WATER DISTRICT 19

2019 Consumer Confidence Report

Mission:

To provide a sufficient quantity of good quality water at a reasonable cost to our customers, in perpetuity.

Inside this report:

For more information:

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

Or

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

Or

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

This Consumer Confidence Report is designed to give you, our customer, an overview of Water District 19's operation and water quality test results for 2019. Now as in previous years you will discover where your water comes from, where it goes and what steps are taken to provide water that is safe to drink every time you turn on the tap. We also highlight some of our accomplishments from 2019 and our direction for 2020.

At Water District 19 we strive to provide our customers with drinking water that meets or exceeds the stringent standards set by the state and federal government. To this end we constantly monitor the water from the water's source all the way to the tap. We have adopted voluntary state health department goals that go well beyond the basic requirements.

The water quality in our distribution system—the pipes that carry the water from our tanks and treatment plant to your home—are regularly monitored for quality control. Monthly samples are taken for analysis and sent to a state certified laboratory to test for coliform bacteria. Additional yearly sampling is done on a schedule dictated by the Washington Department of Health. We are pleased to report that our results indicate a water quality that consistently exceeds US EPA standards. (results of recent analyses are on pages 2 and 3 of this report)

All water quality information is available to the public during office hours (M - F, 8 a.m. to 4 p.m.). This includes all test results from either in-house analysis or from state certified labs. 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, 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.

If you have any concerns regarding the quality of your water, contact the District office and we will investigate it immediately.

Water Usage and Conservation

There are two aspects of water conservation: the supply side and the demand side. We provide the water, you the customer consume it. On the supply side we are primarily concerned with leaking pipes. Leaks are a result of aging infrastructure. The table below shows our system leakage (supply side). Though we are below the Statewide goal of 10%, we actively survey our system for leaks throughout the year. If you see or suspect a water leak please call our office.

Distribution System Leakage Summary 2019		
Total Water Produced (TP) - Annual Volume	112,747,561	Gallons
Authorized Consumption (AC) - Annual Volume	100,651,287	Gallons
Distribution System Leakage (DSL) - Annual Volume TP - AC	12,096,274	Gallons
Distribution System Leakage - Percent DSL	10.7	%
3 year Annual Average - Percent	10.8	%

Sources for Water District 19

Water District 19 utilizes surface water and groundwater sources. Our surface water comes from Beall and Ellis Creeks and our groundwater comes from our main well field on 103rd Ave. SW, the Morgan Hill Well on SW 216th St. and the Vashon Meadows Well. Water from the creeks is pumped to our Treatment Plant. There the water is filtered and chlorinated before being pumped into the distribution system and the million gallon storage tank located at our wellfield.

The wellfield on 103rd Ave consists of three wells and two tanks. Pumped groundwater is chlorinated before entering a 625,000 gallon storage tank. This water is transferred to the million gallon tank, where it is blended with surface water. This tank sets the system pressure for our entire 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.. Vashon Meadows water is chlorinated and pumped directly into the system at 196th Avenue SW. Beall Well is blended with surface water and is only used if it is absolutely required to meet high seasonal demand, and then it is blended with treated water.

Creeks supply 60% of annual water consumption and wells provide 40%.

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. 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 bacteria, viruses and pathogens. Water is then pumped from the clear well into the distribution system.

Water District 19 Water Treatment Plant

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.

Chlorination and Disinfection

Liquid sodium hypochlorite is used as our disinfectant. Chlorine is very effective in killing disease-causing pathogens, such as bacteria, viruses, and protozoans. We are required to assure minimum chlorine residuals entering into the distribution system and a measurable 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

Chlorine Monitoring Point	Unit	Minimum	MRDL	Average	Range
Entry Into Distribution System	Mg/L	0.20	4.00	0.86	.20 - 1.98
Distribution System Samples	Mg/L	detectable	4.00	0.34	.01 - 1.44

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 reduce their formation.

2019 Disinfectant By-Products Results					
DBP's	Units	MCL	Avg	Max	Min
Total HAA's *	µg/L*	60	34.8	70.0	5.8
Total TTHM*	µg/L	80	55.6	93.0	12.4

* see Definition of Terms page 3

Water Quality Standards

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 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 prescribes the water quality monitoring requirements yearly. See Table below for the most recent results.

Water Quality Test Results 2019

This table shows the most recent data concerning the quality of our drinking water. Sampling is done at the entry point to the distribution system, post treatment. Of the 135 regulated chemicals tested for, we provide data on the chemicals detected. The table does not include the regulated chemicals we tested for but did not detect, including synthetic and volatile organic chemicals such as oils, solvents herbicides and pesticides. If you have any questions regarding Water Quality please give us a call. 206-463-9007.

Contaminant	Units	MCL	Test Result				In Compliance	Typical Source of Contamination
EPA Regulated (Primary)			Well field 103rd	Morgan Hill Well	Beall Well[1]	Surface Water		
Arsenic	mg/L	**0.01**	0.007	0.0016	0.0026	ND	yes	Erosion of Natural Deposits
Nitrate	mg/L	**10**	ND	ND	1.3	0.66	yes	Erosion of Natural Deposits, leaching from septic systems
Radium 228	pCi/L	**5**	<0.9	<.209	0.940	ND	yes	Erosion of Natural Deposits
EPA Regulated (Secondary)								
Hardness (CaCO3)	mg/L	-	64	85	76	76	n/a	Erosion of Natural Deposits
Manganese	mg/L	0.05	0.084	0.093	ND	ND	n/a	Erosion of Natural Deposits

ND - Not Detected **n/a** - not applicable

[1] Due to arsenic levels in Beall Well (33 ug/L), it is blended with surface water at the plant to well below the MCL. **Results in Table are post treatment.** Beall Well was not operated in 2019 and will only be operated in the future if absolutely necessary to meet system demand.

