# 2023 Annual Water Quality Report
# Fitchburg DPW – Division of Water Supply
# Fitchburg, Massachusetts
# MA DEP PWS ID# - 2097000

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**Opportunity for Public Involvement:** **Meetings of the Fitchburg Water & Wastewater Commission are typically held at 5:00 p.m. on the third Wednesday of each month at the Fitchburg Legislative Building, 700 Main Street, Fitchburg, MA 01420**

The Fitchburg DPW - Division of Water Supply is pleased to present you with our 2023 annual water quality report, also called a Consumer Confidence Report (CCR), that provides details about your drinking water. Within this report you will find information about where your water comes from, what it contains, and how it compares to State and Federal drinking water standards. Your water system is routinely inspected by the Massachusetts Department of Environmental Protection (MA DEP) to determine that it has the technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water possible, your water system is operated by Massachusetts certified operators who oversee the day to day operations of the water system. We are proud to report that, after having completed more than 10,000 tests over the course of the year, your drinking water met or exceeded all State and Federal standards during 2023.

## Fitchburg's Drinking Water Sources

The City of Fitchburg has a total of 7 surface water reservoirs from which it can withdraw water. Together they have a storage capacity of more than 4.8 billion gallons of water! The following table lists the City's reservoirs and their location.

| Source Name | MA DEP Source ID # | Source Type | Location of Source |
|---|---|---|---|
| Bickford Pond | 2097000-09S | Surface Water | Hubbardston/Princeton |
| Fitchburg Reservoir | 2097000-11S | Surface Water | Ashby |
| Lovell Reservoir | 2097000-04S | Surface Water | Fitchburg |
| Mare Meadow Reservoir | 2097000-06S | Surface Water | Hubbardston/Westminster |
| Meetinghouse Reservoir | 2097000-01S | Surface Water | Westminster |
| Scott Reservoir | 2097000-02S | Surface Water | Fitchburg |
| Wachusett Lake | 2097000-03S | Surface Water | Westminster |

## Is Fitchburg's Water Treated?

The City makes every effort to provide you with safe and pure drinking water. The City has two filtration plants, the J.A. Provencial and Regional Water Treatment Facilities, which treat and distribute water to Fitchburg residents. Water is also supplied to the Town of Westminster from the Regional Water Treatment Facility. Each of the plants utilize a two-step filtration process to remove any contaminants such as sediment, algae, and bacteria from the source waters. A disinfectant (chlorine) is added to protect you against microbial contaminants and the water is also treated to reduce the potential for lead and copper to leach from building plumbing systems. Fluoride is also added in minimal concentrations to aid in dental health and hygiene. Water quality at the treatment facilities is constantly monitored by us and MA DEP to verify the effectiveness of the existing water treatment systems and to determine if any additional treatment is needed.

- ***Este informe contiene informacion importante acerca de su agua potable. Haga que alguien lo traduzea para usted, o hable con alguien que lo entienda.***

## Source Water Assessment and Protection (SWAP) Program

Massachusetts Department of Environmental Protection (MA DEP) has completed a source water assessment and protection (SWAP) program report for the City's water supply sources. SWAP reports assess the susceptibility of public water supply sources. MA DEP's 2002 SWAP report ranked Fitchburg's reservoirs as having high susceptibility. The susceptibility of a water source to contamination does not imply poor water quality. Actual water quality is best reflected by the results of regular water tests. Fitchburg protects its drinking water by monitoring the water for chemicals, treating, filtering, and disinfecting the water supply, and by protecting the land surrounding the reservoirs. The full source water assessment report, which explains the MA DEP ranking, can be seen online at **http://www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2097000.pdf**, or copies of this report can be obtained by calling the Fitchburg Division of Water Supply at (978) 345-9616 ext. 2.

## Substances Found in Drinking Water

In nature, all water contains some impurities – there is no such thing as "naturally pure water." Sources of drinking water, both bottled and tap, include reservoirs, lakes, ponds, rivers, streams, 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 substances resulting from animal or human activity. Some of these substances are harmless while others are not. Drinking water suppliers use treatment methods that are appropriate for the quality of their "source water" to ensure that the water supplied to their customers is safe to drink.

