2024 Consumer Confidence Report

For

Marion Water Division

Marion Massachusetts

MASSDEP PWSID # 4169000

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: replaced the North Well and Wolf Island Well in their entirety, replaced three hydrants that were aging and malfunctioning, began the use of the new chemical feed station which treats water from the East Well, West Well, and Mary's Pond Wellfield B, continued data collection of water service materials as required by the EPA in an effort to identify and eliminate any lead water service lines within the water distribution system, and completed annual unidirectional flushing of the water distribution system to maintain high water quality, improve the carrying capacity of water mains, and confirm the proper operation of water distribution components such as hydrants and gate valves.

The 2024 Sanitary Survey conducted by MassDEP did not result in any violations or deficiencies of the water system.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings: Board of Water & Sewer Commissioners meetings which are typically held at 6:00PM on the first and third Tuesday of each month, at the Marion Town House Conference Room, 2 Spring Street, Marion, MA 02738. Please contact the Executive Assistant to the Board of Water & Sewer Commissioners at (508) 748-3520 to confirm meeting times and dates.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below. The Marion water system includes seven groundwater supply sources. All of Marion's water supply sources are located in the Town of Rochester with the exception of Main Water Station, which is located in Marion.

Source Name	MassDEP Source ID#	Source Type	Location of Source
Perry Hill Station (North Well)	4169000-06G	Groundwater	off New Bedford Road, Rochester
Perry Hill Station (South Well)	4169000-07G	Groundwater	off New Bedford Road, Rochester
East Well	4169000-02G	Groundwater	off Marion Road (Rt 105), Rochester
West Well	4169000-03G	Groundwater	off Marion Road (Rt 105), Rochester
Mary's Pond Wellfield B	4169000-08G	Groundwater	off Mary's Pond Road, Rochester
Wolf Island Well	4169000-05G	Groundwater	off Wolf Island Road, Rochester
Main Water Station	4169000-04G	Groundwater	off Front Street (Rt 105), Marion

Marion also receives water from the Mattapoisett River Valley Water District (MRVWD), PWS ID #417300, who operates a 6-million gallon per day water treatment plant (WTP) located in Mattapoisett, Massachusetts. The WTP receives and treats raw water from eight municipal water supply wells owned and operated by the District Towns within the Mattapoisett River Valley Aquifer: four Fairhaven wells, three Mattapoisett wells, and one Marion Well (Wolf Island Station).

Is My Water Treated?

Because Marion uses groundwater as its water supply source, minimal treatment or chemical addition is necessary. Sodium silicate is added to sequester iron and manganese, and potassium hydroxide is utilized to adjust the pH of the water. The MRVWD WTP utilizes oxidation with ozone followed by membrane ultrafiltration with membrane filters for the removal of iron and manganese, and the finished water is treated to adjust the pH for corrosion control.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP Report assess the susceptibility of public water supplies. The SWAP Program, established under the Federal Safe Drinking Water Act, requires every state to (1) inventory land uses within the recharge areas of all public water supply sources; (2) assess the susceptibility of drinking water sources to contamination from these land uses; and (3) publicize the results to provide support for improved protection.

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 Marion Water Division office and online at *https://www.mass.gov/info-details/the-source-water-assessment-protection-swap-program.* For more information, call the Marion Water Division at 508-748-3540.

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 naturally occur 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 number 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 people 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).

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – 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.

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.

Method Detection Limit (MDL) – Minimum laboratory detection limit.

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.

N/A – Not Applicable.

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 = millimrems 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 tables 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. Only the detected contaminants are shown.

Lead and Copper

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Range	Possible Source of Contamination
Lead (ppb)	6/13/2024	2.5	15	0	40	1	ND - 31	Corrosion of household plumbing systems; Erosion of natural deposits
	11/13/2024	3			40	1	ND - 38	
Copper (ppm)	6/13/2024	0.23	1.3	1.3	40	0	ND - 0.93	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
	11/13/2024	0.19			40	0	ND – 0.28	

Revised Total Coliform Rule

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 Assessment. One Level 1 Assessments was completed. In addition, we were required to take one corrective action, and we have completed one corrective action.

