

CONSERVE

*2016 Water Quality Report
The Birchwood Estates System, Marlborough*



Water: It's Too Precious To Waste



WATER

A Message from the President and CEO



Charles V. Firlotte
President and CEO

Dear Aquarion Customer:

For much of 2016, our area's severe drought had Aquarion talking more about water quantity than water quality. Even so, our focus on the safety and purity of the water we supply to you never relaxed. And, as this report shows, your water continues to meet or surpass every quality standard set by state and federal agencies.

Unfortunately, the quantity issue remains, and it will continue to remain for a long time. Area reservoirs need months of normal or above-normal rainfall to get back to capacity.

In our hardest-hit areas, we've already asked customers to reduce water usage by 20 percent, and to cut back on outdoor watering and irrigation even more. Some of these restrictions even have the force of law.

But no matter where you live, we need you to do even more to save water.

Considering that the average suburban lawn consumes 10,000 gallons of water over and above rainfall, your lawn would be a good place to start. Another place you should be sure to look for conservation opportunities is your bathroom, where the bulk of indoor usage takes place.

You'll find a sampling of conservation tips on the back of this report. In fact, there are so many places and ways to reduce water usage that we've created a special section on our website just to highlight them all: aquarionwater.com/consERVE. We even have an interactive water conservation calculator to help you find the best opportunities for saving.

Please take a look at all the tips we offer. I guarantee you'll learn new techniques that will make a big difference in your consumption.

In closing, I thank all Aquarion customers for helping ensure we can continue having enough water to meet the many needs of human consumption and fire protection. As we can never forget, water is simply "too precious to waste." Thank you for your continued support.

Sincerely,

Charles V. Firlotte
President and CEO

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CONSERVE

Clean, safe water is just the start!

Free admission tickets!

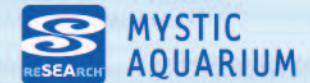
Be sure to take advantage of the special 2-for-1 ticket deals and other offers that Aquarion has arranged for its customers at great Connecticut attractions like the Stamford Museum and Nature Center, Connecticut's Beardsley Zoo, the Mystic Aquarium, the Westport Country Playhouse, the Bridgeport Bluefish baseball team, the Sound Tigers hockey team, the Trumbull Marriott and the Bridgeport & Port Jefferson Ferry. You'll find full details at aquarionwater.com.



The Bridgeport &
Port Jefferson Ferry

We've got whales!

Watch Mystic Aquarium's fascinating collection of beluga whales live on the webcams Aquarion sponsors. Find the fun at aquarionwater.com.



Find us on Facebook
facebook.com/aquarionwater

WATER

The Birchwood Estates System, Marlborough Water Quality Table:

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.

Substance (Units of Measure)	Highest Allowed by Law		Compliance	Test Date	Birchwood Estates System Detected Level	
	MCLG	MCL			Average	Range
Inorganic Compounds						
Barium (ppm)	2	2	YES	2016	0.039	0.039
Copper (ppm)	1.3	AL = 1.3	YES	2015	0.14*	
Fluoride (ppm)	4.0	4.0	YES	2016	0.42	0.42
Lead (ppb)	0	AL = 15	YES	2015	ND < 1**	
Nitrate (ppm)	10	10	YES	2016	0.350	0.350
Disinfectant						
Chlorine (ppm)	MRDLG 4	MRDL 4	YES	2016	0.97	0.49 – 1.20
Organic Compounds						
Total Trihalomethanes (ppb)	NA	80	YES	2016	4	4
Radiologicals						
Radium 226 & 228 (pCi/L)	0	5	YES	2013	1.3	1.3
State-Required Testing						
Physical Characteristics[^]						
Color (CU)	NA	15	YES	2016	2	1 – 4
pH	NA	6.4 – 10.0	YES	2016	7.6	7.4 – 7.8
Turbidity (NTU)	NA	5	YES	2016	0.25	0.10 – 0.75
Inorganic Compounds						
Chloride (ppm)	NA	250	YES	2016	40.0	40.0
Sodium (ppm)	NA	NL = 28	NA	2016	22.2	22.2
Sulfate (ppm)	NA	SMCL = 250	NA	2016	29.0	29.0

Footnotes and Definitions for table on left

<	Less than
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
CU	Color Units
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
NL	State of Connecticut customer notification level
NTU	Nephelometric Turbidity Units, a measure of the presence of particles. Low turbidity is an indicator of high-quality water.
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
*	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.
^	Measured at representative locations within the distribution system.

Your Health Is Our Priority

The Birchwood Estates System, Marlborough PWS ID#: CT0790051

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?

Your water is collected in wells, treated, and delivered to you through an underground piping system. The Birchwood Estates System supply is drawn from seven wells in Marlborough. It serves about 250 people and has an average customer demand of 23,500 gallons per day. Company-wide, an average of 13.9% of the demand is water drawn for firefighting, water main cleaning, water main breaks and leaks, and unauthorized use.