**Contaminants that may be present in source water (both tap and bottled) include:**

- Microbial contaminants - such as viruses and bacteria, which may come from wildlife, septic systems, sewage treatment plants, and livestock operations.
- Inorganic contaminants - such as salts and metals, that can be naturally-occurring or result from storm water runoff, wastewater discharges, or industry.
- Pesticides and herbicides - that may come from a variety of sources such as agriculture, urban storm water runoff, and residential landscaping/household 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 storm water runoff, and septic systems.
- Radioactive Contaminants - which can be naturally-occurring or be the result of oil and gas production and/or mining activities.

In order to ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection (MA DEP) and the U.S. Environmental Protection Agency (EPA) institute regulations that the 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 the 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. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and 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 Fitchburg Division of Water Supply is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting in your home's plumbing system for several hours, you can minimize the potential for lead exposure by flushing your tap for 2 to 3 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**.

## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.
The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.
Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit http://bit.ly/3Z5AMm8.

## Cross-Connections

A cross connection is a connection between a drinking water pipe and a source of pollution or contaminants. The contaminants or pollution can even come from your own home. For example, when applying fertilizer to a lawn or plants some people use a container that attaches directly to the garden hose. If the water pressure drops due to use of a fire hydrant or water main break while the container with the fertilizer in it is still attached to the hose, fertilizer can be siphoned back (this is called backsiphonage) into the water pipes in your home (and also the drinking water mains in the street) through the garden hose. Using a backflow prevention device on your hose called a hose bibb vacuum breaker will prevent this from occurring. Hose bibb vacuum breakers consist of a spring-loaded check valve that seals against an atmospheric outlet when the water supply is turned on. When the water is turned off, the device vents to atmosphere, thus protecting against backsiphonage conditions. You can purchase these at hardware or plumbing supply stores and it is an inexpensive and great way for you to help protect the water in your home as well as the drinking water system in your community. More elaborate backflow prevention devices are required on water supply lines to industrial and commercial buildings where cross connections exist and also on fire sprinkler systems. For additional information on cross connections, how to purchase a hose bibb vacuum breaker, or the status of your water system's cross connection program, please contact our Backflow Prevention/Water Meter office at 978-345-9616 ext. 2.

## Fitchburg's Water Quality Testing Results

We are required to monitor our drinking water for specific contaminants on a regular basis. If we fail to monitor the water or to report results on time; we are in violation of the regulations. The water quality information presented in the table on the last page is generated from the results of more than 10,000 water tests that were completed in 2023 (unless otherwise noted in the table). **We are proud to report that for 2023 your drinking water met or exceeded all US EPA and MA DEP standards and there were no violations of applicable Federal and State regulations.**

### Definitions of abbreviations used in the tables:

**90th Percentile:** Out of every 10 homes/locations sampled, 9 were at or below this level.
**MCL** (Maximum Contaminant Level): 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.
**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, such as chlorine, 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, such as chlorine, 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.
**TT** (Treatment Technique): A required process intended to reduce the level of a contaminant in the drinking water.
**AL** (Action Level): The concentration of contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
**ppm** (parts per million): A unit of measure, equal to milligrams per liter - about one drop in a 55-gallon barrel of water.
**ppb** (parts per billion): A unit of measure, equal to micrograms per liter – about one drop in a 10,000 gallon pool.
**ppt** (parts per trillion): A unit of measure, equal to nanograms per liter – about one drop in 13 million gallons of water.
**NTUs** (Nephelometric Turbidity Units): the cloudiness or haziness of a fluid caused by suspended solids that are usually invisible to the naked eye
**ND** = Not Detected
**SMCL** (Secondary Maximum Contaminant Level): These standards are developed to protect the aesthetic qualities of drinking water and are not health based.
**Unregulated contaminants**: Contaminants 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.
**Manganese Advisory:** The EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure.
**ORSG** (Massachusetts Office of Research and Standards Guideline) – 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.
**pCi/L** = picocuries per liter (a measure of radioactivity)

