2022 Consumer Confidence Report on Water Quality

Our mission is to provide high quality water and excellent customer service while effectively managing District infrastructure for a reliable water system today, and for future generations.

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 on Water Quality is brought to you by Highline Water District

Visit us:
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Kent, Washington 98032

www.highlinewater.org

2023 Board of Commissioners:
Daniel Johnson (President)
Kathleen Quong-Vermeire (Secretary)
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Contact us:
Monday through Friday
7:00 am – 4:00 pm
(206) 824-0375
customerservice@highlinewater.org

Annual Water Quality Report for 2022

The water from Highline Water District meets all state and federal guidelines for regulated contaminants, and is significantly below the EPA's required safety levels.

Where Was Your Water Sourced?

In 2022, approximately 75% of Highline Water District's water was purchased from Seattle Public Utilities (SPU), sourced from the Cedar River Watershed. The remaining 25% was produced from the following groundwater wells owned and operated by Highline Water District:

- Des Moines Well; Des Moines, WA
- Angle Lake Well; SeaTac, WA
- Tyee Well; SeaTac, WA (operation suspended June '22)
- McMicken Well; SeaTac, WA

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 to contamination, but the vulnerability for the Cedar River Watershed is low due to the protection afforded by Seattle Public Utilities (SPU's) Comprehensive Watershed Protection Plan.

Highline Water District's groundwater sources are protected by naturally occurring "confining layers" of impervious soil above the aquifer. This minimizes the potential for surface or man-made contamination from entering into 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.

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" of the District's groundwater sources.

How Was 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 other contaminants. Tests are done before and after treatment and while your water is in the distribution system.

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. These regulations are administered by DOH who adopts the EPA's requirements.

How Was 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 was screened to remove debris.
- Fluoride was added for dental health.
- Lime was added to adjust pH and control corrosion of plumbing materials.
- Ozone was added to disinfect the water.
- Water passed through Ultra Violet Light to destroy harmful organisms.
- Chlorine was added as a residual disinfectant.

Hypochlorite Generation system at our Des Moines, WA Treatment Plant used to disinfect drinking water

Water from Highline's wells was treated at three facilities by:

- Passing the water through greensand filters to remove low levels of manganese and iron.
- Adding Chlorine to provide a disinfection residual.
- Adding Fluoride for dental health.
- Adding Sodium Hydroxide for pH adjustment to reduce corrosion in 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 private 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 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.


Des Moines, WA Treatment Plant

People With Special Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immuno-compromised persons such as people with cancer undergoing chemotherapy, those who have undergone organ transplants, those 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 have questions about its quality, contact Highline Water District at (206) 824-0375.

Table 1: Water Quality Testing Results for 2022

Abbreviations are explained in the yellow "Table Definitions" chart at the bottom of this page.

		EPA Allowed Limits		Source Water Levels			
Detected Compounds	**Unit**	**MCLG**	**MCL**	**Avg.**	**Range**	**Typical Source of Compound**	**Comply?**
RAW WATER FROM CEDAR RIVER WATERSHED (MEASURED BEFORE TREATMENT)							
Total Organic Carbon	ppm	NA	TT	0.72	0.39 to 0.97	Naturally present in the environment	Yes
FINISHED WATER FROM CEDAR RIVER WATERSHED (MEASURED AFTER TREATMENT)							
Turbidity	NTU	NA	TT	0.35	0.19 to 1.93	Soil runoff	Yes
Arsenic	ppb	0	10	0.43	0.34 to 0.52	Erosion of natural deposits	Yes
Barium	ppb	2000	2000	1.26	1.02 to 1.43	Erosion of natural deposits	Yes
Bromate	ppb	0	10	0.4	ND to 5.0	Byproduct of drinking water disinfection	Yes
Fluoride	ppm	4	4	0.7	0.6 to 0.8	Water additive to promote strong teeth	Yes
Nitrate	ppm	10	10	0.1	1 sample	Erosion of natural deposits	Yes
MEASURED IN HIGHLINE WATER DISTRICT'S DISTRIBUTION SYSTEM							
Trihalomethanes, Total	ppb	NA	80	27	13.9 to 42.6	Byproduct of drinking water disinfection	Yes
Haloacetic Acids (5)	ppb	NA	60	24	9.77 to 38.8	Byproduct of drinking water disinfection	Yes
Chlorine	ppm	MRDLG=4	MRDL=4	1.0	0.28 to 1.60	Water additive used to control microbes	Yes
Coliform, Total	%	0	5%	ND	ND	Naturally present in the environment	Yes
LEVELS IN HIGHLINE WATER DISTRICT'S DISTRIBUTION SYSTEM AFTER TREATMENT							
Nitrate	ppm	10	10	< 0.2	2 samples	Erosion of natural deposits	Yes
Fluoride	ppm	4	4	0.72	0.50 to 0.89	Water additive to promote strong teeth	Yes

