

Annual Quality Report

Water testing performed in 2011

Presented by:
Town of Rowley Board of Water Commissioners

Scott Martin, Chairman
Roy Ricker
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PWSID #3254000



Dear Rowley Residents,

We are pleased to present a summary of the quality of the water provided to you during the calendar year 2011. The Safe Drinking Water Act (SDWA) requires that all utilities issue an annual “Consumer Confidence Report” to customers in addition to other notices that may be required by law. As in years past, we are committed to the 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.

Our Rowley water source, being well water, tends to be high in minerals. Iron, manganese and hardness are the most troublesome. Some staining can occur in dishwashers and washing machines. Chlorine products should not be used in washing. Vitamin C (Tang, Glisten), Iron-Out, Rover and Rust-Be-Gone products containing sodium hydrosulfite and/or sodium bisulfate are helpful to remove stains.

All residents have onsite sewage disposal utilizing leaching systems. Care of this system should be practiced. This is extremely important within our aquifer area where chemicals could affect the water quality. Do not use tank treatments or dispose of toxic chemicals down the drain. Pump your system regularly. Be careful with crankcase oil and antifreeze flushing. One gallon of petroleum-based products can contaminate approximately 750,000 gallons of water disposal.

Administrative Consent Order

On October 8, 2010 the Northeast Regional Office of the Massachusetts Department of Environmental Protection (“Mass DEP”) and the Town of Rowley (“the Respondent”) entered into Administrative Consent Order (the “ACO”) to address fecal contamination at the Town wells. Currently the Rowley Water Department is in the processes of design and construction of a water treatment plant capable of 4-log removal; with completion of construction by January 15, 2014.

Community Participation

You are invited to participate in our monthly Board of Water Commissioners meetings and voice your questions and concerns about your drinking water and water supply. All meetings are posted at the Town Clerk’s office at Town Hall, 139 Main Street and on the Rowley Water Department web page www.rowleywater.com . Water issues, including projects and upgrades, are also presented at Town Meeting each year. Please contact John Rezza, Water Superintendent, at 978-948-2640.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised person 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 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 appropriated 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 ww.epa.gov/drink/hotline/.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman 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. Our system is in compliance with EPA's Lead and Copper Rule. Lead and Copper are below action levels. If the water in your home has been dormant for more than six hours, EPA recommends flushing (running) the faucet for two to three minutes. This will remove Copper and Lead levels above recommended limits. 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 1-800-426-4791 or at www.epa.gov/safewater/lead.

Nitrate

In drinking water levels above 10ppm is a health risk for infants of less than six months of age. High Nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Manganese

Manganese's is a nutrient that is part of a healthy diet. Drinking water may naturally have manganese, and when concentrations are greater than 50 ug/L, the water may be discolored and taste bad. Over a lifetime, the United States Environmental Protection Agency (U.S. EPA) recommends that people drink water with manganese levels less than 300ug/L and over the short term, U.S. EPA recommends that people limit their consumption of water with levels over 1000 ug/L, primarily due to concern about possible neurological effects. Children up to 3 years of age should not be given water with manganese over 300 ug/L, nor should formula for infants be made with that water.

Fluoride is not added to our water supply.

Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

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

MCL (Maximum Contaminant Level): The highest level of contaminant that is allowed in drinking water. MCL are set as close to the MCLGs as feasible using the best available treatment technology. Secondary MCLs (SMCL) are set for the control of taste and odor.

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. MRDLG'S do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

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

NTU (Nephelometric Turbidity Units) Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The Table below shows only those contaminants that were detected in the water. We feel it is important that you know exactly what, and how much was detected. The state schedule also requires us to monitor for certain substances less frequently; the most recent sample data are included along with the year in which the sample was taken.

	MCL	Rowley Water	Range	Sample Date	Violation	Typical Source of Contaminants
Secondary Contaminants	* = not regulated					
Manganese	0.05 mg/l*	0.57	0-1.2	9/12/11	N	Erosion of natural deposits
Iron	0.3 mg/l*	0.5	0-0.5	9/12/11	N	
Aluminum	0.2 mg/l*	0.11	.06-.17	9/12/11	N	
Chloride	250 mg/l*	108	54-210	9/12/11	N	
Magnesium	None	6.5	4.6-8.8	9/12/11	N	
Volatile Organic Contaminants						
Tetrachloroethylene	5ppb	4.1	0-4.1	4/19/11	N	Vinyl AC Pipe
Inorganic Contaminants						
Nitrate	10ppm	1.2	1.1-1.5	4/4/11	N	Natural deposits, discharge
Nitrite	1ppm	ND		4/4/11	N	from fertilizers
Perchlorate	2 ppm	ND		11/21/11	N	pyrotechnics, explosives
Disinfection Byproducts						
Total Trihalomethanes	80ppb	44	43-46	8/18/11	N	Byproduct of chlorination
Haloacetic Acids	60ppb	24.3	4.1-12	9/11/11	N	
Sodium Hypochlorite	4 ppm	Avg. 1.2	.8-1.6	Daily	N	Disinfectant
Lead and Copper		90th percentile				
Lead	15ppb	0.0025	0-.0038	9/13/11	N	Corrosion of household
Copper	1.3 ppb	0.62	.056-.8	9/13/11	N	plumbing systems
Total Coliform	# of samples	Positives	MCL			
	84	0	1	monthly	N	Naturally present in environment

Where Does My Water Come From?

