2021 WATER QUALITY REPORT

This report contains important information about your drinking water. Translate it or speak with someone who understands it.

Este informe contiene informa ción muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

This year's report covers calendar year 2021 drinking water quality testing and reporting. The Town of Plainville Water Department vigilantly safeguards your water supply.

The U.S. Environmental Protection Agency (USEPA) and the Massachusetts Department of Environmental Protection (MassDEP) are the agencies responsible for establishing and enforcing drinking water quality standards. Unregulated chemical monitoring helps USEPA and MassDEP determine where certain chemicals occur and whether new standards need to be established for those chemicals to protect public health.

Through drinking water quality testing programs carried out by the Plainville Water Department for groundwater, and the Town for the water distribution system, your drinking water is constantly monitored from source to tap for regulated and unregulated constituents.

The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Dennis Morton, Director of Plainville Public Works

Dear Community Members,

The Plainville Water Department's top priority is ensuring that the water we serve is safe, reliable and meets all state and federal drinking water standards.

Like many communities throughout the Commonwealth of Massachusetts and across the nation, our drinking water supply has been impacted by PFAS (Per- and polyfluoroalkyl substances). The drinking water we receive on a daily basis from the North Attleborough water system continues to violate a newly promulgated drinking water standard for the sum of six per- and polyfluoroalkyl substances called PFAS6. The following corrective actions are being taken:

- North Attleboro is currently working with design engineers on an expedited project to design, permit, and install the new granular activated carbon (GAC) treatment facility by the summer of 2022.
- While actions are being implemented to lower the level of PFAS6 in the drinking water, water that complies with the drinking water standard is being made available free of charge at a self-service water filling station located at the DPW office, 49 Whiting Street after the state lowered the maximum contamination level for six per- and polyfluoroalkyl substances called PFAS6.

PFAS are a group of man-made chemicals which have been manufactured and used in a variety of industries worldwide for more than 70 years.

This report summarizes the laboratory result for all samples collected and tested. Responsibility for maintaining water quality resides with our staff of certified water treatment plant operators, licensed by the Massachusetts Division of Professional Licensure. We aim to continually improve and strengthen our system each year so we can provide our customers with
a sustainably reliable high-quality drinking water source and system.

In closing the following report details the 2021 operation of the Town of Plainville Public Water System.

Sincerely,

Dennis Morton

Water Quality is Our Priority

Turn on the tap and the water flows, as if by magic, or so it seems. The reality is considerably different, however. Delivering high-quality drinking water to our customers is a scientific and engineering feat that requires considerable effort and talent to ensure that the water is there, and is always safe to drink. Tap water is highly regulated by state and federal laws, so water treatment and distribution operators must be licensed and are required to complete on-the-job training and technical education before becoming a state certified operator.

Our licensed water professionals have an understanding of a wide range of subjects, including mathematics, biology, chemistry, physics, and engineering. Some of the tasks they complete on a daily basis include:

- Monitoring and inspecting machinery, meters, gauges and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Documenting and reporting test results and system operations to regulatory industries; and
- Serving our community through customer support, education and outreach.

How is My Water Treated?

To maintain compliance with federal and state drinking water standards, Plainville well water must be treated before it reaches consumers' taps. The Turnpike Lake Treatment Plant treats water from Wells 1, 2, and 5 at 171 East Bacon Street. Water from these wells is filtered for iron manganese removal, its PH is adjusted for corrosion control, and it is disinfected with chlorine and ultraviolet light from these wells is filtered for iron.

