



Town of Bennington, Vermont Water Quality Report 2020

Our goal is to provide you with a safe dependable supply of drinking water. This report is a snapshot of the quality of water we provided to you for January 1 through December 31, 2019. Included are the details of where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. It also includes the date and results of any regulated contaminants that have been detected within the past five years tested less than once a year. Any contaminants detected within the past five years are listed along with the date of detection and concentration as it compares with the current Environmental Protection Agency (EPA) and State of Vermont Standards. This report is designed to inform you about the quality water and services we deliver to you every day.

Public Water System Name: Bennington Water Department

WSID #: 5016

Town: Bennington

Water Source Information

Vermont Source Type: **Stream**

EPA Source Type: **Surface, non-purchased**

Source Name: **BOLLES BROOK**

Location: **Woodford, Vermont**

The Bennington Water Systems relies on two sources of water to supply its customers. The first source is referred to as the Bolles Brook Source. This source consists of an intake in Bolles Brook (located in the Town of Woodford). Water is fed by gravity from the Bolles Brook intake to a 3.0 million gallon per day water filtration plant located approximately 1 mile southwest of the Bolles Brook intake. The water is treated (filtered and chlorinated) at the filtration plant and then supplied to the users by gravity flow into the distribution system.

Vermont Source Type: **Spring**

EPA Source Type: **Groundwater, non-purchased**

Source Name: **MORGAN SPRING**

Location: **Bennington, Vermont**

The Second water source used by the Bennington Water System is referred to as the Morgan Spring Source. This source is located in downtown Bennington. It consists of a spring box which serves to collect the naturally occurring flow from the spring, and a “constant pressure” water booster station which pumps the water from the spring into the Bennington distribution system at differing flow rates in order to maintain constant pressure in the system. The Morgan Spring is estimated to have a reliable yield of about 1500 gpm.

The State of Vermont Water Supply rule requires Public Community Water Systems to develop a Source Protection Plan. This plan delineates a source protection area for our system and identifies potential and actual sources of contamination. Bennington's latest source protection plan was submitted to the Vermont Agency of Natural Resources/Water Supply Division in August 2019 for approval. A copy of this plan will be available for public review once it has been approved at the Bennington Town Offices located at 205 South Street, Bennington, Vermont. Please contact us if you are interested in reviewing it.

As stated in the plan, the most probable source of contamination to the Bolles Brook Water Supply is natural, human and animal waste. This is because a majority of the Bolles Brook water sources come from non-developed National Forest Lands. This supply receives full treatment and disinfection at our Filtration Plant on Route 9 in the Town of Woodford.

The Morgan Spring Water Supply being in a Downtown area faces more potential hazards from existing or pre-existing chemical waste sites and underground fuel storage facilities. However, previous studies indicate that this type of groundwater source may be unusual for Vermont. A report entitled "Bennington Water Study, Morgan Spring 1986 Long-Term Test" prepared by Wagner, Heindel, and Noyes, concludes that the Morgan Spring Source is likely to be of "karst" or cavernous limestone origin and may have a lateral extent of 3 to 5 square miles. It is also concluded in this report that the actual time of travel within the recharge area may be as much as 33 years and that the spring is hydro-geographically isolated from nearby surface waters and sources of contamination within the shallow sand and gravel underlying the Morgan Springs area.

Owner/Operator and Public Participation Opportunities

If you have any questions about this report or concerning your water quality utility, please contact the person(s) listed below. We want our customers to be informed about their water quality. The Bennington Select Board acts as the governing body for our water system. If you want to learn more, please feel free to attend any of the regularly scheduled meetings or view the meetings on Channel 17 of the local cable access.

Town of Bennington
205 South Street
Bennington, VT 05201
Phone Number (802) 442-1037
info@benningtonvt.org

Town Manager	Stuart A. Hurd
Director Public Works	RJ Joly
Asst. Director Public Works	Larry Gates, Jr.
Working Foreman	Tony Onorato
Operator	Brian Billert
Operator	Jason Olansky
Operator	Jason Metcalfe

To learn more, please attend any of our regularly scheduled meetings, which are held on:

Date: Second and Fourth Monday of each Month

Time: 6:00 p.m.

