

# City of Arlington Annual Water Quality Report

Water Testing Performed in 2011

PWS ID# 02950K



## Continuing Our Commitment

The City of Arlington is pleased to report that your drinking water is very high quality and compliant with all state and federal drinking water laws. The City is committed to delivering the best quality drinking water, and to that end, we make more than 16,000 water quality observations and tests every year. This edition of our annual water quality report summarizes only the key findings of testing completed from January through December 2011. For more information about this report, or for any questions relating to your drinking water, please call the Water Department at 360.403.3526.



## Where Does Our Water Come From?

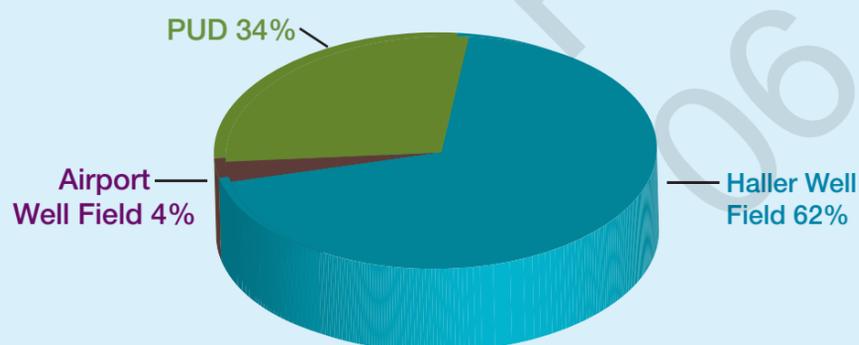
Three primary sources supply water to the Arlington service area. Arlington produces most of its water from the Haller and Airport well fields. The Haller well field naturally filters Stillaguamish River water by drawing it through the riverbank. The Airport well field draws groundwater from a deep aquifer. The origin of both these sources is precipitation that falls across the Stillaguamish Basin and infiltrates the ground surface.

The water we produce is blended with water the City purchases from its third source – Snohomish County Public Utility District (PUD).



This water is obtained from the City of Everett's Spada Reservoir near the headwaters of the Sultan River.

The graph below shows the proportion that each source is of our total water production of 1,430 acre-feet in 2011.



Arlington Water Supply 2011

## How is My Water Treated and Purified?

### Haller Well Field

Groundwater drawn from our well field located near the Stillaguamish River is treated in several steps at Arlington's water treatment facility. First, raw (untreated) water is pumped from the well field to the treatment plant, where a primary treatment chemical is added that causes small particles to stick together and form bigger particles called floc. Next, polymer is added to aid the filtering process and the water is passed through a clarifying filter where 60% to 70% of the floc is removed. The water then passes through a finishing filter where most of the remaining floc is taken out, and chlorine is added for disinfection. Finally, we add sodium hydroxide to adjust the pH level, making the water less corrosive to your pipes and plumbing fixtures.

### Airport Well Field

Water drawn from our well near the Arlington Airport does not require filtration, but we do add chlorine for disinfection.

### PUD

Drinking water purchased from Snohomish County PUD is treated at the City of Everett water treatment plant using a treatment process similar to the process used by Arlington. Everett adds fluoride to the water for enhanced dental protection.

## Working Hard to Bring You the Best Water in the State — Efficiently



Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (EPA) is responsible for setting national limits for hundreds of substances in drinking water, and also specifies various treatments that water systems must use to remove these substances. Arlington Water Department continually monitors for these

substances and reports our findings to the Washington Department of Health (DOH), who confirms you are receiving clean water. DOH records indicate *we consistently provide you with clear, high quality water meeting the highest standards, and have done so for 11 consecutive years!* For more information see:

<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/SourceWaterProtection/RapidRateFiltration.aspx> and  
<http://www.doh.wa.gov/Portals/1/Documents/4200/wt0911.pdf>.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

## Sampling Results for 2011

In 2011, the City collected hundreds of water samples and made thousands of measurements in order to assure whether biological, inorganic, volatile organic, synthetic organic or radioactive contaminants were present in your drinking water. *The table below lists only those contaminants that were detected.* The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. All of the results shown here are less than Maximum Contaminant Levels (MCLs) which are established with a safety margin for the protection of consumer health.

