Water Quality Report 2015

THE CITY OF MARYSVILLE PROVIDES EXCEPTIONAL WATER FOR YOU

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you.

As new challenges to drinking-water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

The City of Marysville wants to ensure there are abundant natural resources for a livable and sustainable community. Therefore, the City has adopted a conservation program comprised of regional and local measures. The measures are part of a regional conservation program called the Everett Water Utility Committee or EWUC program.

You can become part of our local and regional conservation solution by picking up your FREE conservation kits and receive a one-time rebate up to a maximum of $50 for certain low-flow toilets, tumble-action washing machines, and other water saving devices. Call (360) 363-8100 for more information.

DISTRIBUTION LEAKAGE STANDARD

Water suppliers are required to maintain water loss in their distribution system to 10% or less, based on a rolling three year average.

CITY OF MARYSVILLE DISTRIBUTION SYSTEM LEAKAGE FOR YEARS 2013-2015 *(in million gallons)*

Total Water Produced and Purchased	6,630 *million gallons*
Authorized Consumption	6,837 *million gallons*
Distribution Leakage Volume	0 *million gallons*

Where does your water come from? How is it treated?

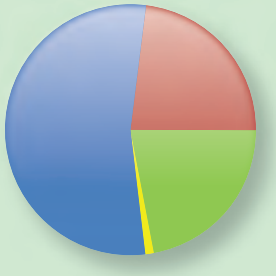
The Lake Goodwin Well is a high-quality source that pulls water from a deep aquifer. The water purity is well above regulatory standards and no treatment is necessary; however a small amount of sodium hypochlorite (chlorine) is added to the water as an additional safety measure.

Edwards Springs and Wells are Marysville's original water source, developed in 1920. The springs and wells sources do not require filtration due to its high-quality water and protected watershed. The spring water is disinfected by two methods to ensure that any contaminants naturally present in the environment are inactivated.

The first method is to pass water through Ultra-Violet Reactors, commonly known as a UV disinfection system. The UV system inactivates larger organisms such as Cryptosporidium and Giardia. In addition to UV, sodium hypochlorite (chlorine) is added, which is the best method for disinfection of viruses and bacteria that might pass through the UV system. The wells system requires disinfection with sodium hypochlorite only.

At the Stillaguamish Filtration Plant, water is piped from a Ranney Well located on the Stillaguamish River to a state-of-the-art treatment system. Water is filtered by a new technology called an ultra-filtration membrane. This membrane filtration system removes 99.99% of microbiological contaminants. After filtration, a small amount of sodium hypochlorite (chlorine) is injected into the system for disinfection of any remaining biological contaminants that might pass through the filters.

Water purchased from the **City of Everett** comes from the Spada Lake Reservoir in the Cascade Mountains where rainwater and snowmelt is collected. At the Everett water treatment plant the water is filtered, disinfected, fluoridated, and the pH is adjusted to control corrosiveness.



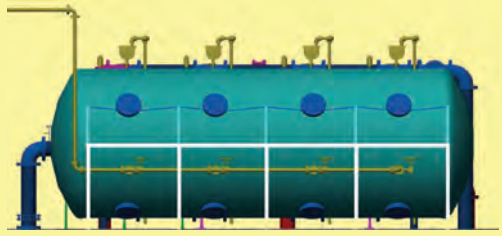
2015 Water Production

- **Everett Intertie:** 54%
- **Edward Springs & Wells:** 23%
- **Stillaguamish Well:** 22%
- **Lake Goodwin Well:** 1%

Sunnyside water treatment facility concept

The Sunnyside Water Treatment Facility

Scheduled for completion in early 2017, will further strengthen the City's water production capacity and will further expand the City's ability to provide water during emergency situations. The City will be utilizing the most proven methods for removal of iron and manganese from the two deep wells that together will provide up to 2000 gallons of water per minute. Some residents may notice this change in water supply, as this high quality source contains a greater concentration of minerals compared to the water that they had previously received. These minerals may present themselves in the formation of white spots on dishes and may be seen after washing vehicles.



Greensand filtration vessel

Cross section of vessel

Does our water have fluoride?