Location: Bennington: Village Fire House, River Street

If you are unable to attend these meetings you may contact Larry Gates, Jr., Assistant DPW Director at (802) 442-1037 or via-email at lgates@benningtonvt.org with any questions you may have.

The State of Vermont Water Supply Rule requires Public Community Water systems to develop a *Source Protection Plan*. This plan delineates a sources protection area for our system and identifies potential and actual sources of contamination. Please contact us if you are interested in reviewing the plan.

Sources of Drinking Water and Contaminants

The general sources of drinking water (both tap water and bottled water) include surface water (streams, lakes) and ground water (springs and wells). As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. It also picks up substances resulting from human activity and from animals. Some “contaminants” may be harmful. Others, such as iron and sulfur, are not harmful. **Public water systems treat water to remove contaminants, if any are present.**

In order to ensure that tap water is safe to drink, we **test it regularly according to regulations established by the U.S. Environmental Protection Agency and the State of Vermont.** These regulations limit the amount of various contaminants:

t Microbial contaminants (such as viruses and bacteria) that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife

t Inorganic contaminants (salts and metals), which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

t Pesticides and herbicides may come from a variety of sources such as storm water runoff, agriculture, and residential uses as well as careless disposal of household chemicals.

t Radioactive contaminants, which can be naturally occurring or the result of mining activity.

t Organic contaminants including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, septic systems, as well as careless disposal of household chemicals.

WATER QUALITY DATA

The table below lists all the drinking water contaminants that we detected during the last calendar year. It also includes the date and results of any contaminants that we detected within the past five years for those required to be tested less than once a year. The presence of these contaminants in the water does not necessarily show that the water poses a health risk.

Terms and abbreviations - In this table you may find terms you might not be familiar with. To help you better understand these terms we have provided the following definitions.

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.
- **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.
- **Locational Running Annual Average (LRAA):** The average sample analytical results for samples taken at a particular monitoring location during four consecutive calendar quarters.
- **Maximum Contamination Level (MCL):** The “Maximum Allowed” MCL is the highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Contamination Level Goal (MCLG):** The “Goal” is the level of contamination in drinking water below, which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. Addition of a disinfectant may help control microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below, which there is no known or expected risk to health. MRDLG’s do not reflect the benefits of disinfectants in controlling microbial contaminants.
- **Nephelometric Turbidity Unit (NTU):** NTU is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Parts per million (ppm) or Milligrams per liter (mg/l):** (one penny in ten thousand dollars)
- **Parts per billion (ppb) or Micrograms per liter (ug/l):** (one penny in ten million dollars)
- **Parts per trillion (ppt) or Nanograms per liter (ng/l):** (one penny in ten billion dollars)
- **Picocuries per liter (pci/L):** a measure of radioactivity in water
- **Running Annual Average (RAA):** The average of (4) consecutive quarters (when on quarterly monitoring); values in table represent the highest RAA for the year.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

- **90th Percentile:** Ninety percent of the samples are below the action level. (Nine of ten sites sampled were at or below this level).
- **N/A:** Not applicable
- **Per- and Polyfluoroalkyl Substances (PFAS):** a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide and includes:
 - (PFNA): Perfluorononanoic Acid
 - (PFOA): Perfluorooctanoic Acid
 - (PFOS): Perfluorooctane Sulfonic Acid
 - (PFHpA): Perfluoroheptanoic Acid
 - (PFHxS): Perfluorohexane Sulfonic Acid
 - (11CI-PF3OUdS): 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic Acid
 - (9CI-PF3ONS): 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid
 - (DONA): 4,8-Dioxa-3H-perfluorononanoic Acid
 - (HFPO-DA): Hexafluoropropylene Oxide Dimer Acid
 - (NEtFOSAA): N-ethyl perfluorooctanesulfonamidoacetic Acid
 - (NMeFOSAA): N-methyl perfluorooctanesulfonamidoacetic Acid
 - (PFBS): Perfluorobutane Sulfonic Acid
 - (PFDA): Perfluorodecanoic Acid
 - (PFDoA): Perfluorododecanoic Acid
 - (PFHxA): Perfluorohexanoic Acid
 - (PFTA): Perfluorotetradecanoic Acid
 - (PFTrDA): Perfluorotridecanoic Acid
 - (PFUnA): Perfluoroundecanoic Acid

