Where To Go For Further Information

Massachusetts Water Resources Authority (MWRA) | www.mwra.com | 617-242-5323
Massachusetts Dept. of Environmental Protection | www.mass.gov/dep | 617-292-5500
Massachusetts Dept. of Public Health (DPH) | www.mass.gov/dph | 617-624-6000
Department of Conservation and Recreation | www.mass.gov/dcr/watersupply | 617-626-1250
US Centers for Disease Control & Prevention (CDC) | www.cdc.gov | 800-232-4636
Source Water Assessment and Protection Reports | www.mwra.com/sourcewater.html | 617-242-5323

Public Meetings

MWRA Board of Directors | www.mwra.com/boardofdirectors.html | 617-788-1117
MWRA Advisory Board | www.mwraadvisoryboard.com | 617-788-2050
Water Supply Citizens Advisory Committee | www.mwra.com/wscac.html | 413-213-0454

For A Large Print Version, Call 617-242-5323.

This report is required under the Federal Safe Drinking Water Act. MWRA PWS ID# 6000000
Dear Customer,

I am pleased to share with you the results of our annual water quality testing. MWRA takes hundreds of thousands of tests each year to ensure your water is safe and of the highest quality. In 2016, we again met every federal and state drinking water standard.

Lead in drinking water is still a hot topic. All three Chicopee Valley Aqueduct communities have successfully treated the water they deliver to make it less corrosive, and all three CVA communities were below the EPA Lead Action Level. MWRA has also tested over 14,000 samples from drinking water fixtures in over 300 schools in 35 communities. We have been working closely with our partners at the MA Departments of Environmental Protection and Public Health to make every effort to reduce the risk of lead at the tap to protect the health of the children in our service area. More information on lead can be found on page 5 of this report.

Also of importance this year is the recent drought that has affected our region. Even with the rain we have had this spring, it is very important that everyone work together to conserve the water we have. In November 2016, the Quabbin Reservoir dipped into the “Below Normal” range for the first time in over a decade. While there are no mandatory restrictions and there is still a long way to go before we reach the “Drought Warning” stage, it is important that residents and businesses in our member communities save water wherever they can. The report includes tips on how you can conserve water both indoors and outdoors. More information can be found on our website at www.mwra.com.

We hope you take a few minutes to read this report and learn about your water system. MWRA has great confidence in the water we deliver to your home, and we want you to share that confidence. Please contact us if you have any questions or concerns about your water quality, or about any of MWRA’s programs.

Sincerely,

Frederick A. Laskey
Executive Director

MWRA Board of Directors
Matthew A. Beaton, Chairman • John J. Carroll, Vice-Chair
Andrew M. Pappastergion, Secretary • Austin F. Blackmon • Kevin L. Cotter
Paul E. Flanagan • Joseph C. Foti • Brian Peña • Henry F. Vitale • John J. Walsh
Jennifer L. Wolowicz

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 - flow into streams and then into 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 reservoir. 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 and viruses - some of which can cause illness. The test results in this report show that these are not a problem in Quabbin Reservoir’s watershed.

The Quabbin 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.” MWRA follows the report recommendations to maintain the pristine watershed areas.
Test Results After Treatment

<table>
<thead>
<tr>
<th>Compound</th>
<th>Units</th>
<th>(MCL) Highest Level Allowed</th>
<th>(We Found) Detected Level-Average</th>
<th>Range of Detections</th>
<th>(MCLG) Ideal Goal</th>
<th>Violation</th>
<th>How It Gets In The Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium</td>
<td>ppm</td>
<td>2</td>
<td>0.007</td>
<td>0.006-0.008</td>
<td>2</td>
<td>No</td>
<td>Common mineral in nature</td>
</tr>
<tr>
<td>Nitrate^</td>
<td>ppm</td>
<td>10</td>
<td>0.007</td>
<td>0-0.007</td>
<td>10</td>
<td>No</td>
<td>Atmospheric deposition</td>
</tr>
</tbody>
</table>

**Test Results – After Treatment**

EPA and state regulations require many water quality tests after treatment to check the water you are drinking. MWRA conducts tens of thousands of tests per year on over 120 contaminants (a complete list is available on www.mwra.com). Details about 2016 test results are in the table below and on page 5.

**WHAT IS UV**

UV light is essentially a more potent form of natural disinfection from sunlight. UV lamps emit rays of intense light which shine through the water causing disinfection. No chemicals are added, and there is no residual effect once the water leaves the light. UV disinfection has been identified by EPA as one of the best technologies to inactivate pathogens, and provides an extra layer of protection against possible contaminants.

**Monitoring Water Quality In Real Time.** Your water is monitored by a state-of-the-art system in real time — 24 hours a day, seven days a week — to make sure it is free of contaminants. This allows MWRA to respond to changes in water quality almost immediately.

