

2013

Drinking Water Quality Report



City of Everett
Public Works
Department

Clean, Safe Drinking Water Delivered to Your Tap

Your drinking water comes from Spada Lake Reservoir, located about 30 miles east of Everett at the headwaters of the Sultan River. This 50-billion-gallon storage facility serves as a collection point for rain and snowmelt from the Cascade Mountains. It was created in 1964 through a partnership between the City of Everett and the Snohomish County PUD as part of the Jackson Hydroelectric Project.

Spada Lake Reservoir is located in the Upper Sultan River Watershed, an area encompassing more than 80 square miles. This is one of the wettest watersheds in the continental United States. The average annual rainfall is about 165 inches—five times the rainfall in Everett.

Water quality in the Sultan Basin is carefully monitored. To protect the naturally pristine water in Spada Lake Reservoir, the watershed is patrolled and human activities are limited to minimize the impact on water quality. We continue to evaluate and adjust our security measures on an ongoing basis.

Taste, Quality and Value

Water is a life-essential resource. Yet, at about a penny a gallon, it costs very little compared to its value.

Your water rates pay for everything it takes to operate our water system, from storage and treatment, to delivering the water to your tap. Your water rates also help pay for water system improvements that ensure that we will provide high-quality drinking water for generations to come.

As this year's Drinking Water Quality Report shows, this is an exceptional value for the clean, safe, great-tasting drinking water you receive.



A Brief History



From 1898 to 1916, Everett's water came from Wood Creek, a small tributary of the lower Snohomish River. As Everett grew, the demand for water increased. So, in 1916, Everett established the Sultan River as its source of supply.

In 1929, Everett constructed Lake Chaplain Reservoir in the Sultan Basin as its new water source. Water was diverted from the Sultan River to Lake Chaplain Reservoir for storage and delivered to Everett in a newly-constructed 48-inch transmission line. Over the following years, Lake Chaplain Reservoir was enlarged and additional transmission lines were built to deliver drinking water to Everett.

In the 1960s, Everett and the Snohomish County PUD constructed the George Culmback Dam, creating Spada Lake Reservoir. This supplied water to Lake Chaplain Reservoir, eliminating the need for withdrawals from the Sultan River. In 1984, the dam was raised and renamed the Henry M. Jackson Hydroelectric Project, increasing Spada Lake Reservoir to its current capacity of 50 billion gallons.

Today, Everett provides water to 80 percent of the homes and businesses in Snohomish County. Raw water flows from Spada Lake Reservoir to Lake Chaplain Reservoir, where it is treated at the Everett Drinking Water Treatment Plant before it is delivered throughout the county through a series of transmission and distribution lines.

Left top and bottom: Culmback Dam's Morning Glory Spillway, completed in 1965.

THE Drinking Water Treatment Process

From Spada Reservoir, the water travels through a pipeline to Chaplain Reservoir which holds about 4.5 billion gallons of water. This is where the Everett Drinking Water Treatment Plant is located. At the plant, the water is treated with advanced filtration and disinfection.

First, a coagulant is added to the water to cause particles to clump together. Next, the water passes through large filters that remove the particles. These particles can include sediment and natural materials as well as viruses, bacteria and other disease-causing organisms. Finally, sodium hypochlorite solution is added to the water to kill any organisms that were not removed by the filtration process.

During the treatment process, polymers are added as part of the filtration process, fluoride is added for dental health purposes and soda ash is added to adjust the pH level of water so it is less corrosive on pipes and plumbing fixtures. These additives are carefully monitored and the water is continually tested to make sure it is safe to drink.

1.

Precipitation and snowmelt from the mountains are collected in Spada Lake Reservoir.



1

2

2.

The water treatment process begins at Lake Chaplain Reservoir, where the City's water treatment plant is located.



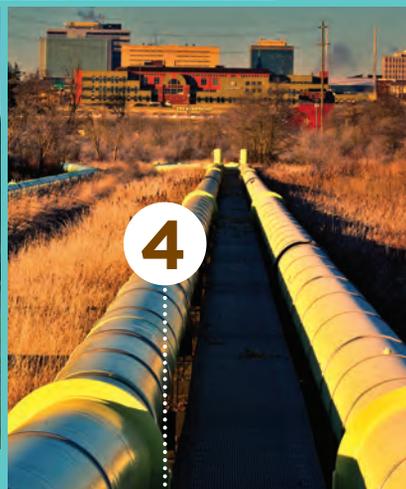
3

3. The Everett Drinking Water Treatment Plant treats water using coagulation, flocculation, filtration and disinfection.



4

4. Water transmission pipelines carry drinking water to Everett.



5

5. Treated water is delivered to about 600,000 people or 80 percent of the businesses and households in Snohomish County.



Your Drinking Water Facts and Figures



We test your drinking water 365 days a year.

The following statements are required by the US Environmental Protection Agency (EPA).

