



Massachusetts
Water Resources
Authority
2016 Annual
Test Results

YOUR WATER

EVERY DROP COUNTS

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, llámenos al teléfono 617-788-1190.

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

O relatório contém informações importantes sobre a qualidade da água da comunidade. Traduz-a 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 przełożenie go lub porozmawiaj z osobą która je dobrze rozumie.

يحتوي هذا التقرير على معلومات هامة عن نوعية مياه الشرب في منطقتك يرجى ترجمته أو استشارة من يفهمه مع شكرنا لك بكم هذه المعلومات جيداً.

Hi kuzničky obsahujú dôležité informácie o kvalite vody vo vašej obci. Prosíme vás, aby ste tento materiál preložili alebo sa s ním poradili s niekým, kto to rozumie.

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 versteht.

这份报告中有非常重要的信息。识别关于您在社区的饮水品质。请您找人翻译一下，或者请能看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。

ये रिपोर्ट में आपके पीने के पानी के बारे में बहुत ही महत्वपूर्ण जानकारी है। इसे अच्छे से समझने के लिए इसे अनुवाद करवाएं या किसी ऐसे व्यक्ति से बात करें जो इसे अच्छे से समझें।

အချက်အလက်များသည် အရေးကြီးသော အချက်အလက်များကို ဖော်ပြပါသည်။ အချက်အလက်များကို အကဲဖြတ်နိုင်ရန် အထောက်အကူပြုရန် အတွက် အချက်အလက်များကို အတိအကျ ဖတ်ရှုပါ။

이 보고서는 매우 중요한 정보를 담고 있습니다. 이 내용을 잘 이해하기 위하여 이 보고서를 번역하거나 설명을 요청하시는 것을 권장합니다.

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.



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 Large Print Version, Call 617-242-5323.

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



Dear Customer,

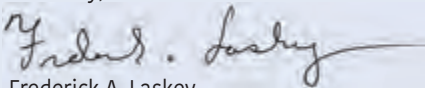
I am pleased to share with you the results of our annual water quality testing. MWRA takes hundreds of thousands of tests each year to ensure your water is safe and of the highest quality. In 2016, we again met every federal and state drinking water standard.

Lead in drinking water is still a hot topic. System-wide, MWRA has been below the lead action level for many years now, but there are still many lead service lines within our member communities. MWRA has developed a \$100 million, zero-interest loan program to help communities remove these lead service lines and communities are starting to use those funds. 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 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 service area. More information on lead can be found on pages 4 and 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. Page 3 of this report includes tips on how you can conserve water both indoors and outdoors. More information can also 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



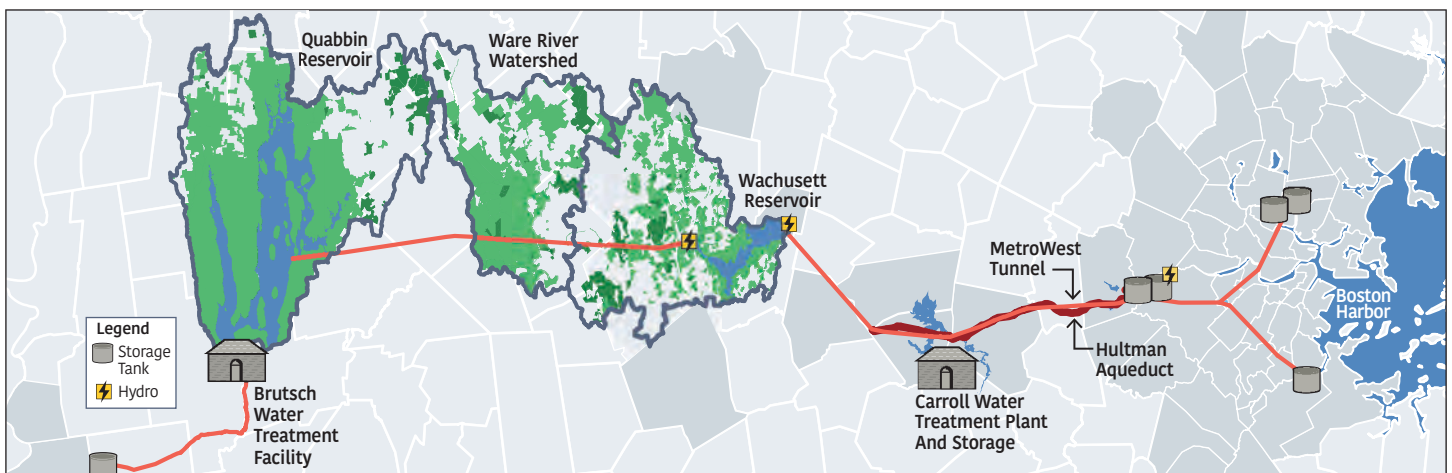
WHY YOUR WATER TASTES GREAT – HIGH QUALITY SOURCE WATER

Your water comes from the Quabbin and Wachusett Reservoirs, about 65 and 35 miles west of Boston, respectively. 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 210 million gallons a day of high quality water to consumers in 2016. 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 - flow into streams and then into 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.





