AQUARION Water Company

Stewards of the Environment™

2013 Water Quality Report

For Customers in the Millbury System

A Message from the Vice President

John Walsh
Vice President, Operations
Aquarion Water Company of MA

Dear Customer:

Aquarion's highest priority is providing you with clean, safe water. So I am pleased to present your system's water quality report, showing that the water we supplied to you throughout 2013 met or surpassed all the standards established by state and federal health agencies.

I am also pleased to announce that the Massachusetts Department of Environmental Protection has awarded our Millbury water system for its outstanding performance in 2013. This award recognizes our Millbury system as performing in the top 5% of all public water supply systems in Massachusetts.

Along with high-quality water, Aquarion is committed to providing you with prompt, dependable service. We value our continued good working relationship with our customers and the towns we serve. We also have continued to improve our infrastructure with a water main replacement on Alpine Street, and improvements to our treatment facilities.

We enjoy supporting the communities we serve, which is evidenced by our support for a variety of local organizations and events through sponsorship and participation. In Millbury, we sponsored a girls softball team, and we sponsored and installed a hydration station at Millbury Town Hall. We also donated material and took part in the installation of the new water service at the Central/St. Brigid's Cemetery. We supported the following community organizations: Millbury Police, Millbury Public Library, and Millbury Little League.

In closing, I'd like to thank all our employees for their excellent work in providing you with safe, clean water and dependable service. And above all, I thank you and all our customers for the honor of serving you.

Sincerely,

John Walsh
Vice President, Operations
Aquarion Water Company of MA

Facts and Figures

Aquarion conducts an extensive quality testing program each year to ensure its 56,000 residents in Massachusetts have safe, clean drinking water.

In 2013, we collected nearly 1,700 water samples, on which we conducted more than 7,500 quality tests. These tests are designed to detect and measure the presence of at least 100 compounds, many of which occur through erosion of natural deposits. Constant testing enables us to confirm that the water we supply meets or exceeds state and federal standards.

The results reported in the table on the next page demonstrate the effectiveness of our ongoing efforts to protect the purity of Aquarion water every step of the way from the source to your tap.

In This Report

AQUARION
Water Company
Stewards of the Environment

Water Quality Table for Customers in the Millbury System

Your water has been tested for more than 100 compounds that are important to public health. Only 14 of these were detected, all of which were below the amounts allowed by state and federal law. Most of these compounds are either naturally occurring or introduced as treatment to improve water quality. Monitoring frequency varies from daily to once every nine years per EPA regulation, depending on the parameter. Our testing encompasses the full range of regulated inorganic, organic and radiological compounds and microbiological and physical parameters. Results shown below are for detected compounds only.

	Highest Allowed by Law				Millbury System Detected Level	
Substance (Units of Measure)	**MCLG**	**MCL**	**Compliance**	**Test Date**	**Average**	**Range**
Inorganic Compounds						
Barium (ppm)	2	2	**YES**	2012, 2013	0.057	0.026 – 0.072
Copper (ppm)	1.3	AL = 1.3	**YES**	2013	0.50*	
Lead (ppb)	0	AL = 15	**YES**	2013	2**	
Nitrate (ppm)	10	10	**YES**	2013	1.32	0.470 – 1.70
Perchlorate (ppb)	NA	2	**YES**	2013	0.16	ND <0.02 – 0.44
Microbials						
Turbidity (NTU)	NA	TT = 1 max	**YES**	2013	0.07+	0.04 – 0.08
Turbidity (NTU)	NA	TT = 95% of samples <0.3	**YES**	2013	100%	
Disinfectant						
Chlorine (ppm)	MRDLG 4	MRDL 4	**YES**	2013	0.77	0.41 – 1.04
Organic Compounds						
Total Trihalomethanes (ppb)	NA	80	**YES**	2013	17***	5 – 35
Total Haloacetic Acids (ppb)	NA	60	**YES**	2013	5***	1 – 11
Radiologicals						
Radium 226 & 228 (pCi/L)	0	5	**YES**	2010, 2013	ND <0.8	ND <0.8 – 1.5
Inorganic Compounds						
Chloride (ppm)	NA	SMCL = 250	**NA**	2012, 2013	189	110 – 220
Manganese (ppb)	NA	SMCL = 50	**NA**	2013	30	ND <2 – 130
Sodium (ppm)	NA	ORSG = 20	**NA**	2012, 2013	62.2	27.0 – 120
Sulfate (ppm)	NA	SMCL = 250	**NA**	2012, 2013	22.2	13.0 – 27.0