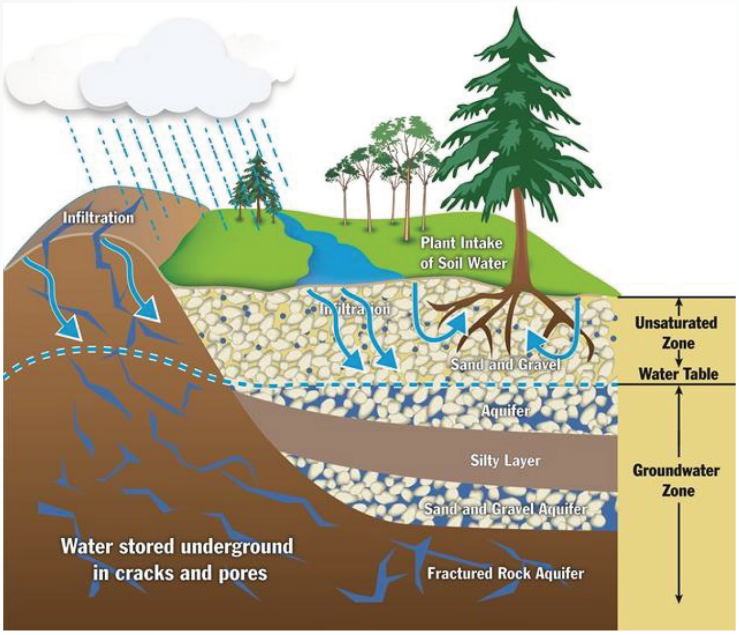
Plainville's Water Resources

Plainville's water is drawn from groundwater sources. Groundwater is one of Plainville's most valuable resources. Groundwater is the water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves slowly through geologic formations of soil, sand and rocks called aquifers.

Seasonal variations in rainfall and the occasional drought affect the "height" of the underground water level. Withdrawing water from a well causes the water levels around the well to lower. During periods of peak demand, outdoor water conservation restrictions are typically needed to ensure minimum volumes of water are available for public health & safety. These restrictions can range from limited outdoor watering to a temporary ban on outdoor watering, depending on the conditions of the resource.

Plainville's Water Supply

The Town of Plainville supplies water to 2,400 water service connections within the community through groundwater wells, treatment plants, pump stations, water storage tanks and water mains.



Our Wells

Plainville withdraws water from several groundwater wells in three separate wellfields located near Turnpike Lake, Lake Mirimichi and at the rear of the Highway Garage off of West Bacon Street.

Source	MassDEP Source ID	Source Type	Location
Well #1	4238000-01G	Groundwater	171 E. Bacon St.
Well #2	4238000-02G	Groundwater	171 E. Bacon St.
Well #5	4238000-05G	Groundwater	171 E. Bacon St.
Well #M1	4238000-06G	Groundwater	Mirimichi Pump Station
Well #M2	4238000-07G	Groundwater	Mirimichi Pump Station
Well #M3	4238000-08G	Groundwater	Mirimichi Pump Station
Well #3	4238000-09G	Groundwater	Rear of 33 W. Bacon St.

The Condition of Plainville's Wells

• The Turnpike Lake Wells are currently operational.

• The Lake Mirimichi Wells were taken offline in September of 2017 due to elevated levels of iron and manganese. The Mirimichi Pumping Station/Treatment Plant does not have a system to remove these contaminants.

• Highway Replacement Wells are currently operational.

WATER SYSTEM FACILITIES

Turnpike Lake Treatment Facility

Water is drawn from the Turnpike Lake Wells, which is treated at the Turnpike Lake Treatment Plant. The water goes through a filtration process to remove iron and manganese and is disinfected; it is then routed to both the water storage tanks; and the distribution system to the community through water mains that feed service lines to water consumers.

North Attleborough Water Treatment Plant

Through an Inter-Municipal partnership with the Town of North Attleborough, raw water is drawn from Plainville's well #3 and pumped to the North Attleboro Treatment Plant where it is filtered and disinfected and then enters the Plainville water distribution system through the Everett Street Booster Pump Station.

Water Storage Tanks

Water storage is essential to meet all of Plainville's domestic, industrial and fire demands. Plainville has two storage tanks, the East Bacon Water Storage Tank and the Sharlene Water Storage Tank. Each of the tanks are flat-bottomed cylindrical tanks.

