



CITY OF BONNEY LAKE
 19306 Bonney Lake Blvd.
 P.O. Box 7380
 Bonney Lake, WA 98391-0944



2011 WATER QUALITY REPORT

“The City of Bonney Lake’s mission is to protect the community’s livable identity and scenic beauty through responsible growth planning and by providing accountable, accessible and efficient local government services.”

HOW TO SAVE MORE MONEY ON WATER AND SEWER BILLS:

Both Water and Sewer charges are based on how much water you use. It is important to minimize both daily water consumption quantity and to minimize water use during peak periods. You can find additional conservation tips at www.waterwise.com.

INSIDE YOUR HOME

Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.

Shorten your shower by a minute or two and you’ll save up to 150 gallons per month.

Install an instant water heater near your kitchen sink so you don’t have to run the water while it heats up. This also reduces energy costs.

Turn dish washers on when going to bed instead of during peak water use times, when dinners are being prepared or yards are being watered.

Put food coloring in your toilet tank. If color seeps into the toilet bowl without flushing, you have a leak. Replacing the flapper valve can save up to 1,000 gallons a month.

Know where your master water shut-off valve is located, just in case you have a water leak issue. Try it once a year to make sure it works. This could save water and prevent damage to your home.

OUTSIDE YOUR HOME

Use a hose nozzle or turn off the water while you wash your car. You’ll save up to 100 gallons every time.

Limit grass watering to no more than three times a week with 30-minutes per sprinkler zone.

Spreading a layer of organic mulch around plants retains moisture and saves water, time and money.

Use drip irrigation for shrubs and trees to apply water directly to the roots where it’s needed.

Automated sprinkler systems should be set to use water in the late evening or very early in the morning hours.

NEW IN 2011

In 2009, the City applied for and received two energy efficiency grants to fund the majority of retrofit costs to install new variable frequency drives. The project consisted of replacing the five primary water pump motors and starters with new energy efficient motors and variable frequency drives (VFDs) at three City water pump station locations. The grant funding for the VFD project totaled \$296,517, which was made available from the American Recovery and Reinvestment Act (ARRA) and from Puget Sound Energy (PSE). Approximately \$50,000 in additional funds was contributed by the City’s Water Fund.

The older pump motors operated in the “on” or “off” position. The “on” position operated at full capacity (100%) regardless of whether full capacity was actually necessary. The VFDs will power new VFD-compatible and energy efficient pump motors and can regulate motor speed (for example, at 90% of full speed) to meet actual demand and water pressure needs. This combination of energy-efficient motors and VFD regulation of the motor speed will result in significant energy savings. PSE has estimated an annual energy savings of over 750,000 kWh at an annual cost savings of over \$48,000 to the City upon completion of this project.

Many additional side benefits, in addition to energy savings, will be realized by the installation of the VFDs. The VFDs will result in less wear and tear on the starters, motors, and water pumps. The performance of the old motors (with no VFDs) was negatively affected by the system impact of constant starting and stopping. The VFDs will also allow for increased ability to manage water pressure and therefore reduce the frequency of pressure waves, or “water hammers,” that can cause breaks, leaks, and system failures.

The City of Bonney Lake is committed to providing residents with a safe, reliable supply of high-quality drinking water. The quality of our water meets, and in most cases exceeds, state and federal standards for both appearance and safety. This “Consumer Confidence Report” is required to be sent to all our customers each year by the U.S. Environmental Protection Agency (EPA), through the Safe Drinking Water Act (SDWA). The City of Bonney Lake is proud to share our results with you. Please contact the Public Works Department at (253) 447-4320 with any questions you may have.

Water Quality is of the utmost importance to your Mayor, City Council and Public Works staff, many of whom live in our water service area and drink the same water you do. Since they are also purchasers of the water, you can be assured they will do their best to keep the costs as low as possible without sacrificing quality.

A MESSAGE FROM MAYOR JOHNSON

The City of Bonney Lake continues to maintain quality drinking water which is fundamental to our way of life. As we have pointed out many times in the past, our water is some of the best drinking water in the state and your city staff remains committed in providing you with the most efficient delivery of quality drinking water.

As you read this report, it clearly shows that your drinking water meets and exceeds the required standards set by the U.S. Environmental Protection Agency. The goal of this report is to help you understand what is in your water – and what isn’t. Included are details describing where your water comes from, what it contains, and how it compares to stringent federal water quality standards. It also outlines the process used to protect your water from its source to you. We are committed to keeping you informed about water issues, including last year’s agreement with Cascade Water Alliance. This agreement will allow us to procure additional supply over the next 30 years. The testing process will begin soon at our Reed property site located just outside the city.

