City of Bellingham

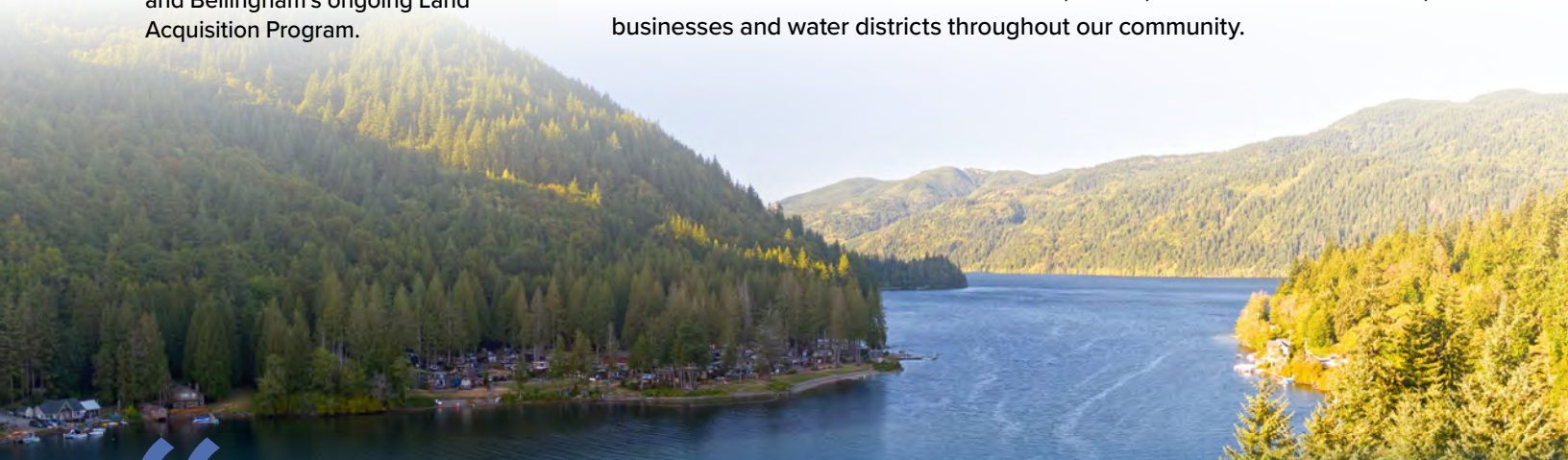
2023 Water Quality REPORT

WHAT'S INSIDE

Inside this publication you will find water quality and testing information for the drinking water system in Bellingham. We also have updates and information about PFAS testing, updates to our Water System Plan, information about Water Rights adjudication in the Nooksack River Basin, and Bellingham's ongoing Land Acquisition Program.

About our watershed

Bellingham's drinking water comes from Lake Whatcom and the Middle Fork of the Nooksack River. Water from 36 streams, fed by rain and snowmelt, feed into the 250 billion gallon lake, with a watershed that covers 35,000 acres or 55 square miles. The lake periodically receives water diverted from the Middle Fork of the Nooksack River by the City of Bellingham to meet water supply needs. Lake Whatcom supplies water to over 100,000 customers every day, drawn through a 1,200 foot wooden pipeline to the water treatment plant in Whatcom Falls Park where it is cleaned, tested, then delivered to homes, businesses and water districts throughout our community.



"I am proud to live in a community that takes environmental stewardship and resource management seriously. The foundations for health and a vibrant community are built upon reliable access to clean water. Bellingham has abundant access to water and our community has taken steps again and again to protect Lake Whatcom. Our annual water quality report consistently returns with a nearly perfect score - and that is not by accident. Our teams are working hard and planning ahead to ensure that we have great water quality and a reliable system that is resilient in the face of our changing climate future."

- Mayor Kim Lund

City of Bellingham
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Proactively
Addressing PFAS

Per- and polyfluoroalkyl substances (PFAS) are known as “forever chemicals” because of their persistence in the environment. This is a concern as PFAS are shown to have negative impacts to human health. Drinking water regulations have recently focused on assessing PFAS levels in the nation’s water supplies. Fortunately, Bellingham’s drinking water source, Lake Whatcom, is free from known industrial sources of PFAS, and all testing done to date show no presence of PFAS. The technology to find these compounds in very low levels is improving, though for PFAS, there really is no safe level. The City’s priority is to stay informed, to confirm no presence of PFAS in our drinking water, and to continue to take steps necessary to protect our community’s health.

FOR FURTHER INFORMATION VISIT:
cob.org/contaminants-of-emerging-concern

Adjudication

The Nooksack River Basin is undergoing a formal process to officially determine all legal water rights in the basin. Led by the Washington State Department of Ecology, this process aims to clarify where and how much water use is legally allowed and how much water should remain in streams. This process will create a comprehensive management system confirming legal rights to use water within the watershed basin.

The City of Bellingham holds several water rights and is participating in the adjudication on behalf of its water customers. Customers do not need to take any action and will not be individually summoned. The City expects no significant changes in its ability to serve current and future water customers.

FOR FURTHER INFORMATION VISIT:
cob.org/adjudication

Land Acquisition

Preserving land in its natural forested condition is an important part of what local government is doing to protect Lake Whatcom. Forested land soaks up and naturally filters rainwater, reducing pollution impacts to the lake. In 2001, the City began a program to purchase available land in the Lake Whatcom Watershed. As of June 2024, we have purchased more than 2,700 acres in the watershed and protected an additional 164 acres of land.

