid sodium hypochlorite (commonly known as bleach) as our disinfectant. ***Chlorination*** is very effective in killing disease-causing pathogens, such as bacteria, viruses, and protozoans. We are required to assure minimum *chlorine residuals* (concentrations) entering the distribution system and a 0.20 mg/L minimum chlorine residual throughout. We monitor chlorine concentrations daily as water enters the distribution system and throughout the system. The table below shows the range of chlorine concentrations in our system for 2024.

Chlorine Monitoring Point	Unit	Minimum	MRDL	Aver-age	Range
Entry Into Distribution System	mg/L	0.20	4.**00**	1.14	0.07 - 5.20
Distribution System Samples	mg/L	0.20	4.00	0.69	0.09—1.80

While disinfection helps to maintain the safety of our water, chlorine can react with natural materials to form ***Disinfection Byproducts*** (DBP's) that may pose a health risk. We have been collecting data on DBPs every year since 2005 and we sample for them quarterly. Though our results are typically below the EPA MCL's*; we continue to investigate ways to mitigate their formation.

2024 Disinfectant By-Products Results					
DBP's	**Units**	**MCL**	**Avg**	**Max**	**Min**
Total HAA's *	µg/L*	**60**	12.92	19.4	6.9
Total THM*	µg/L	**80**	55.28	67.8	38.9

WATER QUALITY RESULTS 2024

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.

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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, the Washington State Department of Health (WA DOH) and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulates contaminants in bottled water.

Contaminants that may be present in source water before treatment include:

- **Microbial contaminants**
- **Inorganic contaminants**
- **Pesticides and herbicides**
- **Organic chemical contaminants**
- **Radioactive contaminants**

WA DOH sets the water quality monitoring requirements yearly. See the table below for the most recent results.

This table shows the most recent water quality test results of our drinking water. Sampling is done at the entry point to the distribution system or prior to blending (Beall Well). Of the 135 regulated chemicals tested for, we provide data on the chemicals detected. The table does not list the regulated chemicals we tested for but did not detect (ND), this includes synthetic and volatile organic chemicals such as oils, solvents, herbicides and pesticides.

Contaminant	Units	MCL	Test Result					
WA DOH Source and ID			Surface Water S05	Well field 103rd S09	Morgan Hill Well S06	Vashon Meadows S11	Beall Well (not run) S10	
EPA Regulated (Primary)								Typical Source of Contamination
Arsenic	µg/L	10	1.2	6.7	1.6	1.8	**36**	Erosion of Natural Deposits
Nitrate	mg/L	10	1.0	ND	ND	.56	ND	Erosion of Natural Deposits, leaching from septic systems
Gross Alpha	pCi/L	15	ND	ND	ND	ND	0.834	Erosion of Natural Deposits
Radium 228	pCi/L	5	ND	ND	ND	0.751	0.018	Erosion of Natural Deposits
EPA Regulated (Secondary)								
Hardness (CaCO3)	mg/L	-	76	64	85	100	100	Erosion of Natural Deposits
Iron	mg/L	0.3	ND	**0.33**	0.16	**0.80**	ND	Erosion of Natural Deposits
Manganese	mg/L	0.05	ND	0.039	**0.059**	0.030	**0.091**	Erosion of Natural Deposits

ND - Not Detected **Bold -** Indicates contaminant exceedance NOTE: Beall Well was not in operation in 2024

*TERMS AND ABBREVIATIONS

Maximum Contaminant Level Goal or 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 Contaminant Level or MCL: 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 technology.

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

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

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.

Secondary Contaminant: These contaminants are traditionally considered aesthetic qualities and are not health based.

90th Percentile value: The 90th percentile is the value for which 90% of the data points are smaller. Example: Out of 10 homes samples, 9 were at or below given value.

mg/L: Milligrams per liter, equal to parts per million.

µg/L: Micrograms per liter, equal to parts per billion.

pCi/L: Picocuries per Liter

THM: Trihalomethane, a regulated disinfection by-product.

HAA: Halo Acetic Acids, regulated disinfection by-product.

DOH: Washington State Department of Health.

CDC: Center for Disease Control and Prevention

Lead and Copper in drinking water are typically a result of corrosion of household plumbing systems. The *action levels** for lead and copper are **0.0150 mg/L** for lead and **1.300 mg/L** for copper.

Lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, may be contained. Elevated levels of lead can cause serious health problems, especially for pregnant women and young children.

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. Only use cold water for drinking, cooking and making baby formula. Hot water is likely to contain higher levels of lead.

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 ***http://www.epa.gov/safewater/lead***.

Lead and Copper Results 2024 of 13 sites sampled

	Units	MCL	90th percentile	Max
Lead	mg/L	0.015	0.002	0.003
Copper	mg/L	1.30	0.05	0.09

PFAS: Forever Chemicals

As part of the ***EPA's Unregulated Contaminant Monitoring Rule (UCMR 5),*** we are required to collect multiple drinking water samples for 29 per- and polyfluoroalkyl substances (PFAS) and lithium analysis during a 12-month period between 2023 and 2025. No PFAS have been detected.

WATER QUALITY: CONCERNS

Arsenic and Manganese are two minerals/chemicals of concern found in our drinking water. They are naturally occurring in groundwater throughout our region. Our current treatment practices primarily address biological concerns. Filtration and chlorination remove or inactivate pathogens found in our water. By blending surface water, which is low in arsenic and manganese, with our well water, which has higher concentrations, we are able to maintain lower overall concentrations. Removing arsenic and manganese require specialized treatment techniques not currently employed by the district. We continually explore treatment options and the cost/benefit, it seems to be a matter of time before we implement a treatment technique. We did not run Beall Well in 2024, which is our source that exceeds acceptable levels .