**WATER TREATMENT– FROM THE RESERVOIR TO COMMUNITY PIPELINES**

Your water is treated at the new Brutsch Water Disinfection Facility before it enters the Chicopee Valley Aqueduct. The first treatment step is disinfection of reservoir water. MWRA’s licensed treatment operators carefully add measured doses of chlorine, and then further treat the water with ultraviolet (UV) light. Both disinfection processes are designed to kill pathogens (germs) that may be present in the water. 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 completed the ultraviolet light (UV) disinfection plant in 2014 to meet new EPA standards. With UV light, CVA water now has state-of-the-art disinfection, and ensures clean water for many years to come.

**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. Typical levels at the Quabbin Reservoir are 0.3 NTU and were below the 1 NTU over 99% of the time. The highest level was 2.28 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. In 2016, all test results were well within state and federal testing and treatment standards.
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. If total coliform are detected in more than 5% of samples in a month, the water system is required to investigate the possible source and fix any identified problems. 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 E.coli was found in any MWRA community in 2016. If your community found any total coliform, it will be listed within the community information on page 4.

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).

MWRA has been working with EPA and other researchers to define new national drinking water standards by testing for unregulated contaminants. To read more about these regulations, and to see a listing of what was found in MWRA water, please visit www.mwra.com/UCMR/CVA/2016.html.

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.
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. Sodium Carbonate and Sodium Bicarbonate (baking soda) are used to make this adjustment. 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 and the water’s chemistry is adjusted to minimize corrosion well before it reaches the homes of Chicopee’s residents.

The Chicopee Water Department was not required to collect any lead and copper samples by the Environmental Protection Agency (EPA) in 2016. This is due to the Chicopee Water Department’s successful maintenance of low to absent levels of lead and copper in samples collected during 2015. The next round of lead and copper samples will be collected in the spring of 2018.

The Chicopee Water Department maintains 274 miles of distribution water mains through over 16,000 connections to approximately 55,000 residents. Water main projects are ongoing across the service area. We also continue to respond to leaks and maintain emergency service 24/7.

WILBRAHAM
Phone: 413-596-2807
PWS ID# 1339000
The Corrosion Control Facility on Miller Street in Ludlow continues to inject sodium silicate into the drinking water in compliance with the federally mandated Lead and Copper Rule. MA DEP required Lead and Copper sampling was completed at twenty homes and two schools in the summer of 2015, with a 90th percentile of lead of 4.1 ppb well below the Action Level of 15 ppb. The next required sampling will be performed in the summer of 2018. Within the past year, the Wilbraham Water Department performed the following: maintenance of the town’s four water booster stations, the 2.1 million gallon water tank and the Corrosion Control Facility; repaired three significant water service breaks; installed ten (10) new water services; flushed 110 fire hydrants and checked for proper drainage; and in excess of fifty (50) main line gate valves were cleaned and checked for operation and exercised. Water department personnel detected a leak at the intersection of Linwood Drive and Brainard Road involving a transitional coupling. Repairs were successfully completed. The emergency backup generator project required by DEP for the Water Booster Stations at Brookmont Drive and McIntosh Drive was completed and the units are functioning as of March 2017.

The water usage in 2016 was 453,071,000 gallons. This represents a 27% increase over 2015.

SOUTH HADLEY FIRE DISTRICT #1
Phone: 413-532-0666
PWS ID# 1275000
Since 1998, at our treatment facility in Ludlow, sodium silicate is added to the water for corrosion control in order to comply with the federally mandated Lead and Copper Rule. Our sampling round of 30 homes in June of 2016 was successful. All 30 homes in addition to 2 schools were below the Action Level for both lead and copper. Our next sampling round will be 2019.

In September of 2016, we had three samples that came back positive for total coliform. We believe this was a faulty faucet resulting in hot water being introduced through one of sample taps at our routine sample locations. Following that incident, we selected a different faucet within that site.

We continue to improve our water mains with our replacement program. Water main replacements are prioritized by leak history, pipe type and the annual street paving list provided by the DPW. This collaboration results in reduced costs and extends pavement integrity. Within the past year, our crew repaired 10 water main breaks and 3 service leaks throughout the distribution system.

This past year, we replaced a total of 400 feet of mains on Chestnut Hill Rd., 1300 feet on Hildreth Ave., and 1300 feet on Washington Ave. including fire hydrants and water services on all streets. The new mains will ensure reliability of supply and fire protection. We are in the planning stages of replacing 4500 feet of mains on Newton St.

We feel strongly that the Water Department – Fire District No.1 has been operated very efficiently by providing the residents with a municipal department at the lowest possible cost. We extend our thanks to the Fire and Police Departments, Fire District No. 2 and the Town Departments for their cooperation. Please take a moment to view our website with historical, and frequently updated information at www.shdistrict1.org.
Did You Know? Most cases of lead poisoning are from contact with peeling lead paint and lead paint dust. But drinking water exposed to lead can increase a person’s total lead exposure. This is particularly a concern for small children or pregnant women.