Coliform bacteria: An indicator for potential disease causing bacteria in water. All samples taken for 2019 were satisfactory.

Arsenic: Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Lead and Copper: Lead and copper are typically a result of corrosion of household plumbing systems. The action levels* for lead and copper are 0.015 mg/L and 1.3 mg/L, respectively. We sampled 10 homes and the Vashon School District in 2019. The 90th percentile concentration level for lead was 0.0024 mg/L. One sample was measured above this at 0.0052 mg/L. The 90th percentile concentration level for copper was 0.16 mg/L. Two samples were above this at 0.17 mg/L. Lead and Copper in drinking water is primarily from materials and components associated with service lines and home plumbing. Water District 19 is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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. 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*

* Definition of Terms

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 (e.g. chlorine, chloramines, chlorine dioxide).

90th Percentile value: The 90th percentile is the value for which 90% of the data points are smaller.

mg/L: Milligrams per liter = 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: Haloacetic Acids, regulated disinfection by-product.

DOH: Washington State Department of Health.

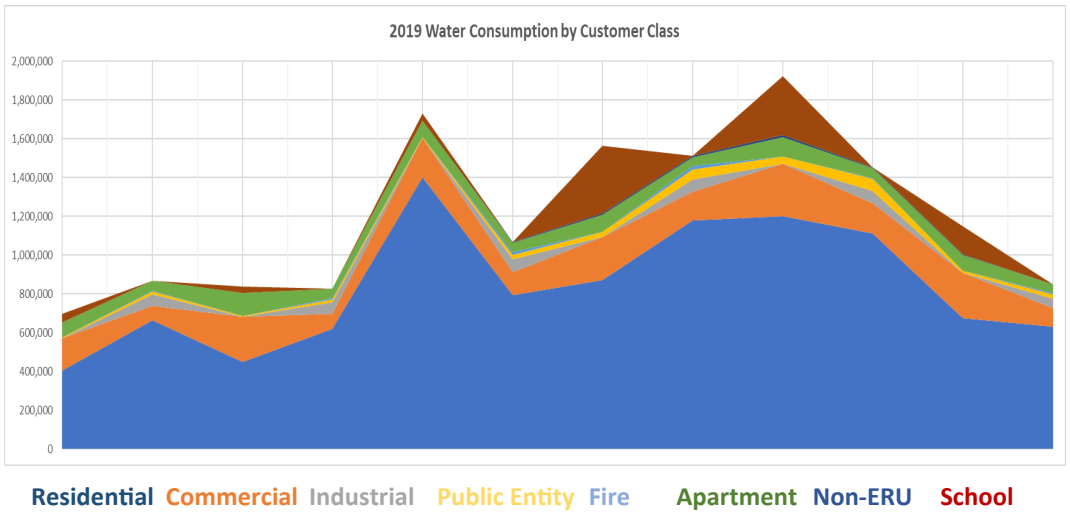
± Contains the most recent test results for water quality standards dictated by Washington State and EPA.

Public Participation Opportunities

Regular 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. Other special meetings, as scheduled by the Board, are advertised and posted on our website.

Water Use Efficiency

The demand side is solely a function of the customer's usage. Demand in 2019 increased by 2.6% from last year with each Equivalent Residential Unit (ERU) sold representing 158 gallons per day. Lawn and garden irrigation continue to be the primary source of increased summer demand. Overall use increased by 18 gallons per day throughout the year or 1,080 gallons per billing cycle per ERU sold. Your personal use may be much different than the average, due to your water use patterns. Weather patterns also effect irrigation; during the summer of 2019 we only had 5.45 inches of rain from April through September but got a whopping 11.31 inches in October and experienced higher humidity than normal throughout the summer. However, as a community we used 5,702,000 fewer gallons than the summer of 2018. We thank you, our customers for your continued efforts to conserve water; you have made a difference. Call or stop by our office for more information, as we want to work with you to continue to reduce summer irrigation. With better conservation, we can defer future capital costs to develop new sources and comply with state guidelines by continuing this encouraging trend of summer



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Notable events 2019—What's planned for 2020

In 2019: the District began rehabilitating its water wells, beginning with Well #4 at the main well site. Plans are to continue this practice on each of the three main wells on a three to four-year cycle , depending on each well's specific needs. The District hopes to continue to meet customer demands without having to develop additional water sources, unless island growth requires more water. Demand will ultimately be dependent on island population's growth, plus the success of conservation programs. The District hopes that water conservation will continue to improve on the island and slow the need for more water sources. In 2019, the Vashon Meadows Class B system customers were connected to the District's water mains and the small community well was connected to supply additional water to the distribution system.

In 2021& 2022, the District plans to replace mains along 216th & Vashon Highway. In 2023, plans are to replace water main on Bank Road. The District will continue replacing old meters with electronically read meters. Pulling this all together will require that all water sources be integrated into the District's Supervisory Control and Data Acquisition System (SCADA). The District will continue to upgrade and its automate its systems. The Commissioners are is in the process of submitting its Comprehensive Water System Plan to regulators and our customers in the coming months.