2017 Consumer Confidence Report on Water Quality

This report contains important information about your drinking water. Please have someone translate this information for you, or speak with someone who understands it.

Этот отчет содержит важную информацию о питьевой воде. Пожалуйста, попросите кого-нибудь перевести эту информацию для вас, или говорить с кем-то, кто понимает.

Este informe contiene información importante sobre su agua potable. Por favor, que alguien traducir esta información para usted, o hablar con alguien que lo entienda.

這份報告包含有關飲用水的重要信息。請有有人為你翻譯這個信息, 或說話的人了解它。

Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng có một người nào đó dịch thông tin này cho bạn, hoặc nói chuyện với một người hiểu nó.

Rate discounts available for senior, disabled, and low income persons. Call us to learn more!

This Consumer Confidence Report is brought to you by Highline Water District and its Board of Commissioners:
Daniel Johnson (President), Kathleen Quong-Vermeire (Secretary), Todd Fultz, Vince Koester, and George Landon.
Contact us Monday through Friday from 7:00 am through 4:00 pm at (206) 824-0375 or customerservice@highlinewater.org
Visit us at 23828 30th Avenue South, Kent, Washington 98032 • www.highlinewater.org

Annual Water Quality Report for 2017

The water from Highline Water District is once again safely within state and federal guidelines for each and every contaminant, and is significantly below the EPA's required safety levels.

Where is Your Water Sourced?

In 2017, approximately 73 percent of Highline Water District's water came from Seattle Public Utilities (SPU) Cedar River Watershed. The remaining supply came from the following four groundwater wells owned and operated by Highline Water District:

- Des Moines Well (S02)
- Angle Lake Well (S03)
- Tyee Well (S04)
- McMicken Well (S10)

Water from these wells is directed to one of three treatment plants where it is filtered, treated and tested before it is blended with water from SPU.

How Are These Sources Protected?

To preserve the high quality of water that originates in the Cedar River Watershed, no recreational, agricultural and industrial activities are permitted in the area. According to the Washington State Department of Health (DOH), all surface water has been rated highly susceptible, but vulnerability for the Cedar River Watershed is low due to the protection afforded by Seattle Public Utilities (SPU's) Comprehensive Watershed Protection Plan.

Meanwhile Highline Water District's groundwater sources are protected by naturally occurring "confining layers" of material above the aquifer.

The protection afforded to the raw water quality by both the "restricted use" and "confining layers" is the primary reason the DOH classified these water sources as having "low vulnerability" to contamination. For a complete copy of their assessment, contact the regional DOH Drinking Water Office at (253) 395-6750.

How is Your Water Tested?

Your drinking water is tested frequently both by Highline Water District and Seattle Public Utilities to ensure that high quality water is delivered to your home. Last year your drinking water was tested for over 200 compounds and additional contaminates. Tests are done before and after treatment and while your water is in the distribution system.

Cedar River Watershed

The three Tables presented in this report list all of the contaminants detected in the most recent required water testing and compare them to the limits and goals set by the EPA and the State of Washington to ensure your tap water is safe. Not shown are more than 200 additional contaminants that were tested for, but not detected, in your drinking water. If you would like to see a list of these other compounds or if you have other water quality questions, do not hesitate to contact us.

Who Sets the Water Testing Standards?

Your drinking water is regulated by the Environmental Protection Agency (EPA), who sets drinking water quality standards, establishes testing methods and monitoring requirements for water utilities, sets maximum levels for water contaminants, and requires utilities to give public notice whenever a violation occurs.

How is Your Water Treated?

Although SPU's Cedar River source is aggressively protected, it goes through the following six step treatment process before reaching Highline Water District, to ensure that it is safe to drink:

- The water is screened to remove debris.
- Fluoride is added for dental health.
- Lime is added to control corrosion of plumbing materials.
- Ozone is added to disinfect the water.
- Water passes through Ultra Violet Light to destroy harmful organisms.
- Chlorine is added as a residual disinfectant.

continued

Meanwhile the water from Highline's four wells is treated at three facilities as follows:

- The water is passed through greensand filters to remove low levels of manganese and iron.
- Chlorine is added to provide a disinfection residual.
- Fluoride is added for dental health
- Sodium Hydroxide is added to control corrosion of plumbing materials.

Why is Your Water Tested?

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. As water travels over the surface of the land or through the ground, naturally occurring minerals and, in some cases, radioactive materials dissolve in the water. Water can also pick up substances resulting from the presence of animals or human activity. In Seattle's surface water supplies, potential contamination sources 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.

For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-(800)-426-4791.

Lead and Copper Monitoring Results

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.

Highline Water District 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.

Highline staff sampling water for testing

If you are concerned about the possibility of 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 at 1-(800) 426-4791 or at www.epa.gov/safewater/lead. You can also find information on lead on our website at www.highlinewater.org.

