Highline Water District
Consumer Confidence Report
2015

“Providing safe, clean water to residents of South King County since 1946”
Highline Water District is pleased to provide our 2015 Consumer Confidence Report

This report describes the sources of your drinking water and how it compares to stringent standards set by regulatory agencies. Please take a few minutes to read through and familiarize yourself with the quality of water you and your family use every day. If you have any questions, please contact our Operations Supervisor at 206-592-8920.

The Facts on Contaminants

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 radio active materials, dissolve in the water. Water can also pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water are microbes, pesticides, herbicides, organic and inorganic chemicals, and radioactive materials. More information about contaminants and potential health effects can be found by calling the EPA’s Safe Drinking Water Hotline: 1-800-426-4791.

Immuno-Compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as people with cancer undergoing chemotherapy, people 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 and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from:

Environmental Protection Agency
Safe Drinking Water Hotline
(800-426-4791)

Sources of Supply

In 2015, approximately 74 percent of Highline Water District’s water came from Seattle Public Utilities Cedar River supply. The remaining supply came from Highline Water District’s four groundwater wells. Water from the District’s four wells: Des Moines Well (S02), Angle Lake Well (S03), Tyee Well (S04), and McMicken Well (S10), is directed to one of three treatment plants where it is filtered, treated and tested before it is blended with water from Seattle.
Seattle Public Utility - Cedar River Supply

Although the water supply is aggressively protected, it goes through a treatment process to ensure that it is safe to drink. Before the water reaches Highline Water District, it goes through the six treatment steps outlined below:

* 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 to provide a disinfectant residual.

Highline Water District - Well Water

Highline Water District pumps water from four wells and treats the water at three facilities. The District’s treatment consists of the following:

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

Physically Protected Sources

To preserve the high quality of water that originates in the Cedar River Watershed, recreational, agricultural and industrial activities in the area are not permitted. According to the Washington State Department of Health (DOH), all surface water has been rated highly susceptible, but the vulnerability is low due to the watershed 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 material above the water bearing aquifer. The “restricted use” and “confining layers” protect the watershed and raw water quality from degradation, and is the primary reason the DOH classified these water sources as having “low vulnerability” to contamination. For a complete copy of the source water assessment, contact the regional DOH Drinking Water Office at (253) 395-6750.

Setting Drinking Water Standards

The EPA (Environmental Protection Agency) adopts regulations setting water quality standards for public water systems. “Primary Standards” pertain to contaminants that could pose a health problem such as arsenic, while “Secondary Standards” pertain to aesthetic concerns such as iron and manganese. The Department of Health Drinking Water Division has been given the responsibility to ensure both primary and secondary water quality standards are met in Washington State. The Federal Food and Drug Administration and The Washington Department of Agriculture regulate contaminants in bottled water and are responsible for providing a similar level of public health protection.
Lead in Drinking Water

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 private 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.

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.

For more information on lead see www.highlinewater.org

### MEASURED AT CUSTOMER’S TAP
#### 2013 RESULTS

<table>
<thead>
<tr>
<th>Tested Compounds</th>
<th>Unit</th>
<th>MCLG</th>
<th>**90th Percentile Action Level</th>
<th>90th Percentile</th>
<th># Of Homes Over Action Level</th>
<th>Compliance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>ppb</td>
<td>0</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>YES</td>
<td>Corrosion of household plumbing</td>
</tr>
<tr>
<td>Copper</td>
<td>ppm</td>
<td>1.3</td>
<td>1.3</td>
<td>0.13</td>
<td>0</td>
<td>YES</td>
<td>Corrosion of household plumbing</td>
</tr>
</tbody>
</table>

**Footnotes and Definitions**

*Cryptosporidium was detected in 2 of 9 samples from the Cedar River.