The City of Marysville's water system is comprised of multiple sources including water purchased from the City of Everett, as well as several city-owned wells and springs. The City of Everett adds fluoride to its drinking water as a means of promoting dental health. City of Marysville sources are not fluoridated. As a result, Marysville residents may receive water that is fluoridated, non-fluoridated or only partially fluoridated depending on water system operating conditions. Residents concerned with the level of fluoride who are unsure of which source provides their water should contact the City's Water Quality Division at (360) 363-8100.

Drinking water monitoring notice

The City of Marysville is required to monitor your drinking water for the effectiveness of disinfection following the treatment process. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During a 26-hour period beginning on August 29th, 2015, a network communication link through which water quality data is acquired from the Edward Springs Treatment Plant was unexpectedly lost. This loss of data acquisition resulted in the inability to monitor the effectiveness of disinfection in the storage reservoir following the treatment process, and therefore we cannot be sure of the quality of your drinking water during that time. However, based on our historical knowledge of the system and additional data that was recorded during this time at the treatment plant, we are confident that the disinfection levels met all regulatory standards. The City has installed additional monitoring equipment in an effort to ensure a more reliable communications system.

Customer views are always welcome

Call the City of Marysville Public Works Department's Water Division at (360) 363-8100 for information about the next opportunity for public participation in decisions about your drinking water. You can also visit us at our office located at 80 Columbia Avenue, Marysville, WA.

You Can Help
KEEP OUR WATER SAFE

Providing our customers with safe drinking water is our primary objective - but did you know that we also need your help in protecting this valuable resource? In some instances, water can unintentionally flow in the backwards direction (called backflow) and it can create a dangerous siphon effect within your household and irrigation plumbing - powerful enough to pull contaminants into your drinking water lines. The best way to avoid this potential contamination, called a cross-connection, is to make sure that your plumbing fixtures do not come in contact with anything that is considered non-potable. For instance, never leave a garden hose submerged in any type of container or tub, or connected to a chemical applicator. You should also have any required backflow prevention assemblies installed on your plumbing system tested annually. Some common applications for backflow preventers are underground irrigation systems, fire suppression systems, water softeners, boilers, and radiant floor heating systems. Please contact the City of Marysville Water Quality Division if you would like us to assist you in determining the best methods for protecting your drinking water.

Health information about your 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 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).

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 Marysville 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 drinking 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://water.epa.gov/drink/info/lead.

UNREGULATED CONTAMINANT MONITORING RULE 3 (UCMR3)*

Substance	Minimum Reporting Level	Your Water	Range
Chlorate	20	115	43-365
Chromium	0.2	0.7	0 - 4.1
Hexavalent Chromium	0.03	0.6	0 - 2.5
Molybdenum	1	0.1	0 - 1.0
Strontium	0.3	46	14 - 81
Vanadium	0.2	0.9	0 - 4.2

* The Safe Drinking Water Act requires that once every five years EPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems, called the Unregulated Contaminant Monitoring Rule (UCMR). The City of Marysville has participated in the first three cycles of the UCMR. The City has shared the results of those subtances that were detected in the City's water during this third cycle (UCMR3). As these substances are not regulated, there is no current maximum contaminant level (MCL) associated with these sample results.

Is there lead in my water?

Stories about lead-contaminated drinking water and the potential public health impacts have been receiving a lot of attention recently. The City's Public Works Department always gives this topic plenty of consideration as we implement the Lead and Copper Rule (LCR) requirements for testing as set out by the EPA. The City tests homes within its service area that are most susceptible to lead and copper corrosion on a 3-year schedule and those levels have all been significantly below the Maximum Contaminant Level (the highest level of a contaminant that can be in drinking water) as defined by the EPA.

In wake of these recent stories, the City reviewed its historical records related to its drinking water sources and has physically inspected its oldest service connections and has found no indication that leaded type service lines exist within the City's service area. The City will continue its efforts in investigating areas where there are limited historical records as a means of assuring all efforts have been put forth to make public health and safety the City's top priority.

Can the water at my home be tested for lead?

