Investing In Your Water

MASSACHUSETTS WATER RESOURCES AUTHORITY
2017 ANNUAL DRINKING WATER TEST RESULTS

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 telefono 617-788-1190.

La relazione contiene importanti informazioni sulla qualità dell'acqua della Comunità. Tra-durlo o parlarne con un amico che lo comprenda.

O relatório contém informações importantes sobre a qualidade da água da comunidade. Tra-duza-o ou peça a alguém que o ajude a entendê-lo melhor.

Sprawozdanie zawiera ważne informacje na temat jakości wody w Twojej miejscowości. Poproś kogoś o przetłumaczenie go lub porozmawiaj z osobą która je dobrze rozumie.

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيدا.

Η κατούθεν αναφορα παρουσιαζη σπουδαιες πληροφοριες για το ποσιμο νερο σας. Προκαλώ να το μεταφρασετε η να το σζολέιασετε με καποιον που το καταλαβαινη απολητως.

Im Bericht steht wichtige Information über die Qualität des Wassers Ihrer Gemeinschaft. Der Bericht soll übersetzt werden, oder sprechen Sie mit einem Freund, der ihn gut aversteht.

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

この資料には、あなたの飲料水についての大切な情報が書かれています。内容をよく理解するために、日本語に翻訳して読むか説明を受けてください。

इस रिपोर्ट में पानी के पानी के विषय पर बहुत जरुरी जानकारी दी गई है। कृपयारा इसका अनुवाद करवाइये, या किसी जानकार से इस बारे में पूछिये।

MASSACHUSETTS WATER RESOURCES AUTHORITY AND YOUR LOCAL WATER DEPARTMENT

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
List of State Certified Water Quality Testing Labs	www.mwra.com/testinglabs.html	617-242-5323
Source Water Assessment and Protection Reports	www.mwra.com/sourcewater.html	617-242-5323
Information on Water Conservation	www.mwra.com/conservation.html	617-242-SAVE

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 Larger Print Version, Call 617-242-5323.

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

Dear Customer,

The Massachusetts Water Resources Authority is pleased to share with you the results of our annual water quality testing. MWRA and your local water department take hundreds of thousands of water quality tests to ensure your water is safe. The results for 2017 are excellent and MWRA again met every federal and state drinking water standard.

Since the MWRA was created in 1984, we have invested over $2 billion to rehabilitate and modernize the entire drinking water system. From state-of-the-art treatment, to covered storage tanks, to installing new redundant pipelines and replacing older pipes in the communities, we want to make sure the water that flows to your tap is of the highest quality. Investing in infrastructure improvements also plays a large part in the economic health of our region.

