

## 2007 Annual Water Quality Report



The City of Lynnwood has been providing quality water service to our customers for over 40 years. We are pleased to bring you this Annual Water Quality Report. This report provides information on:

- Our drinking water source
- Regulations and programs that protect the high quality of our water
- 2006 Water Quality Analysis results

The City of Lynnwood continues to be committed to providing the highest quality drinking water possible. We do this by:

- Testing our water regularly
- Maintaining the system of pipes and reservoirs that bring you your water
- Meeting or exceeding all state and federal water quality requirements

The City distributes free water conservation kits to our customers. Please come by City Hall to pick up yours.

**If you have any questions, comments or suggestions, we encourage you to contact Paul McIntyre, Utility Supervisor, at 425-670-6268.**

### Drinking Water Source



Your drinking water comes from the City of Everett's Spada Lake Reservoir, which is located at the headwaters of the Sultan River and the Sultan Basin Watershed. Created in 1965 by the construction of Culmback Dam, Spada Lake Reservoir holds about 50 billion gallons of water. A watershed is a geographic area where all the precipitation drains into one body of water. In the Sultan Basin Watershed, rain and snowmelt flows from the Cascade Mountains into creeks and streams that drain into

Spada Lake Reservoir.



The Sultan Basin Watershed covers an area of 84 square miles of mountainous terrain and is one of the wettest watersheds on the West side of the Cascade Mountains. The annual rainfall is just a few inches less than the Hoh Rain Forest on the Olympic Peninsula.

From Spada Lake Reservoir, the water flows through a tunnel and pipeline to Chaplain Reservoir where it is held in preparation for treatment at the nearby City of Everett Treatment Plant. Chaplain Reservoir is a small lake located about 7 miles downstream from Spada Lake Reservoir and holds about 4.5 billion gallons of water.



After treatment, your drinking water is pumped to Alderwood Water District facilities in South Everett. The District transports the drinking water to reservoirs just north of Lynnwood. The Lynnwood distribution system is supplied from these reservoirs.

# 2006 Water Quality Analysis Results

These substances are subject to state and federal regulations. All of the 2006 test results are significantly below the allowable levels.

Substance	Major Source	Units	EPA Regulations		Everett Water Results		
			Ideal Level/Goal (MCLG)	Maximum Allowable (MCL)	Range or Other	Average Value or Highest Result	Complies?
Nitrate	Erosion of natural deposits, animal waste	ppm	10	10	0.044-0.166	0.099	Yes
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per Month	None	0%	Yes
Total coliform bacteria testing is used to monitor microbial quality in the water distribution system. In Lynnwood, a minimum of 40 samples must be collected each month. Not more than 5 percent of the monthly total can be positive for total coliforms.							
Fluoride	Dental Additive	ppm	2	4	0.0* – 1.1	.9	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	4.0 (MRDLG)	4.0 (MRDL)	0.2-1.0	1.0	Yes
Haloacetic Acids (5)	By-product of drinking water chlorination	ppb	N/A	60	17.3-38.8	27.5	Yes
Total Trihalomethanes	By-product of drinking water chlorination	ppb	N/A	80	26.3-39.3	33.5	Yes
Haloacetic acids & trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes							
Turbidity	Soil erosion	NTU	N/A	TT	100%	0.08	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 protozoa that can cause disease. Turbidity measurements are used to determine the effectiveness of the treatment process 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 2006.							

Substance	Major Source	Units	EPA Regulations		Everett Water Results		Complies?
			Ideal/Goal (MCLG)	Action Level (AL)	90th % Level	Homes Exceeding The AL	
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 90 <sup>th</sup> 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 you are provided, but your household plumbing may contribute to the presence of lead and copper at your tap.							

Substance	Units	Ideal Level/Goal (MCLG)	Everett Water Results	
			Range Detected	Average Value
Bromodichloromethane <sup>1</sup>	ppb	0	1.1-2.4	1.7
Chloroform (trichloromethane) <sup>1</sup>	ppb	300	25.1-37.0	31.7
Dichloroacetic Acid <sup>1</sup>	ppb	0	4.6-19.0	12.0
Trichloroacetic Acid <sup>1</sup>	ppb	300	8.7-22.2	15.5

<sup>1</sup> These substances are disinfection by-products which must be monitored quarterly during each year to determine compliance with the Stage 1 Disinfectants/Disinfection By-products Rule regulation.

During water treatment, polymers are added to improve filtration and 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.

## The Following Information is Voluntary and Describes Additional Characteristics of Your Drinking Water

Parameter	Units	Everett Water Results	
		Range Detected	Average Value
Alkalinity	ppm	12-23	21
Aluminum	ppb	10-33	16
Arsenic	ppb	N/D <sup>1</sup>	N/D <sup>1</sup>
Calcium Hardness	ppm	7.5-9.6	8.5
Free Chlorine Residual	ppm	0.7-1.4	1.0
pH	s.u.	7.4-8.1	7.7
Sodium	ppm	8.4-8.8	8.6
Total Hardness	ppm	9.6-12.2	10.9
<sup>1</sup> ND = Not Detected			

### Potential Health Effects

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants can be obtained by calling the EPA's Hotline (1.800.426.4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have 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 lesson the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1.800.426.4791).

