

City of **Tumwater**, Washington | 2013

Water Quality Report

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A Message from the Mayor

It is my pleasure to offer you the City of Tumwater's annual Water Quality Report. The report details water quality sampling results collected during 2012. I am proud to announce that, once again, our drinking water is of excellent quality. The dedicated City staff who operate and maintain your water system continually strive to ensure that the water delivered to your tap is of the highest quality possible.

Water system investments are one of the ways we ensure our customers have access to clean, safe potable water into the future. Replacement of water mains along Sapp Road, Rural Road, and Linwood Avenue will take place during the summer of 2013. Although construction will be inconvenient for those who live and drive through the area, this \$1.6 million project will not only upgrade old and under-sized water mains, it will also improve service by equalizing water pressures throughout this area, and save significant dollars in annual energy costs by making operation of the water system more efficient.

Tumwater's water utility service operates as a business—fees for services must pay for expenses. Policies for late payment notices and penalty fees changed this year in an effort to transfer the real cost of shut-off service to chronically delinquent customers. This helps keep costs lower for all water customers.

The City's Wellhead Protection Plan will be updated in 2013, outlining future actions to protect our water resources. The City is working with the U.S. Environmental Protection Agency and Washington State Department of Transportation to protect the Palermo wellfield from contamination and ensure a safe water supply from our wells for years to come.

Please take a moment to review this annual summary of water quality monitoring. We've also provided information on how we can all work together to protect, preserve and conserve our water resources. If you have any questions regarding our water system, including additional ways that we can help you conserve water around your home or business, please call 360-754-4140.



I am proud to announce that, once again, our drinking water is of excellent quality.
—Pete Kmet, Mayor

Water Conservation Devices Available to Tumwater Customers

Free Indoor and Outdoor Water Saving Kits

Indoor kits:

High-efficiency shower head, faucet aerators and toilet leak detection tablets.

Outdoor kits:

Heavy duty adjustable hose nozzle and watering gauge.

Limit 1 kit of each type per household. Bring your bill or account # to Tumwater City Hall. See below for more info.



Free Hose Timers

For those who water their lawns with a hose and sprinkler, these hose timers will shut off automatically to save you water and money. They are simple to use and connect to any standard outdoor hose bib.

Limit 1 per household. Bring your bill or account # to Tumwater City Hall. See below for more info.

Free Smart Watering DVD (Irrigation Systems)



Get sprinkler savvy! *Beautiful Landscapes through Smart Watering* will help you learn to maintain a beautiful yard and keep your water bill to a minimum.

First 100 customers only. Bring your bill or account # to Tumwater City Hall. See below for more info.

Rain Barrel \$10 Rebate

Collect rainwater for reuse in your home and yard. Rebate valid for up to six barrels per household.



Rebate forms available at Tumwater City Hall, Public Works counter or visit www.ci.tumwaterwa.us/waterrebates.html.

High-Efficiency Toilet Program



Tumwater customers could receive help replacing older non-efficient toilets *with flush volumes of three gallons or higher*:

- Residential customers can get vouchers or rebates for new toilets.
- Institutional, commercial or multi-family customers can receive high-efficiency units when ordered through our Water Resources Division.