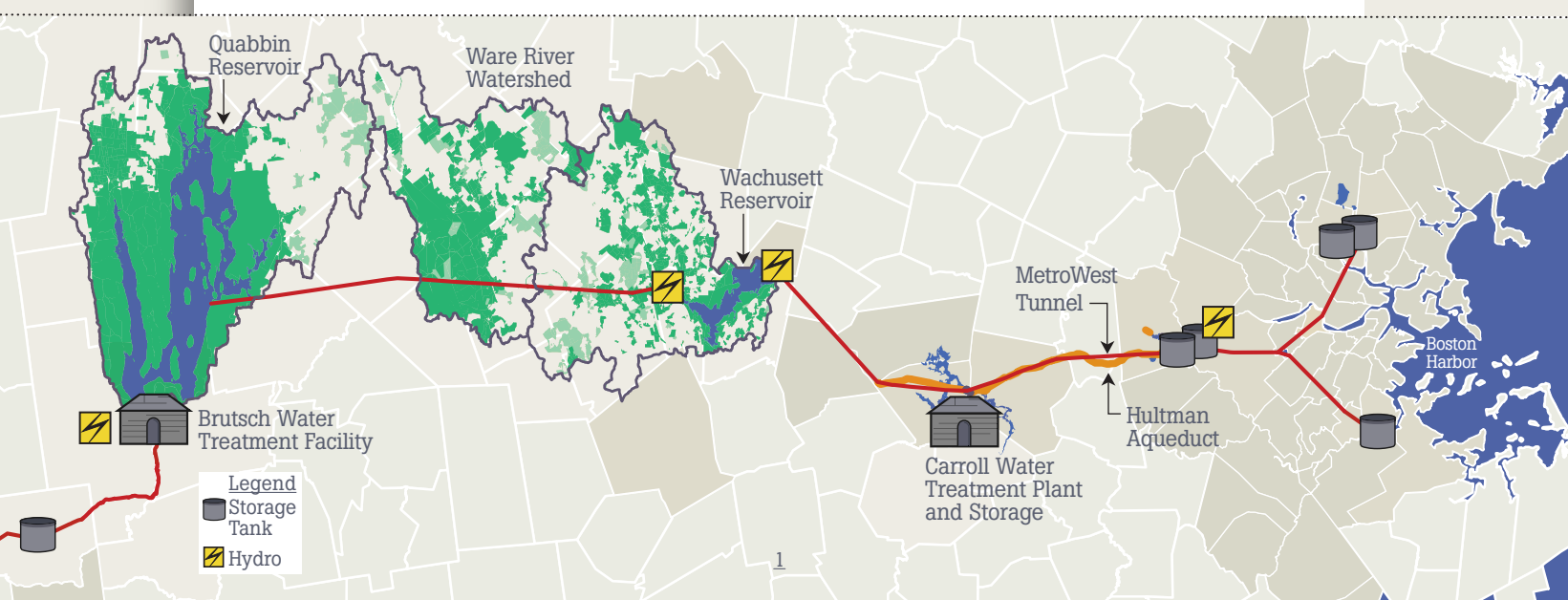
System-wide, MWRA has been below the lead action level for many years now, but there are still a number of lead service lines in our service area. Several of our member communities are taking advantage of our $100 million zero interest loan program and others are getting ready to do so. Our laboratory staff processes samples from homes and school across the service area. We continue to partner with the Massachusetts 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 member communities. More information on lead can be found on pages 4 and 5 of this report.

This report contains important information about your water system and we hope you take a few moments to read through it. 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 comments about your water quality or any of MWRA's programs.

Sincerely,

Frederick A. Laskey
Executive Director

For more information on MWRA and its Board of Directors, visit www.mwra.com.



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 as tap water. More than half of our energy needs for water treatment and delivery are met with green power including hydroelectric generators and solar panels.


New Emergency Pump Station

Why Your Water Tastes Great – High Quality Source Water

Your water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. Water from the Ware River can also add to the supply at times. These pristine 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 2017. Your water also comes from local water supplies. Please see page 7 for more information.

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. While this process helps to clean the water, it can also dissolve and carry very small amounts of material into the reservoir. 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 pathogens - 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 commends DCR and MWRA on the existing source water 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. Your water also comes from local supplies that have a separate report.

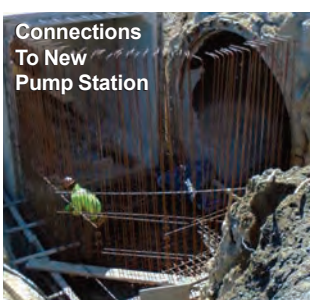
Investing In Your Water System

Now and for the foreseeable future, MWRA will continue to focus on ensuring redundancy for each water service area. That means providing a second means of getting water to an area if something happens to the primary pipeline – like a major water main break.

Progress has been steady and work is underway to the north in Stoneham, Reading and Woburn, and to the south in Boston and Dedham to provide redundancy for those areas. A new, emergency pump station in Marlborough will ensure we can get adequate water to the treatment plant in the event of a problem with the existing system.

