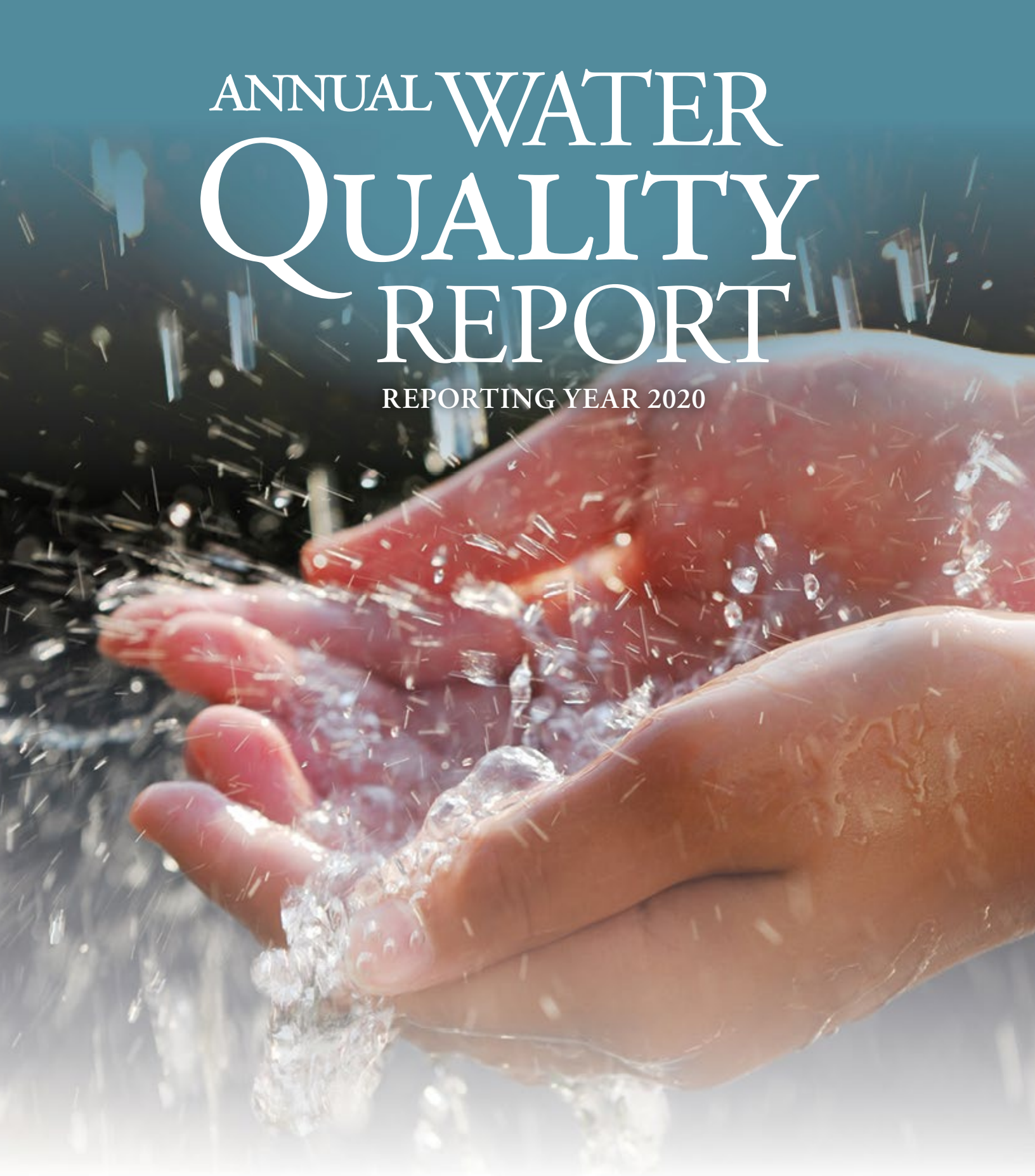
ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020



Presented By

Town of Mansfield

PWS ID#: 4167000

Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

The Benefits of Fluoridation

Fluoride is a naturally occurring element in many water supplies in trace amounts. The Town of Mansfield Board of Health ordered fluoridation on June 20, 1991, to improve oral health in children. Since this time, the fluoride level has been maintained at an optimal level averaging 0.7 parts per million (ppm). At this level, fluoride is safe, odorless, colorless, and tasteless. There are over 3.9 million people in 140 Massachusetts water systems and 184 million people in the U.S. who receive the health and economic benefits of fluoridation.

