

# 2011 Drinking Water Quality Report



City of Everett Public Works Department



## Director's Message

We are pleased to publish this annual drinking water quality report for you. The report summarizes the findings of our 2011 drinking water quality testing program. The federal Safe Drinking Water Act requires that

we provide you this information annually. We are happy to comply because we want you to know your water is safe to drink.

Providing you safe drinking water is our number one priority. We are very proud of our water treatment plant and the staff that

operate it. In 2011, our plant processed 17.8 billion gallons of water. That means, on average, about 49 million gallons of water was treated and delivered each day to homes and businesses in the Everett water service area—an area comprising about 80 percent of the population of Snohomish County.

We have tried to make this report easy to understand. However, if you have questions please contact us at 425-257-8800 and ask to speak to a water quality specialist. You can also obtain more information about our water system online at: [www.ci.everett.wa.us/pw](http://www.ci.everett.wa.us/pw).

**DAVE DAVIS**  
Public Works Director  
May 2012

## Your Drinking Water Source

Your drinking water comes from Spada 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 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.

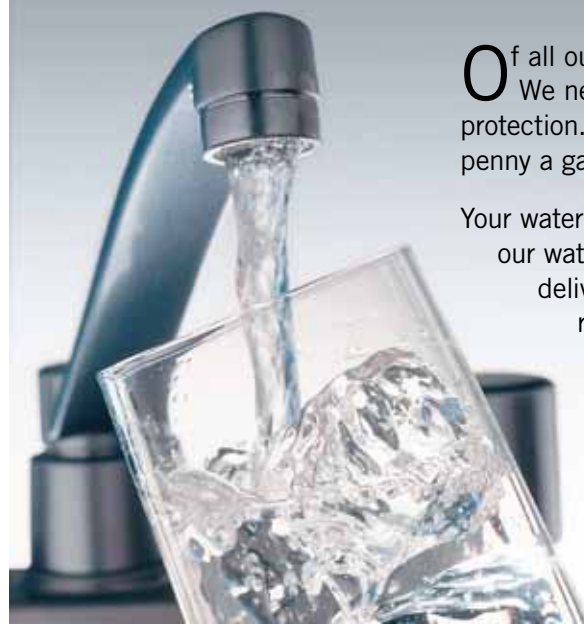
To protect the naturally pristine water in Spada Reservoir, water quality in the Sultan Basin is carefully monitored. The watershed is patrolled and



Spada Reservoir

human activities are limited to minimize the impact on water quality. We continue to evaluate and adjust our security measures on an ongoing basis.

## About a Penny a Gallon Delivered to Your Tap



Of all our needs, water is the most important. We need it to drink. We need it to cook and clean. We need it for sanitation and fire protection. In fact, 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.



## 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 City's water treatment plant is located. At the plant, the water is treated with advanced filtration and disinfection.

First, agents are added to the water that cause particles to coagulate. Next, the water passes through large filters to remove the particles. These particles can include sediment and natural materials as well as viruses, bacteria and other disease-causing organisms.

Finally, hypochlorite solution is added to the water to eliminate 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 sodium carbonate 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.

Water travels from Spada Reservoir to Chaplain Reservoir before entering the City's drinking water treatment facility.



# CITY OF EVERETT • 2011 Water Quality Analysis Results

## Detected Regulated Contaminants

Parameter	Major Source	Units	EPA Regulations		Everett Water Results		
			Ideal Level/Goal (MCLG)	Maximum Allowable (MCL)	Range or Other	Average Value or Highest Result	Comply?
Nitrate	Erosion of natural deposits, animal waste	ppm	10	10	0.035-0.124	0.083	Yes
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per Month	0-0.76%	0.76%	Yes
Total coliform bacteria monitoring is used to track microbial quality in the water distribution system. Everett collects 120-125 samples per month. Not more than 5 percent of the monthly total can be positive for total coliforms. One routine total coliform sample collected in September 2011 was positive. The location was retested and the results were negative. No total coliform was detected the remainder of 2011.							
Fluoride	Dental health additive	ppm	2	4	0.8-1.0	0.8	Yes
Fluoride is added to your water in carefully controlled levels for dental health. In January 2011, the US Department of Health and Human Services (HHS) released a proposed new recommendation to reduce the drinking water fluoride concentration target to 0.7 ppm. The recommendation is based on recent research on fluoride and water consumption patterns in the United States. The recommendation has not been made final, but in the spring of 2011 Everett and other water systems in Washington reduced the target fluoride residual in the drinking water from 1.0 ppm to 0.8 ppm—the lowest level allowed under current State regulations. When HHS finalizes the recommendation next year, the State Board of Health is expected adopt 0.7 ppm as the new standard. Following revision of the regulations, the Department of Health will change the requirements and water systems will begin adjusting fluoride levels to the proposed recommended level.							
Residual Disinfectant Level (free chlorine)	Added as a drinking water disinfectant	ppm	4.0 (MRDLG)	4.0 (MRDL)	0.1-1.1	0.6	Yes
Haloacetic Acids (5) (HAA5)	By-product of drinking water chlorination	ppb	N/A	60	25.8-48.1	38.9	Yes
Total Trihalomethanes (TTHM)	By-product of drinking water chlorination	ppb	N/A	80	23.9-40.0	32.6	Yes
Haloacetic acids and trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes. The results for TTHM and HAA5 reported here are from the four locations monitored to determine compliance with the current regulations.							
Turbidity	Soil erosion	NTU	N/A	TT	100%	0.14	Yes
Turbidity is a measure of the amount of particulates in water in Nephelometric Turbidity Units (NTU). Particulates in water can include bacteria, viruses and protozoans that can cause disease. Turbidity measurements are used to determine the effectiveness of the treatment processes used to remove these particulates. The values reported are the lowest monthly percentage of samples that met the turbidity limit and the highest single filtered water turbidity measurement obtained for the year. In 2011 no filtered water turbidity results were above the EPA 0.3 NTU limit so the lowest percentage was 100%.							