WashWise Program

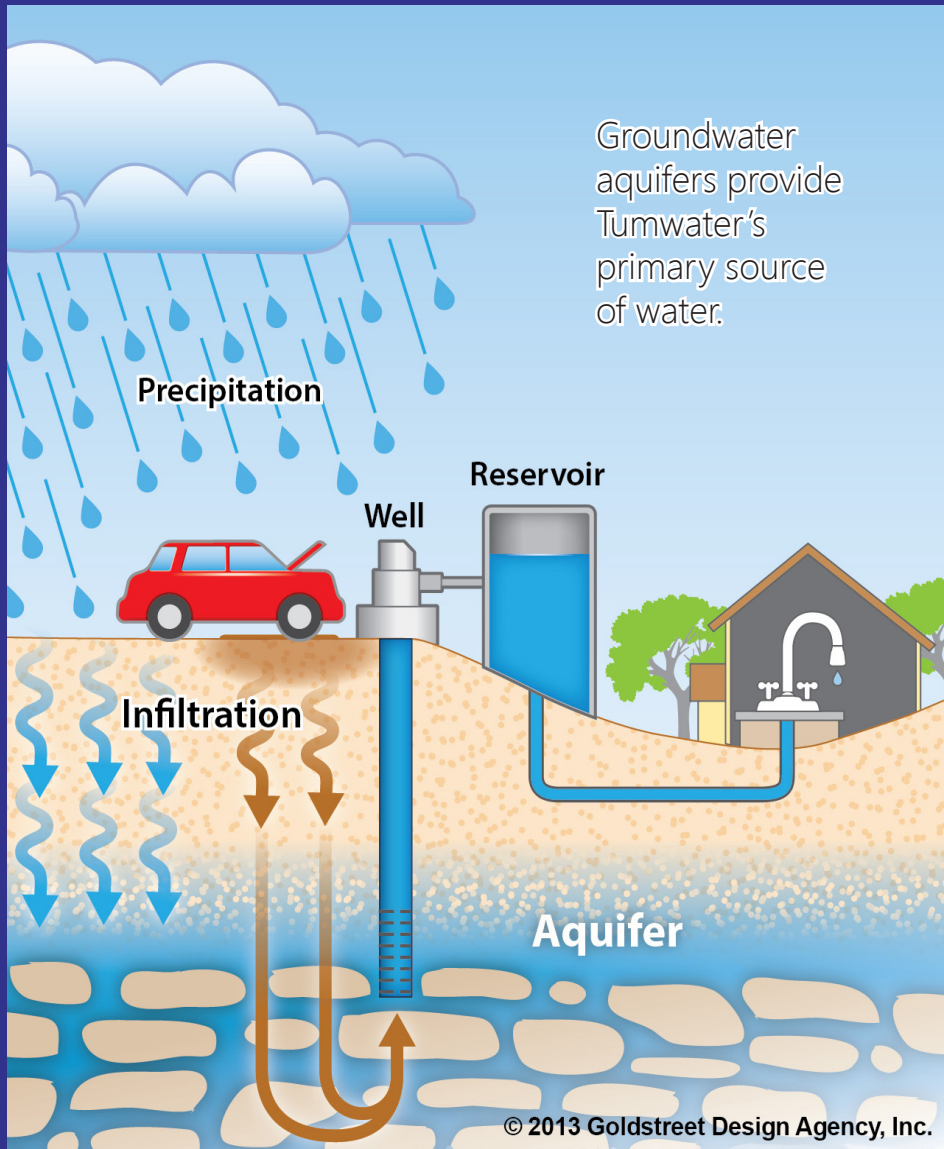


Tumwater/LOTT Clean Water Alliance sewer customers can receive a \$50 rebate on the purchase of a qualified high-efficiency washing machine.

Details and forms for toilet replacement and washing machines at www.lottcleanwater.org/rebates.htm

Available to Tumwater utility customers only. To learn about additional water conservation rebates and other money-saving programs, or to find out if you qualify, please contact Tumwater Water Resources at 360-754-4140. Pick up your water conservation devices at Tumwater City Hall, Public Works Counter (in basement), 555 Israel Road SW, Monday through Friday (except holidays), 8 a.m. to 5 p.m., and start saving water today!

Where does your water come from?



Our Primary Resource

As a Tumwater utility customer, the water that comes out of your tap comes from groundwater sources. Groundwater is located beneath the Earth's surface in spaces between layers of sand and gravel, called aquifers. Groundwater is withdrawn by wells and treated before being delivered through a pressurized system to your household taps. The City of Tumwater maintains 12 wells to ensure an adequate water supply for customers.

Recharging Groundwater

Groundwater is recharged through rainfall and surface water. Like surface water, groundwater can become polluted. The City of Tumwater rigorously tests its water supply to ensure high quality, but there are steps you can take in your home and business to reduce the possibility of contaminating groundwater.

To Protect Groundwater

- **Fertilizers**—Use organic, slow-release fertilizers in your yard, and carefully follow package instructions.
- **Yard Chemicals**—Eliminate or limit the use of pesticides and herbicides in your yard. Plant native vegetation which is disease and pest resistant.
- **Fix Vehicle Leaks**—Check your vehicles for leaks and fix them promptly.
- **Pet Waste**—Bag pet waste and place in trash.
- **Septic Systems**—If you have a septic system, have it inspected annually and pumped every 3-5 years.
- **Hazardous Chemicals**—Dispose of oil-based paint, motor oil, glue, solvents and cleaning supplies properly. Bring hazardous household products to the **Hazo House, 2418 Hogum Bay Road, Lacey, WA**. Disposal is FREE for Thurston County residents.

Get Involved!

Tumwater Stream Team helps protect and enhance the water resources and associated habitats and wildlife through citizen education and action.

Tumwater Stream Team volunteers plant native trees and shrubs along the Deschutes River and Percival Creek, mark storm drains, monitor local water quality and educate area residents about water quality issues.

For information about upcoming events, or to be added to the Stream Team mail or email list, go to www.streamteam.info. To contact your local Tumwater Stream Team coordinator, call Debbie Smith at call 360-754-4148.

www.streamteam.info



Our Drinking Water Quality is Excellent

The City of Tumwater tests your water supply for more than 100 different substances. In 2012, drinking water quality in Tumwater was excellent, and our water supply continues to meet or exceed all drinking water standards!