**2023 TESTING RESULTS FOR BACTERIA**

| Regulated Contaminant | Highest % Positive in any Month | Total # Positive | MCL | MCLG | Violation YES/NO | Possible Source(s) of Contamination |
|---|---|---|---|---|---|---|
| Total Coliform | 0% | 0 | <5% | 0 | NO | Naturally present in the environment |
| E. Coli (a) | 0% | 0 | (a) | 0 | NO | Animal and human fecal waste |

(a) Compliance with the Fecal Coliform/E. Coli MCL is determined upon additional repeat testing if coliform bacteria are detected.

**2023 TESTING RESULTS FOR TURBIDITY**

| Turbidity | MCL | Lowest Monthly % of Samples | Highest level detected | Violation YES/NO | Possible Source(s) of Contamination |
|---|---|---|---|---|---|
| Daily Turbidity Compliance (NTU) | 1.0 NTU | ---------- | 0.30 NTU | NO | Soil runoff |
| Monthly Compliance | At least 95% < 0.35 NTU | 100% | ---------- | NO | |

- Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of water quality and a measure of the effectiveness of our treatment process.
- Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so that at least 95% of our samples each month must be below the turbidity limits specified in the regulations.

| MOST RECENT (2022) TESTING RESULTS FOR LEAD AND COPPER<br>(Note: Lead and copper testing is completed every 3 years in compliance with MA DEP sampling requirements.) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Regulated Contaminant** | **Date(s) Collected (b)** | **90th Percentile** | **Action Level** | **MCLG** | **# of sites sampled** | **# of sites above AL** | **Violation YES/NO** | **Possible Source(s) of Contamination** |
| Lead (ppb) | 9/15/22 – 9/21/22 | 4 ppb | 15 ppb | 0 | 30 | 0 | NO | Corrosion of household plumbing systems; erosion of natural deposits |
| Copper (ppm) | 9/15/22 – 9/21/22 | 0.143 ppm | 1.3 ppm | 1.3 | 30 | 0 | NO | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |

| 2023 TESTING RESULTS FOR REGULATED CONTAMINANTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Regulated Contaminant** | **Date(s) Collected** | **Highest level allowed MCL or MRDL** | **Highest level detected** | **Range detected** | **Goals MCLG MRDLG** | **Violation YES/NO** | **Possible Source(s) of Contamination** |
| Chlorine Residual (ppm) | Continuous monitoring | 4.0 ppm | 0.86 ppm | 0.44 ppm - 0.86 ppm | 4.0 ppm | NO | Disinfection of drinking water |
| Haloacetic Acids (HAA5) (ppb) | Quarterly | 60.0 ppb (running annual average) | 40.0 ppb (running annual average) | 19.0 ppb - 57.0 ppb | ---- | NO | By-product of drinking-water chlorination |
| Trihalomethanes (TTHMs) (ppb) | Quarterly | 80.0 ppb (running annual average) | 50.0 ppb (running annual average) | 34.0 ppb - 77.0 ppb | ---- | NO | By-product of drinking-water chlorination |
| Barium (ppm) | 4/25/23 | 2.0 ppm | 0.012 ppm | 0.011 - 0.012 ppm | 2.0 ppm | NO | Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries |
| Fluoride (ppm) | Continuous monitoring | 4.0 ppm | 0.60 ppm | 0.50 ppm - 0.60 ppm | 4.0 ppm | NO | Erosion of natural deposits; water additive for dental health; discharge from fertilizer and aluminum factories |
| Nitrate (ppb) | 4/25/23 | 10 ppm | 0.12 ppm | ND - 0.12 ppm | 10 | NO | Runoff from fertilizer use, leaching from septic systems, erosion of natural deposits |
| Perchlorate (ppb) | 8/2/23 | 2 ppb | 0.10 ppb | 0.081 ppb - 0.10 ppb | ---- | NO | Rocket propellants, fireworks, munitions, flares, blasting agents |
| PFAS6 (ppb) | 4/11/23 – 10/25/23 | 20.0 ppb | 6.2 ppt | ND - 6.2 ppt | N/A | 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. Use and disposal of products containing these PFAS, such as fire-fighting foams. |
| Radium 226 & 228 (pCi/L), combined | 4/23/18 | 5 pCi/L | 0.86 pCi/L | 0.86 pCi/L | 0 | NO | Erosion of natural deposits |