## Detected Unregulated Contaminants

Parameter	Units	Ideal Level/Goal (MCLG)	Everett Water Results	
			Range Detected	Average Value
Bromodichloromethane	ppb	0	0.9-2.4	1.6
Chloroform (trichloromethane)	ppb	300	23.0-38.5	31.0
Dichloroacetic Acid	ppb	0	4.9-21.1	15.5
Trichloroacetic Acid	ppb	300	17.6-26.6	21.8
Monochloroacetic Acid	ppb	None	2.0-2.5	2.2

These substances are individual disinfection by-products for which no MCL standard has been set, but must be monitored to determine compliance with the USEPA Stage 1 Disinfection By-products Rule MCL's for Total Trihalomethanes and Haloacetic Acids (5).

## Lead and Copper

Parameter	Major Source	Units	EPA Regulations		Everett Water Results		
			Ideal Level/Goal (MCLG)	Action Level (AL)	90th Percentile Level	Homes Exceeding the AL	Comply?
Copper	Plumbing, erosion of natural deposits	ppm	1.3	1.3	0.188	None	Yes
Lead	Plumbing, erosion of natural deposits	ppb	0	15	3	2 of 108 (1.9%)	Yes
pH	Soda ash is used to reduce water corrosivity by increasing pH and alkalinity	s.u.	Daily Avg 7.6	Min Daily Avg 7.4	Average 7.6	Minimum 7.4	Yes

US Environmental Protection Agency (EPA) and state regulations require Everett and the systems it supplies to monitor for the presence of lead and copper at household taps in their combined service area every three years. The above data was collected in 2009. The next round of required regional tap sampling will be conducted in the summer of 2012. The 90th percentile level is the highest result obtained in 90 percent of the samples collected when the results are ranked in order from lowest to highest. The results for water tested before it enters household plumbing were even lower. This indicates that there is virtually no lead or copper in the water, but household plumbing may contribute to the presence of lead and copper at the tap.

**EPA 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 Utilities Division 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>.

## Additional Information

Parameter	Units	Everett Water Results	
		Range Detected	Average Value
Alkalinity <sup>1</sup>	ppm	13.3-27.2	17.7
Aluminum <sup>1</sup>	ppm	0.009-0.086	0.019
Arsenic <sup>2</sup>	ppb	ND <sup>3</sup>	ND <sup>3</sup>
Calcium Hardness <sup>1</sup>	ppm <sup>4</sup>	7.2-12.8	9.2
pH <sup>1</sup>	s.u.	7.6-9.2	8.2
Sodium <sup>2</sup>	ppm	5.4-7.5	6.7
Total Hardness <sup>1</sup>	ppm <sup>4</sup>	9.8-14.2	11.6

<sup>1</sup> Results are from samples collected from 26 locations in Everett's distribution system.

<sup>2</sup> Arsenic and Sodium were monitored at the treatment plant effluent.

<sup>3</sup> ND = Not Detected

<sup>4</sup> Hardness and alkalinity units are in ppm as CaCO<sub>3</sub> (calcium carbonate equivalent units).