MWRA is also beginning work to strengthen the major pipelines and tunnels serving large parts of the system. A project to repair and improve the 11-mile-long Weston Aqueduct Supply Main No. 3 is currently in design. This work will take place in in Weston, Waltham, Belmont, Arlington and Medford, and must be completed before a new, major tunnel project to the north and south can begin.

On Going Pipeline Rehabilitation


Connections To New Pump Station

MWRA continues to rehabilitate and replace older pipelines throughout the distribution system to improve both reliability and water quality. MWRA has also provided zero-interest loans to communities for local pipeline projects since 1998. In 2017, $25.8 million was loaned to communities for 18 projects including the replacement of over 15.4 miles of older, unlined pipes with new cement-lined ductile iron water pipes or rehabilitation with cleaning and new cement lining.

Always Use Water Wisely

We know that conservation works. Customers in the MWRA service area have reduced their average daily demand from 340 million gallons per day in 1980 to about 210 million gallons today. It is important that these conservation efforts continue – especially during dry periods.

WATER SAVING TIPS FOR YOUR HOME

Indoors

- Install low-flow aerators on your faucets. You'll save 1 to 5 gallons per minute.
- Fix that leaky faucet. Worn-out washers can waste hundreds of gallons per week.
- Replace your washing machine with a high-efficiency model. You'll use 30 to 50% less water.
- Fix that leaky toilet. You'll save 50 gallons a day or more.

Outdoors

- Water your lawn overnight or before 5:00 a.m. If you water at mid-day, it will evaporate.
- One inch of water a week is plenty. After heavy rains, you may not need to water for 10 to 14 days.
- Use mulch in your flower beds. Mulch will keep roots cool and moist, and reduce weeds.

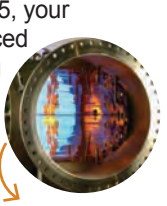
More tips are available at MWRA.com.

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.


Quabbin Reservoir Overlook

Why Your Water Tastes Great – Water Treatment

Massachusetts Water Resources Authority has invested in state-of-the art treatment to make sure you water is clean, fresh, and tastes great. Part of the reason that the water tastes so good is MWRA's advanced treatment at the John J. Carroll Water Treatment Plant in Marlborough. Since 2005, your water has been treated with ozone - produced by pure oxygen. Ozone has ensured strong protection against microbes and viruses, improved water clarity, and makes the water taste better. In 2014, we also started adding ultraviolet (UV) disinfection, further improving the quality of water. UV light is essentially a more potent form of the natural disinfection from sunlight, and ensures that any pathogens potentially in our reservoirs are rendered harmless.


Ultraviolet Lamp

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

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. In 2017, turbidity was always below both the 5 and 1 NTU standards, with the highest level at 0.92 NTU. Typical levels at the Wachusett Reservoir are 0.35 NTU.

MWRA also tests reservoir water for pathogens such as fecal coliform, bacteria, 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. For more information, please visit www.mwra.com/ucmr/2017.html.

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 2017 test results are in the table below. The bottom line is the water quality is excellent. For results on your local water, please see page 7.

Facts About Sodium

Sodium in water contributes only a small fraction of a person's overall sodium intake (less than 5%). MWRA tests for sodium monthly and the highest level found was 38.8 mg/L (about 8 mg per 8 oz. glass). This would be considered **VERY LOW SODIUM** by the Food and Drug Administration.