Yes, there can be plumbing components within some homes which can contribute to higher lead levels in your water. The most common of these components are pipe, pipe fittings, solder, and individual fixtures (i.e. faucets). You can find additional information through the EPA's website at https://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water. If you are concerned that your home's plumbing is susceptible to lead release, you can contact a local lab to have your water tested. Laboratories accredited by the Department of Ecology can be found at: https://fortress.wa.gov/ecy/laboratorysearch/. A typical cost to analyze a lead/copper sample is around $30 per sample.

WATER QUALITY RESULTS 2015 (PWSID# 51900C)

DURING THE PAST YEAR we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are well below the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

REGULATED AT THE SOURCE

CITY OF EVERETT

Substance	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Complies?	Typical Sources
Arsenic (ppb)	0	10	0	N/A	0	2015	Yes	Erosion of natural deposits; Runoff from orchards
Nitrate (ppm)	10	10	0	N/A	0	2015	Yes	Erosion of natural deposits; Animal waste
Turbidity (ntu)	N/A	TT	0.06	100% of samples met limits		2015	Yes	Soil run-off

EDWARD SPRINGS AND WELLS

Substance	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Complies?	Typical Sources
Arsenic (ppb)	0	10	5[1]	N/A	5	2015	Yes	Erosion of natural deposits; Runoff from orchards
Nitrate (ppm)	10	10	1.47	N/A	1.47	2015	Yes	Erosion of natural deposits; Animal waste
Turbidity (ntu)	N/A	TT	0.95	N/A	N/A	2015	Yes	Soil run-off

LAKE GOODWIN WELL

Substance	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Complies?	Typical Sources
Arsenic (ppb)	0	10	4	N/A	4	2015	Yes	Erosion of natural deposits; Runoff from orchards
Nitrate (ppm)	10	10	0	N/A	0	2015	Yes	Erosion of natural deposits; Animal waste

STILLAGUAMISH FILTRATION PLANT

Substance	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Complies?	Typical Sources
Arsenic [1] (ppb)	0	10	0	N/A	0	2015	Yes	Erosion of natural deposits; Runoff from orchards
Nitrate (ppm)	10	10	0.28	N/A	0.28	2015	Yes	Erosion of natural deposits; Animal waste
Turbidity (ntu)	N/A	TT	0.39	100% of samples met limits		2015	Yes	Soil run-off

REGULATED IN THE DISTRIBUTION SYSTEM

Substance	MCLG	MCL	Your Water	Range Low	Range High	Sample Date	Complies?	Typical Sources
Chlorine (ppm)	MRDLG = 4	4	0.76	0.00	1.50	2015	Yes	Water additive used to control microbes
Fluoride (ppm) **from Everett Source**	MRDLG = 2	4	0.8	0.6	0.9	2015	Yes	Dental Health Additive
TTHM (ppb)	N/A	80	46.1	14.4	62.5	2015	Yes	Byproduct of drinking water disinfection
HAA(5) (ppb)	N/A	60	34.7	7.2	40.2	2015	Yes	Byproduct of drinking water disinfection

LEAD & COPPER RULE - REGULATED AT THE CONSUMER TAP

Substance	MCLG	Action Level	Your Water (90th %)	# of Samples Exceeding the AL	Complies?	Sample Date	Typical Sources
Lead (ppb)	0	15	3	0 out of 30	Yes	2015	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.66	0 out of 30	Yes	2015	Corrosion of household plumbing systems; Erosion of natural deposits

UNIT DESCRIPTIONS: ppm (parts per million)**, ppb** (parts per billion)**, mg/L** (milligrams per liter)

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

MCL Maximum Contaminant Level – highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible.

MCLG Maximum Contaminant Level Goal – level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MRDLG Maximum Residual Disinfectant Level Goal – level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MRDL Maximum Residual Disinfectant Level – 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.

N/A Not Applicable

ND Not Detected

NTU Nephelometric Turbidity Units

TT Treatment Technique – a required process intended to reduce a contaminant level in drinking water.

(1) Your drinking water currently meets EPA's standard for arsenic. However, it does contain low levels of arsenic. 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.