> "We remain vigilant in delivering the best-quality drinking water"

Source Water Assessment

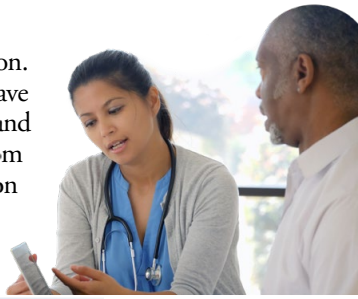
The Source Water Assessment and Protection (SWAP) Program established under the federal Safe Drinking Water Act requires every state to: inventory land uses within the recharge areas of all pubic water supply sources; assess the susceptibility of drinking water sources to contamination from these land uses; and publicize the results to provide support for improve protection. The Massachusetts Department of Environmental Protection completed a Source Water Assessment and Protection Program report for the Town of Mansfield on February 27, 2003. The area of influence for the Canoe River basin was modified in 2013. Our system's susceptibility rating is moderate to high. It is important to understand that a high susceptibility rating does not imply poor water quality, only the system's potential to become contaminated within the assessment area. Copies are available at the Mansfield Water Division, 500B East Street, Mansfield, MA 02048.

Community Participation

The Mansfield Select Board also serve as Water Commissioners for the Town. Unless posted otherwise, the Board meets every other Wednesday at 7 p.m. in the Mansfield Town Hall (Third floor Conference Room 3A/B), Six Park Row, Mansfield, MA. Water customers are welcome to participate in these public meetings.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.



QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call the Town of Mansfield's Water Operations Manager, Kurt E. Gaffney, at (508) 261-7376.

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.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection (MADEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting 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. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The 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. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or 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 which may also come from gas stations, urban stormwater runoff, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

The water sources for the Town of Mansfield come from the Ten Mile River Basin and the Taunton River Basin. Mansfield water is presently supplied from 9 gravel-packed wells and 1 wellfield:

Dustin Well #7 pumps 800 gallons per minute (gpm), Prescott Well #8 pumps 700 gpm, and Prescott Well #9 pumps 500 gpm. These wells, located in East Mansfield off of East Street, supply a treatment facility to remove iron and manganese.

Albertini Wells #2, 3, and 4, located off West Street, supply a treatment facility to remove iron and manganese. Albertini Well #2 pumps 300 gpm, Albertini Well #3 pumps 300 gpm, and Albertini Well #4 pumps 300 gpm. Mahana Well #6 pumps 700 gpm, and Morrison Well #10 pumps 695 gpm; both of these wells are located off Plain Street in West Mansfield. All five of these wells manifold into the Albertini Treatment Filtration Plant located on West Street.

Cate Springs Well #1, located off Maple Street, pumps 1,100 gpm.

Walsh Wellfield pumps 1,042 gpm. The wellfield, located off Gilbert Street in West Mansfield, also includes a treatment facility to remove iron and manganese.

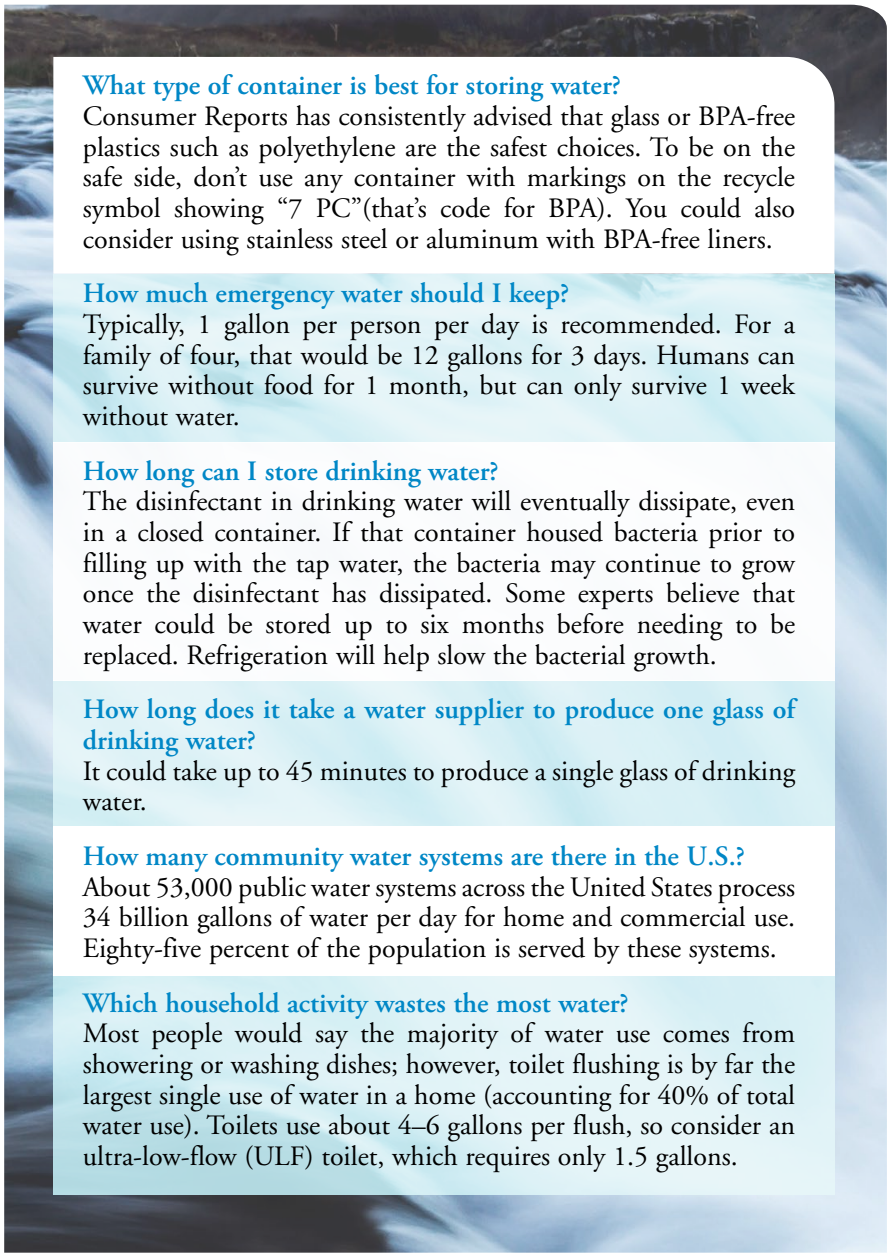
A small number of residences in West Mansfield are provided water by the City of Attleboro Water System. The Town has interconnected and has agreements with the Towns of Easton, Norton, and Foxboro, Massachusetts, to supply water in emergency situations.

Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water.

Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.



What type of container is best for storing water?
Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, don't use any container with markings on the recycle symbol showing "7 PC"(that's code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

How much emergency water should I keep?
Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can only survive 1 week without water.

How long can I store drinking water?
The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of drinking water?
It could take up to 45 minutes to produce a single glass of drinking water.

How many community water systems are there in the U.S.?
About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

Which household activity wastes the most water?
Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4–6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Test Results

The water system in Mansfield is monitored for many different kinds of substances based on a very strict sampling schedule. We are pleased to report that your drinking water meets or exceeds all federal and state requirements and recommended guidelines. In the tables, 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.

We participated in the 4th stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2020	[4]	[4]	0.45	0.36–0.56	No	Water additive used to control microbes
Fluoride (ppm)	2020	4	4	0.58	0.40–0.80	No	Water additive that promotes strong teeth
HAAs (Haloacetic Acids) (ppb)	2020	80	NA	21.73	4.0–48	No	By-Product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2020	80	NA	33.56	10–58	No	By-product of drinking water disinfection

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 %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.40	0/120	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppm)	2020	15	0	0.002	3/120	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2020	8.58	3.7–13.8	By-product of drinking water disinfection
Chloroform (ppb)	2020	19.81	3.8–40.6	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2020	3.83	0.7–11.0	By-product of drinking water disinfection
Sodium[2] (ppm)	2017	50.9	27.0–70.6	Naturally occurring

[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 the EPA in determining their occurrence in drinking water and whether future regulation is warranted.

[2] The Massachusetts Department of Environmental Protection maintains a guideline level of 20 ppm for sodium.

Definitions

90th %ile: 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

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).

REGULATED CONTAMINANT – PFAS6 CCR REGULATED TABLE

REGULATED CONTAMINANT	DATE(S) COLLECTED	DETECT RESULT OR RANGE	QUARTERLY AVERAGE	MCL	VIOLATION	POSSIBLE SOURCES	HEALTH EFFECTS
PFAS6 (ppt)	2020	8 -14 ppt	11	20	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.	Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers.

PFAS6 was regulated on October 2, 2020. These results are based from October 2, 2020 through December 31, 2020. Any detects before October 2, 2020 will be reported in the unregulated table. PFAS = (Per & Polyfluoroalkyl)

UNREGULATED CONTAMINANT – PFAS6 CCR UNREGULATED TABLE

UNREGULATED CONTAMINANTS	DATE COLLECTED	RESULT OR RANGE DETECTED	AVERAGE DETECTED	ORSG	POSSIBLE SOURCES
perfluorooctane sulfonic acid (PFOS) ppt	2020	7–27 ppt	17 ppt	20	Per-fluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints polishes, adhesives and photographic films. Manmade chemical; used in products to make them stain, grease, heat and water resistant
perfluorooctanoic acid (PFOA) ppt					
perfluorohexane sulfonic acid (PFHxS) ppt					
perfluoroheptanoic acid (PFHpA) ppt					
perfluorononanoic acid (PFNA) ppt					

The water sample results shown in this table are based from January 1 up to October 1, 2020. PFAS was not regulated during this time period. PFAS became regulated on October 2, 2020. Any PFAS detects after this date will be reported in the regulated table.

Water samples collected at the Cate Springs Well and Walsh Well in Mansfield detected PFAS contaminants above the ORSG before PFAS was regulated. The Water Division took proactive measures to protect the drinking water system by immediately discontinuing use of these water sources. The Town obtained grant funding to design PFAS treatment removal system for both of these locations. Cate Springs Well and Walsh Wells shall remain inactive until the treatment modifications are complete.