This report contains very important information about your drinking water. Please translate it, or speak with someone who understands it.

Si usted desea obtener una copia de este reporte en español, llamenos al teléfono 617-788-1190.

La relazione contiene importanti informazioni sulla qualità dell'acqua della Comunità. Tradurlo o parlarne con un amico che la comprenda.

O relatório contém informações importantes sobre a qualidade da água da comunidade. Traduza-o ou peça a ajuda de alguém que o entenda.

Where To Go For Further Information

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

Public Meetings

MWRA Board of Directors
www.mwra.com/02org/html/boardofdirectors.htm
617-788-1117

MWRA Advisory Board
www.mwraadvisoryboard.com
617-788-2050

Water Supply Citizens Advisory Committee
www.mwra.com/02org/html/wscac.htm
413-213-0454

For a large print version, call 617-242-5323.
Dear Customer,

I am pleased to share with you the results of our water quality testing. MWRA takes hundreds of thousands of tests each year, and for 2013, we again met every federal and state drinking water standard. System-wide, we have been below the Lead Action Level for the past ten years. Please read your community’s letter on page 4 for more information on your local water system.

The big news this year is that we have completed the start-up of a new ultraviolet (UV) disinfection facility at the John J. Carroll Water Treatment Plant in Marlborough, improving the quality of the drinking water we deliver to you.

UV light is essentially a more potent form of natural disinfection from sunlight. UV enables MWRA to inactivate the most difficult to kill pathogens - which could potentially be in the source water - without the use of additional chemicals and any associated disinfection by-products. The UV process and MWRA’s high quality source water allow MWRA to meet new regulatory requirements cost effectively.

Since 2005, your water has been treated with ozone - produced by applying an electrical current to pure oxygen. Ozone has ensured strong protection against microbes and viruses, improves water clarity, and has actually made the water taste better. The addition of the UV to the ozone process provides additional assurance that any pathogens potentially in our reservoirs will be rendered harmless.

In addition, fluoride is added to promote dental health and the water chemistry is adjusted to reduce corrosion of lead and copper from home plumbing. Last, we add monochloramine, a mild and long-lasting disinfectant combining chlorine and ammonia to protect the water as it travels through miles of pipelines to your home.

In a few short years, water treatment has gone from chlorine with its taste and odor issues, to ozone and now ultraviolet – with no additional chemicals and no disinfection by-products. Just better, safer water.

I hope you will take a few moments to read this report. We want you to have the same confidence we have in the water we deliver to over 2 million customers. Please contact us if you have any questions or comments about your water quality, or any of MWRA’s programs.

Sincerely,

Frederick A. Laskey
Executive Director

MWRA BOARD OF DIRECTORS
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John J. Carroll, Vice-Chair
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Kevin L. Cotter
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Where Does Your Water Come From?

Your water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. These reservoirs supply wholesale water to local water departments in 51 communities. The two reservoirs combined supplied about 200 million gallons a day of high quality water to consumers in 2013.

The Quabbin and Wachusett watersheds are naturally protected with over 85% of the watersheds covered in forest and wetlands. To ensure safety, the streams and reservoirs are tested often and patrolled daily by the Department of Conservation and Recreation (DCR).

Rain and snow falling on the watersheds - protected land around the reservoirs - turn into streams that flow to the reservoirs. This water comes in contact with soil, rock, plants, and other material as it follows its natural path to the reservoirs. Minerals from soil and rock do not typically 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 data in this report show that these contaminants are not a problem in your reservoirs’ watersheds.

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program report for the Quabbin and Wachusett Reservoirs. The DEP report commend 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 using existing watershed plans.

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 the water) is one measure of overall water quality. All water must be below 5 NTU (Nephelometric Turbidity Units), and water can only be above 1 NTU if it does not interfere with effective disinfection. Typical levels at the Wachusett Reservoir are 0.3 NTU. In 2013, turbidity was below 1 NTU over 99.99% of the time, with the highest level at 1.17 NTU. 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. No Cryptosporidium or Giardia was found in the water in 2013.

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 available on www.mwra.com). Details about 2013 test results are in the table below. The bottom line is that water quality is excellent.

Water Quality Test Results for 2013

<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>0.008</td>
<td>0.007-0.009</td>
<td>2</td>
<td>No</td>
<td>Common mineral in nature</td>
</tr>
<tr>
<td>Monochloramine</td>
<td>ppm</td>
<td>4-MRDL</td>
<td>1.8</td>
<td>0.01-4.0</td>
<td>4-MRDLG</td>
<td>No</td>
<td>Water disinfectant</td>
</tr>
<tr>
<td>Fluoride</td>
<td>ppm</td>
<td>4</td>
<td>1.04</td>
<td>0.37-1.1</td>
<td>4</td>
<td>No</td>
<td>Additive for dental health</td>
</tr>
<tr>
<td>Nitrate^</td>
<td>ppm</td>
<td>10</td>
<td>0.08</td>
<td>0.01-0.08</td>
<td>10</td>
<td>No</td>
<td>Atmospheric deposition</td>
</tr>
<tr>
<td>Nitrite^</td>
<td>ppm</td>
<td>1</td>
<td>0.005</td>
<td>ND-0.005</td>
<td>1</td>
<td>No</td>
<td>Byproduct of water disinfection</td>
</tr>
<tr>
<td>Total Trihalomethanes</td>
<td>ppb</td>
<td>80</td>
<td>10.1</td>
<td>3.0-13.9</td>
<td>ns</td>
<td>No</td>
<td>Byproduct of water disinfection</td>
</tr>
<tr>
<td>Haloacetic Acids-5</td>
<td>ppb</td>
<td>60</td>
<td>9.0</td>
<td>1.4-13.2</td>
<td>ns</td>
<td>No</td>
<td>Byproduct of water disinfection</td>
</tr>
<tr>
<td>Total Coliform</td>
<td></td>
<td>%</td>
<td>5%</td>
<td>0.5% (Nov)</td>
<td>ND-0.5%</td>
<td>0</td>
<td>Naturally present in environment</td>
</tr>
</tbody>
</table>