This table shows all of the drinking water contaminants 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 DOH allows monitoring for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Upon request, Highline Water District can also provide a list of the compounds that were tested but not detected.

Table 2: Lead and Copper Testing Results in 2022

Lead and Copper sampling is required every three years. The next test will occur in 2025.

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 of 30	Yes	Corrosion of household plumbing
Copper	ppm	1.3	1.3	< 0.04	0 of 30	Yes	Corrosion of household plumbing

Table Definitions

Action Level: The concentration which, if exceeded, triggers treatment or other requirements that a water system must follow.

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 River Watershed supply in 2022 is 5 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.

PFAS and Your Water

PFAS (per- and polyfluoroalkyl substances) are a large family of chemicals in use since the 1950s to make a wide variety of stain-resistant, water-resistant, and non-stick consumer products. In Washington State, PFAS have been used in certain types of firefighting foams utilized by the U.S. military, local fire departments, and airports.

PFAS are a public health concern because they do not break down in the environment, can travel large distances in groundwater, and build up in animals and humans over time. Some people who drink water containing PFAS in excess of recommended limits over many years may experience cholesterol, immune, liver or reproductive problems. Children exposed prenatally may have lower birth weights and increased risk of abnormal development.

In response, DOH took the proactive step to implement new standards for water purveyors to begin testing for selected PFAS in 2022. The new regulation establishes a State Action Level (SAL) for five (5) PFAS chemicals. SALs are levels of chemicals that DOH has set for long-term daily drinking water to protect people's health. The PFAS SALs are set below levels that caused health effects in animal studies. Exceeding the SAL triggers purveyors to perform follow up actions.

Highline sampled its groundwater sources for PFAS per the new regulations. Results confirmed that one source, the Tyee Well, has between 11.9-13.1 parts per trillion (ppt) of the substance Perfluorononanoic Acid (PFNA). DOH established a SAL of nine (9) ppt for PFNA. Upon confirmation, the District took the proactive step to voluntarily suspend Tyee Well operations. There is no longer any exposure to PFAS from Tyee. The District notified customers by mail that may have received water exceeding the SAL for PFNA.

Tyee Well contributes approximately 4.5% of the District's annual water production and serves a limited area within the District. Highline will replace Tyee production by purchasing additional water from Seattle Public Utilities until treatment options are fully evaluated and implemented.

More information about PFAS and how we are addressing it can be found on our website: www.highlinewater.org

More About Water Quality

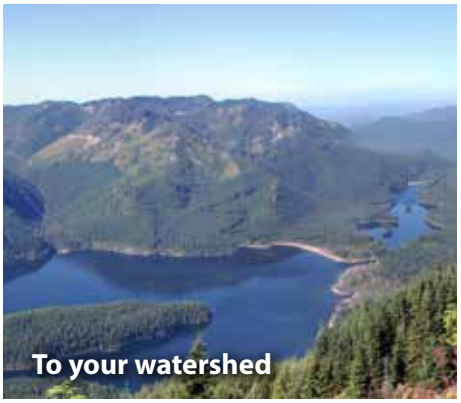
We at Highline Water District encourage public participation in the decisions that affect our drinking water. If you would like to learn more about your water, contact Jon Seibel, our Operations Supervisor at (206) 592-8946, or reach out to any of the organizations listed below.