Understanding Your Wat

Footnotes, Definitions and Sou

<	Less than
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 contamination.
NA	Not Applicable
ND	Not Detected
NTU	Nephelometric Turbidity Units, a measure of the presence of particles. Low turbidity is an indicator of high-quality water.
ORSG	Office of Research and Standards Guideline - State of Massachusetts
pCi/L	Picocuries per liter
ppb	parts per billion, or micrograms per liter (ug/L)
ppm	parts per million, or milligrams per liter (mg/L)
SMCL	Secondary Maximum Contaminant Level
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
*	90th percentile value in copper monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for copper.
**	90th percentile value in lead monitoring. Result is representative of customer sampling stagnant water. No locations exceeded the action level for lead.
***	Reported value is the highest annual average of quarterly measurements for disinfection by-products in the distribution system. Values in the range are individual measurements.
+	Reported value is the highest monthly average for turbidity reported from the Millbury Avenue treatment plant effluent. Values in the range are individual measurements. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.

ter Quality Table

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Health Effects

Manganese:
Manganese is a naturally occurring mineral. At a level greater than 0.05 mg/L (50 ppb), the water will appear brown, taste unpleasant, and may leave black stains on fixtures or on laundry. While manganese is part of a healthy diet, it can be harmful if consumed in large concentrations.

Sodium: Sodium-sensitive individuals such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium should be aware of levels where exposures are being carefully controlled.

Barium: Erosion of natural deposits.

Copper: Corrosion of household plumbing systems.

Lead: Corrosion of household plumbing systems.

Nitrate: Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Perchlorate:
Rocket propellants, fireworks, munitions, flares, blasting agents.

Turbidity: Sediment particles; naturally occurring iron and manganese; soil runoff.

Chlorine: Water additive used to control microbes.

Total Trihalomethanes:
By-product of drinking water chlorination.

Total Haloacetic Acids:
By-product of drinking water chlorination.

Radium 226 & 228:
Erosion of natural deposits.

Chloride: Naturally present in the environment.

Manganese:
Erosion of natural deposits.

Sodium: Water treatment processes; use of road salt; naturally present in the environment.

Sulfate: Naturally present in the environment.

Digest of Water Quality Information

Protecting your water at home:
Cross-Connection Control Program

Our Cross-Connection Control Program helps ensure that your drinking water is protected from possible contamination. A cross-connection, as defined by the Massachusetts Department of Environmental Protection (DEP), "is any actual or potential connection between a distribution pipe of potable water from a public water system and any waste pipe, sewer, drain, or other unapproved source that has the potential, through back-pressure or back-siphonage, to create a health hazard to the public water supply and the water system within the premises."

Aquarion's DEP-certified cross-connection surveyors and testers routinely conduct surveys and test backflow prevention devices at our customers' facilities for regulatory compliance. If they find unprotected cross-connections, they will require installation of backflow prevention devices to protect the water distribution system.

The best protection against cross-connection contamination is to eliminate the link. Garden hoses are a leading cause of cross-connection contamination. At your home, you can protect your family and the distribution system from potential contaminants by installing a simple, inexpensive backflow device called a Hose-Bibb Vacuum Breaker (HBVB) that mounts directly to your spigot.

Source Water Assessment Report

The Massachusetts DEP's Source Water Assessment Program (SWAP), which evaluates each water source to identify potential contamination, states that the water sources that supply drinking water to the Millbury System have a high susceptibility to potential contamination. The report is available on the DEP website at **mass.gov/dep/water/drinking/2186000.pdf**.

Protecting water at the source

Even small quantities of pollutants may be enough to contaminate a drinking water supply. Examples of pollutants that may wash into surface water or seep into ground water include:

- Microbial contaminants from septic systems, agriculture and livestock operations, and wildlife;
- Inorganic contaminants such as salts and metals that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, or farming;
- Pesticides and herbicides from 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
- Radioactive contaminants that can be naturally occurring.

You can help prevent water contamination

- Ensure that your septic system is working correctly.
- Use chemicals and pesticides wisely.
- Dispose of waste chemicals and used motor oil properly.
- Report illegal dumping, chemical spills, or other polluting activities to the Massachusetts Department of Environmental Protection's Emergency Response Section **(888-304-1133)**, Aquarion Water **(506-865-0555)**, or your local police.

Water conservation in your home

Our water supply is sufficient to meet your needs, but we still encourage you to conserve this precious natural resource for the good of our environment. There are plenty of simple steps you can take to reduce your water consumption: fix faucet and toilet leaks; turn off the water while shaving or brushing your teeth; run full loads in your dishwasher and clothes washer; water your lawn in early morning; and use a broom to clean debris from your driveway instead of a hose.

Your Health Is Our Priority

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).**

Here is some additional information of interest about Aquarion's drinking water.

Where does your water come from?

The water provided to Millbury customers is collected in wells, treated, and delivered to homes and businesses through an extensive underground piping system. This system, located in the Blackstone River Watershed, serves approximately 8,500 people. The average amount of water delivered during 2013 was 1.6 million gallons per day.

At high demand periods in 2013, water from Worcester supplemented the supply, accounting for 3.3% of the total use. The distribution system is also interconnected to Grafton's water supply for emergencies or periods of high water use.

How is your water treated?