**Value shown represents the 90th percentile (2013), 90% of the samples were less than the values shown.

**NTU - Nephelometric Turbidity Unit: Turbidity is a measure of how clear the water looks.

**MRDL - Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

**ppm - One part per million

**CCF - (100 cubic feet or 748 gallons)

**MRDLC - Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLC’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**ppb - One part per billion

**MCL - Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCL’s allow for a margin of safety.

**ug/L = Micrograms per Liter

**ND - Not Detected

**AL - Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Contaminant Detection Tables

<table>
<thead>
<tr>
<th>DETECTED COMPOUNDS</th>
<th>UNIT</th>
<th>EPA ALLOWABLE LIMITS</th>
<th>AMOUNT FOUND IN YOUR TAP WATER</th>
<th>IS YOUR WATER SAFE?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MCLG</td>
<td>MCL</td>
<td>AVERAGE</td>
</tr>
<tr>
<td>Total Organic Carbon</td>
<td>ppm</td>
<td>NA</td>
<td>TT</td>
<td>0.7</td>
</tr>
<tr>
<td>Cryptosporidium*</td>
<td>#/100L</td>
<td>NA</td>
<td>NA</td>
<td>1</td>
</tr>
</tbody>
</table>

**MEASURED AFTER CEDAR RIVER WATER TREATMENT – Raw Water**

| Turbidity | NTU | NA | TT | 0.4 | 0.1-1.2 | 0.2 | 0.1-0.3 | Yes | Soil Runoff |
| Arsenic | ppb | 0 | 10 | 0.5 | 0.4-0.7 | 3.9 | 1.7-7.9 | Yes | Erosion of natural deposits |
| Barium | ppb | 2000 | 2000 | 1.6 | (1 SAMPLE) | 3.0 | 2.2-4.6 | Yes | Erosion of natural deposits |
| Bromate | ppb | 0 | 10 | ND | ND | NA | NA | Yes | By-product of water disinfection |
| Chromium | ppb | 100 | 100 | 0.27 | 0.25-0.33 | 0.7 | 0.3-1.3 | Yes | Erosion of natural deposits |
| Fluoride | ppm | 4 | 4 | 0.8 | 0.7-0.9 | 0.7 | 0.5-1.0 | Yes | Additive which promotes strong teeth |
| Nitrate | ppm | 10 | 10 | 0.01 | (1 SAMPLE) | ND | ND | Yes | Erosion of natural deposits |
| Selenium | ppb | 50 | 50 | ND | ND | 0.7 | 0.1-1.1 | Yes | Erosion of natural deposits |
| Uranium | ppb | 0 | 30 | ND | ND | 0.4 | ND-0.7 | Yes | Erosion of natural deposits |

**MEASURED IN THE HIGHLINE WATER DISTRICT DISTRIBUTION SYSTEM**

| Total Trihalomethanes | ppb | NA | 80 | 41 | 18-48 | Yes | By-product of water chlorination |
| Haloacetic Acids (5) | ppb | NA | 60 | 29 | 14-39 | Yes | By-product of water chlorination |
| Chlorine | ppm | MRDLG=4 | MRDL | 1.0 | 0.3-1.5 | Yes | Additive used to control microbes |
| Total Coliform | % | 0 | 5% | Highest month 1.35 | 0-1.35 | Yes | Naturally present in the environment |
| Fecal Coliform & E-coli | # of positive samples | 0 | ***See note below | ****See note below | 0-1 | Yes | Human and animal fecal waste |

**LEVELS IN HIGHLINE WATER DISTRICT AFTER TREATMENT**

| Nitrate | ppm | 10 | 10 | ND | 4 SAMPLES | Yes | Erosion of natural deposits |
| Fluoride | ppm | 4 | 4 | 1 | .8-1.2 | Yes | Additive which promotes strong teeth |

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.

*Cryptosporidium was detected in 2 of the 9 samples from the Cedar supply. This monitoring is not required for the wells.

**Values presented represent 100% well water. All well water was blended with Cedar supply water before delivery to customers. The wells operated from July to November, 2015.

*** A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E-coli positive.

**** Of 858 samples collected for total & fecal coliform in 2015, 2 tested positive for total coliform and 1 for E-coli bacteria. All follow up sampling was negative for bacteria.

See page 7 for footnotes and definitions.
Conservation

How much water does the average person use at home per day? Estimates vary, but each person uses about 80-100 gallons of water per day. Are you surprised that the largest use of household water is to flush the toilet, and after that, to take showers and baths? By using water-saving features you can reduce your in-home use by as much as 35%. Installing water-saving devices is usually a simple operation which can be done by the homeowner and does not require the use of tools.

Water conservation at home is one of the easiest measures to put in place.

Think about the many ways you can conserve water. Visit our web page: [www.highlinewater.org](http://www.highlinewater.org) for a list of water saving ideas.

Wellhead Protection

The 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.