Although this report is of a technical nature, it contains important information. Please stay tuned throughout the spring and summer for updates regarding availability of this limited resource. Other sources of information include the city newsletter placed in the Courier Herald the third week of each month, my weekly newsletter and within your utility bill where we frequently put information on your statement to keep you informed. If you would like to receive my weekly newsletter, please go to our website - www.ci.bonney-lake.wa.us

Should you have any questions or comments, we encourage you to call, write or e-mail our staff. Please contact City staff with any questions as follows: phone: (253) 447-4320. Address: PO Box 7380, Bonney Lake, WA 98391-0944; e-mail: webert@ci.bonney-lake.wa.us.

Don’t forget, the city will also have a booth at Bonney Lake Days, August 18.

PUBLIC IMPROVEMENT

The City of Bonney Lake maintains nearly 202 miles of water mains and 1,422 fire hydrants in the Bonney Lake water service area. The Public Works Operations Division provided safe, quality water to approximately 12,219 households, 174 commercial accounts and approximately 32,500 water consumers with a high degree of reliability. Approximately 1.2 billion gallons of water were produced by the City of Bonney Lake’s wells and springs (this is equivalent to 36,957 gallons per person per year or 101 gallons per person per day). The month of August was the highest use month for the City with a production of 173 million gallons and the lowest production month being February with production of 76 million gallons.

2012 WATER CONSUMPTION CHARGES

Water consumption is recorded by water meters in cubic feet (7.48 gallons = 1 cubic foot). Water meters are read in hundreds of cubic feet (CCF). 100 CCF = 748 gallons

Consumption Rates for Customers Inside City Limits:

Winter

0 -10 CCF per month	\$1.16	= \$0.16 per 100 gallons
Over 10 CCF per month	\$2.29	= \$0.31 per 100 gallons

Winter rates will be reflected on bills covering October 1st through May 31st

Summer

0 -10 CCF per month	\$1.16	= \$0.16 per 100 gallons
Over 10 CCF per month	\$3.92	= \$0.52 per 100 gallons

Summer rates will be reflected on bills covering June 1st through September 30th

Consumption Rates for Customers Outside City Limits:

Winter

0 -10 CCF per month	\$1.67	= \$0.22 per 100 gallons
Over 10 CCF per month	\$3.33	= \$0.45 per 100 gallons

Winter rates will be reflected on bills covering November 1st through June 30th

Summer

0 -10 CCF per month	\$1.67	= \$0.22 per 100 gallons
Over 10 CCF per month	\$5.69	= \$0.76 per 100 gallons

Summer rates will be reflected on bills covering July 1st through October 31st

Note: Current City of Bonney Lake utility rates can be found at: http://www.citybonneylake.org/section_government/departments/executive/finance_utility_billing.shtml

2011 WATER QUALITY REPORT

BONNEY LAKE'S WATER SOURCE

Nine million gallons per day (MGD) of the City of Bonney Lake's drinking water is supplied by groundwater pumped from springs at Victor Falls and Grainger Springs, and well water from our Tacoma Point and Ball Park sites. Additionally, we have water supply agreements to receive another four MGD from Tacoma Public Utility (TPU). Throughout our water system, we have over 20 million gallons of water in reservoirs.

A Source Water Assessment has been performed for our area to provide baseline data about the quality of water before it is treated and distributed to customers. This is important because it identifies the origins of contaminants within our area and indicates the susceptibility of our water system to such contaminants.

To ensure that the tap water is safe to drink, the U.S. Environmental Protection Agency, through the Safe Drinking Water Act (SDWA), prescribes limits with the substantial safety factors on the amount of certain contaminants in water provided by public water systems.

To ensure safe, high quality water, the Public Works Operations Division (PW-OPS) continually monitors and samples the water quality. During the 2010 calendar year, PW-OPS took 361 routine bacteria samples, 27 bacteria samples to test new connections, and 50 engineering samples. Operators also took 13 sets of Disinfectant By-Products samples, and 4 samples for full inorganic chemicals, volatile organic chemicals, synthetic organic chemicals, and 2 samples for radioactive contaminants for analysis. An independent certified laboratory tests these samples to ensure the safety of your drinking water.

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 Environmental Protection Agency's Safety Drinking Water Hotline (800-426-4791) or visit their on line website at www.epa.gov/safewater/sdwa/index.html.

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**, such as viruses and bacteria, which may come from septic systems, agricultural livestock operations, and wildlife.

- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- **Pesticides and herbicides (synthetic organic chemicals)**, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses. Of the 93 synthetic organic chemicals tested, no contaminants were detected.