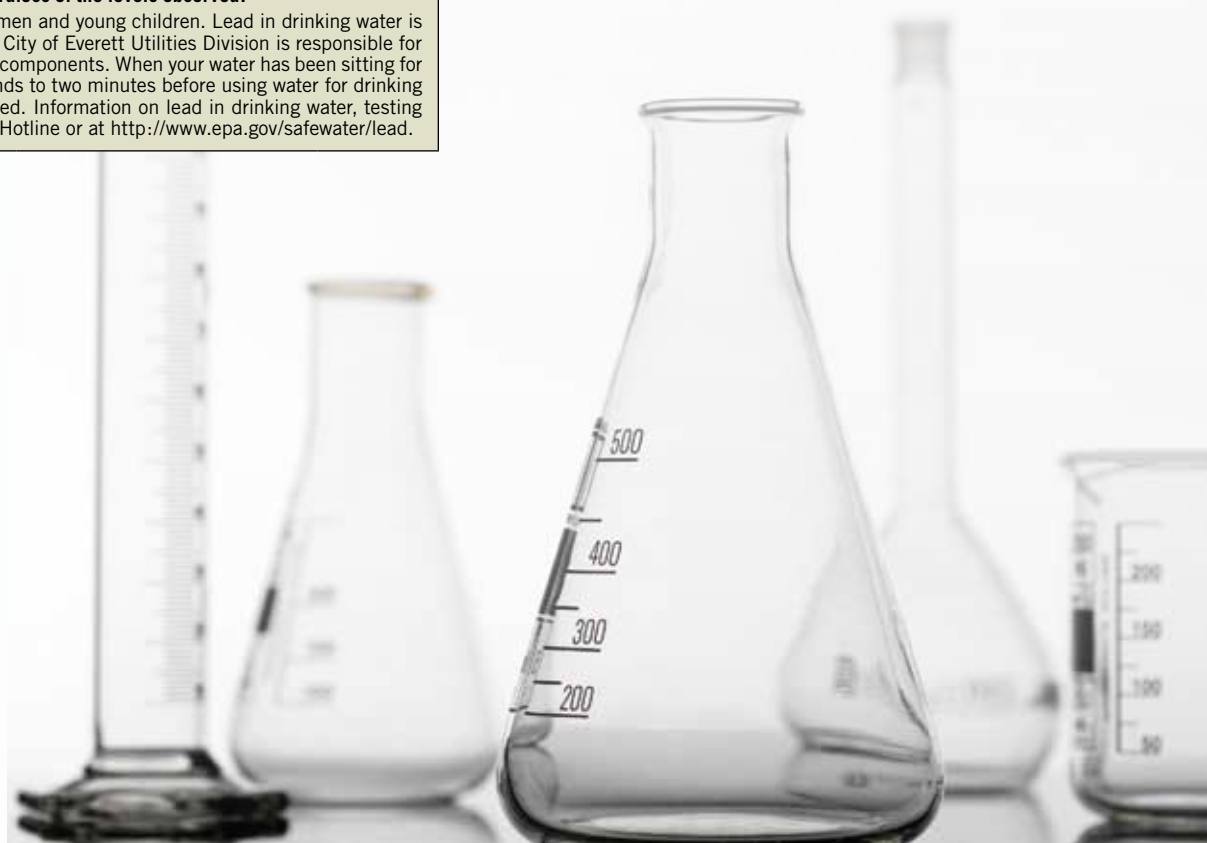
# Your Drinking Water Facts and Figures

The following statement is required by the US Environmental Protection Agency (EPA) although the conditions do not apply to your drinking water source.

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 storm runoff, 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 stormwater runoff 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.

We are committed to providing the best drinking water possible.



# Additional Information

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. Immuno-compromised 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.

## Perchlorate

In January 2009, the EPA released a health advisory for perchlorate. Perchlorate is an inorganic contaminant used in solid propellant for rockets, missiles, fireworks and elsewhere (e.g., production of matches, flares, explosives, etc.). Sodium hypochlorite solutions used for disinfection of water and wastewater in treatment plants have also been identified as a potential source of perchlorate contamination. Perchlorate can interfere with iodide uptake by the thyroid gland and decrease production of thyroid hormones, which are needed for prenatal and postnatal growth and development, as well as for normal metabolism and mental function in adults. EPA set the safe health advisory limit for drinking water at 0.015 ppm (15 parts per billion). In mid 2009, Everett implemented a monthly perchlorate monitoring program at the water treatment plant to determine if the hypochlorite used for disinfection at the water plant contributed measurable levels of perchlorate to Everett's drinking water. The method used is capable of detecting perchlorate as low as 0.0004 ppm (0.4 ppb). Through 2011, no perchlorate has been detected in the drinking water.

## 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 the source only occasionally and at very low concentrations. In 2011, Everett collected monthly *Cryptosporidium* oocysts samples 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 EPA 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 also 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 far below the safe limits set by EPA.