Since we purchase some of our water from the PUD, the table also includes data for the City of Everett water supply. This information is particularly useful to those in our service area that receive PUD water before it is blended with water pumped from our wells. This includes any service connections along Burn Rd and 186th Street, or, prior to a system change in September 2011, in the Crown Ridge, Eagle Heights, and eastern two-thirds of Gleneagle subdivisions.

DOH requires utilities to monitor for lead, copper and other contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Regulated Substances									
Samples were collected in finished water at our sources and/or throughout the distribution system				Arlington Water Department		Snohomish County PUD		Definitions of these terms are found to the right of this table	
Substance (units)	Year sampled	MCL (MRDL)	MCLG (MRDLG)	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Compliant?	Typical Sources
Arsenic (ppb)	2011	10	0	1	ND – 1	ND	NA	Yes	Erosion of natural deposits
Barium (ppm)	2011	2	2	0.011	0.007 – 0.011	0.006	ND – 0.006	Yes	Erosion of natural deposits, drilling fluids
Chlorine (ppm)	2011	(4)	(4)	0.78	0.15 – 1.60	0.89	0.16 – 1.47	Yes	Water additive used to control microbes
Chromium (ppb)	2011	100	100	4	ND – 4	ND	NA	Yes	Erosion of natural deposits
Fluoride (ppm)	2011	4	4	0.22	ND – 1.01	0.78	ND – 1.01	Yes	Water additive which promotes strong teeth
HAAs [Haloacetic Acids] (ppb)	2011	60	NA	25.1	7.8 – 49.2	38.9	25.8 – 48.1	Yes	By-product of drinking water disinfection
Nitrate (ppm)	2011	10	10	0.89	0.15 – 0.89	0.083	0.035 – 0.124	Yes	Runoff from fertilizer use; Leaching from septic tanks, and animal wastes; Erosion
Total Coliform Bacteria (% positive sample)	2011	5%/month	0	ND	NA	0.76%	0 – 0.76%	Yes	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	29.1	9.2 – 49.3	32.6	23.9-40.0	Yes	By-product of drinking water disinfection
Turbidity (NTU) <sup>1</sup>	2011	TT	NA	0.076	0.020 – 0.076	0.14	ND – 0.14	Yes	Soil runoff, sediment

Lead and Copper									
Tap water samples were collected for lead and copper analyses from homes throughout the service areas				Arlington Water Department		Snohomish County PUD		Definitions of these terms are found to the right of this table	
Substance (units)	Year sampled	AL	MCLG	90th Percentile	Homes Above AL/ Total Homes Sampled	90th Percentile	Homes Above AL/ Total Homes Sampled	Compliant?	Typical Sources
Copper (ppm)	2010	1.3	1.3	0.803	0 / 30	0.188	0 / 108	Yes	Corrosion of household plumbing Erosion of natural deposits
Lead (ppb)	2010	15	0	2	0 / 30	3	2 / 108	Yes	Corrosion of household plumbing Erosion of natural deposits

### Footnotes

<sup>1</sup> Turbidity, a measure of the cloudiness of water, is monitored because it is a good indicator of the effectiveness of the filtration system.

<sup>2</sup> Lead and copper samples in the Arlington service area were collected in 2010, and will be collected again in 2013. Samples for PUD were collected in 2009, and will be collected again in 2012.

## Table Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers 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 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 (e.g. chlorine, chloramines, chlorine dioxide).

**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.

**NA:** Not applicable.

**ND:** Not detected.

**NTU (Nephelometric Turbidity Units):** A measure of the clarity, cloudiness, or turbidity, of water.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