How is your water treated?

Water from the wells is filtered naturally underground, treated to remove iron and manganese and then disinfected.

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 meet or exceed state and federal health and treatment standards. In addition, there are no reported cases of waterborne disease due to Cryptosporidium in Aquarion Water Company's drinking water.

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.

The state has implemented new DBP regulations that change how compliance with the standards is determined. 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.

Source Water Assessment Report

Connecticut's Department of Public Health (DPH) states in its Source Water Assessment Report that the public drinking water sources in the Birchwood Estates System have a moderate susceptibility to potential contamination. To read the DPH's Source Water Assessment Report, visit ct.gov/dph.

(continued on page 5)

Understanding Your Water Quality Table

Barium:	Erosion of natural deposits.
Copper:	Corrosion of household plumbing systems.
Fluoride:	Water additive that promotes strong teeth; erosion of natural deposits.
Lead:	Corrosion of household plumbing systems.
Nitrate:	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Chlorine:	Water additive used to control microbes.
Total Trihalomethanes:	By-product of drinking water chlorination.
Radium 226 & 228:	Erosion of natural deposits.
Color:	Natural organic matter such as decaying leaves; naturally occurring iron and manganese.
pH:	Naturally occurring; water treatment processes.
Turbidity:	Sediment particles; naturally occurring iron and manganese; soil runoff.
Chloride:	Naturally present in the environment.
Sodium:	Water treatment processes; use of road salt; naturally present in the environment.
Sulfate:	Naturally present in the environment.

Copper

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.

*The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Revised Total Coliform Rule

This consumer confidence report reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and began compliance with the new Revised Total Coliform Rule on April 1, 2016. The new rule maintains the purpose of protecting public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e. total coliform and *E. coli* bacteria). The EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contaminants to identify and fix problems. As a result, there is no longer a monthly maximum contaminant level violation for multiple total coliform detections. Instead, the rule requires water systems that exceed a specified frequency of total coliform occurrences to assess the system and determine if any sanitary defects exist. If defects are found, the public water system must correct them.

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).

The federal Environmental Protection Agency (EPA) and Connecticut's Department of Public Health have established extensive regulations for water utilities to follow with regard to lead — and for very good reason. If present in drinking water, lead can cause numerous harmful effects on a person's health. The EPA has determined there is no safe level of lead.

Annually, Aquarion monitors for lead in the water we provide, by testing stagnant tap water samples from high-risk homes (such as homes built before 1950). We follow regulations mandated by the Safe Drinking Water Act, in which the EPA established a limit: 15 parts per billion (or micrograms per liter) in no more than 10 percent of tap water samples. Meeting this limit indicates that the water is minimally corrosive to lead.

If tests reveal that more than 10 percent of tested homes exceed the limit, then the EPA mandates a series of actions we would have to take. These include water treatment, notifying customers about the issue and removing lead service lines. The Aquarion system that supplies your water complies with the lead limit. Even so, some homes may have elevated lead levels due to lead materials in the plumbing or service line.

Health Effects

Lead is especially harmful for infants and young children, causing developmental delays, learning difficulties, irritability, loss of appetite, weight loss, sluggishness, fatigue, abdominal pain, vomiting, constipation and hearing loss.

Effects on adults may include high blood pressure, abdominal pain, constipation, joint pains, muscle pain, decline in mental functions such as abstract thinking and focus, numb or painful extremities, headache, memory loss, mood disorders, fertility issues in men, and miscarriage or premature birth in pregnant women.



Do you have a lead service line?

A service line is the pipe that connects a customer's premises to Aquarion's water main in the street. The customer owns the portion of the service line closest to the premises, while Aquarion owns the portion closest to the street. In some older structures built before 1950, these lines may have been made of lead.

If present, a lead service line can be the primary source of lead in your drinking water, because there is a much greater surface area where lead contacts the water, compared to lead-soldered pipe joints and leaded brass fixtures.

Therefore, if your house was built prior to 1950, you should check the service line where it enters the wall of your basement to see if it is made of lead. If it is a lead line, contact Aquarion at **800-732-9678** for advice on replacing it. This will help reduce your potential exposure to lead in drinking water.



How to reduce exposure to lead in drinking water

Damage from lead exposure cannot be cured, but it can be prevented, especially in drinking water. The best methods for reducing your exposure to lead include removing lead service lines and lead in your home's plumbing, and reducing the amount of time your water sits stagnant in contact with lead materials in the service lines and faucets.

- ◆ If you have not used any of your faucets for a number of hours (for example, overnight or while you are at work), run the water for several minutes. This will bring in fresh water from our water main, which contains no lead. (To conserve water, catch the flushed tap water in buckets or pots to use for cleaning or to water plants.)
- ◆ Always use cold water for drinking, cooking and preparing baby formula. Never cook with or drink water from the hot water tap. Never use water from the hot water tap to make baby formula.