What We Look For in Your Water

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic analytes, such as salts and metals, can occur naturally in soils or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, coming from a variety of residential and agricultural sources, can easily infiltrate into the groundwater if over-applied or used incorrectly.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum products. They can also come from gas stations, dry cleaners, urban stormwater runoff and septic systems.
- Radioactive contaminants that are naturally occurring or the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the EPA and the Washington State Department of Health regulate the maximum allowable amount of

certain substances in water provided by public water systems. The U.S. Food and Drug Administration and/or Washington State Department of Agriculture regulations establish limits for contaminants in bottled water, which provide the same level of protection.

Drinking water may reasonably be expected to contain at least small amounts of some substances. The presence of a minute amount of a contaminant does not necessarily indicate that water poses a health risk.

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

For more information about groundwater, drinking water and possible contaminants including cryptosporidium and other microbial contaminants, and potential health effects, visit www.epa.gov/water, or call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Chemical and Bacteriologic Testing Results

Nitrates – Routine testing for nitrates, a chemical compound commonly found in residential areas using septic tanks and in agricultural areas with livestock or using fertilizers, revealed levels of nitrates well below the Maximum Contaminant Level Goal (MCLG) of 10 ppm. Reducing the use of fertilizer and properly maintaining septic tanks helps lower nitrate levels.

Bacterial – The City conducts sampling for bacterial presence throughout the water system 30 times each month. Coliform bacteria is an indicator that conditions may be present that are conducive to growth

of bacteria in the system. **There were no detections of bacteria during the 2012 sampling program.**

Disinfectant By-Products – As a disinfected system, the City is required to sample the groundwater for disinfectant by-products (DBPs) quarterly. DBPs are the by-product of chlorine reacting with naturally occurring organic matter in the distribution system. In 2012, the City detected trace amounts of DBPs at levels far below the EPA's level of concern for drinking water.

Who Monitors Your Water?

U.S. Environmental Protection Agency (EPA) sets national standards for more than 100 potential drinking water contaminants under the Safe Drinking Water Act. Visit the EPA's drinking water web site, www.epa.gov/safewater, or call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Washington State Department of Health (DOH) enforces national and state health standards. The Southwest Regional Drinking Water Office can be reached at 360-236-3030.

Washington State Department of Ecology (DOE) enforces national and state environmental standards. Contact the DOE Southwest Region Office 24-hour Hotline at 360-407-6300 to report a spill.

Tumwater Public Works Department operates the water system, conducts water quality testing and protects the City's water supply. Contact Public Works maintenance at 360-754-4150 or Water Resources at 360-754-4140.

Food and Drug Administration (FDA) and the WA Department of Agriculture establish limits for contaminants in bottled water that must provide the same protection for public health.

Customers provide insight on water quality. Your questions, concerns and observations are valuable to us. To learn more about current water quality issues and decision-making processes, make comments or ask questions, contact Water Resources Program Manager Dan Smith at 360-754-4140.

Definitions

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water, below which there is no known 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 MCLG as feasible using the best available treatment technology.

Non-Acute Violation: An exceedence of state regulations that poses a possible or less than immediate risk to human health.

Parts Per Million (ppm): Parts per million is equivalent to milligrams per liter (mg/L). One ppm is approximately equal to 1 drop in 22 gallons of water.

Water Quality Table

Your drinking water comes from wells located throughout the City and the immediate vicinity. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals as well as substances left by animals or humans. Because our soils are very sandy in most areas, contaminants may travel quickly and easily through groundwater to city wells. Contaminants that may threaten human health are regulated.

The EPA has set safety limits, called the MCL and the MCLG (see previous page for definitions), for numerous compounds considered harmful to humans. Municipal water systems are required to disclose levels detected, no matter how low, for all of these chemicals. The table below shows the regulated compounds detected between 2010 and 2012. All samples were well below legal limits.

