

# 2008

## Drinking Water Quality Report

*A Report  
to the Community*



Silver Lake Water & Sewer District  
2008 Water Quality Report

# Your Drinking Water

## *A Message from Silver Lake Water & Sewer District*

We are pleased to provide you with our Annual Drinking Water Quality Report. This report summarizes the findings of the City of Everett's and the District's 2008 drinking water quality testing program. Why are we sending this information to you? The federal Safe Water Drinking Act requires water systems to provide their customers with annual reports on the quality of their drinking water. We are happy to comply because we support your right to know about the water you drink.

Silver Lake Water & Sewer District operates a first-class water system. We are proud of the system, and we welcome this opportunity to tell you about it. We want you to know where your drinking water comes from and how it is treated. More importantly, we want you to know your water is safe to drink and meets or exceeds all government standards. This information allows people, particularly those with special health needs, to make informed decisions about their drinking water.

We have tried to make this report easy to understand. However, drinking water quality is a complex issue and some of the information is technical. If you have questions, please contact us at 425-337-3647 and ask to speak to a water quality specialist. You can also obtain more information about our water system online at [www.slwsd.com](http://www.slwsd.com) or visit Everett's web site at: [www.ci.everett.wa.us/pw](http://www.ci.everett.wa.us/pw).

Patrick M. Curran, *General Manager*

Silver Lake Water & Sewer District

May 2009

# Drinking Water Source

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

Spada Reservoir is located in the Sultan Basin Watershed, an area covering more than 80 square miles. A watershed is a geographic area where all precipitation drains into a single body of water. The Sultan Basin Watershed is one of the wettest watersheds in the continental United States. The average rainfall there 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 Watershed is carefully monitored. The watershed is patrolled and human activities are limited to minimize the impact on water quality. While there have been no threats to our water supply system, both Everett and the District continue to evaluate and adjust our security measures as necessary.



## Drinking Water Treatment

From Spada Reservoir, our water travels through a pipeline to Chaplain Reservoir. This is where Everett's water treatment facility is located. Chaplain Reservoir holds about 4.5 billion gallons of water and, on average, about 50 million gallons of water is treated each day at the water treatment facility.

Your drinking 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.

## Information From EPA

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 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

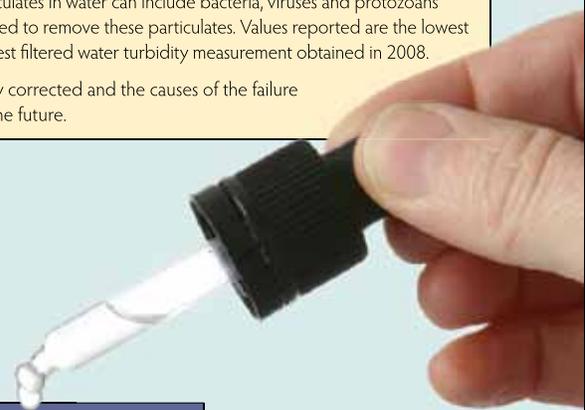
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/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.

# Detected Regulated Contaminants

Parameter	Major Source	Units	EPA Regulations		Our 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	0.047-0.129	0.129	Yes
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per Month	None	0%	Yes
Total coliform bacteria monitoring is used to track microbial quality in the water distribution system. SLWSD collects 60 samples per month. Not more than 5 percent of the monthly total can be positive for total coliforms.							
Fluoride	Dental health additive	ppm	2	4	0.02-0.99	0.73	Yes
Fluoride is added to your water in carefully controlled levels for dental health.							
Residual Disinfectant Level (free chlorine)	Added as a drinking water disinfectant	ppm	4 (MRDLG)	4 (MRDL)	0.02-0.99	0.73	Yes
Haloacetic Acids 5	By-product of drinking water chlorination	ppb	N/A	60	12.0-36.8	24.2	Yes
Total Trihalomethanes	By-product of drinking water chlorination	ppb	N/A	80	20.1-48.5	33.1	Yes
Haloacetic acids and trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes. MRDLG is the "maximum residual disinfectant level goal," MRDL is the "maximum residual disinfectant level." The results reported here are for the four locations monitored to determine compliance with the current regulations. Additional results collected as part of a new study being conducted for a future regulation are reported in the detected unregulated contaminant table.							
Turbidity	Soil erosion	NTU	N/A	TT	99%	0.4 <sup>1</sup>	Yes
Turbidity is a measure of the amount of particulates in water measured 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. Values reported are the lowest monthly percentage of samples that met the turbidity limit (0.3 NTU for EPA and 0.1 NTU for the state) and the highest filtered water turbidity measurement obtained in 2008.							
<sup>1</sup> A coagulant feed system failure caused a short term spike in filtered water turbidity. The problem was immediately corrected and the causes of the failure were investigated. As a result, improvements in the control equipment were installed to prevent similar failures in the future.							

