2024 Consumer Confidence Report
For
Bellingham DPW Water & Sewer Division
Bellingham, Massachusetts
MASSDEP PWSID # 2025000

This report is a snapshot of the drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with this information because informed customers are our best allies.

PUBLIC WATER SYSTEM INFORMATION

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Water System Improvements
Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system: We've continued the planning and design for upgrades to the Hartford Ave Filtration Plant to address PFAS & Disinfection Byproducts (DBP's); Fire hydrants have been a focus, we made improvements to our hydrant flushing program, more aggressively replaced hydrants and have started an annual inspection program to pinpoint and address issues; We actively check gate valves to locate any that are inoperable or that are closed; Regular inspections and maintenance are ongoing at our wells, filtration plants and storage tanks; We continued to address any deficiencies listed in our 2023 sanitary survey.

Opportunities for Public Participation
If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events: Selectboard meetings, which are usually held on the first and third Mondays of each month. These meetings are at 7pm and are held at the Municipal Center (10 Mechanic St). Meeting agenda items and minutes are posted on the town's website.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?
Your water is provided by the following sources listed below:

The town of Bellingham's drinking water supply system includes sixteen groundwater wells, eight pumping stations, three water storage tanks, approximately 110 miles of water main and thousands of water services.

Twelve wells, which are controlled by four pumping stations, are in the southern part of town and draw water from the Blackstone River Basin's aquifer. The active well source ID's are: 02G, 04G, 14G, 15G, 17G, 18G, 20G, 21G & 22G. Inactive well source ID's are: 03G, 11G & 13G. The Wrentham Rd Filtration Plant treats water from the active wells.

Four wells, each operated by its own pumping station, are in the northern part of town and draw water from the Charles River Basin's aquifer. The active well source IDs are: 05G, 08G, 23G & 24G. Inactive well source ID's are: 12G. The Hartford Ave Filtration Plant treats water from the active wells.

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well #1.1	2025000-22G	Groundwater	Cross St
Well #2.1	2025000-02G	Groundwater	Cross St
Well #2.3	2025000-14G	Groundwater	Cross St
Well #2.4	2025000-15G	Groundwater	Cross St
Well #3.3	2025000-21G	Groundwater	Wrentham Rd
Well #4	2025000-04G	Groundwater	Wrentham Rd
Well #5	2025000-05G	Groundwater	Taunton St
Well #7.1	2025000-23G	Groundwater	Hartford Ave
Well #8	2025000-08G	Groundwater	Hartford Ave
Well #11.2	2025000-17G	Groundwater	Wrentham Rd
Well #11.3	2025000-18G	Groundwater	Wrentham Rd
Well #11.5	2025000-20G	Groundwater	Wrentham Rd
Well #12R	2025000-24G	Groundwater	Cliff Rd

Is My Water Treated?
Yes, all potable water supplied in Bellingham is treated. The water quality of our system is constantly monitored by licensed operators and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

The Hartford Ave & Wrentham Rd Filtration Plants are primarily designed to remove iron (Fe) and Manganese (Mn) through filtration, which is accomplished by adding oxidizing chemicals to the water, causing the dissolved iron and manganese to coagulate, forming into tiny particles.

- At the Hartford Ave Filtration Plant, we achieve this by using Sodium Hypochlorite (NaOCl) and Potassium Permanganate (KMnNO4). Aluminum Sulfate (Al2(SO4)3) is used as a coagulant to enhance filtration and help remove organics. Once particles have been formed, water passes through special filters designed to capture iron (Fe) and manganese (Mn) particles.
- At the Wrentham Rd Filtration Plant, we achieve this by using Sodium Hypochlorite (NaOCl). Once particles have been formed, water passes through special filters designed to capture iron (Fe) and manganese (Mn) particles.

There are four (4) filters at the Wrentham Rd plant and six (6) filters at the Hartford Ave plant. Each filter is backwashed on a routine schedule to clean and regenerate the filters. Sodium Hypochlorite (NaOCl) is vital to ensure proper oxidation to optimize filtration. It is also used as a disinfectant. The water we discharge from the plants must maintain a residual chlorine level that is established by drinking water regulations. Chlorine provides protection against bacterial contamination formation in our water distribution system.

