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Dear Customer,

Each year, we take hundreds of thousands of water quality tests. I am pleased to share with you that for 2011, MWRA again met every federal and state drinking water standard.

We are fortunate to have inherited one of the country's great water systems. And MWRA continues its work to make the water system even better. We are adding ultra-violet treatment to improve disinfection and continue to pursue renewable energy projects. We have also improved redundancy - to ensure we can still deliver water if there is a major break.

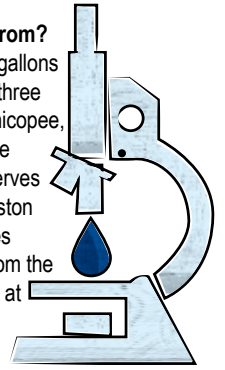
This report is essentially a nutrition label for your water. We hope that you take a moment to read it and to learn about your water system. We want you to share our confidence in your drinking water.

Sincerely,

Frederick A. Laskey  
Executive Director

**Where does your water come from?**

MWRA supplies about 10 million gallons of high quality water each day to three Chicopee Valley communities: Chicopee, Wilbraham, and South Hadley Fire District #1 (FD#1). MWRA also serves 48 cities and towns in greater Boston and MetroWest. Your water comes from Quabbin Reservoir. Water from the Ware River can add to the supply at times.

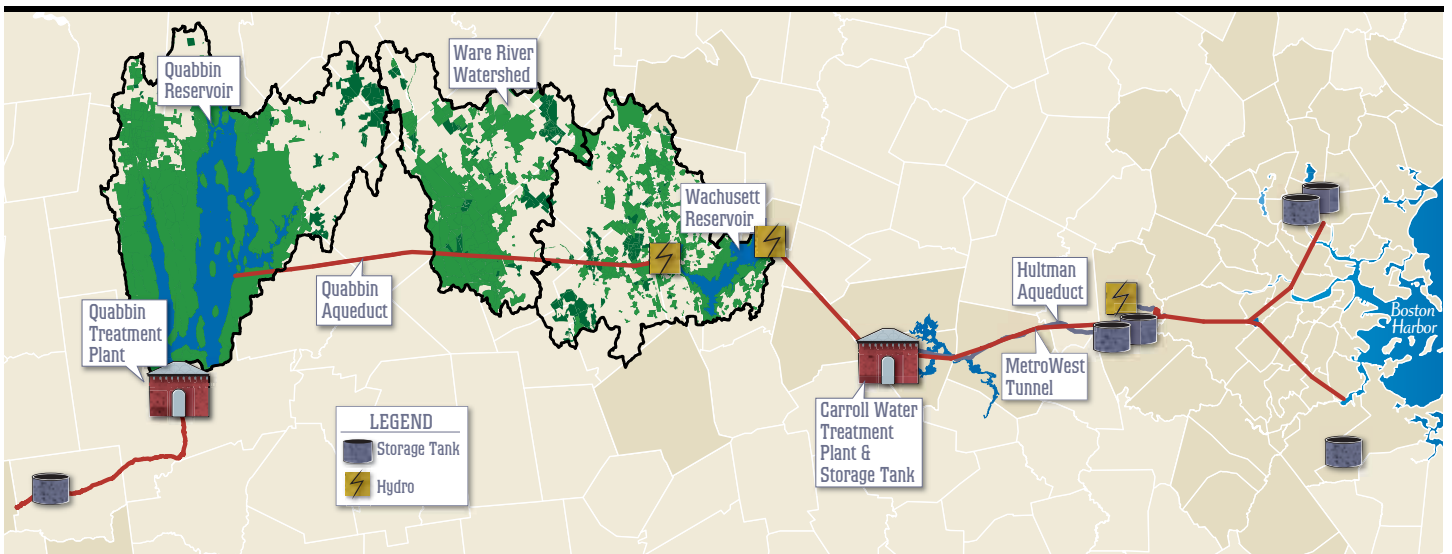


Rain and snow falling on the watersheds - protected land around the reservoirs - turn into streams that flow to the reservoirs. Water comes in contact with soil, rock, plants, and other material as it follows nature's path to the reservoir. While this process helps clean the water, it can also dissolve and carry very small amounts of material into the reservoirs. Minerals from soil and rock do not usually cause problems in the water. But water can also transport contaminants from human and animal activity. These can include bacteria, viruses and fertilizers - some of which can cause illness.

The test results in this report show that these are not a problem in Quabbin Reservoir's watershed.

