

BIRCH BAY WATER AND SEWER DISTRICT

2016 Drinking Water Quality Annual Report

Birch Bay Water and Sewer District (BBWSD) is pleased to provide our customers with its annual "Consumer Confidence Report" for calendar year 2016. This report explains the quality of drinking water provided by BBWSD. The report also includes results from required water quality tests, as well as an explanation of where our water comes from and tips on how to interpret the data.

OVERVIEW

The Birch Bay Water and Sewer District (BBWSD) purchases water from the City of Blaine. Our water comes from several deep wells within the City of Blaine's well field. The City of Blaine protects, provides and treats the water supply. Sampling occurs at specific frequencies (continuously, daily, monthly, quarterly or annually) and at different locations (prior to treatment, as it enters the distribution system, and throughout the distribution system) in accordance with federal and state regulations. The City testing includes inorganic compounds (IOC), synthetic organic compounds (SOC), volatile organic compounds (VOC), microbial substances and chlorine disinfection by-products.

BBWSD coordinates and cooperates with the City of Blaine to provide our water, test for new sources, and protect water rights. The District also designs, operates, repairs and maintains your water storage and distribution system in the Birch Bay area. BBWSD checks chlorine levels, monitors and inspects new construction, and follows coliform bacteria, lead & copper, chlorine byproduct and other sampling, testing, and monitoring plans as required. Samples are taken at several locations throughout the system to ensure that the entire system is tested and monitored. Specific District water quality questions can be directed to the District's Operations Manager, Mike Sowers, at (360) 371-7100.

Your drinking water meets or exceeds all water quality parameters established by State and Federal Law.

WHY MONITOR?

The sources of drinking water (both tap water and bottled 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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial Contaminants** (viruses, bacteria & parasites)
- **Inorganic Contaminants** (salts & metals, naturally occurring)
- **Pesticides & Herbicides** (agricultural, stormwater runoff, residential uses)
- **Organic Chemicals** (industrial by-products, septic tanks, gas stations)
- **Radioactive Contaminants** (naturally occurring or as a result of mining and /or gas production)



In order to ensure that tap water is safe to drink, the WA Department of Health and the United States Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

LEAD AND COPPER

The District is required to monitor for lead and copper in their distribution system. The District has taken 182 lead and copper samples in residences since 1998 with NO EXCEEDANCES (levels are all below EPA limits). The latest lead tests include 21 samples taken in July of 2016. Over half of the samples had "non-detectable" levels of lead. The overall average of ALL samples was only 0.0006 ppm: about 1/25th of allowable lead levels.

The District has been using LEAD FREE fittings & materials since 2014. Low-lead fittings (typically less than 5% lead) were used prior to 2014. These materials include items such as pipe saddles, connectors, and water meter setters, all of which are only a fraction of the total distribution and piping system. Water main piping does not have any lead content, and residential service lines are typically copper or poly (polyethylene) pipe, which is a very low health risk. If lead is found within a residence, it is usually due to residential piping, very old service lines, and/or plumbing fixtures. Some faucets and fixtures have a combination of brass, copper, zinc and very small amounts of lead.



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. If water has been sitting for several hours (such as overnight), 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.

All 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 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 (1-800-426-4791).

*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).*



The Safe Drinking Water Hotline is also available online at water.epa.gov/drink/hotline.

INORGANIC CONTAMINANTS (MEASURED AT WELLS) *COLLECTED THROUGHOUT 2016

Detected Compounds	Violation Yes/No	Detected Range	Units	MCLG	MCL	Source of Contamination
Nitrate	NO	ND - 1.2	mg/L	10	10	Erosion of natural deposits, runoff from fertilizer use, leaching septic tanks, sewage

INORGANIC PARAMETERS (MEASURED AT HOMESITES) *COLLECTED JULY 2016

Detected Compounds	Violation Yes/No	Detected Range	90 th Percentile	UNITS	MCLG	AL	TYPICAL SOURCE
Lead	NO	ND—0.002	0.002	ppm	0.015	0.015	Erosion of natural deposits, corrosion of household plumbing systems
Copper	NO	0.0036-0.137	0.105	ppm	1.3	1.3	Erosion of natural deposits, corrosion of household plumbing systems, erosion of natural deposits