Sodium Hydroxide (NaOH) is used to enhance the oxidation process and is a critical chemical used to help achieve a regulatory requirement on pH level. By increasing the pH, corrosion in internal plumbing is minimized, thereby reducing exposure to lead (Pb) and copper (Cu) for our drinking water customers.

The Bellingham DPW has detailed maps showing these facilities. Anyone who would like to see a map or obtain a copy should contact the DPW.

The following is a simplified explanation of how water comes out of your tap: Water is pumped from wells to a treatment facility via raw water transmission mains. Once treated, the water is pumped to our pipe network called the distribution system. Our standpipes (storage tanks) are part of the distribution system and are vital to allow us to maintain pressure in the system, even when all pumps are off. Standpipes also play a key role in providing the large volume of water needed to fight fires. The pumps at our treatment facilities run when needed to keep our standpipes at a level that maintains pressure in the distribution system. The pressurized system allows water to come out of your tap when you turn it on, providing pressure and volume at our hydrants for firefighting.

How Are These Sources Protected?
In 2002, the Massachusetts Department of Environmental Protection (MassDEP) issued a draft of our Source Water Assessment and Protection (SWAP) Report. The SWAP program was established under the Federal Safe Drinking Water Act, and it requires that every state inventory land uses within the recharge areas of all public water supply sources, assesses the susceptibility of drinking water sources to be contaminated from these uses, and publicize the results to provide support for improved protection.

Some of the land uses that exist within our recharge areas include auto body & repair shops, salvage yards, an old landfill, railroad tracks, hazardous material storage, industries and industrial parks, large quantity hazardous waste generators, and underground storage tanks. There are others but these are considered the highest threats.

The report notes that all our sources have a high susceptibility of future contamination. Unfortunately, MassDEP has not had the funding to update the report and some of the information is not up to date; however, it still contains a wealth of information about our source waters and potential risks to its quality.

It is difficult to eliminate all threats from past and present land use, but we have established protective land use restrictions that dramatically reduce our exposure to certain contaminants. We are well equipped to prevent future land use that could further increase our susceptibility to aquifer contamination. Our key regulations include the Board of Health Floor Drain Regulations, Water Resource Protection Bylaws, and the Water Resource District Zoning Map. The Bylaws, Ordinances, and Maps are available online at the Town's website www.bellinghamma.org

Bellingham's Zone II drinking water well recharge areas extend into Medway, Franklin, Milford, and Wrentham. They are all protected by local bylaws except in Milford. We have requested the Town of Milford consider adding our Zone II to their water protection district. To date our Zone II areas within the borders of the Town of Milford do not have bylaws or zoning protection. The Zone II area of a few Blackstone and Franklin wells extend into Bellingham. The Blackstone and Franklin Zone II areas are covered by our Water Resource District Map and protective bylaws and regulations.

In 2021, the U.S. Environmental Protection Agency (EPA) required an updated Vulnerability Assessment (VA) of all critical components associated with the drinking water infrastructure. The Bellingham DPW compiled this information to identify possible threats and provide solutions as alternate means of continued operation. A requirement of this assessment included updates to its Emergency Response Plan (ERP) to keep current and accurate.

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking?
A susceptibility ranking of high was assigned to this system using the information collected during the assessment by MassDEP.

Where Can I See the SWAP Report?
The complete SWAP report is available at the Bellingham DPW and online at https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program . For more information, call Jesse Riedle at the Bellingham DPW at (508)966-5813.

Residents can help protect sources by:

- Practicing good septic system maintenance
- Taking hazardous household chemicals to hazardous materials collection days
- Contacting the DPW or Board of Health to volunteer for monitoring or education outreach to schools
- Limiting pesticide and fertilizer use, etc.

SUBSTANCES FOUND IN TAP WATER

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.

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 be naturally-occurring 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 be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

All 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 (800-426-4791).

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, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some 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 and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. The Bellingham DPW 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.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to 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 allow for a margin of safety.

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

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Unregulated Contaminants
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Running Annual Average (RAA) – The average of four consecutive quarter of data.

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Level 1 Assessment - A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment - A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millirems per year (a measure of radiation absorbed by the body)

WATER QUALITY TESTING RESULTS

What Does This Data Represent?
The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table.