Quabbin's watershed is protected naturally as over 90% of the watershed is covered in forest and wetlands. About 83% of the total watershed land cannot be developed. The natural undeveloped watershed helps to keep MWRA water clean and clear. Also, to ensure safety, the streams and the reservoir are tested often and patrolled daily by the Department of Conservation and Recreation (DCR).

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program Report for the Quabbin Reservoir. The DEP report commends DCR and MWRA on the existing source protection plans, and states that our "watershed protection programs are very successful and greatly reduce the actual risk of contamination." The report recommends that DCR and MWRA maintain present watershed plans and continue to work with the residents, farmers, and other interested parties to maintain the pristine watershed areas.



# YOUR WATER SYSTEM



Quabbin Reservoir

## Water Treatment – From the Reservoir to Community Pipelines

Your water is treated at the Quabbin Treatment Plant before it enters the Chicopee Valley Aqueduct. The first treatment step is primary disinfection where MWRA's licensed operators carefully add measured doses of chlorine to water to kill pathogens that may be present. Licensed operators in Chicopee perform additional booster disinfection at the point where the local pipes take water from the Aqueduct. Each community also treats the water to reduce leaching of lead from home plumbing.

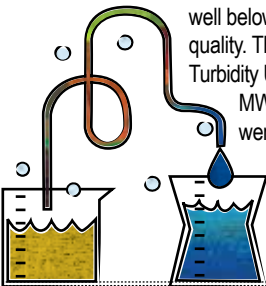
Water must travel through the 15-mile Chicopee Valley Aqueduct and through some of the hundreds of miles of local distribution pipes under your streets before it reaches your tap. To continue providing high quality water, each part of the water system needs routine maintenance and, when necessary, improvements or new facilities.

MWRA has completed the designs to add ultraviolet light (UV) disinfection to the water treatment plant to meet new EPA standards. Construction will begin in 2012.

## Testing Your Water – Every Step of the Way

Test results show few contaminants are found in the reservoir water. The few that are found are in very small amounts, well below EPA's standards. Turbidity (or cloudiness of water) is one measure of overall water quality. There are two standards for turbidity: all water must be below 5 NTU (Nephelometric Turbidity Units), and only can be above 1 NTU if it does not interfere with effective disinfection.

MWRA met both of these standards. Typical levels at the Quabbin Reservoir are 0.3 NTU and were below the 1 NTU over 99.99% of the time. The highest level was 1.32 NTU, but this did not interfere with effective disinfection. MWRA also tests reservoir water for pathogens - such as fecal coliform, bacteria, viruses, and the parasites *Cryptosporidium* and *Giardia*. They can enter the water from animal or human waste. All test results were well within state and federal testing and treatment standards.

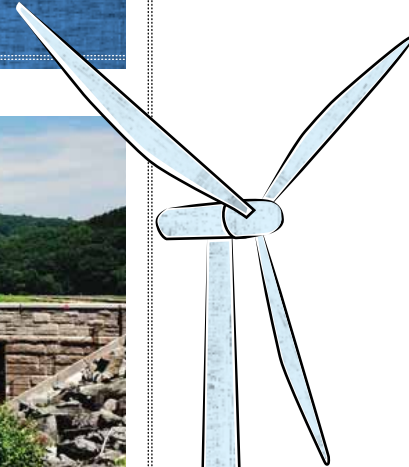


## Test Results – After Treatment

EPA and state regulations require many water quality tests after treatment to check the water you are drinking. MWRA conducts hundreds of thousands of tests per year on over 120 contaminants (a complete list is on [www.mwra.com](http://www.mwra.com)). Details about 2011 test results are in the table below. The bottom line is that the water quality is excellent.

Test Results - After Treatment Compound	Units	(MCL) Highest Level Allowed	(We found) Detected Level-Average	Range of Detections	(MCLG) Ideal Goal	Violation	How it gets in the water
Barium	ppm	2	0.007	0.006-0.007	2	No	Common mineral in nature
Fluoride	ppm	4	0.03	ND-0.05	4	No	Mineral in Nature
Nitrate <sup>^</sup>	ppm	10	0.02	0.02	10	No	Atmospheric Deposition

**KEY:** MCL=Maximum Contaminant Level. The highest level of a contaminant allowed in water. MCLs are set as close to the MCLGs as feasible using the best available technology. MCLG=Maximum Contaminant Level Goal - The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. ppm=parts per million <sup>^</sup>As required by DEP, the maximum result is reported for nitrate, not the average.

