Seattle Public Utilities

Water Wonderful

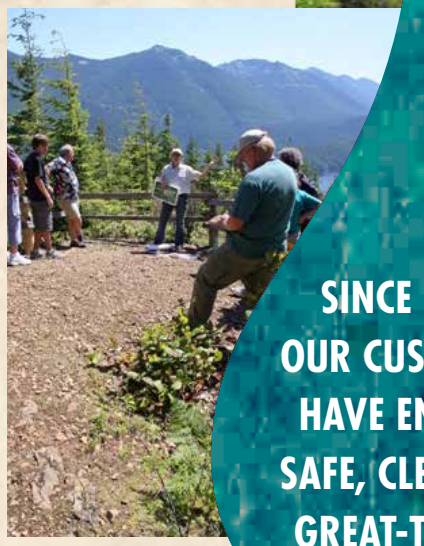
DRINKING WATER QUALITY REPORT 2014

Cedar River Watershed

Experience your beautiful watershed up close.

Over 100 years ago, Seattle built a water system based on the belief that high-quality, always-available water was essential for our city to grow and thrive. Your water comes from two mountain watersheds with over 100,000 protected acres. Seattle is one of only six cities in the U.S. with such a highly protected water supply.

When you know more about your water system, you're more likely to conserve and appreciate it. A short drive up I-90 to the Cascades brings you to one of our protected watersheds. Starting at our Cedar River Watershed Education Center, you and your family can join a tour and experience the beauty of old growth forests, waterfalls and awesome views.



SINCE 1901, OUR CUSTOMERS HAVE ENJOYED SAFE, CLEAN AND GREAT-TASTING WATER.

WHILE THE WATERSHED IS CLOSED TO UNSUPERVISED PUBLIC ACCESS, WE OFFER GUIDED TOURS AND EVENTS THROUGHOUT THE YEAR.

Watershed signature tours
2.5-hour tour of spectacular scenery, a masonry dam and historic townsite

Cultural/natural history tours
Railroad history, towns of the watershed, owls and woodpeckers, fungi of the forest

Family watershed tour
1-hour tour suitable for the whole family

Family-friendly tours
Winter weekends, salmon journey, junior and knee-high naturalists, Mother's Day

Visit **www.seattle.gov/util/crwec** for more detailed information.

HELP KEEP OUR WATER FLOWING.

With all the talk about water shortages, you might be wondering how our water supply is doing. The answer is: great! Despite a nearly record low snowpack, our reservoirs were almost full going into the summer.

That's because we adjusted our operations to account for lack of snow. We pay daily attention to the water supply situation, using advanced modeling tools to help guide our decision making. We filled our reservoirs more than usual during winter flood management season, balancing added storage against municipal supply needs, flood management, river flows for fish and hydropower generation, and continue to fill our reservoirs with rainfall instead of snowmelt throughout the spring.

Having enough water requires everyone's help. Our customers are our conservation partners: helping with the big things, like not overwatering lawns, to the little ones, like turning off the water when you brush your teeth.

To encourage more efficient water use, the Saving Water Partnership (SWP)—SPU and its 18 water utility partners—also set a six-year conservation goal: reduce per capita use from current levels so that the SWP's total average annual retail water use is less than 105 mgd (million gallons per day) from 2013 through 2018 despite forecasted population growth. In 2014, our customers met this goal, using 93.8 mgd.

Out of the 44.3 billion gallons of treated drinking water produced in 2014, 2.7 billion gallons, or 6.1 percent, were lost to system leaks, meter inaccuracy, and non-metered uses. This loss rate is considered relatively low.

Julie Stonefelt
Senior Public Education Specialist

"As a watershed guide, it's my job to help people connect in a very immediate way with the source of their drinking water. I love watching visitors light up with amazement as they gaze out on wilderness as far as the eye can see and say things like, 'This is really where my water comes from?' It's a privilege to let them in on the secret that they are a part of this place every day, simply by using water."

Our watershed is essential for salmon and other wildlife.

Our reservoirs also provide vital water to the Cedar and Tolt rivers. Healthy habitat for salmon, trout and many other species depends on the quantity and quality of water in the streams that support them. Your continued actions to conserve water help ensure we'll have enough water to support freshwater habitat for generations to come.

How important is conserving water to you? Help us manage this precious resource by taking our water conservation survey at **www.savingwater.org** and enter to win a free home energy and water conservation kit. Are you looking for other ways to conserve? You can also find information there on rebates, conservation tips, videos on fixing leaks, efficient landscaping practices and other conservation resources.