FOR FURTHER INFORMATION VISIT:
cob.org/lw-property-acquisition-program

Water Systems Plan

As our city grows, we are planning for how we will protect, use, and manage water resources in a changing climate. More people and businesses are relying on our water system for clean, safe drinking water and the City is ensuring the water system is aligned with updated best practices to meet the demands of a growing city while also addressing climate resiliency. The City of Bellingham is updating its Water System Plan to ensure Bellingham residents continue to have access to safe, reliable and clean drinking water now and in the future.

FOR FURTHER INFORMATION AND TO GET INVOLVED VISIT:
engagebellingham.org/water-system-plan

Detected Regulated Contaminants

2023 Water Quality analysis results

In accordance with federal and state regulations, the table includes all results from contaminants that were detected or are above the state detection reporting limit.

		EPA REGULATIONS		BELLINGHAM WATER RESULTS		
Parameter *(2023 or most recent)*	**Units**	**Public Health Goal or MCLG**	**Maximum Allowable MCL**	**Bellingham Drinking Water Range or Reported Value**	**Average Value or Highest Result**	**In Compliance?**
Total Coliform Bacteria	**% Positive**	**0**	**5% positive per month**	**2% positive in September Follow-up samples negative. 0% positive all other months. No E. coli bacteria were detected.**	**2% positive in September**	**Yes**

Bellingham collects over 100 samples a month at locations throughout our water distribution system and analyzes these for coliform bacteria to ensure water purity. No more than 5% of these samples can be positive for total coliform bacteria and none can be positive for Escherichia coli (E.coli). No Escherichia coli was detected in 2023.

Free Residual Chlorine Levels	**ppm**	**Detectible in 95% of samples**	**4.0 MRDL**	**Range:< 0.02 to 0.98 ppm**	**Average 0.45 ppm free available chlorine**	**Yes**

Bellingham monitors chlorine levels continuously at the water filtration plant. Over 100 distribution system samples are also analyzed each month to ensure a disinfectant residual remains in treated water on its way to our customer's homes. We must be able to detect free chlorine in 95% of the samples we analyze in the distribution system.

Haloacetic Acids-5 (HAA-5)	**ppb**	**0**	**60**	**Range: 8 to 16 ppb**	**Highest site $\bar{X}$ 14 ppb**	**Yes**
Total Trihalomethanes (TTHM)	**ppb**	**0**	**80**	**Range: 12 to 45 ppb**	**Highest site $\bar{X}$ 34 ppb**	**Yes**

Haloacetic acids and total trihalomethanes are formed as byproducts of the drinking water chlorination process. The HAA-5 and TTHM results are from 8 representative locations in Bellingham's treated water distribution system. Compliance is based on a site-specific running average. The highest site average from 2023 is shown above.

Turbidity	**NTU**	**< 0.3**	**Treatment Technique**	**Range: 0.03 to 0.10 NTU At or below 0.3 NTU 100% of the time.**	**Highest value 0.10 NTU**	**Yes**

The turbidity limit is 0.3 NTU. In 2023 no filtered water turbidity result exceeded 0.3 NTU so Bellingham met the Department of Health's limit 100% of the time. Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water.

Lead (2023 sampling)	**ppb**	**0**	**15^**	**3 ppb as the 90th percentile**	**< 1 to 7 ppb**	**Yes**
Copper (2023 sampling)	**ppb**	**1300**	**1300^**	**90 ppb as the 90th percentile**	**11 to 216 ppb**	**Yes**

Lead and copper are monitored every 3 years in our customers' homes to assess the amount of corrosion occurring in home plumbing. The water sampled is the first draw of stagnant water in homes identified as having lead solder and copper pipe. There are no lead service lines in Bellingham. Sampling will next be conducted in 2026. ^The 90th percentile value of all samples collected.

Inorganics having a Maximum Contaminant Level (MCL) with results above the state detection reporting level (SDRL):

Barium	**ppm**		**2**	**0.0064**	**0.0064**	**Yes**
Nitrate, (also nitrate + nitrite)	**ppm**		**10**	**0.11**	**0.11**	**Yes**

Inorganics without a Maximum Contaminant Level (MCL) with results above the state detection reporting level (SDRL):

Hardness	**ppm**			**20.8**	**20.8**	**Yes**
Sodium	**ppm**			**9.6**	**9.6**	**Yes**

Inorganics without an MCL, having a SMCL*, with results above the SDRL:				**Bellingham Level 2023**	**SMCL Limit Allowed***	
Chloride	**ppm**			**5.9**	**250**	**Yes**
Manganese	**ppb**			**1.1**	**50**	**Yes**
Sulfate	**ppm**			**7.5**	**250**	**Yes**

ppb = parts per billion, or ug/L
ppm = parts per million, or mg/L

*Secondary maximum contaminant levels (SMCL) are limits that are not based on health concerns, but instead based on the aesthetic properties of water such as taste, color, & odor.

Drinking Water **Sources**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Bellingham's source water is Lake Whatcom on the eastern edge of town. 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. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. The EPA/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 (1-800-426-4791).

In order to ensure that tap water is safe to drink, the Department of Health and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Washington State Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Elevated levels of lead in drinking water can cause serious health problems, especially for pregnant women and young children. In Bellingham, fortunately, lead is not found in the treated water, but lead in drinking water can come from pipes and faucets in our customers' homes. The City of Bellingham is responsible for providing high quality drinking water, but cannot control the variety of materials used in customers' plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for at least 30 seconds before using the water for drinking or cooking. You can capture this water to use on plants. If you are concerned about lead in your water, you may opt to have your water analyzed by a local laboratory.

FOR FURTHER INFORMATION VISIT:
www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

DEFINITIONS

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

Maximum Contaminant Level (MCL): 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.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): 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 (e.g., chlorine, chloramines, chlorine dioxide).

For more information, please contact Pegeen Wendling, Water Quaility Supervisor pwendling@cob.org.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda