



2022 Consumer Confidence Report

Rowley Water Department

Rowley, Massachusetts

MASSDEP PWSID # 3254000

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

Address: 401 Central Street, Rowley MA 01969

Contact Person: Robert Gray, Superintendent

Telephone #: 978-948-2640

Internet Address: www.Rowleywater.com

For billing or payment questions, or to schedule an appointment, please contact Customer Service by phone at (800) 553-5191, or by email at customer-service@pennichuck.com

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 possible, our 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:

The Dodge Road Water Main project was completed in October. The project was completed approximately two months ahead of schedule and under budget. The area now has complete fire safety and allows present and future residents to tie into the Town's water system. The road will be paved in the spring. In order to continue to deliver the cleanest water possible, the department flushed 53 fire hydrants this past summer. The three year Sanitary Survey was completed this past fall. The Department of Environmental Protection conducted inspections of our infrastructure, the Water Treatment Plant, the garage, and the office records, to ensure all required standards have been met for drinking water distribution. They reported no found deficiencies.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events: Consistent with the Governor's orders suspending certain provisions of the Open Meeting Law and banning gatherings of more than 10 people, this meeting will be conducted by remote participation to the greatest extent possible. The public may not physically attend this meeting, but every effort will be made to allow the public to view the meeting in real time. Persons who wish to do so are invited to watch the meeting on Rowley Community Media TV/listen live on Rowley's website, townofrowley.net

Written comments can also be sent to the Water Superintendent at 401 Central Street.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Our water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well #2	3254000-02G	Groundwater	435 Haverhill Street
Well #3	3254000-03G	Groundwater	127 Boxford Road
Well #5	3254000-05G	Groundwater	64 Pingree Farm Road

Is My Water Treated?

Our water system makes every effort to provide you with good quality drinking water. Well #3 and Well #5 are treated and filtered through the treatment plant. We add sodium hypochlorite for disinfection to protect you against microbial contaminants; potassium permanganate for manganese removal; ortho-polyphosphate for sequestration of iron; and, sodium hydroxide for pH adjustment and corrosion control. Well #2 is treated with sodium hypochlorite for disinfection to protect you against microbial contaminants; ortho-polyphosphate for sequestration of iron; and, sodium hydroxide for pH adjustment and corrosion control.

All reservoirs and some ground water sources contain numerous microorganisms, some of which can cause people to become sick. To eliminate disease-carrying organisms, it is necessary to disinfect the water. Disinfection does not sterilize the water; it removes harmful organisms. Sterilization is too costly and kills all microorganisms, even though most are not harmful. The Rowley Water Department adds sodium hypochlorite as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. When combined with filtration, disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Many drinking water sources in New England are naturally corrosive (i.e., they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes, but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that make the water neutral or slightly alkaline. This is done by adding any one, or a combination of several, approved chemicals. The Rowley Water Department adds sodium hydroxide to its water. This adjusts the water to a non-corrosive pH. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for drinking water treatment are approved by one of the following organizations: National Sanitation Foundation (Now known as NSF International or UL, both accredited by the American National Standards Institute). Chemicals must also meet standards established by the American Water Works Association (AWWA).

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?

Mass DEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving the Town of Rowley. The SWAP Report assesses the susceptibility of public water supplies. A susceptibility rating of high was assigned to this system using the information collected during Mass DEP's assessment due to the absence of hydrological barriers that could prevent migration of contamination into the Town's groundwater supply.

The complete SWAP Report is available at <http://www.mass.gov/dep/water/drinking/swapreps.htm>. You can also visit our website www.rowleywater.com for more information on the SWAP Report.

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

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 be naturally-occurring 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.

In order 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 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 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 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. Rowley Water 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 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>.

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.

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 (look and taste) 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 quarters 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.

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 = millirem 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 table 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.