You are also welcome join our Board of Commissioners meetings. These are typically held the first and third Wednesday and fourth Tuesday of each month.

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/



Conserving Water Together... at Every Step

The first step in water conservation is efficiency.

During 2022, Highline Water District produced or purchased approximately 2.3 billion gallons of water for our customers. Approximately 5.34% is considered non revenue water (water loss)—well below DOH's goal of less than 10% water loss. Highline's ongoing efforts to identify and address primary areas of water loss include:

- Meter fire hydrant use
- Perform leak detection
- Monitor for unauthorized connections
- Replace aging infrastructure
- Test water meters

The next step in water conservation is teamwork.

In 2019, the Saving Water Partnership (SWP), a group of regional water purveyors including Highline, set a ten-year conservation goal to reduce the total average annual retail water use to less than 110 Million Gallons per Day (MGD), despite forecasted population growth. The SWP met this goal in 2022.

The final step in water conservation involves you.

The average person uses an estimated 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 steps, and can reduce water use 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 the Saving Water Partnership website:
  www.savingwater.org/rebates

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

Highline would appreciate any reports of leaking water or unauthorized water use from fire hydrants.

Want more water saving ideas? Visit our website at **www.highlinewater.org**, and/or contact the Garden Hotline at (206) 633-0224 or help@gardenhotline.org for water-saving gardening advice. Businesses are encouraged to visit the following website:

www.savingwater.org/businesses/

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 2023

As of spring 2023, the supply outlook for the Seattle Regional Water System remains good.

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.

5 Ways to Help Protect Salmon

1. Wash your car at a car wash facility (where used water is routed to treatment facilities).
2. Avoid installing hard pavement; use permeable or porous pavement.
3. Avoid chemical weedkillers to protect groundwater and backyard wildlife habitat.
4. Safely dispose of batteries, motor oil, and other hazardous wastes.
5. Plant a rain garden to filter stormwater runoff.

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


Lawn Irrigation


Hot Tub


Fire Sprinkler System


Decorative Fountain

If you have any of the following connected to your water plumbing…

- ❑ Fire Sprinkler system
- ❑ Lawn irrigation system
- ❑ Swimming pool
- ❑ Hot tub / jacuzzi tub
- ❑ Decorative fountain
- ❑ On-site well
- ❑ 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 may require 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 due to 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.

A list of qualified testers can be found in our website's "Customers" section.

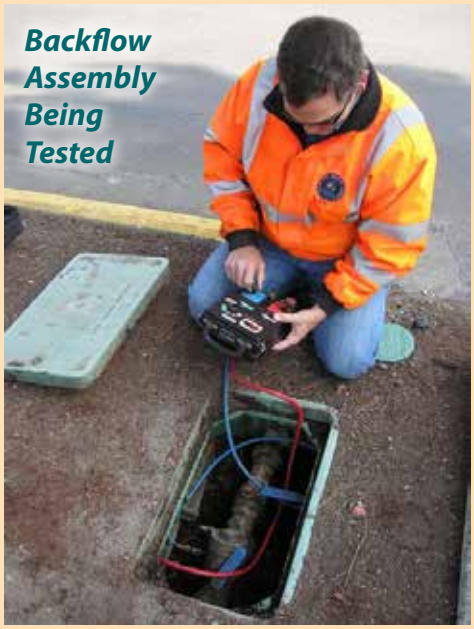
Preventing Backflow at Home

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.


Double Check Valve Assembly
located at our McMicken Treatment Plant


Backflow Assembly Being Tested