

Annual Water Quality Report



Report for 2015

PW ID WA207508

Prepared July 2016

Our Results

The results of monitoring in 2015 are shown in the table below. These results are parameters regulated by federal and state agencies. For other water quality information please contact the Public Works Department. We can also send you a list of the more than 200 compounds for which we tested for but did not find in our drinking water supplies. Water quality data for non-regulated parameters, such as

pH, alkalinity, hardness, and conductivity, are also provided on SPU's website: http://www.seattle.gov/util/MyServices/Water/Water_Quality/WaterQualityAnalyses/index.htm.

Water quality monitoring data can be difficult to interpret. To make all the information fit in one table we use many acronyms that are defined below the table.

2015 Water Quality Monitoring Results						
Detected Compounds	Units	EPA's Allowable Limits		Levels in Tolt Water		Typical Sources
		MCLG	MCL	Average	Range	
Raw Water						
Total Organic Carbon	ppm	NA	TT	1.5	1.2 to 1.8	Naturally present in the environment
Cryptosporidium*	#/100L	NA	NA	ND	ND	Naturally present in the environment
Finished Water						
Turbidity	NTU	NA	TT	0.07	0.04 to 1.4^	Soil runoff
Arsenic	ppb	0	10	0.6	0.4 to 0.7	Erosion of natural deposits
Barium	ppb	2000	2000	1.3	(one sample)	Erosion of natural deposits
Bromate	ppb	0	10	0.4	ND – 2	By-product of drinking water disinfection
Chromium	ppb	100	100	0.2	ND to 0.24	Erosion of natural deposits
Fluoride	ppm	4	4	0.8	0.7 to 0.9	Water additive, which promotes strong teeth
Nitrate	ppm	10	10	0.10	(one sample)	Erosion of natural deposits
Selenium	ppb	50	50	ND	ND	Erosion of natural deposits
Uranium	ppb	0	30	ND	ND	Erosion of natural deposits
Total Trihalomethanes	ppb	NA	80	43.1	32.6-67.7	By-products of drinking water chlorination
Haloacetic Acids(5)	ppb	NA	60	43.9	35.7-59.9	
Chlorine	ppm	MRDLG =4	MRDL = 4	Average = 0.92 Range = 0.72 -1.06		Water additive used to control microbes

**Cryptosporidium* was not detected in any samples from the Tolt supply (10 samples). It was detected in 2 of 9 samples from the Cedar supply. This monitoring is not required for the wells.

^On December 29, 2015, turbidity for the Tolt supply exceeded 1.0 NTU for about 17 minutes. *Turbidity has no health effects, however, it can interfere with disinfection and provide a medium of microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.* Customers did not need to take any action at the time, as mentioned in the previous mailing. Your water was and continues to be safe to drink.

Definitions

1 ppm = 1000 ppb

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.

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 Unit* - Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2015 is 5 NTU, and for the Tolt it was 0.3 NTU for at least 95% of the samples in a month. 99.96% of the samples from the Tolt in

December 2015 were below 0.3 NTU. 100% of the samples for the remainder of the year were below 0.3 NTU.

ppb: *1 part per billion = 1 ug/L = 1 microgram per liter*

ppm: *1 part per million = 1 mg/L = 1 milligram per liter*

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



Lead and Copper Information

There is no detectable lead or copper in the source of Duvall's drinking water. However, lead is a serious contaminant and can be found in the water of some homes due to older plumbing.

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 Duvall is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. 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 www.epa.gov/safewater/lead.

Simple Ways to Protect Your Drinking Water

Here are a few simple things you can do to protect your water if you have plumbing with lead components:

1. If you haven't used your water for over 6 hours, run the tap for two minutes before drinking or cooking with it. Don't forget to save! The water you run to flush your pipes can be used for watering plants or doing the dishes.
2. Always use the COLD water tap for drinking and cooking - lead dissolves more quickly in hot water. Never make baby formula or other drinks or food for children from the HOT water tap.
3. Be sure to select low-lead or no-lead plumbing fixtures. Since January 2014 manufacturers can have only 0.25% lead in a fixture, reduced from 8% previously.