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

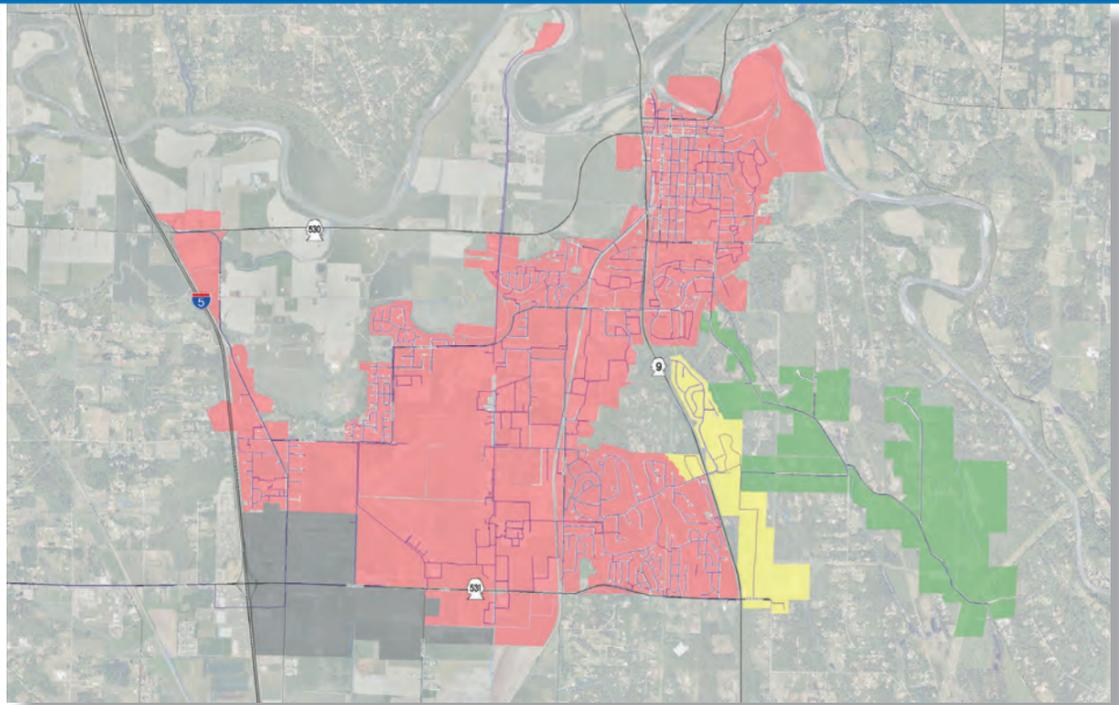
**90th Percentile:** Out of every 10 homes sampled, 9 had lead and copper concentrations at or below this level.

## Important Health Information

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

## Fluoride—What You Need to Know

Fluoride Concentration Zones (ppm)	Recommended Daily Supplemental Dosage (mg/day)*		
	6 mos - 3yrs	3-6yrs	6-16yrs
Optimum (>0.6)	None	None	None
Moderate (0.3 - 0.6)	None	0.25	0.5
Low (<0.3)	0.25	0.5	1
Within Arlington City limits but served by Marysville			
All other areas not served by City of Arlington			



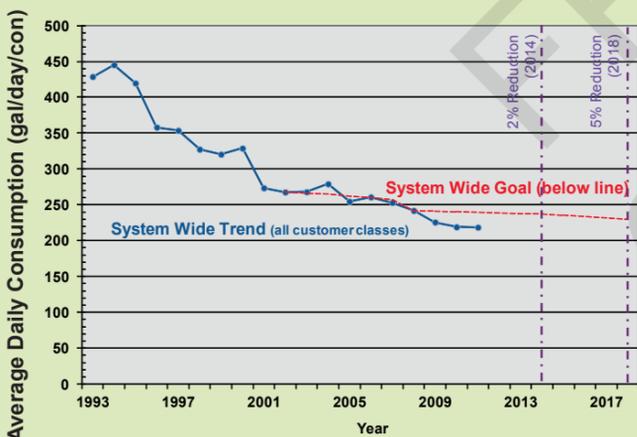
**W**ater from the City's naturally unfluoridated sources blends in our mains with fully fluoridated water we purchase from the PUD. The concentration of fluoride in water delivered to our customers varies based on mixing patterns within the water mains. Recent operational changes in our water system have resulted in changes (mostly reductions) in the amount of fluoride received by many of our customers. The map above shows the new distribution pattern since the City began producing more of its own water. Green areas east of SR9 and along Burn Road are fully fluoridated. Pink areas receive no appreciable fluoride. Yellow areas receive moderate levels of fluoride in blended water. A more detailed version of the map is included in a fluoride brochure available for downloading from the City's website, or you may request a copy from the Utilities office at 360-403-3526. Water served by the City of Marysville to the Smokey Point area is also not fluoridated.