## 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	0.072	None	Yes
Lead	Plumbing, erosion of natural deposits	ppb	0	15	3	3 of 134 (2.2%)	Yes
USEPA and state regulations require Everett and the systems it supplies to monitor for the presence of lead and copper at household taps in their service area every three years. The above data was collected in 2006. The next round of required sampling will be conducted in late summer of 2009. 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.							



# Detected Unregulated Contaminants

Parameter	Units	Ideal Level/Goal (MCLG)	Everett Water Results	
			Range Detected	Average Value
Bromodichloromethane <sup>1,2</sup>	ppb	0	0.9-2.1	1.4
Chloroform (trichloromethane) <sup>1,2</sup>	ppb	300	17.4-43.8	27.3
Total Trihalomethanes (TTHM) <sup>2</sup>	ppb	See Note 3	18.3-45.9	28.7
Dichloroacetic Acid <sup>1,2</sup>	ppb	0	3.4-15.6	11.1
Trichloroacetic Acid <sup>1,2</sup>	ppb	300	8.2-33.8	15.1
Haloacetic Acids 5 (HAA5) <sup>2</sup>	ppb	See Note 4	13.7-47.1	26.2

<sup>1</sup> These substances are disinfection by-products which must be monitored to determine compliance with the USEPA Stage 1 and Stage 2 Disinfectants/Disinfection By-products Rules (Stage 2 D/DBPR).

<sup>2</sup> Includes additional results from 16 new monitoring sites collected during February, May, and August of 2008, and results from the four monitoring sites that are sampled four times a year for compliance with the current disinfection by-products regulation. The 16 new sites were monitored as part of a required USEPA program to identify new distribution system monitoring locations for a new disinfection by-products regulation known as the Stage 2 Disinfection/Disinfection By-products Rule (D/DBPR) that will take effect in 2012. This study is known as the initial distribution system evaluation study, or IDSE study, and was completed in 2008. In December 2008, The IDSE study data was used to select eight new Stage 2 monitoring locations and the selections were submitted in a report to the USEPA for approval.

<sup>3</sup> The MCL for TTHM is 80 ppb. <sup>4</sup> The MCL for HAA5 is 60 ppb.

## Voluntary Information

Parameter	Units	Combined Water Results	
		Range Detected	Average Value
Alkalinity <sup>2,3</sup>	ppm <sup>2</sup>	13.8-27.3	17.1
Aluminum <sup>3</sup>	ppb	0.008-0.100	0.016
Arsenic <sup>4</sup>	ppb	ND <sup>1</sup>	ND <sup>1</sup>
Calcium Hardness <sup>3</sup>	ppm <sup>2</sup>	5.9-12.3	8.9
pH <sup>3</sup>	s.u.	7.4-9.1	8.1
Sodium <sup>4</sup>	ppm	4.4-7.0	6.3
Total Hardness <sup>2,3</sup>	ppm <sup>2</sup>	7.4-12.3	11.3

<sup>1</sup> ND = Not detected.

<sup>2</sup> Hardness and alkalinity units are in ppm as CaCO<sub>3</sub> (calcium carbonate equivalent units).

<sup>3</sup> Results are from samples collected from 26 locations in the District's distribution system.

<sup>4</sup> Sodium and Arsenic are monitored at the Everett treatment plant effluent.

### 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. In 2008, Everett tested for *Cryptosporidium* oocysts on a weekly basis at the treatment plant intakes and found 0.098 oocysts/L on one occasion. No oocysts were detected in the other 51 samples collected.

### Treatment Polymers:

During water treatment, 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 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 USEPA.