- ◆ Periodically remove and clean the faucet screens/aerators. While doing so, run the tap to eliminate debris.
- ◆ Check your service line where it enters your building and determine if it is made of lead. If it is, replace it.
- ◆ Identify and replace old plumbing fixtures that contain lead. Brass faucets, fittings and valves may leach lead into drinking water — especially those purchased before 2014.

Homeowners who want to determine whether there is lead in their water should have a laboratory test it. There is a list of certified testing laboratories on the state Department of Public Health's website (www.ct.gov/dph).

For more information, our website has a section dedicated entirely to lead in drinking water; visit aquarionwater.com/learnaboutlead. If you have questions, call our Water Quality Department at 203-445-7341 or, outside the Greater Bridgeport area, call 800-832-2373. You also can email us at waterquality@aquarionwater.com.

The EPA advises:

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.

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.

Water Protection: Information You Should Know

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.

How does Aquarion protect your drinking water?

Aquarion Water Company's commitment to providing the highest quality water is evidenced by our regular inspection of homes, businesses, farms and other sites that could pollute water supplies. We also review new land development projects for impact on water quality. In total, we conduct more than 151,800 water quality tests annually. We use the best water treatment and filtration technology and continue to invest in our water systems' infrastructure to improve the security and quality of your water.



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 CT DEEP (Department of Energy and Environmental Protection) 24-hour hotline (**860-424-3338**), Aquarion Water (**800-732-9678**), or your local police.

Protecting your water at home:

Lawn irrigation systems

Your irrigation system helps keep the lawn healthy and beautiful, but did you know it can also contaminate your family's drinking water? Chemicals and microbes on the lawn can flow back through your home's plumbing and even into the neighborhood water mains under low-pressure conditions. These conditions can occur when fire hydrants are in use, and during water main breaks.



To prevent this backflow contamination, the state Department of Public Health (DPH) requires that we inspect your irrigation system to ensure that an appropriate backflow prevention device is in place. The state DPH also requires these devices be tested annually to ensure proper performance. Please call us at **203-337-5871** to schedule your annual inspection and test.

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, such as using a broom to clean debris from your driveway instead of a hose. See more tips on page 7.



Defeat the Drought!

A year ago we alerted you to the developing drought and its impact on our water supplies. With the drought continuing, we're asking all customers to do even more to reduce water usage, both indoors and outdoors. Fortunately, there are plenty of ways to do it, including some you may not have considered:

Cut back on outdoor watering. Water lawns only when absolutely necessary. Roots will then grow deeper to find moisture. Get rid of wasteful, "set 'em and forget 'em" clock timers. And cut your grass 3 inches tall to shade the soil.

Skip the lawn fertilizer. Many use salts that make your lawn less drought-resistant.

Get an edible landscape. Replace turf with berry bushes or fruit trees that will use less water.



Use free water. Put a rain barrel under a downspout to capture rainwater for your garden.

Fill it up! Wait until you have a full load before running your washing machine and dishwasher.



Use water-efficient appliances and fixtures. ENERGY STAR-certified washing machines and dishwashers use far less water. WaterSense-labeled fixtures do the same.

Quit jiggling. Fix leaky toilets. You'll find a step-by-step video about finding and fixing leaks at aquarionwater.com/conserve. Better yet, upgrade to a new, WaterSense-labeled model to save three or more gallons with every flush.



Turn off the taps. While brushing your teeth, shaving or just groping for a towel, keep good, clean water from disappearing down the drain.



Reduce losses. While waiting for tap or shower water to warm up or cool down, catch it in a container for watering plants or for your pets.

Cook up more savings. Save water used for cooking pasta and vegetables – it's great for plants.



Shorten showers. You'll not only use less water – you'll reduce energy costs, too.

Dispose of disposing. Compost vegetable scraps to nourish your garden, instead of using water to grind them up in your disposer.



Quench conservatively. Keep a jug of cold water in the fridge for a cool drink without running the tap until it gets cold.

For most people, conserving water is already second nature. Adding a few more techniques will reduce waste even more. For many more ways to ensure a healthy supply for decades to come, check out: aquarionwater.com/CT/conserve

The 2017 Aquarion Environmental Champion Awards

Nominate Now!

Help us spotlight Connecticut's top Environmental Champions in five categories: adults, students (grades 9-12), non-profits, and small and large businesses.

Deadline for nominations: May 1, 2017

Details: aquarionwater.com
or [facebook.com/aquarionwater](https://www.facebook.com/aquarionwater)



aquarionwater.com

Questions About Your Water Quality Report?

Customers in the Bridgeport area who have questions about water quality should call us at **203-445-7341**, or outside the Bridgeport area, call **800-832-2373**. Customers also may email us at waterquality@aquarionwater.com, or visit aquarionwater.com.

For other questions, or to report discolored water or other service problems, call **203-445-7310** in the Bridgeport area or **800-732-9678** outside the Bridgeport area.

Connecticut Department of Public Health Drinking Water Section: **860-509-7333** or ct.gov/dph

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