### Other Information

**Cryptosporidium.** *Cryptosporidium* is a microscopic organism that when ingested, may cause diarrhea, fever, and other gastrointestinal distress. It can be found in all of Washington's rivers and streams and comes from animal wastes in the watershed. *Cryptosporidium* is eliminated by effective treatment, including filtration, sedimentation and disinfection. Your drinking water is tested regularly for the presence of *Cryptosporidium* and *Giardia lamblia* and neither organism was detected in your water in 2006.

**Arsenic.** Considerable media attention has been focused on arsenic in drinking water. After extensive review of the health effects data, EPA has established an MCL for arsenic of 10 ppb. Over the past year, the City has tested your drinking water for the presence of arsenic on a regular basis and none was detected.

**Trihalomethanes.** Some studies have suggested that levels of Trihalomethanes above the EPA standard of 80 ppb may be a concern for pregnant women. THMs are a by-product of the drinking water chlorination process used to kill disease-causing organisms. In 2002, a report issued by Environmental Working Group and the U.S. Public Interest Research Group listed all water systems in the United States that have, or currently provide, water exceeding the 80 ppb standard. The City of Everett is not on that

list. Over the fifteen years the City has been monitoring THM's, the levels have been significantly below the EPA threshold.

## Reading the Data Tables

Here is an example of the terms used in the tables:

**(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.

**(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,

**(TT) Treatment Technique:** A required process and performance criteria intended to reduce the level of a contaminant in drinking water.

**(AL) Action Level:** The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements that a water system must follow.

**(PPM/PPB) Parts per Million/Parts per Billion:** A part per million means one part of a contaminant is present for every million parts of water. Similarly, parts per billion indicate the amount of a contaminant per billion parts of water.

**(NA) Not Applicable:** Means that EPA has not established MCLGs for these substances.

**(ND) Not detected:** Means this substance was not detected.

The EPA or State of Washington does not require the data in the voluntary monitoring table. This information describes additional characteristics of your water and may be useful for some people.

## To Get Involved

There are several ways you can get involved in water quality issues. You can communicate with elected officials, participate in public hearings and attend City Council meetings. Check our website at [www.ci.lynnwood.wa.us](http://www.ci.lynnwood.wa.us) for information on public meetings regarding water quality, water policies and other issues, or call us at 425.670.6268.

## MAINLINE AND DEAD END FLUSHING

Water distribution systems are typically designed to maintain a continuous loop. The continuous loop system allows water to flow freely throughout the system as water demand occurs. This type of system is the ideal goal a designer attempts to attain. As we all know, this can be a difficult task. In most cases, it becomes impossible to maintain the system continuously. Cul de sacs, however, do not allow for a continuous flow. Therefore, fire hydrants and water lines are typically tapped off at the end of that section of pipe. In these cases, it becomes necessary to flush the water out through either of these appurtenances in order to remove accumulated sediments. This process is referred to as "Dead End Flushing". This process also helps to prevent possible nitrification problems caused by chemicals or organic materials. Currently, we flush dead end lines twice per year. This also helps to keep smell, taste, and odor problems from occurring in those areas.

The concept of main line flushing is similar to the dead end flushing and is performed to scour the pipes so that any buildup of sediment or solids is removed. If this is not done, sediment is collected in the water mains. In most cases, when there is a large and sudden demand in water, such as a hit fire hydrant, the sediment is stirred and the appearance of the water is dramatically changed. This effect gives the water a reddish appearance. If you should experience this, we recommend that you refrain from any water use until the sediment has settled. After the water has settled, we recommend that you flush out the water in your house by opening the hose faucet on the outside of your house. Main line flushing is scheduled at various times throughout the year.

## [FREE WATER CONSERVATION KITS](#)

The City of Lynnwood is pleased to offer you a free water conservation kit. We have indoor and outdoor water conservation kits.

Water is a staple of our existence and using water efficiently needs to be a part of our daily lives, not just when there are government restrictions in place. We have a limited supply of water and we must always use it conservatively.

Using the easy-to-install items contained in the water conservation kit can save the average household of three up to 50,000 gallons of water a year! Install them today to help protect what is **rare today and priceless tomorrow!**

Please stop in and pick up your conservation kit at City Hall, 19100 44<sup>th</sup> Ave. W.

### **Resources**

#### **Water Quality Customer Service**

City of Lynnwood Public Works	425.670.6268 ( <a href="http://www.ci.lynnwood.wa.us">www.ci.lynnwood.wa.us</a> )
NW Health Department	253.395.6750 ( <a href="http://www.doh.wa.gov/ehp/dw">www.doh.wa.gov/ehp/dw</a> )
EPA Safe Drinking Water Hotline	1.800.426.4791