## Important Terms:

- **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.
- **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 water treatment technology.
- **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.
- **Maximum Residual Disinfectant Level Goal (MRDLG)** – 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.
- **Treatment Technique (TT)** – A required process and performance criteria intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL)** – The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements which a water system must follow.
- **Parts per Million (ppm)/ Parts per Billion (ppb)** – A part per million means that one part of a particular contaminant is present for every million parts of water. Similarly, parts per billion indicate the amount of a contaminant per billion parts of water.
- **Not Applicable (N/A)** - Means EPA has not established MCLGs for these substances.



## Your Opinion Matters

In 2011, your water was tested for more than 100 possible contaminants. What does all this information in this report mean? For most people, the key conclusion of the data is that your drinking water meets or exceeds all government standards and is safe to drink.

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

# We're in this Together

## Our Commitment to Water Conservation

Conservation helps to ensure that water is used as efficiently as possible. The City operates a regional water conservation program for water systems served by the Everett water system. The current goal is to save 1.97 million gallons of water a day (MGD) in the Everett water service area by the end of 2012.

The program, which was implemented in 2007, includes a variety of activities including youth education, indoor and outdoor water conservation kits, rebates for water efficient clothes washers and toilets, and other things. The City is required to report on the progress of this program annually to the state and the customers we serve.

In 2011, more than 600 water conservation workshops were conducted in classrooms throughout Snohomish County, reaching more than 16,000 students. More than 3,400 clothes washer rebates and 3,200 toilet rebates were issued. Participating water systems also distributed lawn watering calendars, 4,000 indoor conservation kits and 5,500 outdoor conservation kits.

These activities achieved an estimated savings of 0.85 MGD, surpassing the annual savings goal of 0.83 MGD. This brings the cumulative program savings to date to 2.03 MGD—enough water to fill more than 48,000 bathtubs a day. Through efficiency and cost minimization, this has been accomplished for about \$200,000 less than what was planned.



## WATER CONSERVATION OPPORTUNITIES

<p><b>Toilet Rebates up to \$75</b></p> <p>For the purchase and installation of an approved WaterSense high efficiency toilet, which uses 1.28 gallons or less per flush.</p>  <p><small>Limited number of rebates available.</small></p>	<p><b>FREE Indoor Kits*</b></p> <ul style="list-style-type: none"> <li>• Earth Massage shower head, two gallons per minute</li> <li>• Faucet aerators, one gallon per minute</li> <li>• Teflon tape</li> </ul> 	<p><b>FREE Outdoor Kits*</b></p> <ul style="list-style-type: none"> <li>• Garden hose nozzle</li> <li>• Garden hose repair ends, female/male for 5/8 and 3/4 inch hoses</li> </ul> 	<p><b>Dye Strips for Toilet Leak Detection*</b></p> <ul style="list-style-type: none"> <li>• A leaking toilet can waste from 30 to more than 200 gallons of water per day</li> <li>• Check your toilets for leaks using toilet dye strips</li> </ul> 
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For more information go to: [www.everettwa.org/conservation](http://www.everettwa.org/conservation).  
Our programs count on your voluntary participation.

\*Supplies are limited



# Partnership for Safe Water

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 Partnership program is for participating utilities to use a continuous improvement process developed by the Partnership members.

The program strives 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's high water quality standards.

Since the City of Everett began participating in the program over a decade ago, it has met the performance standards set by the Partnership. Recently the City has renewed its commitment to continuously improve performance at the Everett water treatment plant and is working to incorporate some of the Partnership's tools into a new improvement program 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 have the highest quality drinking water possible.



## What You Can Do

For more information about drinking water quality, please contact:

### City of Everett Water Quality Office:

Phone: 425-257-8800  
Website: [www.ci.everett.wa.us/pw](http://www.ci.everett.wa.us/pw)

### State Department of Health (DOH):

Phone: 1-800-521-0323  
Website: [www.doh.wa.gov/ehp/dw/](http://www.doh.wa.gov/ehp/dw/)

### US Environmental Protection Agency (EPA):

Phone: 1-800-426-4791  
Website: [www.epa.gov/safewater](http://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](http://www.ci.everett.wa.us).

### City of Everett Elected Officials:

**Mayor:** Ray Stephanson

**City Council:** President Ron Gipson, Shannon Affholter, Arlan Hatloe, Jeff Moore, Drew Nielsen, Paul Roberts and Brenda Stonecipher

...this is the best way to ensure our customers will always have the highest quality drinking water...



Learn more about your water at [www.ci.everett.wa.us/pw](http://www.ci.everett.wa.us/pw)

You're receiving this mailed report as part of a federal reporting requirement for municipal water systems.

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