2010 Annual Water Quality Reports

Lynnwood Water Consumers,

The City of Lynnwood is and has always been concerned with the health and safety of our citizens. By testing our water regularly, maintaining the system of pipes and reservoirs and meeting or exceeding all state and federal water quality requirements, the City's Public Works Department is committed to providing the highest quality drinking water possible.

We are pleased to bring you the attached Annual Water Quality Report. In this report you will find information on:

- Our drinking water source
- Regulations and programs that protect the high quality of our water
- 2009 Water Quality Analysis results
- Other helpful information and resources from the Public Works Utility Department

The Public Works Department's dedicated staff works hard to continually look for ways to improve our utility service and products. We encourage you to contact Paul McIntyre, Utility Supervisor, at 425-670-5241 with any questions, comments or suggestions.

Sincerely,
CITY OF LYNNWOOD

Don Gough
Mayor

Sincerely,
CITY OF LYNNWOOD

William Franz
Public Works Director

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.

2009 Water Quality Analysis Results

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	0.049-0.120	0.087	Yes
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per Month	0-0.8%	0.8%	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. Total coliforms was detected once in 2009.							
Fluoride	Dental health additive	ppm	2	4	0.78–1.1	0.94	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	0.6	Yes
Haloacetic Acids (5)	By-product of drinking water chlorination	ppb	N/A	60	18.1-41.6	26.0	Yes
Total Trihalomethanes	By-product of drinking water chlorination	ppb	N/A	80	22.3-34.2	29.4	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 reported here are for the four locations monitored to determine compliance with the current regulations							
Turbidity	Soil erosion	NTU	N/A	TT	100%	0.08	Yes
Turbidity is a measure of the amount of particulates in the 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 for the year. In 2009 no filtered water turbidity results were above the EPA 0.3 NTU limit so the lowest percentage was 100%.							

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

Parameter	Units	Ideal Level/Goal (MCLG)	Everett Water Results	
			Range Detected	Average Value
Bromodichloromethane	ppb	0	1.0-1.7	1.4
Chloroform (trichloromethane)	ppb	70	21.3-32.6	28.0
Dichloroacetic Acid	ppb	0	4.2-16.1	10.3
Trichloroacetic Acid	ppb	300	10.7-25.5	15.7
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 Rule.				

Parameter	Major Source	Units	EPA Regulations		Everett Water Results		
			Ideal Level/Goal (MCLG)	Action Level (AL)	90th % 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
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 common service area every three years. The above data was collected in 2009. The next round of required sampling will be conducted in late summer of 2012. The 90th% 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.							

Parameter	Units	Everett Water Results	
		Range Detected	Average Value
Alkalinity[3]	ppm	12.2-29.0	17.5
Aluminum[3]	ppb	0.008-0.050	0.016
Arsenic[4]	ppb	ND[1]	ND[1]
Calcium Hardness[3]	ppm[2]	7.1-12.0	8.9
pH3	s.u.	6.8-9.1	8.0
Sodium[4]	ppm	6.2-7.1	6.8
Total Hardness[3]	ppm[2]	9.1-13.3	11.3

[1] ND = Not detected.
[2] Hardness and alkalinity units are in ppm as CaCO3 (calcium carbonate equivalent units).
[3] Results are from samples collected from 26 locations in Everett's distribution system.
[4] Arsenic and sodium are monitored at the treatment plant effluent.

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

Drinking Water Treatment Notice- On Tuesday, Sept. 1, 2009 the City of Everett drinking water treatment plant exceeded the maximum filter flow rate approved by the State Department of Health. The incident occurred while a study was being conducted to determine the hydraulic characteristics of a new water storage facility at the plant. Water was allowed to flow through several filters above state authorized rates for approximately one hour, increasing the risk that insufficiently treated water could have entered the water system. During the event, filtered water quality remained in compliance with all drinking water standards. The State Department of Health determined there was no significant threat to public health and that a public health advisory was not needed. *"Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."*

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. In 2009, Everett tested the source water at the plant intakes for Cryptosporidium oocysts on a weekly basis through the month of April, and on a monthly basis from May through December. No oocysts were detected In the 26 samples collected.

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

Definitions:

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 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.

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.

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 for information on public meetings regarding water quality, water policies and other issues, or call us at 425.670.5241.

Mainline and Dead End Flushing

You may see Public Works crews in your neighborhood flushing water lines. This is necessary to maximize water quality by preventing stagnant water and naturally occurring sediments from accumulating in the system. Ideally a system of water mains is designed in a pattern of interconnecting loops. This allows water to flow freely throughout the system as demand occurs. Because of geography and how streets and neighborhoods lie, the water system also contains dead end mains. These locations are where water can become stagnant in times of low flow. It is necessary to periodically flush the water out of the dead end mains through a fire hydrant. Flushing helps keep your water quality high and minimizes the chance of taste or odor problems.

Free Water Conservation Kits

The City of Lynnwood Public Works Department is pleased to offer you a free water conservation kit. We have indoor and outdoor water conservation kits available. (Please see below for more details on water conservation and how to obtain your free conservation kits.)

Water Conservation

Metering Water Consumption

Metering tells us how much water we buy and sell to our customers. Your utilities department measures all the water it uses for maintenance as well as monitoring the meters to set a base line for water loss in the water distribution system. By using this information, we can fundamentally develop a data base for a useful Water Use Efficiency program.

Indoor & Outdoor Water Saver 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.

The City of Lynnwood water department offers all of our customers FREE indoor and outdoor water saver kits. We have been providing these popular kits for eight years and they are very popular. The outdoor kit includes an automatic hose bib shut-off, a multi-function nozzle, a hose repair kit, and a few reduced flow hose washers that can be used with your existing garden supplies. The indoor water saver kits help reduce the flow of water from your showers and faucets. They are easy to install and are very durable.

Using these 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 now to help protect what is rare today and priceless tomorrow!

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

School Education

The City Council has provided funds for all levels of school, up through high school, so that students can participate in workshops and classroom presentations. They are also provided conservation materials that further educate them on the water cycle as well.

Leak Detection

One way of saving water is to find and repair leaks in the distribution system. These leaks aren't always obvious and are hard to detect through normal methods. However, we employ a technology that operates on the same radio wave frequencies that the leaks produce. We have had great success with this technology which places our repair crews within a few inches of the leak.

Input from our customers

"We want to hear from you!" This is the motto that is shared by all Public Works employees. We hold several public outreach meetings which are a great way to listen to the concerns of the citizens as well as talk to our council about any ideas you may have for conservation, making the Water Use Efficiency better, and more. We have also advertised and sent out watering calendars to encourage citizens to water their yards every three days to help conserve our precious resource. The Utilities department also has our water loss record available to the public. On average City reports have shown a 7.56% unaccounted water loss per year.

Conservation Billing

We are using a conservation billing system as a way to encourage wise water use. After the base rate is charged, the City of Lynnwood charges more per unit at higher levels of use.

In conclusion

Conservation of our natural resource is a goal we have taken seriously as we developed our Water Use Efficiency to the stringent guidelines of the Lynnwood Water Comprehensive Plan, which forecasts our water needs over a six year period. We also take the opportunity to reevaluate these needs every six years to determine how we are doing in meeting our goals.

Resources

Water Quality Customer Service

City of Lynnwood Public Works	425.670.5200 (www.ci.lynnwood.wa.us)
NW Health Department	253.395.6750
EPA Safe Drinking Water Hotline	1.800.426.4791