All water from the four wells is filtered naturally underground and then receives chemical treatment for disinfection and pH adjustment. The water from the Millbury Avenue Well also is filtered at the Millbury Avenue Water Treatment Facility to provide additional protection from microbes. Water from the two Jacques wells receives additional treatment through an ion exchange system to remove perchlorate from the water.

Copper and Lead

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Major sources of copper in drinking water include corrosion of household plumbing systems and erosion of natural deposits.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. Aquarion Water Company is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Fortunately, the Lead in Drinking Water Act, which took effect in January 2014, requires a significant reduction of the lead content in new plumbing components that contact drinking water. As a result, the lead content in new pipes, fittings, fixtures and solder must be reduced from 8% to 0.25%.

Customers can minimize the potential for lead exposure when water has been sitting for several hours by running the 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 **epa.gov/safewater/lead**.

Cryptosporidium

The EPA requires public water systems that use surface water sources to monitor for Cryptosporidium. This is a microbial pathogen found in lakes and rivers throughout the U.S. that can cause gastrointestinal illness if consumed. Aquarion continues to monitor its surface water sources and has not detected Cryptosporidium.

Immuno-compromised persons

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline **(800-426-4791)**.

Disinfection By-Products

Disinfection by-products (DBPs) are chemicals formed during the disinfection process, when naturally occurring organic matter reacts with chlorine, which is added to water to eliminate bacteria and other microorganisms. Currently there are limits on two types of DBPs known as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (THAA). Some people who drink water containing DBPs that exceed these limits over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

New DBP regulations that change how compliance with the standards is determined are coming into effect now. The intent is to increase protection against the potential health risks associated with DBPs. Aquarion Water Company continues to evaluate its systems to ensure compliance with DBP regulations.

Your 2013 Water Quality Report

Customers who have questions about water quality can call us at **800-832-2373**; send an email to **waterquality@aquarionwater.com**; or visit **aquarionwater.com**.

For other questions, or to report discolored water or other service problems, call the Water Quality Management Department at **800-732-9678**.

Massachusetts Department of Environmental Protection: **mass.gov/dep/water/drinking.htm**

U.S. Environmental Protection Agency's Safe Drinking Water Hotline: **800-426-4791** or **epa.gov/safewater**

PWS ID#: MA2186000
The Millbury System

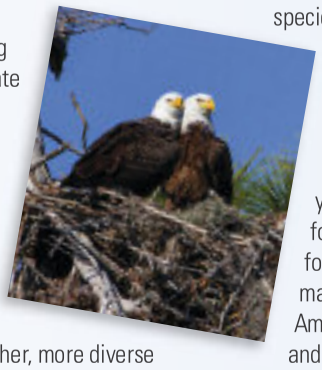
AQUARION
Water Company
Stewards of the Environment™

24 Providence Street, Millbury, MA 01527

Reforestation Project Benefits Begin to Sprout

Everyone knows the wisdom of making lemonade from the lemons that life can dole out. But what do you do when a hurricane leaves over 100 acres of storm-shattered trees in its wake, many lying in a jumble on the ground? Especially when that forest had been protecting vital reservoirs for neighboring communities.

This was the question facing Aquarion Water Company in late 2012 after Hurricane Sandy swept through watershed land surrounding one of its major reservoirs.



Working with forest and wildlife experts, Aquarion developed a plan for "making lemonade" by enabling the landscape to transition to a richer, more diverse habitat than the one the hurricane destroyed.

The first step was to bring in teams of certified foresters to assess and clean up the devastation. They removed hundreds of fallen and broken trees and cut down some still-standing but storm-damaged white pine trees. This species had dominated the landscape but, as Sandy proved, it had made the forest notoriously vulnerable to high winds.

These efforts made room for the regeneration of a native, mixed hardwood forest that will be much less susceptible not only to major storms, but also to diseases that can quickly wipe out forests made up of a single tree species. As the mixed forest grows, the landscape will transition naturally into wildlife-friendly "shrub habitat" that supports far more bird and animal species than the mature pine forest Hurricane Sandy destroyed.

Just ask the bald eagles. Two mature eagles and one youngster already have been spotted in the restored area. With its new mix of young trees and shrubs providing food and shelter, the regrowing forest will be valuable habitat for many bird species, such as the American Woodcock, Eastern Towhee, and Prairie Warbler, whose populations are in decline.

As the forest matures, naturalists from Aquarion and our partner organizations will monitor its progress closely. We'll also continue to manage the entire watershed so it can provide a lot more than the makings of lemonade. It's all part of Aquarion's mission to deliver the highest quality water to customers and help ensure the quality of life for generations to come.

Visit Mystic Aquarium's Beluga Whales Live!

Aquarion is now the sponsor of three cameras trained on the exciting beluga whales exhibit at Mystic Aquarium in Connecticut, the only one of its kind in New England. Go to **aquarionwater.com** and click on the cameras at any time during daylight hours to watch the Aquarium's three belugas – Kela, Naku and Naluark – in the 750,000-gallon, arctic marine environment created just for them.

aquarionwater.com