- **Organic chemicals**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum products, can also come from gas stations, urban storm water runoff and septic systems. We test for volatile organic chemicals every three years.

- **Radioactive contaminants**, while unlikely, can be naturally occurring or be the result of oil and gas productions and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water system. No radioactive materials were detected in Bonney Lake's water.

LEAD IN DRINKING WATER

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Bonney Lake 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. If you are concerned about lead in your water, you may wish to have your water tested. 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>."

SPECIAL HEALTH CONCERNS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons include, but are not limited, to persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. The EPA/Center for Disease Control (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 (800-426-4791).

The primary sources of disease causing organisms will be from pets, food, general household cleanliness and personal hygiene. The risks of infection by Cryptosporidium or Giardia in your water supply are remote, as these organisms are not typically found in ground water sources such as those that supply the City of Bonney Lake system.

CHLORINE DISINFECTION

Chlorine is added to Bonney Lake's water as a disinfectant to protect consumers from possible disease causing microorganisms.

- **Chlorine Residuals.** The state mandates a minimum chlorine residual level of 0.2 parts per million (ppm) throughout the water distribution system

- **Chlorine Disinfection By-Products.** When chlorine combines with organic material, It will form chlorine by-products known as Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). Systems with high amounts of organic material usually draw their water from surface water sources, such as rivers and lakes. Our water sources are groundwater sources, such as wells and springs. We typically have low amounts organic material in our water therefore having low amounts of disinfection by products.

On occasion, there may be a chlorine odor or temporary milkiness to the water (the milkiness appearance is caused by nitrogen in the water supply source). This is not a health hazard. However, if noticed on a regular basis, you can contact the Public Works Operations office at (253) 447-4320 for more information.

CROSS CONNECTION CONTROL

The City of Bonney Lake has implemented a cross connection control program to prevent backflow of contaminated water from a customer's water system into the public water system. A Backflow Prevention Device is required on all commercial properties and on residential properties with irrigation systems, booster systems, fire suppression systems or purposes other than drinking water. The City requires customers with their water line connected to these other uses to submit, on an annual basis, a report that their device has been tested by a state certified Backflow Assembly Tester (BAT) professional. If you have any questions, please contact 253-447-4320.

2011 TEST RESULTS

The water quality table below shows substances we detected in our water system.

Substance	MCL	High Level Detected	Range of Detection	Compliance
EPA Regulated				
Chlorine	4 ppm	1.05 ppm	0.33-1.05 ppm	Yes
Haloacetic Acids	60 ppb	4 ppb	ND-4 ppb	Yes
Nitrate	10 ppm	4 ppm	<0.4-4 ppm	Yes
Total Trihalomethanes	80 ppb	9.6 ppb	3.2-9.6 ppb	Yes
EPA Secondary Regulated				
Chloride	250 ppm	13 ppm	4-13 ppm	Yes
Iron	0.3 ppm	0.04 ppm	<0.01-0.04 ppm	Yes
Manganese	0.05 ppm	0.035 ppm	<0.01-0.035 ppm	Yes
Sulfates	250 ppm	10 ppm	7-10 ppm	Yes
WA DOH Regulated				
Conductivity	700 umhos/cm	265 umhos/cm	148-265 umhos/cm	Yes
Turbidity	NA	0.6 NTU	<0.1-0.6 NTU	Yes
Unregulated				
Hardness	NA	124 ppm	48-124 ppm	Yes
Sodium	NA	13 ppm	7-13 ppm	Yes
Lead and Copper Monitoring Results				
Substance	Action Level	90th Percentile	Samples Above AL	Compliance
Copper	1.3 ppm	0.99 ppm	3 of 32	Yes
Lead	0.015 ppm	0.004 ppm	0 of 32	Yes

Key to Table

MCL = Maximum (allowable) Contaminant

Level set by the federal government

Mg/l = milligrams per liter or parts per million

Ppm = Parts per million

Ppb = Parts per billion

Umhos/cm = micromhos per centimeter

NTU = Nephelometric Turbidity Unit

(Water Clarity)

AL = Action Level

< = Less than minimal Lab Test

CITY OF BONNEY LAKE WATER AVAILABILITY

Victor Falls.....1,100 gpm (gallons per minute)
 Grainger Springs.....1,500 gpm
 Ball Park #1.....1,000 gpm
 Ball Park #2.....270 gpm
 Tacoma Point. #2, #4, #6.....2,300 gpm

Total Owned by City.....6,170 gpm = 8,884,800 gpd (gallons per day)

Tacoma Water/Cascade
 Water Alliance Agreement.....2,178 gpm = 4,000,000 gpd

Total Water Available.....8,348 gpm = 12,884,800 gpd