TEST RESULTS AFTER TREATMENT

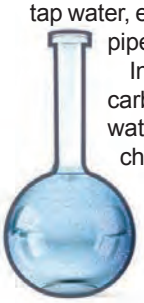
COMPOUND	UNITS	(MCL) HIGHEST LEVEL ALLOWED	(WE FOUND) DETECTED LEVEL-AVERAGE	RANGE OF DETECTIONS	(MCLG) IDEAL GOAL	VIOLATION	HOW IT GETS IN THE WATER
Barium	ppm	2	0.009	0.007-0.01	2	No	Common mineral in nature
Mono-Chloramine	ppm	4-MRDL	2.14	0-3.85	4-MRDLG	No	Water disinfectant
Fluoride	ppm	4	0.70	0.31-0.78	4	No	Additive for dental health
Nitrate^	ppm	10	0.05	0.04-0.05	10	No	Atmospheric deposition
Nitrite^	ppm	1	0.006	ND-0.006	1	No	Byproduct of water disinfection
Total Trihalomethanes	ppb	80	15	4.2-25.2	ns	No	Byproduct of water disinfection
Haloacetic Acids-5	ppb	60	12.8	1.5-24	ns	No	Byproduct of water disinfection
Total Coliform	%	5%	0.8% (Aug)	ND-0.8%	0	No	Naturally present in environment
Combined Radium*	pCi/L	5	1.76	ND-1.76	0	No	Erosion of natural mineral deposits

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. **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 **ND**=non detect **^**=As required by DEP, the maximum result is reported for nitrate and nitrite, not the average. *Result from 2014

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.

Did You Know?

Most cases of lead poisoning are from contact with peeling lead paint and paint dust. But drinking water exposed to lead can increase a person's total lead exposure. This is particularly a concern for small children and pregnant women. However, lead can get into tap water through pipes in your home, your service line if it is made of lead, 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 about 90 percent since this treatment change.

SEPTEMBER 2017 LEAD & COPPER RESULTS

	Range	90% Value	(Target) Action Level	(Ideal Goal) MCLG	#Home Above AL/ #Homes Tested
Lead (ppb)	0-102	8.6	15	0	18/456
Copper (ppm)	0-0.375	0.103	1.3	1.3	0/456

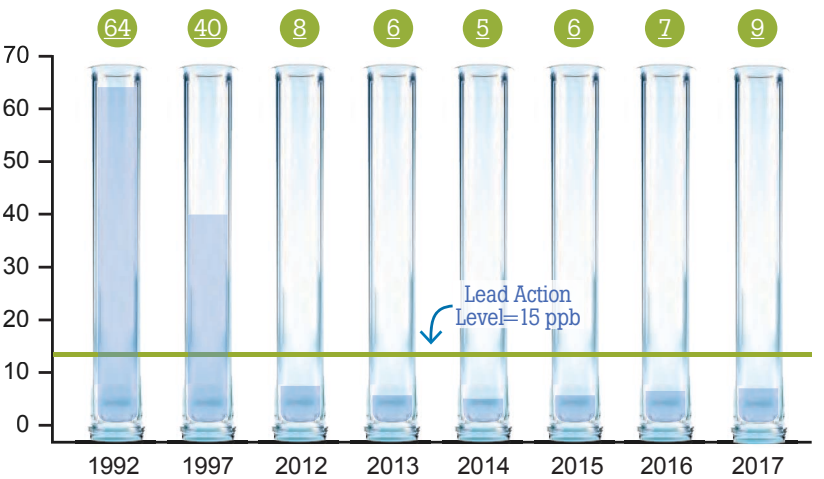
KEY: AL=Action Level-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Definition of **MCLG** available on page 3.

MWRA Meets Lead Standards In 2017

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 22 sampling rounds over the past thirteen years have been below the EPA standard. Of the 2,300 samples taken in the last 5 years, 98% were below the 15 ppb level. Results for the 456 samples taken in September 2017 are shown in the table. 9 out of 10 houses were below 8.6 ppb, which is below the Action Level of 15 ppb. Your community letter on page 7 will provide you with local results and more information.

90% LEAD LEVELS IN MWRA SYSTEM OF FULLY SERVED COMMUNITIES



WHAT CAN I DO TO REDUCE MY EXPOSURE TO LEAD IN DRINKING WATER?

1. 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.
2. 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.
3. Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants.
4. Check your plumbing fixtures to see if they are lead-free. Read the labels closely.
5. 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.
6. Be careful of places you may find lead in or near your home. Paint, soil, dust and some pottery may contain lead.
7. Call the Department of Public Health at 800-532-9571 or EPA at 800-424-LEAD for health information.

MWRA Wins "Systems Taking Action to Reduce Lead" Award. MA DEP has recognized the effort that the MWRA has demonstrated to educate and work with the schools in all MWRA communities. By providing free testing of schools, MWRA is helping to ensure that children are not exposed to the dangers of lead.

Lead Service Line Being Replaced

What Is A Lead Service Line? What Is The Concern?

A service line is the pipe that connects your house to the water main in the street. Some service lines that run from older homes (constructed before 1940) are made from lead. Many of these older service lines have been replaced, but some remain. These service lines are the main source of lead to tap water in homes that have them. Therefore, removing lead service lines is a priority to reduce the potential for lead exposure, particularly if a pregnant woman or child lives at your home.

How Do I Replace My Lead Service Line?

If you have a lead service line, you should consider replacing it. Many communities have programs to help with the replacement cost. Removing the whole lead service line is important. It is the only way to ensure that your service line will not be adding lead to your water. Partial replacements - which leave some lead behind - do not lower lead levels, and in many cases, can actually increase lead levels.

MWRA Program To Replace Lead Service Lines

To help communities in removing lead service lines, MWRA and its Advisory Board approved a program to make available $100 million in zero-interest loans to its member communities to fully replace lead service lines. Each community can develop its own program, tailored to their local circumstances. Several communities have already moved forward with programs. To find out more, please read your community letter or contact your local water department.

How Do I Get My Homes's Tap Water Tested For Lead?

There is a list of labs and sampling instructions available on the lead testing page at www.mwra.com or you can call MWRA at 617-242-5323. Also, some communities have testing available for residents. Please contact your local water department for more information.

What's My Service Line?

You can identify a lead service line by carefully scratching it with a key. →

← Have it replaced with a new copper service line.

For more information on lead service lines go to mwra.com.

Important Information From EPA About Lead

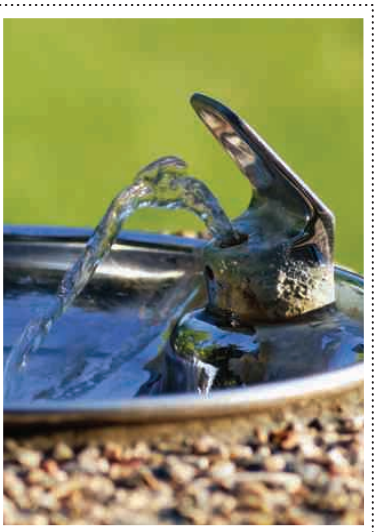
If present, elevated levels of lead can cause serious health problems, especially for unborn babies and young children.

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.

LEAD TESTING IN SCHOOLS

Starting in 2016, MWRA in coordination with DEP, provided no-cost lab analysis and technical assistance for schools and day care centers across all of MWRA's water communities. Almost all MWRA communities have already participated in the program, and sampling is still ongoing. Nearly 17,000 samples from 313 schools across 35 communities were received, and over 29,000 tests were completed. Results are available on the DEP website – www.mass.gov/dep (search for lead in schools). Some results also may be available through your local community website, DPW, or school department.



MWRA Takes Customer Concerns Seriously. Every call is investigated to ensure that there are no problems with the water supply. Most complaints are related to discolored water, which is usually related to local construction or hydrant use. If you have a question or concern, please call your local water department or MWRA at 617-242-5323.

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. If total coliform is 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. If your community found any total coliform or *E.coli*, it will be listed within the community letter on page 7.

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).

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.

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 these regulations, and to see a listing of what was found in MWRA water, please visit www.mwra.com/UCMR/2017.htm.

Cross Connections Information

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 mwra.com/crosscon.

WATERSHED PROTECTION keeps the water supply clean and safe while providing open space. All of the trees and protected land in the Quabbin, Wachusett and Ware River watersheds act as extra layers of protection from possible contamination. The protected land acts as a natural filter, and is one of the reasons MWRA water is often rated as among the best in the country. Since 1985, almost $150 million has been invested in land protection.