DISCOUNTS ARE AVAILABLE ON UTILITY BILLS AND WATER-CONSERVING FIXTURES.

Income-qualified customers can save up to 50 percent on their Seattle Public Utilities and Seattle City Light bills through our Utility Discount Program. Call 206-684-0268 or go to **www.seattle.gov/mybill** to find out more. You may also qualify for free installation of efficient toilets, showerheads and faucet aerators. Call 206-448-5751 or go to **www.seattle.gov/util/freetoilets** to learn more.

WHAT'S THE COST OF A GLASS OF WATER?

Tests show that our water is as good as or better than premium bottled water with one budget-stretching difference. In 2014, the cost of Seattle water was a little less than a penny a gallon. Compared to the cost of a six-pack of bottled water, that's about 130 gallons of mountain-fresh water. What can you do with 130 gallons of water a day? That's like drinking nearly 1,400 12-ounce glasses of water, taking 13 five-minute showers* or flushing your toilet over 120 times.*

HOW WE'RE KEEPING DRINKING WATER AFFORDABLE.

Our 2015–2020 Strategic Business Plan focuses on projects that increase efficiency and water resiliency. This includes building a floating pumping plant at one of our main reservoirs, Chester Morse Lake, which will decrease operating costs and increase our ability to meet demand in most future weather cycles.

We're also finding ways to maintain the existing system more efficiently. One example is moving to a new, digital pipe inspection system that determines the condition of our 1,873 miles of pipes without having to dig them up.

**Based on WaterSense-labelled 2.0 gallon/minute low-flow showerheads and 1.06 gallon-per-flush toilets.*

Ralph Naess
Public and Cultural Programs Manager

"The Cedar River Watershed Education Center is your family's gateway to a fun and educational experience around your drinking water. See sweeping views of Rattlesnake Lake, experience native plant life in the Center's Rain Drum Garden and learn about how our water system will be sustainable for decades to come."

Michele Koehler
Acting Aquatic Resources Manager

"Our Strategic Business Plan keeps us on track to deliver enough water, more efficiently, with greater accessibility for all customers. Climate change analysis indicates a future with warmer and wetter winters in our region, much like this year. To adapt we will continue to reduce our reliance on a winter snowpack and transition to using rainfall to refill reservoirs."

Alex Chen
Director, Water Planning and Program Management Division

"Quality is about what comes out of the tap every time you turn it on. Does it meet or exceed all regulatory standards to protect your health? Does it taste and smell good? Quality is also about looking to the future. Can we ensure excellent quality at a reasonable price for our customers and for future generations? That's our goal."

What you need to know about supply and potential contaminants.

Two surface water sources provide the majority of water for our system. In 2014, about 60 percent was provided by the Cedar River. The remaining 40 percent came from the South Fork Tolt River. In addition to these Cascade Mountain watersheds, the system also has access to wells located in Burien. These wells are only used to meet peak summer demand and emergency supply and were not used in 2014.

Washington's Source Water Assessment Program is conducted by the Department of Health (DOH) Office of Drinking Water. According to DOH, all surface waters in Washington are given a susceptibility rating of "high," regardless of whether contaminants have been detected or whether there are any sources of contaminants in the watershed. The Seattle Wells have been given a susceptibility rating of "low" because of the type of aquifer, depth of well and lack of contaminant detection. Information on the source water assessments is available from the DOH website at **https://fortress.wa.gov/doh/eh/dw/swap/maps/**.

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.

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. Regulations by the Food and Drug Administration and/or the Washington State Department of Agriculture 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 them through a comprehensive watershed 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.
- 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 healthcare 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).

Our results

The results of monitoring in 2014 are shown in the table below. These results are for parameters regulated by the federal and state agencies. For other water quality information, please check our website or call 206-615-0827. We can also send you a list of the more than 200 compounds for which we tested but did not find in our surface water supplies, including unregulated contaminants.

Water quality monitoring data can be difficult to interpret. To make all the information fit in one table, we used many acronyms that are defined below the table. In Seattle, if you live south of Green Lake, your water probably comes from the Cedar River Watershed. Areas north of Green Lake usually receive Tolt River water. Each source can provide water to other areas in Seattle if needed.