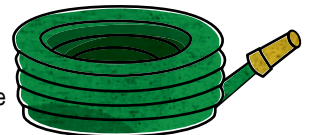


## The Green Choice

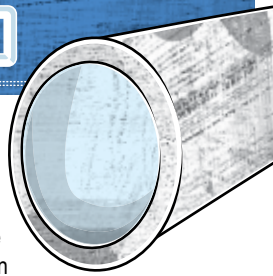
As water travels eastward, clean hydro-energy is produced. MWRA also has wind turbines and solar panels at our Deer Island Plant and solar panels at our Carroll Treatment Plant. Tap water is delivered straight to your home without trucking or plastic waste. Drink tap water and be green!

## Information About Cross Connections

Massachusetts DEP recommends the installation of backflow prevention devices for inside and outside hose connections to help protect the water in your home as well as the drinking water system in your town. For more information on cross connections, please call 617-242-5323 or visit [www.mwra.com/crosscon.html](http://www.mwra.com/crosscon.html).



# COMMUNITY PIPES

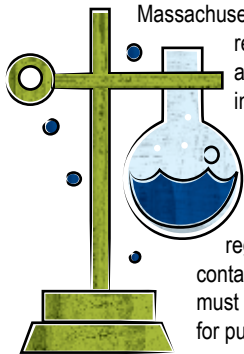


## Tests in Community Pipes

MWRA and local water departments test 300 to 500 water samples each week for total coliform bacteria. Total coliform bacteria can come from the intestines of warm-blooded animals, or can be found in soil, plants, or other places. Most of the time, they are not harmful. However, their presence could signal that harmful bacteria from fecal waste may be there as well. The EPA requires that no more than 5% of the samples in a month may be positive. If a water sample does test positive, we run more specific tests for *E. coli*, which is a bacteria found in human and animal fecal waste and may cause illness. No coliform or *E. coli* was found in any CVA community in 2011.

## Contaminants in Bottled Water and Tap Water

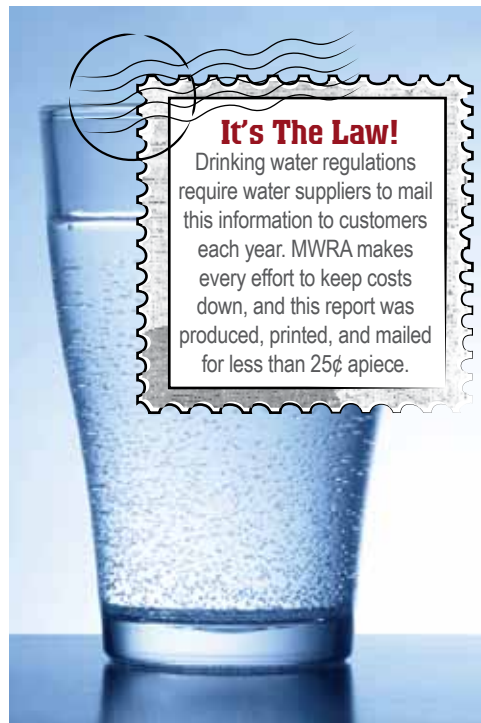
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791) or MWRA. In order to ensure that tap water is safe to drink,



Massachusetts DEP and EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## Water Conservation

On average, each person uses about 60 gallons of water each day. There are many simple ways you can conserve water and lower your bills including: fixing leaks, installing low-flow toilets and low-flush shower heads, or minimizing your outdoor water use. To find out more about MWRA's conservation program, call 617-242-SAVE or visit [www.mwra.com](http://www.mwra.com)



## Drinking Water and People with Weakened Immune Systems



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 EPA's Safe Drinking Water Hotline (1-800-426-4791).

## Award Winning Water



In 2011, the New England Water Works Association named MWRA's water "New England's Best" in a regional taste test. MWRA also received Mass DEP's Public Water System award for outstanding performance. And MWRA received its second "Leading by Example" award from the Commonwealth for its renewable energy programs.

## Tap Water - The Smart Choice!

Although tap water and bottled water have to meet the same standards, tap water must meet the more intensive EPA testing requirements. Yet, tap water costs less than a penny per gallon delivered straight to your home, while bottled water costs from \$1 to \$8 a gallon.