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	2024	4.4	15	0	61	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2024	.59	1.3	1.3	61	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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. The Bellingham DPW is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, you can minimize the potential 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 www.epa.gov/safewater/lead.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	5/6/24	0.034	0.014 - 0.034	2	2	**N**	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	5/6/24	1.5	0 - 1.5	4	4	**N**	Discharge from electrical, aerospace, and defense industries; erosion of natural deposits
Nitrate (ppm)	5/6/24	0.94	0.42-0.94	10	10	**N**	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	9/23/24	0.18	0.071 - 0.18	2	N/A	**N**	Rocket propellants, fireworks, munitions, flares, blasting agents
PFAS6 (ppt)	Jan 2024 Feb 2024 Mar 2024 Apr 2024 May 2024 Jun 2024 Jul 2024 Aug 2024 Sep 2024 Oct 2024 Nov 2024 Dec 2024	18	6.6 - 18	20	N/A	**N**	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly in 2024	58	19 - 78	80	N/A	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly in 2024	33	9.3 - 51	60	N/A	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free, total or combined)	Monthly in 2024	.85	.43 - .85	4	4	N	Water additive used to control microbes

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Unregulated Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Perfluorobutanesulfonic[1] Acid (PFBS)	9/23/24	0 - .0041	.00205		N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Iron (ppb)	Quarterly in 2024	0 - 44	25	300	N/A	Naturally occurring, corrosion of cast iron pipes
Manganese* (ppb)	Quarterly in 2024	0 – 8.3	6.9	50	Health Advisory of 300	Natural sources as well as discharges from industrial uses
* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L and an acute HA at 1.0 mg/L (Add health language listed below if detect is over 300 ppb)						

Our system is participating in the US EPA's fifth Unregulated Contaminant Monitoring Rule (UCMR 5) as required, which includes sample collection for 30 chemical contaminants between 2023 and 2025. The data collected under UCMR5 improves understanding of the prevalence and amount of 29 per- and polyfluoroalkyl substances (PFAS) and lithium in the nation's drinking water systems. Unregulated contaminants are those that don't yet have a drinking water standard set by the US Environmental Protection Agency. The purpose of monitoring for these contaminants is to help US EPA decide whether the contaminants should have a standard. Please refer to the table below for the results of our UCMR5 testing. Additional information regarding UCMR5 can be found at: https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule

UCMR5	Date(s) Collected	Result or Range Detected	Average Detected	MCL	ORSG	Possible Source
Perfluorobutanesulfonic[1] Acid (PFBS) (ppt)	9/23/24	0 – 4.1	2.05		N/A	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanoic acid (PFOA) (ppt)	9/23/24	4.3	4.3	4.0	N/A	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

UCMR5	Date(s) Collected	Result or Range Detected	Average Detected	MCL	ORSG	Possible Source
Perfluorooctanesulfonic acid (PFOS) (ppt)	9/23/24	0 - 5	2.5	4.0	NA	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

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COMPLIANCE WITH DRINKING WATER REGS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

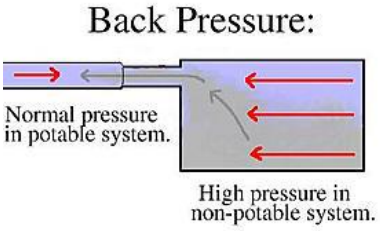
EDUCATIONAL INFORMATON

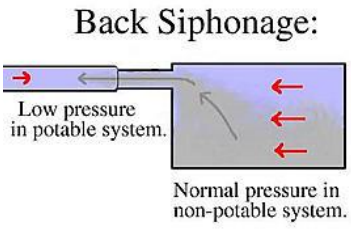
Cross-Connection Control and Backflow Prevention

The Bellingham DPW Water & Sewer Division makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?
A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?
Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.





What can I do to help prevent a cross-connection?
Without proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve

unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

ADDITIONAL INFORMATION

Annually, from May 1st through September 30th of each year, the Bellingham DPW instates an annual water use restriction ban which is based on Bellingham's withdrawal permit. Residents and businesses are encouraged to conserve water during this "high demand" season. Stage 1 of this ban includes notification that restricts watering lawns between 9:00am to 5:00pm all days of the week.