People With Special Concerns

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 Drinking Water Hotline at 1-(800) 426-4791.

If you would like to learn more about your water, or if you have questions about its quality, contact Highline Water District at (206) 824-0375.

Table 1: Water Quality Testing Results for 2017

Compounds that were not detected in 2017 are not included in these charts.

		EPA Allowed Limits		Levels in Source Water		
Detected Compounds	**Unit**	**MCLG**	**MCL**	**Average**	**Range**	**Typical Source of Compound**
RAW WATER FROM CEDAR RIVER WATERSHED (MEASURED BEFORE TREATMENT)						
Total Organic Carbon	ppm	NA	TT	0.8	0.3 to 1.5	Naturally present in the environment
Cryptosporidium*	#/100L	NA	NA	ND	ND	Naturally present in the environment
FINISHED WATER FROM CEDAR RIVER WATERSHED (MEASURED AFTER TREATMENT)						
Turbidity	NTU	NA	TT	0.3	0.2 to 2.5	Soil runoff
Arsenic	ppb	0	10	0.5	0.4 to 0.6	Erosion of natural deposits
Barium	ppb	2000	2000	1.7	1.4 to 1.9	Erosion of natural deposits
Bromate	ppb	0	10	0.04	ND to 1	Byproduct of drinking water disinfection
Chromium	ppb	100	100	0.27	0.25 to 0.33	Erosion of natural deposits
Fluoride	ppm	4	4	0.7	0.3 to 0.9	Water additive to promote strong teeth
Nitrate	ppm	10	10	ND	1 sample	Erosion of natural deposits
RAW WATER FROM HIGHLINE WATER DISTRICT'S DISTRIBUTION SYSTEM (MEASURED BEFORE TREATMENT)						
Trihalomethanes, Total	ppb	NA	80	27	15.9 to 49.3	Byproduct of drinking water disinfection
Haloacetic Acids (5)	ppb	NA	60	27	12.1 to 12.41	Byproduct of drinking water disinfection
Chlorine	ppm	MRDLG=4	MRDL=4	.93	0.18 to 1.69	Water additive used to control microbes
Coliform, Total	%	0	5%	ND	ND	Naturally present in the environment
FINISHED WATER FROM HIGHLINE WATER DISTRICT'S DISTRIBUTION SYSTEM (MEASURED AFTER TREATMENT)						
Nitrate	ppm	10	10	ND	3 samples	Erosion of natural deposits
Fluoride	ppm	4	4	0.63	0.45 to 0.95	Water additive to promote strong teeth

* Cryptosporidium was not detected in any samples from the Cedar River Watershed (3 samples each).

This table shows all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Upon request, we will provide you with a list of compounds we looked for but did not find.

Table 2: Water Quality Testing Results at Customer's Tap in 2017

Tested Compounds	Unit	MCLG	90th Percentile Action Level	90th Percentile	# of Homes Over Action Level	In Compliance	Typical Source of Compound
Lead	ppb	0	15	0.002	0	Yes	Corrosion of household plumbing
Copper	ppm	1.3	1.3	0.09	0	Yes	Corrosion of household plumbing

Annual Customer Survey About Water Conservation

Take the Water Conservation Survey on the Saving Water Partnership website and enter to win a free home water and energy-saving kit! Go to www.savingwater.org and click on the "We're Listening" photo of the Basset Hound.

Table 3: Water Quality Testing Results for Unregulated Contaminants (UCMR3) in 2015

Tested Compounds	Average	Range
Chromium, Total	0.28 ug/L	0.27 to 0.28 ug/L
Chromium-6	0.10 ug/L	0.097 to 0.10 ug/L
Strontium	36 ug/L	30 to 41 ug/L
Vanadium	0.63 ug/L	0.56 to 0.69 ug/L
Chlorate	21 ug/L	ND to 42 ug/L

Every three years, the EPA requires Highline Water District and approximately 6,000 other water systems to collect water samples under the Unregulated Contaminant Monitoring Rule 3 (UCMR3). The EPA uses this information to help them decide if further regulations are necessary.

Highline Water District completed its monitoring in 2015. The chart above shows the 5 contaminants detected of the 30 contaminants we tested for. Chromium (total) is below the EPA's drinking water standard of 100 ug/L. Chromium-6, Strontium, and Vanadium do not have a federal drinking water standard at this time. The EPA has a current reference concentration of 210 ppb per day for Chlorate.

More About Water Quality

We at Highline Water District encourage public interest and participation in the decisions that affect our drinking water. If you would like to learn more about your water, contact us at (206) 824-0375, or visit one of our Board of Commissioners meetings at our District office (typically the first and third Wednesday of each month at 9:00 am), or contact any one of the following organizations:

Seattle Public Utilities
206.684.3000
www.seattle.gov/util/MyServices/Water/Water_Quality

U.S. Environmental Protection Agency (EPA) and the Safe Drinking Water Hotline
800.426.4791
www.epa.gov/safewater

Washington State Department of Health (DOH):
800.521.0323
www.doh.wa.gov/ehp/dw/

Table 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 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 2017 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95% of the samples in a month. 100% of the samples from the Tolt in 2017 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.

Added Wellhead Protection

In addition to the protection afforded by the naturally occurring "confining layers" of material above each of our wells, Highline Water District's Wellhead Protection Program monitors the types of businesses and activities that surround our wells. To protect this hidden resource, the District notifies property owners and regulatory agencies of the District's water source locations. These notifications help prevent potentially harmful contaminants from polluting our water. These exercises contribute to the "low vulnerability" the Water District's groundwater has to contamination.

Do You Have One of These at Your Home or Business?




If you have any of the following…

- ❑ Fire Sprinkler system
- ❑ Lawn irrigation system
- ❑ Swimming pool
- ❑ Hot tub / jacuzzi tub
- ❑ Livestock watering system
- ❑ Decorative fountain
- ❑ Hydraulic boat lift
- ❑ Water makeup lines (that supply a boiler or hydronic heating)

…OR if you are a business of (most) any kind… OR if you raise farm animals… Washington State law requires that you have a "Backflow Prevention Assembly."

The purpose of this device is to provide "cross connection control"—preventing contaminated water from flowing back into your drinking water—a serious health hazard.

However even the best Backflow Prevention Assembly can fail because of freezing, debris, improper installation, and unapproved plumbing connections. For this reason, the state's Department of Health requires these devices to be tested annually by a certified backflow assembly tester, with a copy of the test record sent to Highline Water District.

Helpful Reminders from Highline

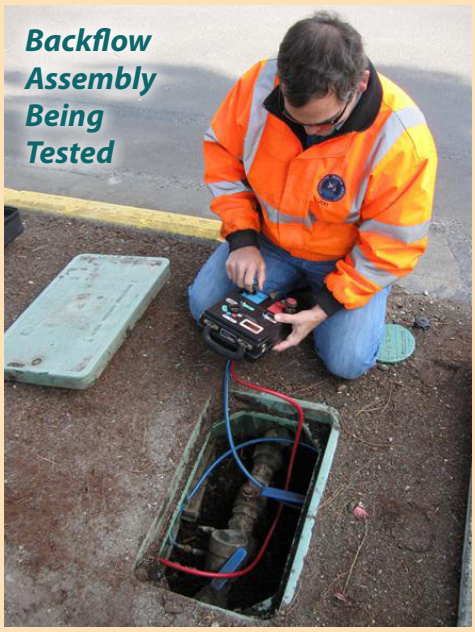
Through Highline Water District's Cross Connection Control Program, we maintain a database of Backflow Prevention Assemblies that have been installed throughout our district, which enables us to monitor their testing, and send customers an annual reminder notice when testing is due, complete with an assembly report and an updated list of qualified testers.

Preventing Backflow at Home

Additional ways to maintain water safety at home include:

- Do not submerge a connected garden hose into a swimming pool, sink, or bucket containing water or other liquid.
- Do not use hose-end applicators to apply garden chemicals or insecticides to your yard.

If you have any questions about backflow or any other water quality issue, contact our Water Quality Supervisor at (206) 592-8946.



Backflow Assembly Being Tested

Examples of Backflow Assemblies

Learning About Your Water at the Source

You and your family can enjoy an affordable, guided adventure to experience your watershed first-hand!

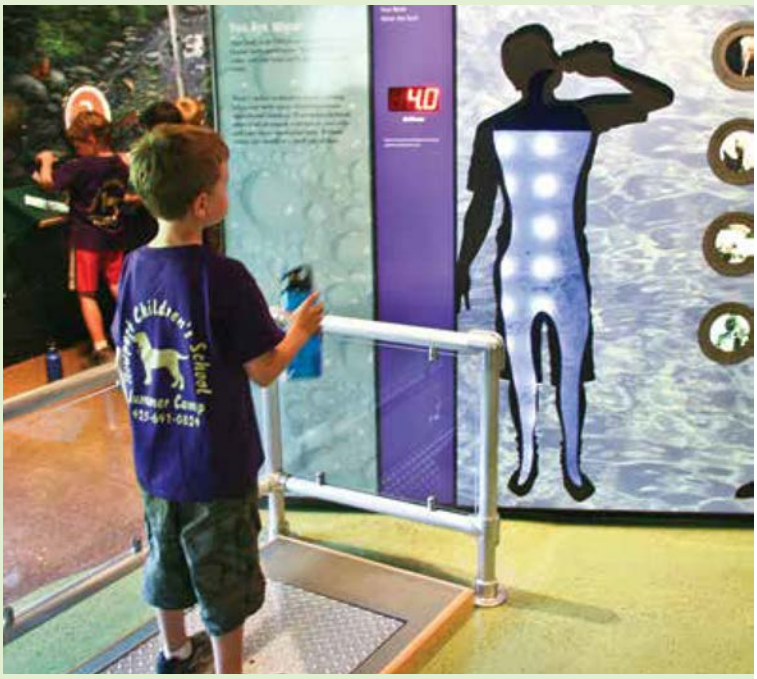
Located 35 miles east of Seattle along the shores of Rattlesnake Lake, Cedar River Watershed is the source of water for more than 1 million people in and around Seattle, including customers of Highline Water District. However few know about the Cedar River Watershed Education Center—a beautiful educational and interpretive facility that offers you and your family a unique way to experience the water cycle.