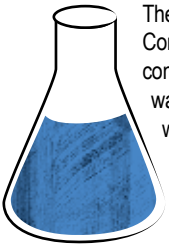
# YOUR COMMUNITY INFORMATION

**Each community has specific treatment and improvements that are listed below:**

## Chicopee

Phone: 413-594-3420

PWS ID# 1061000



The Chicopee Water Department's Corrosion Control Facility continues to provide excellent water quality by adjusting the water's pH and alkalinity levels using sodium carbonate and sodium bicarbonate (baking soda). A phosphate blend also adds an extra level of

protection by further reducing corrosion throughout the system. The benefits of these treatment processes are evident in the reduced level of dissolved metals such as lead, copper, and iron in the city's water supply.

Under the Safe Drinking Water Act, water samples must be collected specifically for the analysis of lead and copper. Household plumbing is the main contributor of these metals in our drinking water. The Chicopee Water Department was not required to collect any lead and copper samples by the Environmental Protection Agency (EPA) in 2011. This is due to the Chicopee Water Department's successful maintenance of low to absent levels of lead and copper in the water system during 2009. Data in the table on page 5 is from 2009. The next round of lead and copper samples will be collected in the spring of 2012.

In 2011, The Chicopee Water Department continued to improve the distribution system by installing approximately 7,100 feet of new ductile iron pipe in various locations throughout the City. Approximately 5,900 feet of new ductile iron pipe was laid in conjunction with the various CSO sewer separation projects and residential developments throughout the City. The remaining 1,200 feet, 800 feet of 6 inch ductile iron pipe in Factory Street/Factory Place and 400 feet of 8 inch ductile iron pipe in Tanglewood Street, was laid in-house by Water Department personnel. These improvements will greatly help to improve water quality and fire protection within the distribution system. In addition, 14 new fire hydrants were installed and 19 hydrants were replaced, helping to improve overall fire protection and increase the safety of our residents.

## South Hadley FD #1

Phone: 413-532-0666

PWS ID# 1275000

The District continues the successful use of sodium silicate for corrosion control in order to comply with the federally mandated Lead and Copper Rule. Sodium Silicate increases the pH of the water and also provides a coating on the inside of the residential plumbing systems to prevent any possible lead leaching into the water. Due to the success of our last round of samples in June of 2010 (which are in the table on page 5), we will now sample the 30 sites within the distribution system every three years. In consideration that we rely on homeowners to perform the sampling for the District, we would like to thank them for taking the time to sample correctly in order for us to sample again in 2013.

Within the past year, our crew has repaired five water main breaks and five service leaks. These leaks have resulted in a considerable loss of water for the department. In addition to the repair work, one new service has been connected to the distribution system.

As part of our determined commitment to improving the distribution system, our staff has replaced a total of 3,400 feet of water main including fire hydrants and water services on two streets within the District. These projects included the install of a new 8-inch ductile iron water main on Brainerd St. between Pine St. and Lyman St, and an 8-inch ductile iron water main on Willimansett St. between Laurie Ave. and Hollywood St. We are working in conjunction with the Highway Dept. by attempting to replace water mains prior to the repaving of streets.

The new mains will ensure reliability of supply, improved water quality and fire protection. The Board is appreciative for the diligent efforts of our maintenance staff cost-effectively installing the new distribution mains with in-house equipment. In addition to installing water mains, we also painted the interior of the 1.5 million gallon Industrial Drive Water Tank with a new epoxy that should last approximately 20 years. We are fortunate to have lease payments from the cellular companies to cover the cost of these projects which will not impact our budget.



## Wilbraham

Phone: 413-596-2807

PWS ID# 1339000

In 2009, the Water Division completed lead and copper sampling at 20 homes and 2 schools in the distribution system. The results were excellent, indicating our corrosion control program (injecting sodium silicate) continue to work as effectively as it has since 1997 continues. The Water Department has been put on a once every three year cycle of lead and copper sampling. Data in table on page 5 is from 2009. Our next scheduled sampling is for 2012.

During 2011, the list of duties performed by the Water Division included: maintaining the four water booster stations, the 2.1 million gallon water tank and our new corrosion control facility; eight water breaks were repaired, 6 new water service installations, the replacement of four fire hydrants, over 70 main line gate valves were cleaned and checked for operation and exercised, 178 work orders of various tasks were accomplished, 98 testable backflow prevention devices were tested at least once per MA DEP regulation, over 200 water samples were taken for water quality analysis and 3,300 meters were read during March and then again in September. Total water usage in 2011 was approximately 387,826,000 gallons as measured by the MWRA master meter. This amount is nearly 13% less than 2010.