Lead and copper monitoring results (Tolt WSA)

Parameter and Units	MCLG	Action Level+	2014 Results*	Homes Exceeding Action Level	Source
Lead, ppb	0	15	2.9	0 of 50	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.16	0 of 50	

* 90th Percentile: i.e. 90 percent of the samples were less than the values shown.
+ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Contaminants we look for

In order to ensure that tap water is safe to drink, the Environmental Protection Agency and/or the Washington State Board of Health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and/or the Washington State 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Since both watersheds are publicly owned, SPU is able to vigorously protect its watersheds through a comprehensive protection program. This program prohibits agricultural, industrial, and recreational activities in the watersheds, and no one is allowed to live there. This means there is little opportunity for contaminants to enter the water. Even so, there is always some potential for natural sources of

contamination. In Seattle's surface water supplies, the potential sources of contamination include:

- Microbial contaminants, such as viruses, bacteria and protozoa from wildlife;
- Inorganic contaminants, such as salts and metals, which are naturally occurring; and
- Organic contaminants, which result from chlorine combining with the naturally occurring organic matter.

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. Environmental Protection Agency/ Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800.426.4791).

Water System Information

Duvall purchases all of its water from Seattle Public Utilities (SPU). SPU provides many cities and water districts with water to supply their customers from the Cedar and Tolt River Watersheds. All of Duvall's high quality water comes from the Tolt water supply.

The Tolt River Watershed is located in the foothills of the Cascades in east King County. It supplies about 30% of the drinking water for 1.4 million people in the greater Seattle area.

The Tolt Reservoir captures water and snow from the Tolt watershed. Most of this water is released from the dam directly to the South Fork Tolt River. A portion of the water is drawn through penstocks to a small hydroelectric facility one thousand feet below. There it enters a small body of water called the regulating basin. The water then continues its journey, all by gravity, to the Tolt Water Treatment Facility.

Community Participation:

You are invited to participate in our public City Council meetings and voice any concerns or suggestions you have about your drinking water. The City Council meets the 1st and 3rd Tuesdays of each month at 7:00 p.m. at the Riverview Educational Service Center, 15510 - 1st Avenue NE, Duvall.

Rate Assistance Program:

For those of our customers who are struggling with financial hardship, we're committed to providing rate assistance. For more information about the program contact the Utility Billing Clerk.

Water Rates Pay For:

- Protecting the safety and security of the water supply system.
- Operation of a state-of-the-art water treatment facility.
- Daily testing to maintain drinking water quality.
- Two covered water storage reservoirs.
- Maintaining and repairing water pipelines, fire hydrants, water service connections, and other water facilities.
- Providing services to help customers manage their bills and resolve problems.

Making Sure This Report Reaches Our Customers

The Environmental Protection Agency (EPA) has informed water providers that having this report available on the City website meets delivery requirements as long as customers are notified of this option and those who would like a paper copy can request one. The City has decided to provide it in this way to conserve paper and save printing and mailing costs. If you would like to provide feedback about the delivery method, please send an email to sara.ruhland@duvallwa.gov or call our Water Quality staff at 425.788.3434 ext. 8043.

City of Duvall Contacts:

Utility Billing: 425.788.1185 Public Works: 425.788.3434

www.duvallwa.gov

Safeguards

Protected Watersheds

SPU operates two mountain watersheds supplied by rainfall and melting snowpack. SPU owns or controls over 100,000 acres of watershed that are closed to general public access. These watersheds are protected from fire, toxic spills, invasive species, and human disturbance.

Testing and Treating

SPU tests and treats your water. SPU's expert testing and system engineering staff is committed to keeping your water clean - it's even more heavily regulated than bottled water. Samples are tested from the region between 10 and 100 times per day. Key points within the distribution system, including our Tolt and Cedar River drinking water treatment facilities, are monitored 24/7.

Corrosion Control

Since 2003, SPU has optimized the chemical balance of your water to lessen pipe corrosion. This process reduces the potential for contaminants to leach into the water, which is possible in homes with lead solder.

Managing Supply

SPU's water sources include three deep wells to meet peak summer demand or for emergencies.

Infrastructure

SPU builds infrastructure that stands up to extreme weather. The new Chester Morse Lake pumping plant helps them meet supply needs during droughts and the Tolt Water Treatment Facility filters sediment after extensive flooding.