Bacteria	**MCL / TT**	**MCLG**	**Value**	**Date**	**Violation (Y/N)**	**Possible Sources**
Total Coliform Bacteria	MCL	0	Positive	5/7/2024	N	Known disturbance: routine unidirectional flushing
Refer to the Compliance with Drinking Water Regs section of this CCR for additional information.						

During the past year one Level 2 Assessment was required to be completed for our water system. One Level 2 Assessment was completed. In addition, we were required to take one corrective action, and we have competed one corrective action.

Bacteria	**MCL / TT**	**MCLG**	**Value**	**Date**	**Violation (Y/N)**	**Possible Sources**
Total Coliform Bacteria	MCL	0	Positive	12/3/2024	N	Known disturbance: source down for repair
Refer to the Compliance with Drinking Water Regs section of this CCR for additional information.						

Turbidity

	TT	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Turbidity (NTU)	5	8.7	N	Soil runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.				

Regulated Contaminants

The MassDEP has reduced the monitoring requirements for the Perry Hill Station North Well and Perry Hill Station South Well for the following contaminants: Volatile Organic Compounds (VOCs), Inorganic Compounds (IOCs), and Perchlorate because the sources are not at risk of contamination. MassDEP's determination for these sources was based on the land use inventory submitted by the Marion Water Division in the Monitoring Waiver Application for the 2023 – 2025 Compliance Period, and the ability of these sources to meet the requirements as specified in 310 CMR 22.00 Drinking Water Regulations of Massachusetts sections 22.06(6); 22.026(9); 22.07A(4); and 22.07B(3).

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							
Nitrate (ppm)	5/1/2024	1.8	0.63 – 1.8	10	10	**N**	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	4/29/2024 & 9/3/2024	0.1	0.097 – 0.1	2	N/A	**N**	Rocket propellants, fireworks, munitions, flares, blasting agents
PFAS6 (ppt)	4/16/2024 & 7/16/2024	2.01	1.86 – 2.17	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.
Radioactive Contaminants							
Radium 226 & 228 (pCi/L) (combined values)	12/9/2024	0.55	N/A	5	0	**N**	Erosion of natural deposits

Unregulated Contaminants

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 Acid (PFBS) (ppt)	7/16/2024	0.84	N/A	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat, and water resistant
Perflourohexanoic Acid (PFHxA) (ppt)	7/16/2024	0.62	N/A	N/A	N/A	Manmade chemical; used in products to make them stain, grease, heat, and water resistant
Sodium (ppm)	7/30/2024	13.5	N/A	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Based on studies of laboratory animals, people exposed to elevated levels of PFBS, depending on the level and length of exposure, could experience effects on the liver, thyroid, blood, and kidneys. PFBS is less toxic and is cleared from the body much faster than PFOS, PFOA and other longer-chain PFAS.

Based on studies of laboratory animals, depending on the level and length of exposure, PFHxA in drinking water may effect the liver, the blood, and thyroid and may cause effects on the developing fetus. PFHxA is generally considered less toxic than PFOA and is cleared from the body much faster the PFOS, PFOA and other longer-chain PFAS.

Some people who drink water containing sodium at high concentrations for many years could experience an increase in blood pressure.

Secondary Contaminants

Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Manganese* (ppb)	2024	6 – 24	15.7	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)						

Infants and children who drink water containing manganese at high concentrations may have learning and behavior problems. People with liver disease who drink water containing manganese at high concentrations may have neurological disorders.

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 standard regulated by the state and federal government.

Health Effects Statements

Lead:
During the required lead and copper sampling for 2024, lead detections above the Action Level were observed at two locations. Per MassDEP instruction, the homeowners of those locations were notified of the exceedance, and provided information on investigating the material of their water service and future plan to remove any lead components found.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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 services lines and home plumbing. The Marion Water Division is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact the Marion Water Division office at (508) 748-3540. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead.