Wachusett Reservoir Overlook

Marlborough DPW, Water Division
Public Water System

Public Water Supply
2170000

The City of Marlborough uses an average of 4 million gallons of water a day. 100 percent of this water is supplied by the MWRA. In 2017, Marlborough used 1.4 billion gallons of water.

The Marlborough DPW Water Division maintains approximately 180 miles of water mains, more than 1500 fire hydrants, and 3 storage tanks. We maintain the system through leak detection, repairs to main breaks, water main replacements, replacing older water meters, water main flushing, replacing hydrants, as well as responding to the needs and concerns of our residents. We conduct a thorough water sampling and testing program meeting all State and Federal requirements. We also maintain an active Cross Connection Control Program, continuously inspecting facilities and testing devices to protect the water system from contamination. The Marlborough DPW Water Division maintained full compliance with all State and Federal regulatory agencies throughout 2017.

The City of Marlborough and the MWRA analyze water samples regularly to ensure we meet all standards. In 2017, we tested for more than 100 substances.

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system.

To view Marlborough's complete 2017 CCR, including the test result tables and further details on Marlborough's water supply please visit the following link: **www.mwra.com/wqr/2017/marlborough.pdf** (available 7/1/18). Or you can visit **www.marlborough-ma.gov** and then navigate to the Water and sewer Division. From there select Reports and Regulations. The report is titled "2017 City Drinking Water Report".

For any additional information please contact:

Gerald Ouillette, General Foreman DPW Water Division
508-624-6910 x 33401
135 Neil Street
Marlborough, MA 01752

2017 Consumer Confidence Report

For

"Marlborough DPW" Water Division

Marlborough, Massachusetts

MASSDEP PWSID # *2170000*

This report is a snapshot of the drinking water quality provided by the City of Marlborough for calendar year 2017. Included in this report are details regarding the source of the drinking water, it's makeup, and how it compares to state and federal standards. Safe drinking water is vital to the health of our community. Please read this report carefully and if you have any questions please call the phone number listed below.

PUBLIC WATER SYSTEM INFORMATION

Address: 135 Neil Street

Contact Person: Gerry Ouillette, General Foreman-Water and Sewer Division

Telephone #: 508-624-6910 X 33401 email gouillette@marlborough-ma.gov

Internet Address: www.marlborough-ma.gov

Public Water System

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, the City of Marlborough's drinking water system is operated by Massachusetts Distribution and Treatment certified operators who oversee the day to day operations of our system.

The Marlborough DPW Water Division maintains approximately 180 miles of water mains, more than 1500 fire hydrants, and 3 storage tanks. We maintain the system through leak detection, repairs to water main breaks, water main replacements, water main flushing, maintaining and replacing hydrants, as well as responding to the needs and concerns of our residents. We conduct a thorough water sampling and testing program to meet all State and Federal requirements. We also maintain an active Cross Connection Control Program, continuously surveying (inspecting) facilities and testing devices to protect the water system from contamination.

WATER SYSTEM COMPLIANCE INFORMATION

The "Marlborough DPW" Water Division maintained full compliance with all State and Federal regulatory agencies throughout 2017.

YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

100 percent of the drinking water for 2017 was supplied by the Massachusetts Water Resources Authority (MWRA). In 2017, the City of Marlborough used 1.47 billion gallons of water with an average of 4 million gallons a day.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – 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.