Predicting and Preventing Leaks

Our water system's leakage rate is 25 - 50% lower than the national average, thanks to our proven method for predicting pipe and valve failure in our system's 39 miles of pipe and ~2,586 connections.

Celebrating Conservation

You play a key part in the water supply, conserving when necessary and installing low-flow toilets, efficient washers, and smart irrigation systems. The City thanks you for doing your part to conserve.

Water Conservation

Summer means warmer, drier days around Puget Sound. You can take steps to prepare your garden for the warm summer days ahead.

- Create healthy soil by adding compost to make healthy plants that require less water.
- Add two to three inches of woodchip mulch to shrub and tree beds. Adding mulch helps hold moisture and reduces the need for watering.
- Plant new plants in the spring or fall.



- Give your plants just the right amount of water, visit the Saving Water Partnership webpage for tips and more detailed information.
- Irrigate with a rebate. For in-ground irrigation systems, purchase a WaterSense irrigation timer and receive a \$100 rebate.

More tips, rebates and information available here: www.savingwater.org.

Using Water Wisely Helps Salmon

Feel proud when you conserve water - you're saving money on your water bill and keeping more water in the rivers and streams for salmon. It's especially important to use water wisely in the summer and fall months, when stream flows are lowest. Your actions help protect precious freshwater habitat for salmon and other species that live in and around our streams.

Witness your work when salmon make their annual migration home to our local streams this summer and fall. Starting this July, find out when and where the fish are returning by going to www.kingcounty.gov/salmon and clicking on "Salmon SEEs on."

It's Spring! Time to **Spruce Up** Your Sprinkler System



Go with a Pro

certified by a WaterSense labeled program who can

Design

a water-efficient irrigation system

Install

a system to meet your landscape's needs



Repair

and maintain your system

Audit

your system for efficiency



epa.gov/watersense/outdoor

Don't flush trouble

Don't flush trash

Use a trash can instead of the toilet to dispose of used wipes, hygiene products and other items that don't break down like toilet paper. Even if the label says "flushable", wipes and other trash can build up in the sewer system and cause overflows that might damage property, hurt the environment, or make people sick.

Wipes, trash and debris are a costly problem for our city and other local sewer agencies, too. There's increased cost for system operation and maintenance. Plus, putting the wrong things down sinks and toilets might also cause expensive plumbing problems in your home or business.



Don't flush grease

When grease is washed down the drain, it sticks to the inside of sewer pipes (both on your property and in the streets). Over time, it builds up and can block an entire pipe.

Garbage disposals do not keep grease out of the pipes, they only shred it into smaller pieces. Commercial additives, including detergents that claim to dissolve grease, may pass it down the line and cause problems away from the source.

Maintain your side sewer

Every property has one sewer pipe that connects the building(s) to the larger sewer and treatment system. Side sewers could be made out of iron, plastic or concrete depending on the age of the home or buildings - maintenance is the property owners responsibility.

To prevent side (lateral) sewer problems know your pipe – where it is located, how old it is and any known tree root problems. Maintain your side sewer by not flushing garbage or rinsing grease down drains, and by planting trees and shrubs with low root damage potential.



Grease going down the drain can cause serious problems in our sewers and your house drains and side sewer. Photo courtesy of King County

Always call 811 before you dig!

Helpful Tips:

When buying a new house always get a side sewer inspection.

If you are remodeling or landscaping make sure you know where the side sewer is first!

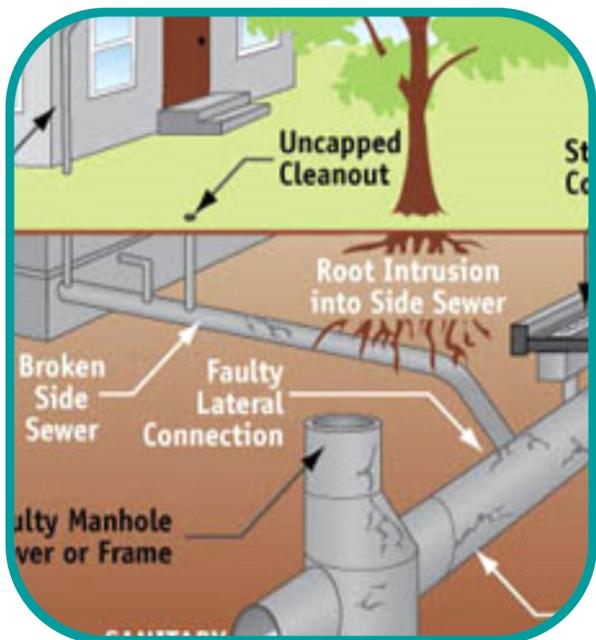
Know the 24-hour emergency contact for the City of Duvall sewer utility for issues with odors or overflows.