## 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.

# Water Conservation

## The Silver Lake Water & Sewer District has participated with Everett in its "long-standing commitment" to water conservation.

The City's Water Conservation program began in the early 1980s. Originally, the program focused on school education and promotional activities to foster a conservation ethic within the City. Since 2001, the City has administered a regional water conservation program in partnership with the District and other public water systems throughout Snohomish County that includes a wide array of conservation measures.

Water utilities are required to submit water conservation plans every six years as part of their Comprehensive Water System Plans. The District's plan for 2003 through 2009 includes our participation in Everett's educational programs in schools, distribution of indoor and outdoor water conservation kits,

water-efficient spray heads for food service establishments and water audits for schools and businesses. At the end of 2006, these activities saved more than 2.3 million gallons of water a day (MGD), surpassing the original six-year goal.

The current plan was developed through a collaborative process with regional water systems and builds on the success of the previous program. The plan calls for funding about \$600,000 a year in regional water conservation activities from 2007 through 2012. In addition to the previous measures, the plan includes rebates for water-efficient toilets and clothes washers and a program to help consumers identify and fix leaky toilets. The goal of this program—the City's Water Use Efficiency Goal—is to save 1.97 MGD by 2012 and was adopted by the Everett City Council on Nov. 21, 2007.

In 2008, 910 water conservation workshops were conducted in classrooms throughout the Everett Water Service Area including the District, reaching more than 25,000 students. Under the WaterSmart rebate program, 150 toilet rebates and 1,310 washer rebates were issued. The District and other participating water utilities also distributed 8,020 indoor conservation kits, 9,700 outdoor conservation kits, and approximately 180,000 leak detection flyers and lawn watering calendars. In addition, a new program was implemented which installed 450 low-flow spray nozzles and 1,340 faucet aerators in commercial kitchens. These activities achieved an estimated water savings of 1.29 MGD, surpassing the original goal of 1.18 MGD. In January 2008 the District Board of Commissioners adopted Resolution No. 626 adopting the Water Use Efficiency Rule Program and the Water Use Efficiency Goals set forth therein. This Program may be reviewed online at [www.slwsd.com](http://www.slwsd.com).



# General Information

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 you the very best drinking water possible. We are continually upgrading our facilities to make sure your drinking water meets or exceeds all government regulations.

– Bill Anderson, President  
Board of Commissioners



## Next Steps

For more information about drinking water quality, please contact:

### Silver Lake Water & Sewer District

Phone: 425-337-3647

Website: [www.slwsd.com](http://www.slwsd.com)

### City of Everett Water Quality Office

Phone: 425-257-8800

Website: [www.ci.everett.wa.us/pw](http://www.ci.everett.wa.us/pw)

### Environmental Protection Agency (EPA):

Phone: 1-800-426-4791

Website: [www.epa.gov/safewater](http://www.epa.gov/safewater)

### State Department of Health (DOH):

Phone: 1-800-521-0323

Website: [www.doh.wa.gov/ehp/dw/](http://www.doh.wa.gov/ehp/dw/)

## To get involved in decisions

affecting your drinking water, attend and comment at District Commissioner meetings, scheduled for the second and fourth Thursdays of each month at 5:30 pm at the District Administrative Office, 15205 41st Ave. SE, Bothell, WA 98012. Agendas are available on the District's website at [www.slwsd.com](http://www.slwsd.com).

### Silver Lake Water & Sewer District Elected Officials

#### Board of Commissioners:

Anne Backstrom, Bill Anderson and Rod Keppler



## A Precious Resource

Abundant, available water is a quality of life issue that our community depends on. It's easy to take water for granted with our plentiful rainfall, but it is very important that we each do our part to use water wisely. Doing so benefits our community because it delays the need for costly upgrades of the water system. It also benefits the plants, wildlife and fish that depend on water for their survival.

Saving water is simple and inexpensive—just a little common sense goes a long way. Take shorter showers and repair leaky toilets and faucets. This can save thousands of gallons of water a year. Choose drought-tolerant plants, add mulch to your planting beds and water wisely. One inch of water a week, including rain, is all your lawn needs. For more water saving tips, visit our website: [www.slwsd.com](http://www.slwsd.com).