Water systems are now required by the U.S. Environmental Protection Agency (EPA) to inventory all water service line materials and identify any water service line containing lead or lead materials. The Lead Service Line inventory is currently underway, and although there are portions of water services within the water distribution system that are of unknow material classification, based on the information received to date and recorded in our most recent inventory, there have been no records of any water service lines served by the Marion Water Division categorized as lead service materials to date. Please contact the Marion Water Division office at (508) 748-3540 for more information on the Lead Service Line inventory.

Total Coliform Bacteria:
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in samples and this was a warning of potential problems.

On May 7, 2024, the Marion Water Division received notification of positive total coliform bacteria results during routine bacteria sampling. The Marion Water Division immediately notified MassDEP, and followed compliance procedures. Repeat bacteria samples were taken, which resulted in absent detections. The source of the bacteria was suspected to be from routine unidirectional flushing that is completed annually. The Marion Water Division completed the Level 1 Assessment as required by MassDEP and completed the required correction action: temporarily discontinue unidirectional flushing to let the system stabilize, and resume the following week.

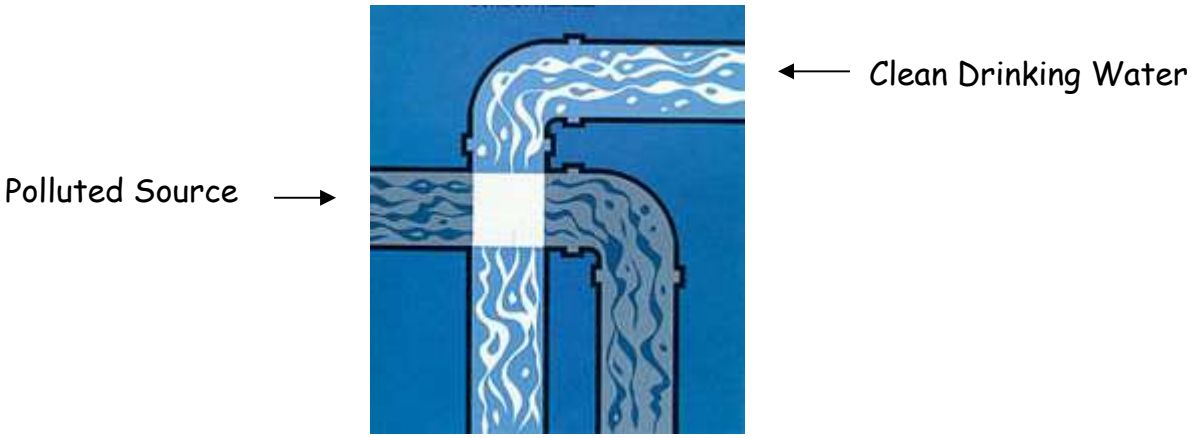
On December 3, 2024, the Marion Water Division received notification of positive total coliform bacteria results during routine bacteria sampling. The Marion Water Division immediately notified MassDEP, and followed compliance procedures. The source of the bacteria was suspected to be from maintenance of a groundwater source that was out of service for repair. The Marion Water Division completed the Level 2 Assessment as required by MassDEP because this was the second bacteria detection within 12 months. Additional disinfection of the groundwater source was completed as a corrective action and repeat bacteria samples were taken, which resulted in absent detections.

Turbidity:
The Marion Water Division monitors for turbidity as a measure of the cloudiness of the water, which is a good indicator of water quality. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

EDUCATIONAL INFORMATON

Cross-Connection Control and Backflow Prevention

What is a Cross Connection and what can I do about it?



A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. This problem can be prevented by using an attachment on your hose called a backflow-prevention device.

The Marion Water Division recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town! For additional information on cross connections and on the status of your water systems cross connection program, please contact (508) 748-3540.