## Water Use Efficiency Information

**A**rlington is making great progress toward goals required by the state's 2007 Water Use Efficiency (WUE) Rule. The City's 2004 and 2008 goals were revised after a public hearing and City Council approval of the October 2011 Water System Plan.

### 2011 Arlington Water Use Statistics

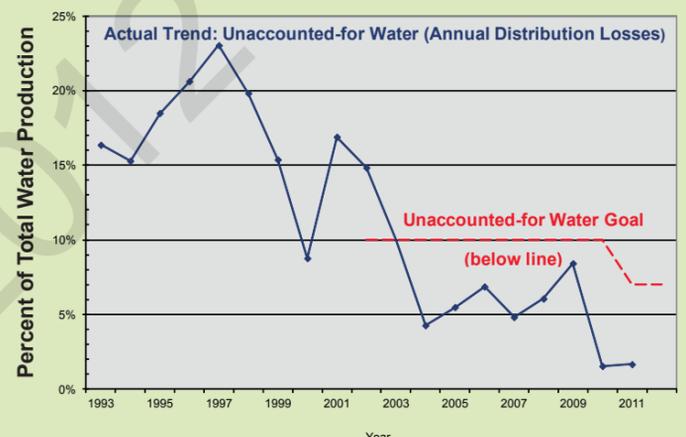
Total water produced and purchased (gallons)	465,893,350
Water to customers and other authorized uses (gallons)	458,166,944
Unauthorized and/or unquantified uses and leaks (gallons)	7,726,406
Unauthorized and/or unquantified uses and leaks (percent)	1.7%



**Goal: Achieve additional system-wide average water use reduction of 2 percent by the year 2014, and 5 percent by the year 2018, with 2008 as the base year.**

When it comes to supplying water to a growing community, wise and efficient use of our existing water sources is much cheaper than the development of new supplies. Results indicate our customers are increasingly conscientious of their

water use. Water consumption has dropped nearly 10% by 2011 to 219 gallons/ day/ connection. We are on track for meeting our 2018 goal of 230 gal/day/connection. With these efforts in place, the City's savings from 2002 to 2025 will exceed 122 million gallons.



**Goal: Reduce unaccounted for water to 7 percent or less.**

The WUE Rule requires that we account for at least 90% of the water we make, but we are holding ourselves to 93%--with unaccounted for "losses" from our distribution system at less than 7%. The tighter the system, the easier it will be to detect leaks when they do occur, thus saving water to meet genuine demand. With accounting improvements since 2004, and metering of nearly all services, losses have been reduced to less than 2% per year.

## Substances That May Be in Your Drinking Water



**T**o ensure that tap water is safe to drink, DOH and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Likewise, the Food and Drug Administration (FDA) and the

Washington Department of Agriculture regulations establish limits for contaminants in bottled water that 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

## Contaminants That May Be Present In Source Water

- **Microbes** — viruses, parasites and bacteria, from sewage treatment plants, septic systems, pets, livestock and wildlife
- **Inorganic materials** — salts and metals, naturally occurring or from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming
- **Pesticides and herbicides** — from agriculture, urban stormwater runoff, and residential uses
- **Organic Compounds** — synthetic and volatile organic compounds from industrial processes, petroleum production, gas stations, urban stormwater runoff, and septic systems
- **Radioactive contaminants** — naturally-occurring or the result of oil and gas production and mining activities

## Questions and Answers

### I don't have any water.

If your **water bill has not been paid**: call Utility Billing at 360-403-3421. Otherwise, call Public Works Utilities Administration at 360-403-3526. We'll need to know your name, phone number, address, how long have you been without water. A water service specialist will contact you to solve the problem.

### I need my water shut off.

If you are **stopping service**: call Utility Billing at 360-403-3421.

**Before doing repairs**: call Utilities Administration at 360-403-3526. We'll need your name, phone number, address and when you want the water shut off. A water service specialist will shut the water off, or call you to arrange a time to do so.

### I need my water turned on.

If you are **moving in**: call Utility Billing at 360-403-3421.