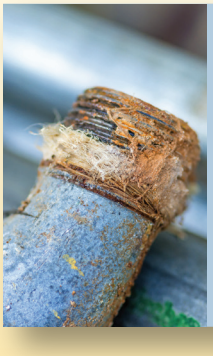
The East Bacon Water Storage tank is a steel structure with the capacity to hold 1.5-million-gallons of water. The Sharlene Water Storage Tank is a concrete structure with the capacity to hold 1.5-million-gallons of water. The East Bacon and Sharelene Water Storage Tanks were remote operation inspected and provided with a clean bill of health.

Water Pumping Stations

Plainville's five booster pump stations are instrumental in pressurizing the water distribution system for elevated segments of Town to maintain constant reliable water supply and pressure.

Water Mains

Plainville's distribution system contains about 58 miles of pipeline of various sizes from six to twelve-inch pipes. The Washington Street and Bugbee Street water mains were replaced in 2020.



Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or at www.epa.gov/safewater/lead

Planning for Our Future

We recognize the tremendous responsibility to provide you with high quality drinking water 24 hours a day, 7 days per week, 365 days per year. Water is vital not only to our health and well-being but to our economy and way of life. The Plainville Public Works is continually evolving our planning process to provide our community with a safe and reliable water system.

- Annual flushing of water mains to remove sediment.
- Replacement of undersized and or older water mains.
- Inspection, repairs and improvements to Pump Stations and Treatment Plants.
- Cleaning and inspection of water storage tanks.
- Cleaning, inspection and restoration of water well systems.
- Implementation of new software to ensure meter reading accuracy for billing.

Quality Control

As mandated by the Massachusetts Department of Environmental Protection and the Massachusetts Drinking Water Regulation, 310 CMR 22.00 Plainville's water is sampled and tested to ensure compliance with all drinking water standards.

To ensure water quality, the Plainville Department of Public Works exceeds the mandated monitoring, by testing monthly for total organic carbon and by performing weekly monitoring of:

- Chlorine
- Iron
- Manganese
- PH
- Water Temperature

Water Conservation

Outdoor water use restrictions will be implemented to protect our water supply during peak season (May 1st – Sept 30th).
The reduction in water consumption is necessary to ensure that the demand for public health and safety for our community is met.

Do Your Part To Help Protect Our Water Supply:

In order to ensure its availability, while saving you money at the same time, it is critical that everyone practice good water conservation.

Tips for Water Conservation in Your Home:

- When washing dishes by hand, don't let the water run. Fill one basin with wash water and the other with rinse water.
- Dishwashers typically use less water than washing dishes by hand. Now, Energy Star dishwashers save even more water and energy.
- If your dishwasher is new, cut back on rinsing. Newer models clean more thoroughly than older ones.
- Designate one glass for your drinking water each day, or refill a water bottle. This will cut down on the number of glasses to wash.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Use the garbage disposal sparingly. Instead, compost vegetable food waste and save gallons every time.
- Wash your fruits and vegetables in a pan of water instead of running water from the tap.
  Visit: www.plainville.ma.us/water-conservation for more information about how you can conserve water.

WATER CONSERVATION

DON'T LEAVE THE TAP RUNNING NEEDLESSLY

Turn off your sink faucet while washing hands, brushing teeth and scrubbing dishes and pots

USE DUAL FLUSH TOILET

Don't flush it more than neccessary

STOP LEAKY TOILET AND DRIPPING FAUCETS

A faucet that drips at the rate of one drop per second will waste 2,700 gallons per year

EATING LOCAL ORGANIC FOOD AND LESS MEAT

Some foods require a lot more water to produce especially foods with carbon footprint

CHOOSE AND USE YOUR APPLIANCES WISELY

Use energy efficient appliances

REDUCING FLOWS OF WATER

Use high efficiency faucet aerator and low flow shower head

SET UP A RAIN BARREL

Rain barrel collects rain water from eaves to water your garden

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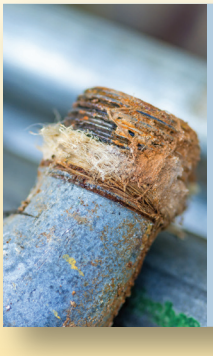