All water sources (both tap water and bottled water) contain impurities. As water flows over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, 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 sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban surface water, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban surface water and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, US Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as people with cancer undergoing chemotherapy, people 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 and US Center for Disease Control (CDC) guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

CRYPTOSPORIDIUM

Cryptosporidium is a one-celled intestinal parasite that if ingested may cause diarrhea, fever, and other gastrointestinal distress. It can be found in all of Washington's rivers, streams, and lakes and comes from animal or human wastes deposited in the watershed. *Cryptosporidium* is resistant to chlorine, but is removed by effective filtration and sedimentation treatment such as that used by Everett. It can also be inactivated by certain types of alternate disinfection processes such as ozonation and UV light contactors. Past monitoring results suggest that *Cryptosporidium* is present in Everett's source only occasionally and at very low concentrations. In 2013, Everett collected monthly samples for *Cryptosporidium* oocysts from the source water at the plant intakes. No oocysts were detected.

TREATMENT POLYMERS

During water treatment, organic polymer coagulants are added to improve coagulation and filtration that remove particulates from water. The particulates that are removed can include viruses, bacteria and other disease causing organisms. The USEPA sets limits on the type and amount of polymer that a water system can add to the water. In addition to the EPA limits, the State of Washington requires that all polymers used be certified safe for potable water use by an independent testing organization (NSF International). During treatment, Everett adds only NSF approved polymers and the levels used are much less than the safe limits set by the USEPA.

CITY OF EVERETT • 2013 Water Quality Analysis Results

DETECTED REGULATED CONTAMINANTS

Parameter	Major Source	Units	Ideal Level/Goal (MCLG)	Maximum Allowable (MCL)	Range or Other	Average or Highest Result	Comply?
Nitrate	Erosion of natural deposits, animal waste	ppm	10	10	0.023–0.105	0.062	Yes
Total Coliform Bacteria ¹	Naturally present in the environment	% Positive	0	5% Positive per Month	0–0.8	0.80%	Yes
Fluoride ²	Dental health additive	ppm	2	4	0.5–0.9	0.8	Yes
Residual Disinfectant Level (free chlorine)	Added as a drinking water disinfectant	ppm	4.0 (MRDLG)	4.0 (MRDL)	0.2–1.1	0.6	Yes
Haloacetic Acids (5) (HAA5)	By-product of drinking water chlorination	ppb	NA	60	18.3–33.0	28.9	Yes
Total Trihalomethanes (TTHM)	By-product of drinking water chlorination	ppb	NA	80	22.0–48.3	42.9	Yes
Turbidity ³	Soil erosion	NTU	NA	TT	100%	0.17	Yes

¹One total coliform sample collected in January 2013 was positive. The location was retested and the results were negative. No total coliform was detected the remainder of 2013.

²0.8 ppm is the lowest level allowed under current State regulations.

³In 2013, no filtered water turbidity results were above the EPA 0.3 NTU limit so 100% met the requirement.

DETECTED UNREGULATED CONTAMINANTS

Parameter	Units	Ideal Level/Goal (MCLG)	Range Detected	Average Value
Bromodichloromethane	ppb	0	1.2–2.1	1.6
Chloroform (trichloromethane)	ppb	300	20.6–46.6	30.8
Dichloroacetic Acid	ppb	0	2.9–13.7	8.4
Trichloroacetic Acid	ppb	300	12.1–21.0	17.4

These substances are individual disinfection by-products for which no MCL standard has been set, but which must be monitored.

Important Terms:

- **AL:** Action Level – The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements that a water system must follow.
- **MCL:** Maximum Contaminant Level – 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 water treatment technology.
- **MCLG:** Maximum Contaminant Level Goal – 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.
- **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.
- **MRDLG:** Maximum Residual Disinfectant Level Goal – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **N/A:** Not Applicable
- **ppb:** Parts per Billion – 1 part per billion = 1 µg/L = 1 microgram per liter.
- **ppm:** Parts per Million – 1 part per million = 1 mg/L = 1 milligram per liter.
- **TT:** Treatment Technique – A required process and performance criteria intended to reduce the level of a contaminant in drinking water.

LEAD, COPPER AND pH

Parameter & Units	Major Source	Ideal Level/Goal (MCLG)	Action Level (AL)	90th % Level	Homes Exceeding the AL
Lead, ppb ¹	Corrosion of household plumbing	0	15	2	None
Copper, ppm ¹	Corrosion of household plumbing	1.3	1.3	0.109	None
pH, s.u. ²	Soda ash added to increase pH	Daily Avg 7.6	Min Daily Avg 7.4	Average 7.6	Minimum 7.4

¹This data is for household taps. The results for water before it enters homes are lower. This indicates there is virtually no lead or copper in the water, but household plumbing may contribute to the presence at the tap.

²The average daily pH cannot be below 7.4 for more than nine days every six months. In 2013, the average daily pH never dropped below 7.4.