MICROBIOLOGICAL CONTAMINANTS (Over 100 samples taken in 2016)

Detected Compounds	Violation Yes/No	Level Detected	Units	MCLG	MCL	Major Source of Contamination
Total Coliform	NO	NONE	MPN	0	0	Naturally present in the environment
Fecal Coliform & E-coli	NO	NONE	MPN	0	0	Human and animal fecal waste

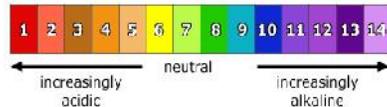
SECONDARY/OTHER PARAMETERS (Aesthetic, cosmetic, technical ONLY)

Detected Compounds	Violation Yes/No	Level Detected	Units	MCL
Manganese	NO	0.01 – 0.04	ppm	0.05
Iron	NO	< 0.10	ppm	0.3
Chloride	NO	< 20	ppm	250
Sulfate	NO	< 50	ppm	250
Fluoride	NO	0.21 - 0.5	ppm	4.0

HARDNESS - Water hardness tested at 38 to 74 mg/L (Typically around 65-70) in 2016; considered moderate. Hardness can vary seasonally; past samples indicate hardness may peak as high as 100 mg/l. Hardness is NOT a health hazard, but if water is too hard, deposits and scaling can occur and a water softener may be needed.

Water Hardness Scale		
Grains/Gal	mg/L & ppm	Classification
Less than 1	Less than 17.1	Soft
1 – 3.5	17.1 - 60	Slightly Hard
3.5 - 7	60 - 120	Moderately Hard
7 - 10	120 - 180	Hard
Over 10	Over 180	Very Hard

pH - Your water varies between a pH of 7.8 and 8.2, with an average of about 8.0.



Chlorine (CL2)

Free CL2 residual is typically 0.02-0.08 mg/l in the distribution system (MCL is 4.0 mg/l)

DEFINITIONS AND ACRONYMS

Maximum Contaminant Level (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 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; An individual would have to drink 2 liters of water/day at the MCL level every day to have a one-in-a-million chance of having the described health effect

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

Parts Per Million (PPM): One part per million corresponds to one minute in two years; a single penny in \$10,000.

Parts Per Billion (PPB): One part per billion corresponds to one minute in 2,000 years; a single penny in \$10,000,000.

Milligrams per Liter (mg/L): A unit of concentration, representing 0.001 grams of a constituent in 1 liter of water.

Picocuries Per Liter (pCi/L): A unit of measuring radionuclide levels.

Most Probable Number Index (MPN): The concentration of coliform bacteria in the sample (expressed as the number of bacteria per 100mL of sample).

No Detect (ND): A compound that was analyzed and not detected at a level greater than or equal to the state reporting level (which is based on instrument & procedure accuracy and sensitivity).

SUMMER WATERING SCHEDULE						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
ODD ADDRESS	NO WATERING	EVEN ADDRESS	ODD ADDRESS	EVEN ADDRESS	ODD ADDRESS	EVEN ADDRESS

From June 1 to September 15, the District implements a voluntary summer watering schedule to help manage our water supply during the summer months. Residents with odd numbered street addresses may water on Wednesdays, Fridays and Sundays. Residents with even numbered street addresses may water on Tuesdays, Thursdays and Saturdays. Mondays are non-watering days to allow reservoirs to recharge after the weekend. For more information visit www.bbwsd.com or contact the District at 360-371-7100.

Birch Bay Water and Sewer District is a partner of the Whatcom Water Alliance, a regional water conservation group in Whatcom County. Alliance members share a passion in providing clean and safe water to protect your health, planet and quality of life. Your investment in our water and sewer infrastructure through utility rates helps to keep it functional for current and future generations.