		EPA'S ALLOWABLE LIMITS		LEVELS IN CEDAR WATER		LEVELS IN TOLT WATER		
DETECTED COMPOUNDS	UNITS	MCLG	MCL	AVERAGE	RANGE	AVERAGE	RANGE	TYPICAL SOURCES
RAW WATER								
Total Organic Carbon	ppm	NA	TT	0.9	0.4 to 1.9	1.3	1.1 to 1.7	Naturally present in the environment
Cryptosporidium*	#/100L	NA	NA	ND	ND	ND	ND	Naturally present in the environment
FINISHED WATER								
Turbidity (cloudiness)	NTU	NA	TT	0.4	0.2 to 1.6	0.07	0.05 to 0.28	Soil runoff
Barium	ppb	2000	2000	1.4	one sample	1.2	one sample	Erosion of natural deposits
Bromate	ppb	0	10	ND	ND	0.2	ND – 1.5	By-product of drinking water disinfection
Fluoride	ppm	4	4	0.8	0.7 to 0.8	0.8	0.7 to 0.9	Water additive that promotes strong teeth
Nitrate	ppm	10	10	0.02	(one sample)	0.11	(one sample)	Erosion of natural deposits
Coliform, Total	%	0	5	Highest Month = 1.3% Annual Average = 0.18%		Highest Month = 1.3% Annual Average = 0.18%		Naturally present in the environment
Total Trihalomethanes	ppb	NA	80	40	14 to 45	42	16 to 55	By-products of drinking water chlorination
Haloacetic Acids(5)	ppb	NA	60	39	17 to 53	33	20 to 41	
Chlorine	ppm	MRDLG = 4	MRDL = 4	Average = 0.85 Range = 0 to 1.7		Average = 0.85 Range = 0 to 1.7		Water additive used to control microbes

*Cryptosporidium was not detected in any samples from the Cedar or Tolt (out of three each).

LEAD AND COPPER MONITORING RESULTS					
PARAMETER AND UNITS	MCLG	ACTION LEVEL+	2013 RESULTS*	HOMES EXCEEDING ACTION LEVEL	SOURCE
Lead, ppb	0	15	3	0 of 50	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.10	0 of 50	

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

Although there is no detectable lead in our source water, tests show there are sometimes elevated levels of lead and copper in some samples, primarily because of corrosion of household plumbing systems. These results show that it is very important that homeowners, business owners and others be aware of their type of plumbing, and how the plumbing affects their drinking water quality.

The majority of homes have some risk of lead contamination in water that sits in pipes for longer than two hours. Where you live, when your plumbing was installed and what type of plumbing you have all play a part in determining your potential exposure level. SPU treats the water to minimize the tendency for lead to enter the water, and results show that we have been very successful at this.

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. SPU is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. 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 at **http://www.epa.gov/safewater/lead**.

Lastly, remember that drinking water is only a minor contributor to overall exposure to lead. Other sources, including paint, soil and food, also contribute.

DEFINITIONS

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 treatment technology.

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.

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

NTU: *Nephelometric Turbidity Unit*—Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2014 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95 percent of the samples in a month. 100 percent of the samples from the Tolt in 2014 were below 0.3 NTU.

NA: *Not Applicable*

ND: *Not Detected*

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

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

1 ppm =1000 ppb

For more information about your water, contact Seattle Public Utilities at **206-684-3000** or visit our website at **www.seattle.gov/util/waterqualityreport**. For conservation information, visit **www.savingwater.org**.

Seattle Public Utilities

Seattle Public Utilities
700 Fifth Avenue, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

PRESORTED
STANDARD
US POSTAGE PAID
SEATTLE, WA
PERMIT NO. 6000

Seattle water is clean, safe, and costs less than a penny a gallon.
For translation services please call 206-684-3000.

El agua de Seattle es limpia, segura y cuesta menos de un centavo el galón.
Para servicios de interpretación por favor llame al 206-684-3000.

Ang tubig sa Seattle ay malinis, ligtas, at naghahalaga ng wala pang isang sentimos ang bawat galon.
Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-3000.

Nguồn nước của Seattle sạch, an toàn và có giá chưa tới một xu một gallon.
Về dịch vụ phiên dịch xin gọi 206-684-3000.

씨애틀의 수돗물은 깨끗하고 안전하며 또한 저렴합니다.
통역 서비스를 원하시면 **206-684-3000**으로 전화하세요.

西雅圖的水乾淨、安全，每加侖成本不到一分錢。
如需要口譯服務，請撥電話號碼206-684-3000

Biyaha Seattle waa nadiif, waa amaan, qiimahana waa ka jaban yahay hal senti halkii galan.
Wixii turjubaan afka ah ku saabsan, Fadlan la soo xariir taleefoonka: 206-684-3000.

PLAN A TRIP TO YOUR WATERSHED.

You're receiving this report as part of a federal requirement for municipal water systems. This report costs about 29 cents to produce and mail to you.
Printed on 30 percent post-consumer, 100 percent recycled paper using soy-based inks.