USEPA required lead statement. The USEPA drinking water regulations require this statement be included with the lead and copper sampling results regardless of the levels observed: 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 Everett Public Works Department 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 two 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>.



We're in this Together

ENSURING AN ADEQUATE SUPPLY

Water is a precious resource. Conservation helps us meet the needs of people, industries, businesses and farms, while also keeping fish and other aquatic life alive and well. Since Everett provides water to the majority of water systems in Snohomish County, we operate a regional water conservation program. This program is planned and developed with the water systems we serve and funded from water system revenues.

Over the last decade, more than \$6.5 million has been invested in regional water conservation activities. This includes such things as youth education, indoor and outdoor water conservation kits, rebates for water-efficient clothes washers and toilets, leak detection, business water audits and school irrigation audits. Through these efforts, we collectively saved about 3.6 million gallons per day (MGD) through 2012—enough water to fill more than 85,000 bathtubs a day.

The regional conservation program is planned and implemented in six-year cycles, as part of Everett's comprehensive water plan, which is submitted every six years. The first plan covered the period from 2001 through 2006; the second from 2007 through 2012. Everett is currently in the process of updating its comprehensive plan and planning the conservation activities that will be implemented through 2018.

In the interim, regional conservation efforts are focused on youth education and the distribution of conservation kits. In 2013, 650 water conservation workshops were conducted in classrooms throughout Snohomish County, reaching more than 17,300 students. Participating water systems also distributed more than 3,000 indoor conservation kits and 4,400 outdoor conservation kits. These 2013 activities are estimated to have saved about 0.72 MGD regionally.

CONSERVATION TIPS:

- Install water-efficient showerheads and take shorter showers.
- Fix leaky faucets and toilets. Leaks waste a lot of water.
- Install low-flow toilets. This can reduce indoor water use by as much as 20 percent.
- Only run full loads in your dishwasher and clothes washer.
- Use a soaker hose on steep slopes to prevent wasteful runoff.
- Water small areas by hand to avoid watering the sidewalk and driveway.
- Replace grass in seldom-used areas of your yard with groundcovers and plants that use less water.
- Adjust your mower to a higher setting. A taller lawn retains moisture and requires less water.
- Put a layer of mulch around plants and trees. Mulch holds moisture and discourages weed growth.

For more information about our water conservation programs, go to www.everettwa.org/conservation.

The Partnership for Safe Water is a voluntary effort supported by more than 200 water utilities, the US Environmental Protection Agency (EPA), the American Water Works Association and other prominent drinking water organizations in the United States. The goal of the program is for participating utilities to use a continuous improvement process developed by the Partnership members.

The program is designed to help drinking water utilities optimize their treatment plants to produce drinking water of a higher quality than is required by regulations. To participate, each treatment plant must demonstrate that it can consistently meet the

Partnership for Safe Water



Partnership's high water-quality standards.

Since the City of Everett began participating in the program more than a decade ago, it has met the performance standards set by the Partnership. Recently, Everett renewed its commitment to continuously improve performance at its water treatment plant and is implementing some of the Partnership's tools to optimize performance at the plant.

The City of Everett will continue to participate in this cooperative effort to strive for excellence. We believe this is the best way to ensure our customers will always receive the highest quality drinking water possible.



**City of Everett
Public Works
Department**

3200 Cedar Street
Everett, WA 98201

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PERMIT NO. 71
EVERETT, WA

INSIDE: **Your Drinking Water Quality Report**

In 2013, your water was tested for more than 100 possible contaminants. What does all the information in this report mean? Simply put, the data confirms that your drinking water meets or exceeds all government standards and is safe to drink.

Your Opinion Matters

Let us know how we're doing and what you think about your water. Call 425-257-8800 or email us at everettpw@everettwa.gov.

What You Can Do:

**CONSERVE
BE INFORMED
GET INVOLVED**

City of Everett Water Quality Office

Phone: 425-257-8800

Website: www.ci.everett.wa.us/pw

State Department of Health (DOH)

Phone: 1-800-521-0323

Website: www.doh.wa.gov/ehp/dw/

US Environmental Protection Agency (EPA)

Phone: 1-800-426-4791

Website: www.epa.gov/safewater

To get involved in decisions affecting your drinking water, attend and comment at Everett City Council meetings every Wednesday in the Council Chambers at 3002 Wetmore Ave.

Meetings begin at 6:30 p.m., except the meeting on the fourth Wednesday of each month which is at 12:30 p.m. Agendas are available on the City's website at www.ci.everett.wa.us.

City of Everett Elected Officials

MAYOR: Ray Stephanson

CITY COUNCIL: President Jeff Moore, Richard Anderson, Scott Bader, Ron Gipson, Scott Murphy, Paul Roberts and Brenda Stonecipher.

**Learn more about your water at
www.ci.everett.wa.us/pw**



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