This Center allows you to test your skill at managing reservoir levels, enjoy the award-winning "Water is Magic" exhibits, and learn about the area's natural and cultural history, all in a gorgeous setting that just happens to be one of the sources of your water.

Affordable tours and classes—such as the Family Watershed Tour, the Railroad History Treasure Tour, the Junior Naturalist Class, or the Rain Drum Symphony Class—can be reserved on SPU's website via the "Watershed Tours and Programs" link.

During the months of July, August, and September, use PROMO CODE: WATER for a discount!

When you're finished exploring the Center, take the scenic 1-mile paved trail to Rattlesnake Lake Recreation Area: a sparkling turquoise oasis offering ample opportunities for hiking, swimming, and picnicking. From there, another 2-mile trail leads to a stunning view at the top of Rattlesnake Ledge.



Center and Exhibit Hours:

April – October:
Tuesday – Sunday | 10AM to 5PM

November – March:
Tuesday – Sunday | 10AM to 4PM

Closed Mondays and city holidays

Rattlesnake Lake Recreation Area Hours:

6am to dusk all year, day-use only.

For More Information:

www.seattle.gov/util/crwec/
(206) 733-9421 or (425) 831-6780
crwprograms@seattle.gov

Conserving Water Together... at Every Step

Efficiency

The first step in water conservation.

Highline Water District produced and purchased a total of 2,384,903,004 gallons of water for our customers in 2017, with authorized consumption of this water totaling 2,132,510,600 gallons.

In 2017, water loss totaled 252,393,152 gallons (9.4%). Even though this is below the Washington State Department of Health goal of less than 10% water loss, Highline continues to conduct an extensive effort to identify and address the causes. Primary areas of concern include:

- Fire Department uses
- Old, leaking water pipes
- Leaking hydrants
- Unauthorized connections
- Water theft from hydrants
- Water meter discrepancies

Teamwork

The next step in water conservation.

The Saving Water Partnership (SWP)—which is made up of 18 water utility partners including Highline Water District—has set a six-year conservation goal: reduce per capita use for six years (2013 through 2018) so that the SWP's total average annual retail water use is less than 105 MGD, despite forecasted population growth.

SWP once again met this goal in 2017, with 96.6 mgd of water usage, despite greater than forecast population growth over the past three years, on top of several relatively warm, dry summers.

Participation

The final step in water conservation involves you.

The average person uses an estimated average of 80-100 gallons of water every day. The largest use of household water is flushing the toilet, followed by showers and baths. How can you reduce that?

- Installing water-saving shower heads is one of the easiest measures to put in place, does not require the use of tools, and can save between 10-15% depending on household use.
- Swapping out your old toilet for a newer water-sense toilet can go a long way towards saving water, and there are currently toilet rebates available on Saving Water Partnership's website: **www.savingwater.org/rebates**

Combined, these two efforts along can reduce your in-home water use by as much as 35%.

Visit the following websites for even more water saving ideas:

Residential customers:
www.highlinewater.org

Businesses:
www.seattle.gov/util/ForBusinesses/GreenYourBusiness

Water saving help for yards and gardens:
Contact the Garden Hotline at (206) 633-0224 or help@gardenhotline.org.

Why Conserve Water?

Simply put, using less water costs you less money. But water conservation also helps protect native salmon populations by ensuring sufficient quantity and quality of water in the streams that support them, as well as all the other species that live in and around our lakes, rivers and streams.

Water conservation also helps ensure a reliable future water supply, despite regional growth and climate uncertainty.

Water Outlook for 2018

As of spring 2018, the supply outlook for the Seattle Regional Water System is good, thanks to a normal snow pack this past winter.

Seattle Public Utilities uses a number of tools and operational strategies to manage this supply. Snow pack, rainfall and other water resource factors are monitored daily. Operational changes adjust how water is captured and released, as well as how it is moved through the water supply system, in order to balance water supply, flood management, hydro power, and fish habitat.