Primary Standards Regulated by EPA						
	Allowed Level (MCL)	Ideal Goal (MCLG)	Amt Detected/ Range of Detections	Sample Date	MCL Violation	Typical Source of Contamination
Total Coliform Bacteria	1 positive sample/mo.	0	No Detections (ND)	2012	No	Contamination from mammals naturally present in the environment
Nitrate as Nitrogen	10 ppm ¹	10 ppm	0.74 - 1.76 ppm	Oct 2012	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion from natural deposits
Total Trihalomethanes	0.080 ppm	N/A	ND - 0.0052 ppm	2012	No	Reaction of chlorine with naturally occurring organic matter
Total Haloacetic Acids	0.060 ppm	N/A	ND - 0.0011 ppm	2012	No	
Chlorine Residual	4.0 ppm	Detectable amt. of 0.05 ppm or higher	ND - 0.72 ppm	2012	No	Chlorine is used as a disinfectant in the water treatment process
Secondary Standards Regulated by EPA						
Chloride	250 ppm	N/A	3.6 - 4.1ppm	2010	N/A	Naturally occurring in environment; geology, natural weathering
Sulfate	250 ppm	N/A	2.9 - 4.8ppm	2010	N/A	Naturally occurring in the environment
State Regulated						
Turbidity	1.0 NTU ³	N/A	ND - 0.14 NTU	2010	N/A	Naturally occurring in the environment
Sodium	20 ppm	N/A	5.88 - 6.95 ppm	2010	N/A	
Hardness	N/A	N/A	45.0 - 70.1 ppm	2010	N/A	
Conductivity	700 µS/cm ⁴	N/A	127 -177 µS/cm	2010	N/A	
Lead and Copper (Taken at Customer Tap)						
	Action Level (AL)	Amount Detected	Sites above Action Level (AL)	Range	Sample Date	Typical Source of Contamination
Copper	1.3 ppm	90% of homes tested had levels less than .034 ppm	Zero sites above AL (31 sites sampled)	0-0.62 ppm	2010 (taken every 3 years)	Corrosion of household plumbing
Lead	15 ppb ⁵	90% of the homes tested had levels less than 9 ppb	One site above AL (31 sites sampled)	0-25 ppb		
¹ ppm = parts per million ² pCi/L = picocuries per liter ³ NTU = Nephelometric Turbidity Unit ⁴ µS/cm = microsiemens per centimeter ⁵ ppb = parts per billion						

Frequently Asked Questions

Does Tumwater test for lead in the water?

The source of Tumwater's drinking water, groundwater, does not contain lead. The City of Tumwater is required to test our water supply for lead at the household tap every three years, testing representative samples from older Tumwater residences. From the last test in 2010, lead levels at the household tap were under the action level threshold for all but one residence. (See table at left.)

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children.

To help reduce potential exposure to lead: for any drinking water tap that has not been used for six hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes or general cleaning. Only use water from the cold water tap for drinking, cooking and, especially, making baby formula. Hot water is likely to contain higher levels of lead.

If you are concerned about the level of lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline at www.epa.gov/safewater/lead or 1-800-426-4791.

If your home was built prior to 1986 and you would like to be considered as a testing site for the City of Tumwater lead testing in 2013, contact Tim Wilson, Water Resources Specialist, at 360-754-4140. Testing is available to a limited number of homes and businesses each year at no charge.

Does the City of Tumwater fluoridate or chlorinate its tap water?

- The City of Tumwater **does not add fluoride** to its water, and there are no plans to do so in the future.
- The City of Tumwater does add a small amount of sodium hypochlorite to safeguard its water supply from any possible bacterial contamination. To minimize the taste and smell of chlorine in drinking water, keep an open pitcher of tap water in the refrigerator. Any residual chlorine will dissipate.

Is our water "hard" or "soft"?

The City of Tumwater has moderately hard water. Hard water just means that there are minerals, commonly magnesium and/or calcium, present in the water. These minerals are harmless to humans, but can leave water spots on wet household surfaces. To remove hard water stains, the safest effective cleaner is a mild household acid, such as vinegar or lemon juice.

Try these tips:

- To keep a coffee maker running smoothly, add a cup of vinegar to the empty coffee carafe. Finish filling carafe to the full mark with cold water and run it through a cycle (without the coffee, of course!)
- For a clogged shower head, soak the shower head overnight in a solution of half vinegar/half water. Put the solution in a sturdy plastic bag and attach it to the shower head with a rubber band. Soak overnight, then scrub with an old toothbrush.
- For showers, bath tubs and sinks, make a paste of half baking soda/half vinegar in a bowl (make sure the bowl is big enough, the mixture will bubble up a bit). Apply the mixture to affected areas. Let sit for 15 minutes for stubborn stains. Scrub with a toothbrush and rinse. If stains persist, rub with lemon juice on a sponge.
- To clean the toilet bowl, sprinkle with baking soda then add vinegar. Let sit 15 minutes, and scrub with a toilet brush. For stubborn rings, use the baking soda and vinegar paste method.
- To keep surfaces, such as glass shower doors, spot free, mix half vinegar/half water in a clean spray bottle. Spray surfaces lightly with the mixture daily.
- For more safe household cleaning tips, go to www.ecy.wa.gov/ToxicFreeTips.

Water Conservation

The City of Tumwater is committed to the efficient use of our water resources. Conserving resources reduces cost and is better for the environment. For 2010-2015, the City Council established a water conservation goal that would reduce consumption from 2010 levels by 110,280 gallons per day by the end of 2015. **Since 2010, water use has been reduced by more than 85,339 gallons per day!**

Protect water resources with **FREE** pet waste bags and neighborhood waste stations!



FREE neighborhood pet waste stations, call Debbie Smith at 360-754-4148.



FREE on-leash dog waste bag dispensers are available to Tumwater residents at Tumwater City Hall, Public Works counter.