Disinfection Residual

Disinfection Residual	RAA	Range	MRDL	MRDLG	Typical Source
Chlorine	0.703	0.000 - 1.510 mg/l	4.0 mg/l	4.0 mg/l	Water additive to control microbes

Level of Detected Contaminants - **Testing required only every (3) Years OR MORE

Contaminant Detected	Highest Level Detected	MCL	MCLG	Range of Detection	Collection Date	Violation	Typical Source of Contaminant
Barium	0.025 ppm	2.0	2.0	0.025 – 0.025	08/07/17	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	0.10 ppm	4.0	4.0	0.10 – 0.10 ppm	02/14/19	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron	0.022 ppm	NA	NA	0.022 – 0.022	05/07/18	No	
Total Nitrate	0.30 ppm	10.0 ppm	10.0 ppm	0.20 – 0.30 ppm	02/11/19	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Radionuclides

Contaminant Detected	Highest Level Detected	MCL	MCLG	Range of Detection	Collection Date	Violation	Typical Source of Contaminant
Combined Radium (-226 & -228)	0.722 pCi/L	5.0	0.0	0.722 – 0.722	05/09/16	No	Erosion of natural deposits
Radium-228	0.722 pCi/L	5.0	0.0	0.722 – 0.722	05/09/16	No	Erosion of natural deposits

Disinfection By-Products	Monitoring Period	LRAA	Range	Unit	MCL	MCLG	Typical Source of Contaminant
Total Trihalomethanes (TTHM)	2019	52.0	3.0 – 57.0	ppb	80	0	By-product of drinking water chlorination
Total Haloacetic Acid (HAA5)	2019	47.0	0.0 – 74.0	ppb	60	0	By-product of drinking water disinfection.

Lead and Copper Action Levels – Next Required Sampling Scheduled June 2020

Lead & Copper	Date	90 th Percentile	Range	Unit	AL	Sites Over AL	Typical Source
Copper	2017	0.00	0.00 – 0.04	ppm	1.3	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead	2017	7.4	0.0 – 20.6	ppb	15	2	Corrosion of household plumbing systems; Erosion of natural deposits

**** The Lead & Copper AL (Action Level) exceedance is based on the 90th Percentile concentration, not the highest detected result.**

Lead in Drinking Water Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children. **Lead in drinking water is primarily from materials and components associated with service lines and home plumbing.** The Bennington Water System 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 drinking 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>.

Availability of Monitoring Data for UN-regulated Contaminants 2018:

The Bennington Water System has sampled for a series of unregulated contaminants, per the Unregulated Contaminant Monitoring Rule (UCMR), established by the Environmental Protection Agency (EPA). Unregulated contaminants are those that don't yet have a drinking water / health-based standard set by the Federal EPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a health-based standard. Every five years, the EPA develops a new list of UCMR

contaminants. The results of our most recent testing are displayed in the table below. For more information, please visit ww.epa.gov/dwucmr. If you are interested in examining these results, please contact Stuart A. Hurd, Town Manager or Larry Gates, Jr., Assistant DPW Director at (802) 442-1037 or via mail request at 205 South Street, Bennington, VT 05201