The Town of Rowley has three municipal wells sunk about 50 feet deep into an underground source of water off the Parker River Basin. These wells are located west of town off Haverhill Street, Boxford Road and Pingree Farm Road. The town owns the land around these Wells and restricts any activity that could contaminate them. After the water comes out of the wells, we treat it to remove corrosive properties and add disinfectant to protect you against microbial contaminants. Source water assessments and yearly testing reports are available at the Water Department 401 Central Street, Rowley, and MA 01969

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 37 gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The Annual American per capita water footprint is about 8,000 cubic feet, twice the global per capita average. Since water use increases six fold in the past century, our demands for freshwater are rapidly outstripping what the earth can replenish.

To check out your water own water footprint, go to www.h2conserve.org or visit www.waterfootprint.org to see how the water footprints of other nations compare.

How much water is lost to a dripping faucet?

Dripping faucets waste a precious resource and its costs you money. As an example, if you have a faucet that drips 60 times a minute, this adds up to over 3 gallons each day or 1,225 gallons each year.

Source Water Assessment and Protection

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 public water supply sources. All of the sources in Rowley have a "high" susceptibility to contamination due to the absence of hydrological barriers (I.E., a confining clay layer) that could prevent migration of contamination into the water system. A source's susceptibility to contamination does not, however, imply poor water quality.

In Brief, Zone II contains potential sources of contamination, which, if present, could migrate and reach our source water. In Rowley, Zone II is primarily a mixture of forest, agriculture, and residential land.

Substance that could be in the water

To ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting the amount of certain contaminants in the 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, which 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, lake, 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 storm water 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 storm water 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 storm water 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.

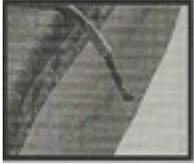
Questions?

For more information about this report, or for any questions relating to your drinking water, please contact John Rezza, Water Superintendent at 978-948-2640.

Rowley Cross Connection Program

Help us protect your drinking water supply from accidental pollution. We encourage you to learn more about cross connections, what you can do to prevent water backflow and keep your drinking water clean and safe.

Common types of Cross Connections.



Cross connections are physical connections between a drinking water pipe and something that is not safe to drink – such as a garden hose, swimming pool, lawn sprinkler, or boiler. Garden hoses are the easiest and most common source for a cross connection to take place.

Do not leave hoses submerged in any type of substance, regardless if a backflow prevention device is present or not.

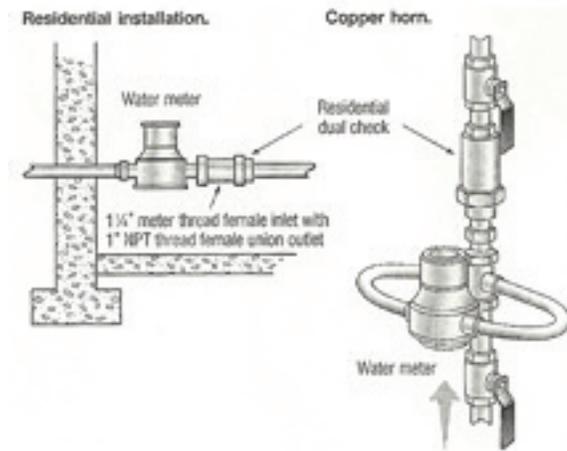
Backflow often happens in the water system.

Backflow protection Backflow can happen if there is a water main break, water line repair, fire, or during a period of high usage. These events may lower pressure in the street enough to reverse the flow of water from your house.

Back flowing water can suck bacteria, sewage, or chemicals from other parts of your plumbing system into your drinking water pipes or those of your neighbors. Unless you take steps to protect the cross connections in your home, your drinking water may become contaminated.



Prevention Strategies.



Protect against backflow The best way to protect yourself, your family, and your neighbors is to remove all cross connections in your pipes or protect them against backflow. Many plumbing fixtures have built-in backflow protection, but to ensure protection, a backflow prevention device such as a dual check valve, should be installed. This will stop water from going backwards from your house into the pipes in the street. All new residential structures and services **MUST** have a dual check valve installed after the water meter. All others are encouraged to do so. Be advised that if you have a device installed, your plumber should make sure that you also have a thermal expansion tank, so pressure does not build up and damage pipes.

Hose Bib Vacuum Breakers are simple, low cost devices that should be used on all residences to help prevent backflow of water when using water hoses. They are easy to install and available at many plumbing and hardware stores.

Don't

1. Submerge hoses in buckets, swimming pools, tubs, ponds, or standing water.
2. Use spray attachments without backflow prevention devices.
3. Use a hose to unplug blocked toilets, drains, or sewer pipes.
4. Connect an irrigation system to your plumbing without a backflow prevention device.

Do

1. Keep the ends of hoses off the ground and clear of all possible contaminants.
2. Install proper backflow prevention device.
3. Look to see if your toilet and tub are ASSE certified.
4. Contact your water supplier or Dept. of Health if you see any suspicious use of a fire hydrant.

The effort of checking for cross connections and/or installing proper backflow prevention devices far outweighs the ability to protect you, your loved ones, and your neighbors from contaminated water.

For more information contact MassDEP at www.mass.gov/dep/water/laws/regulation.htm