Know how old your sewer line is and the condition it is in. Plan to have it eventually replaced if it has cracks and leaks. The farther ahead you plan the more options you have for replacement and maintenance and the less chance of an emergency overflow or broken pipe. Check with the city for permitting questions.

Contact Information:

Public Works: 425.788.3434

After Hours Emergency Contact: 425.419.3748



A side sewer connects the house to the local sewer line in the street. Maintenance of a side sewer is the property owner's responsibility. Image courtesy of King

Hint: Slow drains and / or sewer odors can indicate a side sewer project

A Healthy Watershed is Everyone's Business

Illicit Discharge Hotline (to report spills)

Phone: 425.939.8042

After Hours: 425.419.3748 (Emergency Only)

Non-emergency information may also be emailed to stormwater@duvallwa.gov.

An illicit discharge to a stormwater system is the discharge of pollutants or non-stormwater materials to storm systems via overland flow or direct dumping of materials into a storm drain. Some examples of illicit discharges include dumping motor oil, antifreeze or paint in or around a street or storm drain.

? Did You Know ?

That the dirty soap and grim from parking lot or driveway car washes flows down storm drains directly - untreated - into our local streams, rivers, and eventually to Puget Sound?

Have a dirty car? Take it to a commercial car wash or look for a Clean Bay Car Wash fundraiser.

Want to host a car wash fundraiser? Sell commercial car wash coupons instead or rent a "Bay for a Day" at a self-serve car wash that is hooked up to sanitary sewer.

Things you can do

1. Slow the flow of storm water and let the rain soak in:

Heavy storms and flash floods send rushing water into creeks and lakes. That fast moving water erodes the natural system by dumping debris and pollution, eroding banks, destroying plants.

2. Keep it clean and prevent pollution at its source:

Storm water run-off carries oil and grease, fertilizers, pesticides and other toxic chemicals that collect on our roads, rooftops and property.

3. Replant and restore native trees, plants and in-water habitat:

Salmon and wildlife need cool healthy waters. Good creek habitat includes gravel and woody debris with shade from stream side native shrubs and trees. In addition, barrier-free streams allow salmon to reach all available habitats for spawning and rearing. Good river and other water shoreline habitats has gentle, unarmored slopes with trees and shrubs overhanging the water.



Cross Connection Control Program

What is a Cross Connection?

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source. A cross connection exists whenever the drinking water system is or could be connected to any non-potable source (plumbing fixture, equipment used in any plumbing system). Pollutants or contaminants can enter the safe drinking water system through uncontrolled cross connections when backflow occurs.

There are two types of backflow: backsiphonage and backpressure. **Backsiphonage** is caused by a negative pressure in the supply line to a facility or plumbing fixture. **Backpressure** can occur when the potable water supply is connected to another system operated at a higher pressure or has the ability to create pressure.

Common Household Hazards:

- Chemical Spray Applicators
- Submerged Hoses
- Underground Lawn Irrigation Systems

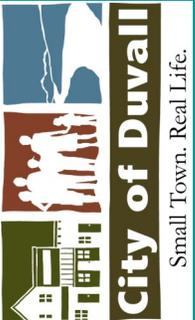
Backflow preventers are mechanical devices designed to prevent backflow through cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements.

Backflow assemblies fail for a variety of reasons. That's why state law requires them to be tested annually by a certified backflow assembly tester (BAT) - to ensure that the assemblies will function if there is a backflow event.

The City maintains a database of assemblies installed throughout the city. We monitor all testing and send customers an annual reminder notice. Your efforts in performing required testing is essential in protecting your drinking water.

For more information or to submit a report you can email CoDbackflow@duvallwa.gov.





City of Duvall

Public Works Department

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www.duvallwa.gov