Detected Unregulated Contaminants – Bennington Water Department WSID 5016

Contaminant	Range	Average	Units
HAA5*	10.057 – 33.129	25.591	ug/L
HAA6Br	0.0 – 0.55	0.326	ug/L
HAA9	10.477 – 42.903	25.851	ug/L
Manganese	1.813 – 5.363	4.122	ug/L
Total Organic Carbon	1,478.4 – 2,764.3	1,877.175	ug/L

*** Regulated Haloacetic Acids (HAA5) are included in the monitoring program to gain a better understanding of co-occurrence with currently unregulated disinfection byproducts.**

- HAA5 includes: Dibromoacetic acid, Dichloroacetic acid, Monobromoacetic acid, Monochloroacetic acid, and Trichloroacetic acid.

- HAA6Br includes: Bromochloroacetic acid, Bromodichloroacetic acid, Dibromoacetic acid, Dibromochloroacetic acid, Monobromoacetic acid, and Tribromoacetic acid.

- HAA9 includes: Bromochloroacetic acid, Bromodichloroacetic acid, Chlorodibromoacetic acid, Dibromoacetic acid, Dichloroacetic Acid, Monobromoacetic acid, Monochloroacetic acid, Tribromoacetic acid, and Trichloroacetic acid.

PFOA Testing & Results

During our 2016 *Unregulated Contaminant Monitoring* the Town of Bennington tested for a number of potential contaminants. Included was a scan for PFOA’s (perfluorooctanoic acid) in Bennington’s drinking water supplies (Bolles Brook and Morgan Spring) as well as the distribution system. **The results showed no detectable levels of the PFOA Contaminant.**

Due to the discovery of PFOA’s in area waterways and private wells, Bennington now **re-tests** both of our two sources for PFOA contamination every year. Our last PFOA test results taken in **October 2019 again show No PFOA Contamination** in either of our water sources. Bennington, along with other larger water systems throughout New England continue to test for other Unregulated Contaminants as required by the Federal EPA Region 1. We will continue to be diligent with our testing as new contaminants (regulated or non-regulated) are identified as potential hazards to our water supply.

Per- and Polyfluoroalkyl Substances (PFAS) are contaminants you may see reported in your Consumer Confidence Report (CCR) for the first time.

What are PFAS?

PFAS are a group of over 4,000 human-made chemicals (they do not occur naturally) that have been used in industry and consumer products worldwide since at least the 1950s. These chemicals are used to make household and commercial products that resist heat and chemical reactions and repel oil, stains, grease, and water. Some common products that may contain PFAS include non-stick cookware, water-resistant clothing and materials, cleaning products, cosmetics, food packaging materials, and some personal care products. Due to their resilient chemical nature, they don’t readily degrade once they are released into the environment. In

addition, the common use of these chemicals in industry and consumer products has led to their widespread impact on the environment. The impact of these chemicals on your drinking water continues to be studied.

Why are PFAS being tested in my drinking water?

In May 2019, Act 21 (S.49), an act relating to the regulation of per- and polyfluoroalkyl substances (PFAS) in drinking and surface waters, was signed by Governor Scott. This Act provides a comprehensive framework to identify PFAS contamination and to issue new rules to regulate PFAS levels in drinking water.

What if PFAS have been detected in my drinking water?

Act 21 set an interim standard for the detected concentration of five PFAS in drinking water, or the combined concentration of any of the 5 PFAS, which should not exceed **20 parts per trillion (ppt)**. The interim standard is based on the Health Advisory established by the Vermont Department of Health. The five PFAS are:

- (PFNA):** Perfluorononanoic Acid
- (PFOA):** Perfluorooctanoic Acid
- (PFOS):** Perfluorooctane Sulfonic Acid
- (PFHpA):** Perfluoroheptanoic Acid
- (PFHxS):** Perfluorohexane Sulfonic Acid

If your water has been tested and the **sum any of the five PFAS listed above is confirmed to exceed 20 ppt**, a Do Not Drink notice will be issued informing you not to use your water for drinking or cooking, brushing teeth, making ice cubes, making baby formula, washing fruits and vegetables or any other consumptive use. You will be advised to use another source of water for consumption which may include bottled water.