| 2023 TESTING RESULTS FOR UNREGULATED AND SECONDARY CONTAMINANTS | | | | | | |
|---|---|---|---|---|---|---|
| **Unregulated and Secondary Contaminants** | **Date(s) Collected** | **Result or Range Detected** | **Highest Detected or Average Detected** | **SMCL** | **ORSG** | **Possible Source(s) of Contamination** |
| **Inorganic Contaminants** | | | | | | |
| Nickel (ppb) | 4/25/23 | 0.039 ppb – 0.072 ppb | 0.072 ppb | 0.1 | 100 | Discharge from domestic wastewater, landfills, and mining and smelting operations |
| Sodium (ppm) | 4/25/23 | 22 ppm – 24 ppm | 24 ppm | ---- | 20 | Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents |
| Sulfate (ppm) | 12/12/23 | 3.43 ppm | 3.43 ppm | 250 | ---- | |
| Strontium (ppb) | 3/9/15, 6/2/15, 9/2/15, 12/2/15 | 18.0 ppb – 38.0 ppb | 28.0 ppb | ---- | ---- | Erosion of natural deposits |
| **Organic Contaminants** | | | | | | |
| Bromodichloromethane (ppb) | 4/24/23 | 1.2 – 3.9 | 3.9 | 0.5 | ---- | Trihalomethane, by-product of drinking water chlorination |
| Chloroform (ppb) | 4/24/23 | 6.1 – 8.4 | 8.4 | ---- | 70 | By-product of drinking water chlorination |
| Dibromodichloromethane (ppb) | 4/15/19 - 4/16/19 | ND – 1.5 | 0.75 | ---- | ---- | By-product of drinking water chlorination |
| Perfluorohexanoic acid (ppb) | 4/11/23 - 10/25/23 | 1.88 ppb – 2.30 ppb | 2.09 ppb | ---- | ---- | Manmade chemical; used in products to make them stain, grease, heat, and water resistant |
| **Secondary Contaminants** | | | | | | |
| Aluminum (ppb) | 12/12/23 | 14.0 | 14.0 | 200 | 200 | By-product of treatment process |
| Chloride (ppm) | 12/12/23 | 30.6 | 30.6 | ---- | 250 | Road de-icing chemicals; use of inorganic fertilizers; septic system effluent; animal feeds |
| Color (C.U.) | 12/12/23 | ND | <5 | 15 | ---- | Naturally occurring organic material |
| Copper (ppm | 12/12/23 | ND | ND | 15 | ---- | Naturally occurring |
| Manganese (ppm) | 3/27/23 - 12/12/23 | ND – 0.052 | 0.052 | 0.05 | 0.30 | Erosion of natural deposits |
| Odor (T.O.N.) | 12/12/23 | ND | ND | 3 T.O.N. | ---- | Erosion of natural deposits; leaching from wood preservatives |
| pH | 12/12/23 | 7.0 | 7.00 | 6.5 - 8.5 | ---- | ----- |
| Sulfate | 12/12/23 | 3.43 | 3.43 | 250 | ---- | Runoff and leaching from natural deposits; industrial wastes |
| Total Dissolved Solids (TDS) (ppm) | 12/12/23 | 72 | 72 | 500 | ---- | Erosion of natural deposits |
| Zinc (ppm) | 12/12/23 | ND | ND | 5 | ---- | Erosion of natural deposits; leaching from plumbing materials |