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Testing Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. Also, the water we deliver must meet specific health standards. Here, we show only those substances that were detected in our water. (A complete list of all our analytical results is available upon request.) Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Combined Radium (pCi/L)	2021	5	0	2.3	ND - 2.3	No	Erosion of natural deposits
Haloacetic Acids [HAAs] (ppb)	2021	60	N/A	12.3	0 - 39	No	By-product of drinking water disinfection
Nitrate (ppm)	2021	10	10	2.72	0.79 - 2.72	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
PFAS6 (ppt)	2021	20	N/A	14.13	3.02 - 20.8	No	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
Perchlorate (ppb)	2021	2	N/A	0.93	0.14 - 0.93	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
Flouride (ppm)	2021	2	2	0.28	0.27 - 0.28	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2021	80	N/A	25.7	8.1 - 69	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH PERCENTILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2021	1.3	1.3	0.18	0/31	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2021	15	0	2	1/31	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2021	250	NA	250	54.6 - 286	No	Runoff/leaching from natural deposits
Iron (ppb)	2021	300	NA	3.62	0.05 - 3.62	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2021	50	NA	0.244	0.21 - 0.313	No	Leaching from natural deposits
pH (Units)	2021	6.5–8.5	NA	9.5	1 - 9.5	No	Naturally occurring

Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.

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

MCL (Maximum Contaminant Level): 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.

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.

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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

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

UNREGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2021	1.1	ND - 1.1	By-product of drinking water disinfection
Bromoform (ppb)	2021	0.6	ND - 0.6	By-product of drinking water disinfection
Chloroform (ppb)	2021	1.2	ND - 1.2	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2021	1.1	ND - 1.1	By-product of drinking water disinfection
Acetone (ppm)	2021	0.0715	N/A	Discharge from industrial production, vehicle exhaust, landfills and natural sources
Nickel (ppb)	2021	9	ND - 9	Discharge from domestic wastewater, landfills and mining and smelting operations
Sodium (ppm)	2021	155	26.4 - 155	Naturally occurring substance in the environment

OTHER UNREGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromochloroacetic Acid (ppb)	2018	2.101	ND–3.850
Bromodichloroacetic Acid (ppb)	2018	1.398	ND–2.320
Chlorodibromoacetic Acid (ppb)	2018	0.903	0.359–1.160
Dibromoacetic Acid (ppb)	2019	0.75	ND–1.9
Dichloroacetic Acid (ppb)	2019	6.08	1.6–14.0
Germanium (ppb)	2018	0.015	ND–0.301
Monochloroacetic Acid (ppb)	2019	0.425	ND–2.4
Trichloroacetic Acid (ppb)	2019	8.325	1.0–22.8

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

UNREGULATED PFAS

UNREGULATED CONTAMINANT (CASRN)	YEAR SAMPLED	DETECT RESULT OR RANGE	AVERAGE	ORSG	POSSIBLE SOURCES	HEALTH EFFECTS
Perfluorobutancesulfonic Acid (PFBS) (375-73-5)	2020	ND–2	0.2	†	-	-
Perfluorohexanoic acid (PFHxA) (307-24-4)	2020	ND–8	2.0	†	-	-
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) (2991-50-6)	2020	3	2.8	†	-	-

† There is no ORS Guideline for this compound.

Manganese

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion. In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese.

Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of ten days throughout the year. The ORSG differs from the EPA's health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children's susceptibility to manganese toxicity. See EPA Drinking Water Health Advisory for manganese at: https://www.epa.gov/sites/production/files/2014-09/documents support_cc1_magnese_dwreport_0.pdf and MassDEP Office of Research and Standards (ORSG) for manganese http://www.mass.gov-/eea/agencies/massdep/water/drinking/lead-and-other-contaminants-in-drinking-water.html#11.