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<table>
<thead>
<tr>
<th>Contaminants - UCMR³</th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium (Total)</td>
<td>0.28 ug/L</td>
<td>0.27 ug/L to 0.28 ug/L</td>
</tr>
<tr>
<td>Chromium-6</td>
<td>0.10 ug/L</td>
<td>0.097 to 0.10 ug/L</td>
</tr>
<tr>
<td>Strontium</td>
<td>36 ug/L</td>
<td>30 - 41 ug/L</td>
</tr>
<tr>
<td>Vanadium</td>
<td>0.63 ug/L</td>
<td>0.56 - 0.69 ug/L</td>
</tr>
<tr>
<td>Chlorate</td>
<td>21 ug/L</td>
<td>ND - 42 ug/L</td>
</tr>
</tbody>
</table>

The EPA required 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 the information they receive from this monitoring effort 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 looked 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.
Highline Water District Customers have continued to do their part with water conservation. Conservation saves you money, protects fish and wildlife, and helps ensure a reliable future water supply despite regional growth and climate uncertainty.

As of spring, the supply outlook for the Seattle Regional Water System is good. The snowpack was normal this past winter.

SPU has tools and operational strategies in place to manage supply, including the following:

**System monitoring and operational changes:** Snowpack, rainfall and other water resource factors are monitored daily. Operational changes are made on how water is captured and released, as well as how it is moved through the water supply system, based on snowpack and predicted rainfall. Adjustments are continuously made to balance water supply, flood management, hydro power and fish habitat. Additional information is available from [www.seattle.gov/util/ForBusinesses/GreenYourBusiness](http://www.seattle.gov/util/ForBusinesses/GreenYourBusiness).

![Water Cycle Diagram](image)

**Water Use Efficiency**

During 2015, Highline Water District produced and purchased a total of 2,129,955,432 gallons of water for our customers. Authorized consumption of this water totaled 2,094,524,916 gallons with a water loss of 275,426,744 gallons for a Distribution System Water Loss of 11.38%. The Washington State Department of Health has set a goal of less than 10% for water loss.

Highline continues its extensive effort to determine the causes of the water loss. Primary areas of concern include:

* Water meter discrepancies

* **Highline Water District is investigating the accuracy of its master meters.** Master meters, when inaccurate, can inflate water loss percentages. The investigation has shown a discrepancy between Seattle Public Utility and Highline Water District master meters. Highline is working with Seattle Public Utilities to resolve the discrepancies.

* Fire Department uses
* Old, leaking water pipes
* Leaking hydrants
* Unauthorized connections
* Water theft from hydrants

The Saving Water Partnership (SWP) – which is made up of Highline Water District and its 18 water utility partners – has 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 from 2013 through 2018 despite forecasted population growth. For 2015, the Saving Water Partnership met the goal, using 96.9 mgd despite a record hot summer.

For water-saving advice in your garden, call the Garden Hotline at (206) 633-0224 or e-mail help@gardenhotline.org.

![Conserve Water. Save the Planet.](image)
Highline Water District is located south of Seattle, WA, and generally extends from just east of Interstate Highway 5 on the east to the Puget Sound on the west, and from State Route 518 on the north to South 284th Place on the south. The District lies within portions of the cities of Burien, Des Moines, Federal Way, Kent, Normandy Park, SeaTac, and Tukwila. Portions of the District are also within the limits of unincorporated King County.

Regular Board Meetings are held the 1st and 3rd Wednesday each month, and the Workshop meeting is held the 4th Tuesday each month. The meetings listed above start at 9:00 AM and are open to the public. The District office is located at 23828 30th Ave S., Kent, WA. Please go to our website www.highlinewater.org for driving directions and contact information.

2016 Board of Commissioners:

Vince Koester, Board President
Todd Fultz, Board Secretary
Daniel Johnson, Commissioner
George Landon, Commissioner
Kathleen Quong-Vermeire, Commissioner

Staff:

Matt Everett, General Manager
Jeremy DelMar, P.E., Engineering Manager
Debbie Prior, Administrative Manager
Mike Becker, Operations Supervisor

CCR compiled by Polly Daigle, Admin. Assistant/D.E. Coordinator
For questions or more information please call 206-592-8924
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 traduzca esta información para usted, o hablar con alguien que la entienda.

这份报告包含有饮用水的重要信息。请有人为你翻译这个信息，或者与能理解它的人交谈。

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