An additional 13 PFAS were required to be tested for, per Act 21. These additional 13 PFAS, listed below, currently do not have an established health-based standard and are not counted toward the combined standard of 20 ppt:

- (11CI-PF3OUdS):** 11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic Acid
- (9CI-PF3ONS):** 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic Acid
- (DONA):** 4,8-Dioxa-3H-perfluorononanoic Acid
- (HFPO-DA):** Hexafluoropropylene Oxide Dimer Acid
- (NEtFOSAA):** N-ethyl perfluorooctanesulfonamidoacetic Acid
- (NMeFOSAA):** N-methyl perfluorooctanesulfonamidoacetic Acid
- (PFBS):** Perfluorobutane Sulfonic Acid
- (PFDA):** Perfluorodecanoic Acid
- (PFDoA):** Perfluorododecanoic Acid
- (PFHxA):** Perfluorohexanoic Acid
- (PFTA):** Perfluorotetradecanoic Acid
- (PFTrDA):** Perfluorotridecanoic Acid
- (PFUnA):** Perfluoroundecanoic Acid

Where can I learn more about PFAS in drinking water?

For information about the health effects of PFAS, please visit www.healthvermont.gov/water/pfas or call the Vermont Department of Health at 1-800-439-8550. If you have specific health concerns, contact your health care provider.

Explanation of Violation(s) that occurred in 2019:

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. The below table lists any drinking water violations we incurred during 2019. A failure to perform required monitoring means we could not be sure of the quality of our water during that time.

Type	Category	Analyte	Compliance Period
NO violations occurred in the calendar year 2019			

Health Information Regarding Drinking Water

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

Immune-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/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline.

Possible Health Effects for High TTHM and HAA5's:

Some people who drink water-containing trihalomethanes (TTHM) in excess of the MCL over many years *may* experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. In animal studies, **some** total trihalomethanes have been associated with reproductive or developmental effects.

Some people who drink water containing haloacetic acids (HAA5) in excess of the MCL over many years *may* have an increased risk of getting cancer.

Public Notice – Operating Permit Issued March 26, 2013

The Water System is required to notify all users of the following compliance schedule contained in the Permit to Operate issued by the State of Vermont Agency of Natural Resources:

1. **On or before December 1, 2018: the Permittee (Town of Bennington) shall make all improvements to the South End of the water distribution system, within the low water pressure zone**, in accordance with the low water pressure zone, in accordance with the Town of Bennington's Capital Improvement Plan updated February 26th, 2013, and raise minimum water distribution system pressure to 35 psi or greater under all conditions of flow (normal, maximum and peak), which includes fire flow.
**** PHASE I COMPLETED March 1, 2016; Phase II COMPLETED date December 01, 2016; Phase III COMPLETED December 01, 2017; Phase IV – Harwood Drive COMPLETED December 01, 2018; Phase V – Dewey Street (anticipated) Completion Date July 2021**

Public Notice - Uncorrected Significant Deficiencies: The system is required to inform the public of any significant deficiencies identified during a sanitary survey conducted by the Drinking Water and Groundwater Protection Division that have not yet been corrected. For more information please refer to the schedule for compliance in the system's current Permit to Operate issued on March 26, 2013.

NO significant Deficiencies were identified.

Distribution Information:

Please share this information with all other people who drink this water, especially those who *may not* have received this notice directly, (for example people in apartments, nursing homes, schools, and businesses). The Town of Bennington now distributes a postcard notification to alert all property owners serviced by the Bennington Water System the availability of this report. These property owners are responsible for providing this information to their tenants. If a tenant has not received this information from their landlord, they may request to pick up a copy from the Town Offices in Bennington Monday through Friday between 8:00am and 5:00pm. The report may also be viewed at one of the following publicly posted locations: Bennington Free Library, Town Office, and the Bennington Website (Benningtonvt.org).