Your drinking water currently meets EPA's standard for arsenic, however it does contain low levels. There is a small chance that some people who drink water containing low levels of arsenic for many years could develop circulatory disease, cancer, or other health problems. Most types of cancer and circulatory disease are due to factors other than exposure to arsenic. EPA's standard balances the current understanding of arsenic's health effects against the cost of removing arsenic from drinking water.

The Washington State Department of Health Office of Drinking Water (ODW) is in the process of modifying its recommendations for public water systems that have manganese in their water supply. For many years, **manganese in drinking water** was considered as only an aesthetic concern, causing discoloration and staining. However, recent studies show negative health effects from exposure to high levels of manganese in drinking water. We are actively following these developments and will continue to monitor and manage manganese as best we can.

Manganese along with iron rust and sediment contributes to the color encountered by customers when they experience **brown water**. Although brown water is considered an aesthetic water quality concern, we do not recommend that anyone drink water that looks, smells or tastes objectionable. When encountering brown water from your tap, please flush a water line, such as an outside faucet, until the water runs clear. This can take anywhere from 10 - 40 minutes. Please call us to report brown water, as it is very helpful to us in identifying our trouble areas. Annual flushing of the system is meant to mitigate the accumulation of these deposits.

Algae & cyanotoxins In March of 2024, water holding ponds at the surface water treatment plant developed a bloom of algae growth. When the water in the holding ponds was tested, cyanobacteria from the genus *Oscillatoria* were found. Since some species of Oscillatoria produce cyanotoxins, we stopped use of this water and sent samples to a lab for testing. No toxins were detected in the samples. We are continuing to monitor algae, manage our treatment processes, and test to assure that toxins are not in the water.

In 2025 we will develop additional treatment and cover the ponds to reduce the likelihood of an algae bloom.

DRINKING WATER RESOURCES

U.S. Environmental Protection Agency Safe Drinking Water Hotline
1-800-426-4719
www.epa.gov/safewater

Washington State Department of Health Regional Office
(253) 395-6750
www.doh.wa.gov/ehp/dw

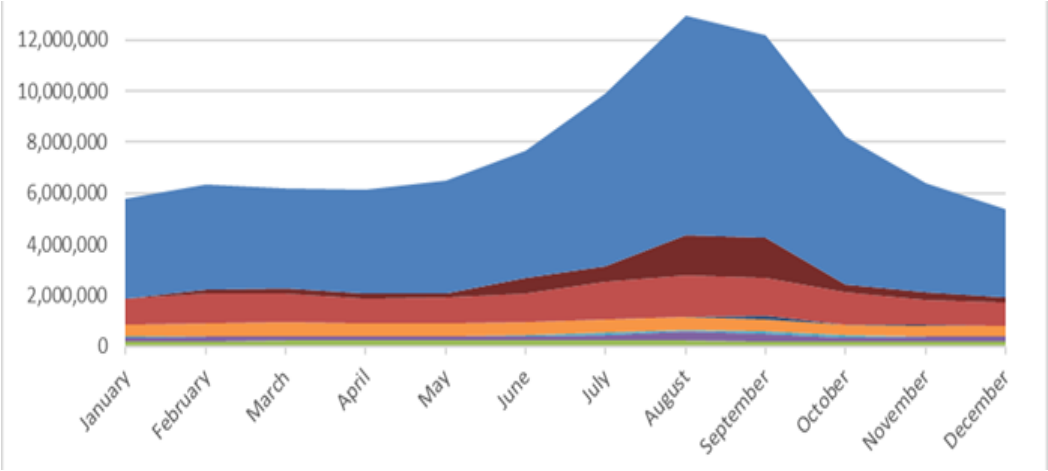
Water District 19
(206) 463-9007
www.water19.com

CONSERVATION: IT'S ABOUT IRRIGATION

In 2024, the average Water District 19 single-family residence consumed 169 gallons per day (gpd). This is well below the national average demand of 300 gpd (**EPA estimate**). We thank you for your conservation efforts; together we are making a difference. Estimates show that average households are typically using 138 gpd during the winter and 225 gpd during the summer. Multi-family residences average 72 gpd, with little fluctuation in the summer months. Typically, our seasonal peak is between July and August. Lawn and garden irrigation can increase system demand by 50% and upwards during our dry season. **Conservative outdoor watering practices** are the most impactful way to conserve water.

Water District 19 serves roughly 1500 customers. The majority of these are single family residential.

Category	% Usage
Residential	66.4
Multi family	6.2
Commercial	15.0
School District	7.9
Industrial	2.7



CONSERVATION: SUPPLY SIDE AND LEAKS

Supply side conservation is what can be done on our side of the meter. Water main leaks can account for significant loss of water. We conduct yearly leak detection surveys which helps us find active leaks. Oftentimes, leaks are discovered and reported by our customers. We would like to thank all of you for your vigilance and consideration. This is our system - which we jointly own and rely on. We will immediately investigate any possible or suspected leak. If you see or suspect a water leak, please call our office 206-463-9007 or e-mail **water19@water19.com**

The table below shows the amount of system leakage compared to the total volume produced. This year we were below the statewide goal of 10%.

Water pressure: Be aware that high water pressure can significantly increase the amount of water leaked. Water pressures vary. If you have over 80psi at your connection, make sure you have a working pressure reducing valve after your water meter. To find your water pressure you can take a reading at a hose bib with a pressure gauge, or you can call the

Distribution System Leakage Summary 2024		
Total Water Produced	103,322,877	**Gallons**
Customer Usage	94,788,473	**Gallons**
Distribution System Leakage	8,534,404	**Gallons**
Distribution System Leakage Percent	8.3%	**%**
3-year Annual Average - Percent	9.0%	**%**