KEY: MCL=Maximum Contaminant Level. The highest level of a contaminant allowed in water. MCLs are set as close 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. MCLs 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 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

As required by DEP, the maximum result is reported for nitrate and nitrite, not the average.
**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 \( E. \text{coli} \), which is a bacteria found in human and animal fecal waste and may cause illness. No \( E. \text{coli} \) was found in any MWRA community in 2013. If your community found any total coliform, it will be listed within the community letter on page 4.

**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, the 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.

**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 617-242-5352 or visit www.mwra.com/crosscon.html.

**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 \( \text{Cryptosporidium} \) and other microbial contaminants are available from the EPA’s Safe Drinking Water Hotline (1-800-426-4791).

**Research for New Regulations**
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 this testing, and to see a listing of what was found, please visit www.mwra.com/UCMR/2013.html.

**Drink Local and Be Green**
Tap water is delivered straight to your home without trucking or plastic waste. Bottled water produces over 10,000 times the amount of greenhouse gases compared to tap water. Half of our energy needs for water and wastewater treatment are met with green power including hydro-energy, wind turbines, and solar panels.

Drink local! Drink tap water! Be green!
This 2013 Drinking Water Report provides information to residents of Medford on their water supply. The City of Medford works in partnership with the Massachusetts Water Resources Authority (MWRA) to communicate where your water comes from, how it is treated and tested, and how we get it to your tap. We know that consumers today have a deep interest in the quality and cost of water. Our hope is that this and other publications you receive help you better understand your water system. In this report we discuss improvements to the physical system itself as well as inform you about the quality of your drinking water.

Medford’s Department of Public Works maintains the water distribution system that consists of a network of pipes, valves, hydrants, and service lines. This system takes water from the MWRA system and delivers water to homes, businesses, and other facilities for drinking and commercial uses. The system is also used for fire protection. The City is constantly improving the system, replacing mains when necessary. Also, on a daily basis our water crews are constantly on the look out for water system leaks, checking and verifying pressures, replacing faulty meters, and flushing pipelines to keep the water as clean as possible.

**Lead Results for Medford**

We receive many inquiries about lead in the drinking water. The simple answer is there is no lead in the water supply; however, lead can enter your tap water through contact with brass fixtures (which contain lead in the alloy), lead solder (which is now outlawed), old lead plumbing in the house or in the service line from the main to your house.

Each year, MWRA and local water departments test tap water in homes that are likely to have high lead levels - usually 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).

Lead results have decreased over the past 10 years. The Medford Water Department’s 90th percentile levels for 2013 was 3.86 ppb which was well below the Action Level of 15 ppb. The City of Medford has taken the following steps to continue to improve lead levels:

a. Identified lead service lines in the City and determined which are City-owned.

b. Established a program to annually remove 280 (7%) of all of the identified City-owned lead service lines. Medford’s program is aggressive and is replacing more than the required number each year.

c. Notified all owners of the property served by lead lines of their responsibilities regarding replacement of the lead service line and informed them of the City’s lead reduction program. For more information on this program, call the City Engineer’s Office at 781-393-2475.

For more information on lead in tap water and practical steps you can take to reduce exposure to lead in tap water, please see page 5 of the main report.

The Medford Water Department hopes you find this report informative and useful. If you have any questions regarding this report or any other water related questions, you can call Davis Proctor, Superintendent, Medford Department of Public Works at 781-393-2419. If you are interested in attending a public meeting, please contact Chairperson Domenic Camarra at the same number.
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 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.

90th Percentile Lead Levels for MWRA Communities 2004-2013 (ppb)

<table>
<thead>
<tr>
<th>Year</th>
<th>Lead (ppb)</th>
<th>Copper (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>6.3</td>
<td>0.1</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
<td>1.3</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>2008</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

KEY: AL=Action Level-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Definition of MCLG available on page 2.

MWRA Meets Lead Standard in 2013

Under EPA rules, each year MWRA and your local water department must test tap water in a sample of homes that are likely to have high lead levels. These are usually homes with lead service lines or lead solder. The EPA rule requires that 9 out of 10, or 90%, of the sampled homes must have lead levels below the Action Level of 15 parts per billion (ppb).

All 18 sampling rounds over the past ten years have been below the EPA standard. Results for the 452 samples taken in September 2013 are shown in the table. 9 of 10 houses were below 6.3 ppb, which is below the Action Level of 15 ppb. Only two communities had more than one home test above the Action Level for lead. If you live in either of these communities, your town letter on page 4 will provide you with more information.

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, your lead service line, 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.

In 1996, MWRA began adding sodium carbonate and carbon dioxide to adjust the water’s pH and buffering capacity. This change has made the water less corrosive, thereby reducing the leaching of lead into drinking water. Lead levels found in sample tests of tap water have dropped by almost 90% since this treatment change.

How do I reduce my exposure to lead in 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 are lead service lines 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 you may find lead in or near your home. Paint, soil, dust and some pottery may contain lead.
- Call the Department of Public Health at 1-800-532-9571 or EPA at 1-800-424-LEAD for health information.