WHAT YOU NEED TO KNOW ABOUT 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. 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.

MWRA MEETS LEAD STANDARD IN 2016
Under Environmental Protection Agency regulations, each year your local water department must test tap water in a sample of homes that are likely to have high lead levels. These are usually older homes with lead service lines or lead solder. 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). All three CVA communities were below the lead Action Level in 2016.

What Can I Do To Reduce Exposure In Drinking Water?
Let the water run before using: fresh water is better than stale! To save water, fill a pitcher with fresh water and place in the refrigerator for future use.

| Any time water has gone unused for more than 6 hours, run each faucet used for drinking or cooking until after the water becomes cold. | Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants. | Check your plumbing fixtures to see if they are lead-free. Read the labels closely. | Remove loose lead solder and debris. Every few months remove the aerator from each faucet in your home and flush the pipes for 3-5 minutes. | Be careful of places you may find lead in or near your home. Paint, soil and some pottery may contain lead. | Call the Department of Public Health at 800-532-9571 or EPA at 800-424-LEAD for health information. |

IMPORTANT information from EPA about lead
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 water 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 www.epa.gov/safewater/lead.

**MOST RECENT RESULTS**

<table>
<thead>
<tr>
<th>MOST RECENT RESULTS</th>
<th>Total Trihalomethanes in ppb MCL=80 MCLG=ns</th>
<th>Haloacetic Acids in ppb MCL=60 ppb (Avg) MCLG=ns</th>
<th>Chlorine in ppm MRLD=4 ppm (Avg) MRDLG=4 ppm</th>
<th>Lead in ppb AL=15 ppb MCLG=0</th>
<th>Copper in ppm AL=1.3 ppm MCLG=1.3 ppm</th>
<th>Sodium in ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual Average</td>
<td>Range</td>
<td>Annual Average</td>
<td>Range</td>
<td>Annual Average</td>
<td>Range</td>
</tr>
<tr>
<td>Chicopee</td>
<td>45.4</td>
<td>20.0-58.3</td>
<td>36.9</td>
<td>15.1-36.7</td>
<td>0.88</td>
<td>0.10-1.51</td>
</tr>
<tr>
<td>South Hadley FD #1</td>
<td>53.2</td>
<td>34.5-68.6</td>
<td>21.6</td>
<td>9.0-40.1</td>
<td>0.55</td>
<td>0.11-1.18</td>
</tr>
<tr>
<td>Wilbraham</td>
<td>64.3</td>
<td>21.4-55.3</td>
<td>25.8</td>
<td>6.6-29.3</td>
<td>0.3</td>
<td>0.2-0.9</td>
</tr>
</tbody>
</table>

**KEY:** The definitions for MCL and MCLG are on page 2. Results from 2015. Next sampling is in 2018. 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 ns=no standard.
Watch your waste!
Wasting water can add up quickly. On average, each person in the MWRA region uses about 60 gallons of water each day. More efficient water use can reduce the impact on the water supply and your wallet. For ways to make your home and your habits more water efficient, contact the MWRA at 617-242-SAVE or visit www.mwra.com for tips on how to save water indoors and in your backyard.

How to find and fix leaks
Dripping, trickling or leaking faucets, showerheads and toilets can waste up to several hundred gallons of water a week, depending on the size of the leaks. Worn-out washers are the main causes of leaks in faucets and showerheads. A new washer generally costs about 25 cents.

Install a low-flow showerhead and faucet aerator
Some showerheads may still use 5 gallons per minute. A low-flow showerhead uses 2.5 gallons or less and can save you over 20 gallons per 10 minute shower. In one year, that’s over 7,000 gallons. Faucets can use 2 to 7 gallons of water per minute — a low-flow aerator can reduce the flow by about 25%.

A test for your home
That trickling sound you hear in the bathroom could be a leaky toilet, but sometimes toilets leak silently. TRY THIS: Crush a dye tablet and carefully empty the contents into the center of the toilet tank and allow it to dissolve or use a few drops of food coloring. Wait about 10 minutes. Inspect the toilet bowl. If color appears, your flapper or flush valve may need to be replaced. Parts are inexpensive and fairly easy to replace. If no dye has appeared after 10 minutes, you probably don’t have a leak.

OUTDOOR WATER SAVING GROUND RULES

Apply mulch around plants to reduce evaporation, promote plant growth, and control weeds.

Water your lawn (and other landscaping) in early morning or evening to avoid evaporation.

Be sure sprinklers water only your lawn, not your pavement.

Use rain barrels connected to downsprouts to save water to use outdoors.

Never use the hose to clean debris from your driveway or sidewalk. Use a broom.

Promote Tap Water!
Let everyone you know that you are drinking some of the best water in the world! Put a sticker on your reusable water bottle and fill it with tap water. Contact the MWRA if you would like to receive a free sticker.

For Further Information
For more water saving ideas, go to www.mwra.com or call 617-242-SAVE.