LEAD & Copper:

	Date(s) Collected	90 TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppm)	8/11/2022	0.0014	0.015	0	20	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8/11/2022	0.314	1.3	1.3	20	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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)	4/4/22	1.05	0.17-1.05	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	4/6/2020	ND	ND	1	1	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	10/4/22	0.13	0.1 -0.13	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents

Volatile Organic Contaminants (Regulated)							
Tetrachloroethylene (PCE) (ppb)	4/11/2022	1.1	ND – 1.1	5	0	N	Discharge from factories and dry cleaners; residual of vinyl-lined water mains
Radioactive Contaminants							
Gross Alpha (pCi/l) (minus uranium)	7/22/2014	0.82	0.33 - 0.82	15	0	N	Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	7/22/2014	0.68	0.17 -1.2	5	0	N	Erosion of natural deposits

Disinfectants and Disinfection By-Products							
Regulated Contaminant	Dates Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Haloacetic Acids (HAA5) (ppb)	Annual 2022	1.5	1.3-1.5	60	N/A	N	Byproduct of drinking water disinfection
Trihalomethane (THMs) (ppb)	Annual 2022	22	20-22	80	N/A	N	Byproduct of drinking water disinfection
Chlorine (ppm) (free)	Monthly in 2022	0.40	0.19 - 0.40	4	4	N	Water additive used to control microbes

Total Coliform Testing						
	Highest # Positive in a month	Total # Positive	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	1	1	*	0	N	Naturally present in the environment
Fecal Coliform or <i>E.coli</i>	0	0	*	0	N	Human and animal fecal waste

* Compliance with the Fecal Coliform/*E.coli* MCL is determined upon additional repeat testing.

Regulated PFAS Contaminants							
Regulated Contaminant	Dates Collected	Highest Result	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
PFAS6 ppt (Sum of PFOS, PFOA, PFHxS, PFNa, PFHpA and PFDA)	Quarterly 2022	17	2.5 – 17	20ppt	NA	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.

On October 2, 2020, MassDEP published its PFAS public drinking water standard, called a Massachusetts Maximum Contamination Level (MMCL), of 20 nanograms per liter (ng/L) (or parts per trillion (ppt)) – individually or for the sum of the concentrations of six specific PFAS. These PFAS are perfluorooctane sulfonic acid (PFOS); perfluorooctanoic acid (PFOA); perfluorohexane sulfonic acid (PFHxS); perfluorononanoic acid (PFNA); perfluoroheptanoic acid (PFHpA); and perfluorodecanoic acid (PFDA). MassDEP abbreviates this set of six PFAS as “PFAS6.” This drinking water standard is set to be protective against adverse health effects for all people consuming the water. For information on the PFAS6 drinking water standard see: 310 CMR 22.00: The Massachusetts Drinking Water Regulations. For more information about the technical details behind the MMCL, see MassDEP’s technical support document at: Per- and Polyfluoroalkyl Substances (PFAS): An Updated Subgroup Approach to Groundwater and Drinking Water Values.

Unregulated and Secondary 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
Bromodichloromethane (ug/l)	1/24/22	ND-9.2	4.5	N/A	N/A	Trihalomethane; by-product of drinking water chlorination
Dibromochloromethane (ug/l)	1/24/22	0.85-4.7	3.2	N/A	N/A	Trihalomethane; by- product of drinking water chlorination
Bromoform (ug/l)	1/24/22	ND	ND	N/A	N/A	Trihalomethane; by- product of drinking water chlorination
Chloroform (ug/l)	1/24/22	ND-12	6	N/A	70	By-product of drinking water chlorination (In non-chlorinated sources it may be naturally occurring)

Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Aluminum (ppm)	2/18/2020	0.031			0.2	Residue from water treatment process: erosion of natural deposits
Chloride (ppm)	2/18/2020	128			250	Runoff and leaching from natural deposits; seawater influence
Color (C.U.)	2/18/2020	<1		15	N/A	Naturally occurring organic material
Copper (ppm)	2/18/2020	0.026		1	N/A	Naturally occurring organic material
Iron (ppm)	2/18/2020	0.02		0.30	N/A	Naturally occurring, corrosion of cast iron pipes
Manganese* (ppm)	2/18/2020	0.001		0.05	Health Advisory of 0.30	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)						
Odor (T.O.N.)	2/18/2020	<1		3	N/A	Erosion of natural deposits; Leaching from wood preservatives
pH	2/18/2020	7.52		6.5-8.5	N/A	Runoff and leaching from natural deposits; seawater influence
Silver (ppb)	2/18/2020	ND		100	N/A	Erosion of natural deposits
Sulfate (ppm)	2/18/2020	11.4		250	N/A	Runoff and leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	2/18/2020	320		500	N/A	Erosion of natural deposits.
Zinc (ppm)	2/18/2020	0.009		5	N/A	Erosion of natural deposits, leaching from plumbing materials

6. COMPLIANCE WITH DRINKING WATER REGS

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 standards regulated by the state and federal government.

EDUCATIONAL INFORMATION

Cross-Connection Control and Backflow Prevention

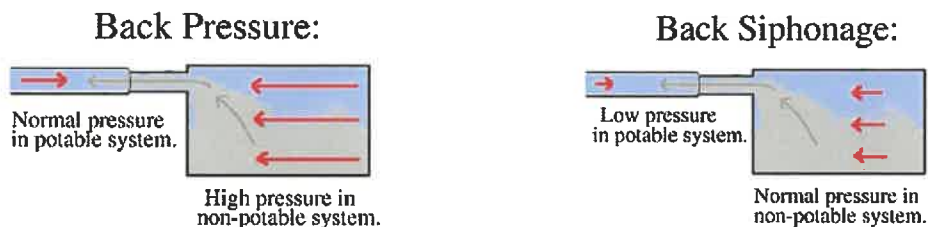
The Rowley Water Department makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bib vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.

- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

Water Conservation: Municipal water systems face many challenges such as: meeting seasonal water demands, finding new supply sources to keep pace with growth, resource protection, water conservation, environmental protection and the increasing stringent regulations for improved water quality. Our sustainability, as it relates to water, is dependent upon our ability to stay abreast of these changing conditions and implementation of future plans. Therefore, sound planning is crucial. Regardless of our future supply conditions, water conservation and prudent supply management will still be our number one priority to ensure the long-term availability of our water supplies. We are committed to conserving our water supplies and complying with Massachusetts state regulatory requirements governing the operation of water systems. A conscientious effort on everyone's part is necessary for these conservation measures to have a positive effect. Your efforts are most appreciated, as we must all work together to preserve this most valuable resource for generations to come. Household water conservation not only saves water, but it saves energy too; energy needed to heat water and to run appliances. Your water meter is equipped with a leak detector. If you see a dripping faucet, you have a leak somewhere. Check all faucets for leaks; even a slow drip can waste up to 20 gallons of water a day. Check for toilet leaks by putting a few drops of food coloring in the toilet's tank. An "invisible" leak in the toilet wastes up to 100 gallons in a day. Only run full loads through your washing machine and dishwasher.

Here are more water saving tips:

- When washing dishes by hand, don't let the water run while rinsing.
- Check your sprinkler system frequently and adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
- Run your washing machine and dishwasher only when they are full. This could save you 1,000 gallons a month.
- Keep a pitcher of water in the refrigerator instead of running the tap for cold drinks, so that no water is wasted going down the drain.
- Minimize evaporation by watering during the early morning hours, when temperatures are cooler and winds are lighter.
- Use a layer of organic mulch around plants to reduce evaporation and save hundreds of gallons of water a year.
- Use a broom instead of a hose to clean your driveway or sidewalk and save 80 gallons of water every time.
- Only water your lawn when needed. A lawn only needs 1" of water each week.
- Install low-volume toilets.