If you are **done with repairs**: call Utilities Administration at 360-403-3526. We'll need your name, phone number, address, and when you want the water turned on. A water service specialist will turn the water on, or will call you to arrange a time to do so.

### I need to report a leak.

Call Utilities Administration at 360-403-3526, or the emergency phone at 360-258-0919. Tell us your name, phone number, and the address of the leak.

*If the leak is located:*

**In the house**: you will need to call a plumber, but we will send a water service specialist to turn the water off if needed.

**At the meter box**: we will send a water service specialist out to investigate and repair the leak. They will call you with the results.

**In the street**: we will send a water service specialist out to investigate immediately. Let us know if it is gushing or trickling down the street, gushing up in the air, and/or associated with a hydrant break or construction accident.

### Is there fluoride in my water?

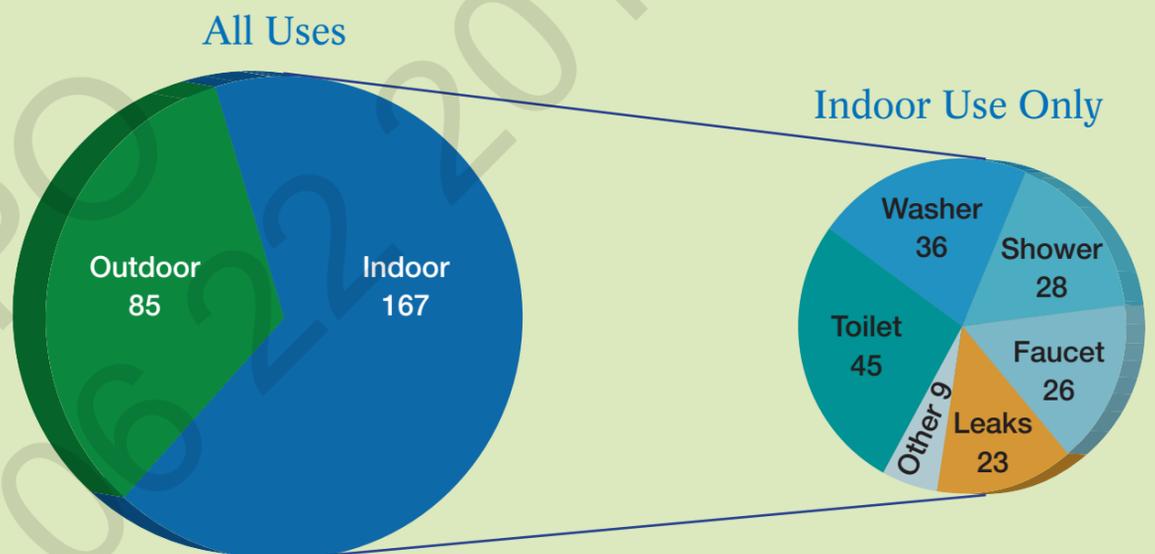
Water we produce has low natural concentrations of fluoride, while water we purchase is "fully fluoridated" for dental protection by the City of Everett. While primarily distributed in distinct zones, these sources do blend to create a small area of moderate fluoride concentrations. Only services east of SR 9 and south of about 200th Street receive appreciable fluoride. The City's fluoride brochure compares this range of fluoride levels to the dental needs for children promoted by the ADA. Copies are available on-line, at Utilities Administration, or where utility bills are paid at City Hall.

### Community Participation

You are invited to participate in our public city council meetings and voice your concerns about your drinking water. Arlington City Council meets the first and third Monday of each month beginning at 7 p.m. at the Council Chambers, 110 E. Third Street, Arlington, WA (enter off of Olympic Avenue near City Hall). For meeting information, call City Hall at (360) 403-3421, or visit our Web site at [www.arlingtonwa.gov](http://www.arlingtonwa.gov).

## Where Should I Target My Conservation Efforts?

Average daily consumption for a single family in Arlington in 2011 was 152 gallons. This increases to about 252 gallons during peak usage. The biggest slice of the water pie is outdoor use. Indoors, fixing leaks is like picking low-hanging fruit. Then focus on your toilets, clothes washer, and shower. See our web site for conservation ideas.



Single Family Water Use (gallons) on a Warm Summer Day, 2011