Maximum Contaminant Level Goal (MCLG) –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.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Unregulated Contaminants
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Running Annual Average (RAA) – The average of four consecutive quarter of data.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ND = Not Detected
N/A = Not Applicable

WATER QUALITY TESTING RESULTS

	Date Collected	90th Percentile	Action Level	MCLG	Number of sites sampled	Number of sites above Action Level	Possible Source of Contamination
Lead (ppb)	1/4/2017-1/18/2017	6.3	15	0	60	3	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1/4/2017-1/18/2017	0.071	1.3	1.3	60	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

	Date Collected	90th Percentile	Action Level	MCLG	Number of sites sampled	Number of sites above Action Level	Possible Source of Contamination
Lead (ppb)	8/29/2017-9/13/2017	11.4	15	0	60	4	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	8/29/2017-9/13/2017	0.093	1.3	1.3	60	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Bacteria	MCL/TT	MCGL	Value	Date	Violation (Y/N)	Possible Sources
Total Coliform Bacteria	None	0	Positive		N	Human and animal fecal waste

Disinfectants and Disinfection By-Products							
Regulated Contaminant	Date Collected	Highest quarterly running annual average	Range	MCL	MCLG	Violation Y/N)	Possible Source
Total Trihalomethanes (TTHMs) (ppb)	Quarterly in 2017	11	3.0 to 18	80	N/A	No	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly in 2017	14	8.1 to 22	60	N/A	No	Byproduct of drinking water chlorination
Chlorine (total)	Monthly in 2017	2.37	2.19 to 2.65	4	4	No	Water additive used to control microbes

Secondary Contaminants (Entry Point)

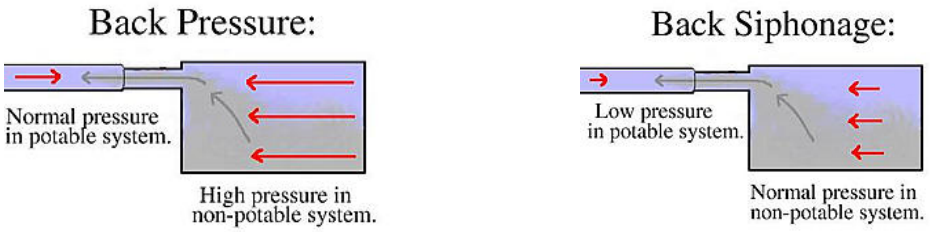
Secondary Contaminants	Date Collected	Result	SMCL	ORSG	Possible Source
Aluminum (ppm)	11/27/2017	0.0162	0.2	0.2	Residue from water treatment process; erosion of natural deposits
Chloride (ppm)	11/27/2017	35.6	250	250	Runoff and leaching from natural deposits and road salt
Color (C.U.)	11/27/2017	20	15	N/A	Naturally occurring organic material
Copper (ppm)	11/27/2017	.0043	1	N/A	Naturally occurring organic material
Iron (ppm)	11/27/2017	<0.0500	0.3	N/A	Naturally occurring, corrosion of cast iron pipes
Manganese (ppb)	11/27/2017	12.3	50	Health Advisory of 300	Natural sources as well as discharges from industrial uses
Odor (T.O.N.)	11/27/2017	1	3	N/A	Erosion of natural deposits; Leaching from wood preservatives
pH	11/27/2017	9.39	6.5 to 8.5	N/A	Increased for corrosion control
Silver (ppb)	11/27/2017	1	100	N/A	Erosion of natural deposits
Sulfate (ppm)	11/27/2017	<25.0	250	N/A	Runoff and leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	11/27/2017	114	500	N/A	Erosion of natural deposits
Zinc (ppm)	11/27/2017	0.119	5	N/A	Erosion of natural deposits, leaching from plumbing materials

CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION

The Marlborough DPW Water Division makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

What is a cross-connection?
A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

What is a backflow?
Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?
Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

LEAD SERVICE LINE REPLACEMENT PROGRAM

The City is currently taking part in the MWRA loan program over the next 5 years and replacing Lead Service Lines (LSL) throughout Marlborough. For more information regarding lead in the drinking water and if your property has a LSL, please visit the Water and Sewer Division's web page at www.marlborough-ma.gov and then navigate to the Water and Sewer Division.

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. The Marlborough DPW Water Division is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When 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 or at http://www.epa.gov/safewater/lead.

This page added 06/18/18 with new information