The October 29, 2011 snowstorm had its impact on the water system, primarily due to the loss of electricity for many days. The vast majority (90%) of water users are supplied by gravity fed water mains (straight from Quabbin) with no water booster station needed. The remaining 10% of our customers rely on electrical power to boost water pressure to elevated sections of the distribution system. The hardest hit areas in the water system were Brookmont & Hilltop Drives where eighteen homes had no water for eight days due to the Brookmont Drive water booster station not having electrical power. The MacIntosh Drive water booster station that feeds MacIntosh Drive & Apple Hill Road had no power for five days. The Corrosion Control Facility on Miller Street, Ludlow lost electrical power for less than two days, but it has emergency stand-by electrical generation to remain operational. The other two water booster stations (Glenn Drive & Old Orchard Road) lost power as well, but homes served by these stations only had a decrease in water pressure, not a total loss of water.

# FACTS ABOUT LEAD



### What You Need to Know About Lead in Tap Water

All three CVA communities met EPA standards for lead in tap water. MWRA water is lead-free when it leaves the reservoirs. MWRA and local pipes that carry the water to your community are made mostly of iron and steel and do not add lead to the water. However, lead can get into tap water through pipes in your home, lead solder used in plumbing, and some brass fixtures. Corrosion or wearing away of lead-based materials can add lead to tap water, especially if water sits for a long time in the pipes before it is used.

### What Are We Doing About Lead?

Your local water department tests tap water at a number of homes in the communities. But not just any homes. Under Environmental Protection Agency regulations, homes that are likely to have high lead levels - usually older homes likely to have lead service lines or lead solder - must be tested. The EPA rule requires that 9 out of 10, or 90%, of these sampled homes must have lead levels below the Action Level of 15 parts per billion (ppb).

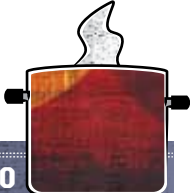
Lead levels found in tap water in sampled homes have dropped significantly since the CVA communities improved treatment to make water less corrosive. This means the water is less likely to absorb lead from pipes and other fixtures. All three CVA communities were below the lead Action Level in the most recent tests.

### Important Lead Information from EPA

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. MWRA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing

components. If 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 at 1-800-426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).



### What can I do to reduce lead exposure from drinking water?

- Run the tap until after the water feels cold. To save water, fill a pitcher with fresh water and place in the refrigerator for future use.
- Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants.
- Ask your local water department if there is a lead service line leading to your home.
- Check your plumbing fixtures to see if they are lead-free. Read the labels closely.
- Test your tap water. Call the MWRA Drinking Water Hotline (617-242-5323) or visit our website for more tips and a list of DEP certified labs that can test your water.
- Be careful of places where you may find lead in or near your home. Paint, soil, dust and some pottery may contain lead.
- Call the MA Department of Public Health at 1-800-532-9571 or EPA at 1-800-424-LEAD for health information.



### Most Recent Test Results

	Total Trihalomethanes (TTHMs) values in ppb MCL=80 ppb MCLG=0		Halocetic Acids (HAA5) values in ppb MCL=60 ppb MCLG=0		Chlorine in ppm MRDL=4 ppm MRDLG=4 ppm		Lead in ppb Action Level (AL)=15 ppb MCLG=0		Copper in ppm Action Level=1.3 ppm MCLG=0		Sodium in mg/L
	Annual Average	Range	Annual Average	Range	Annual Average	Range	# Samples over AL	90% Value	# Samples over AL	90% Value	
<b>Chicopee</b>	46.2	19.5-54.7	30.3	18.0-46.5	0.77	0.11-1.48	0 of 30	1.8	0 of 30	0.15	16.4
<b>South Hadley FD #1</b>	56.6	27.6-73.8	19.2	8.7-29.0	0.54	0.03-1.2	3 of 30	13.2	0 of 30	0.04	7.38
<b>Wilbraham</b>	47.1	30.4-57.8	13.7	1.0-30.5	0.4	0.1-0.8	0 of 20	7.1	0 of 20	0.44	6.79

**KEY:** The definitions for **MCL** and **MCLG** are on page 2. **AL**=Action Level-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **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 health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination **ppm**=parts per million **ppb**=parts per billion **mg/L**=milligrams per liter