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.

WHY YOUR WATER IS SAFE – WATER TREATMENT

Clean, fresh water is what you expect when you take a drink of water, and that’s what the Massachusetts Water Resources Authority delivers right to your tap. Part of the reason that the water quality is so good is MWRA’s state-of-the-art 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 ensures strong protection against microbes and viruses, improves water clarity, and makes the water taste better. In 2014, we added 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 that may be in our reservoirs are rendered harmless.

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. Your local water

supply may have different treatment. Please see page 7 for more information.

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 (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 2016, turbidity was always below both the 5.0 and 1.0 NTU standards, with the highest level at 0.8 NTU. Typical levels at the Wachusett Reservoir are 0.3 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.

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 2016 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 32.9 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	0.008	0.008-0.009	2	No	Common mineral in nature
Mono-Chloramine	ppm	4-MRDL	2.12	0-3.6	4-MRDLG	No	Water disinfectant
Fluoride	ppm	4	0.68	0.43-0.87	4	No	Additive for dental health
Nitrate^	ppm	10	0.04	0.01-0.04	10	No	Atmospheric deposition
Nitrite^	ppm	1	0.005	ND-0.005	1	No	Byproduct of water disinfection
Total Trihalomethanes	ppb	80	12.6	3.2-15.6	ns	No	Byproduct of water disinfection
Haloacetic Acids-5	ppb	60	10.3	0-13	ns	No	Byproduct of water disinfection
Total Coliform	%	5%	0.7% (Aug)	ND-0.7%	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



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. Half of our energy needs for water and wastewater treatment are met with green power including hydro-energy, wind turbines, and solar panels.

WATER SYSTEM REDUNDANCY

For several years now, MWRA has been focusing 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.

Much progress has been made and we now have full redundancy from the water treatment plant in Marlborough to the tunnels that carry water into the metropolitan area; however, there is no redundancy for those tunnels. MWRA plans to construct two new tunnels beginning in Weston – one to the north and one to the south – to address this issue. The actual construction would not begin for several years, but in the meantime, several smaller projects will be completed to strengthen this system until the new tunnels are completed.

New redundant pipelines are currently under construction in both the northern service area, through Reading, Stoneham

and Woburn, and the southern service area, through Boston and Dedham.

ON-GOING PIPELINE REHABILITATION

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 2016, \$17.3 million was loaned to communities for 18 projects including the replacement of over 17 miles of older, unlined pipes with new cement-lined ductile iron water pipes.



ALWAYS

use water wisely



We know that conservation works. Customers in the MWRA service 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.

Cut Out And Conserve
More tips are available at MWRA.com.



▷ Indoor Tips ◁



Install low-flow aerators on your faucets. You'll save 1 to 5 gallons per minute.



Replace your washing machine with a high-efficiency model. You'll use 30 to 50% less water.

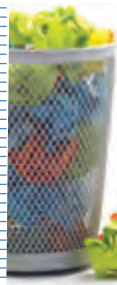
Fix that leaky toilet. You'll save 50 gallons a day or more.



Fix that leaky faucet. Worn-out washers can waste hundreds of gallons per week.



Never use your toilet as a wastebasket. You'll save 1 to 2 gallons per flush (and you'll save your pipes).



▷ Outdoor Tips ◁

Water your lawn overnight or before 5 am. Mid-day watering will result in evaporation.



Aerate your soil in the spring and fall. This will aid water absorption and retention.



One inch of water a week is plenty. After heavy rains, you may not need to water for 10 to 14 days.



Raise the mower blade to 2 or 3 inches or more. Longer grass retains moisture and competes better against weeds.



Use mulch in your flower beds. Mulch will keep roots cool and moist and reduce weeds.



With All The News about lead in drinking water, you may have some concerns about the safety of your tap water. MWRA's water system has been below the Lead Action Level for over a decade. Of the 2,300 samples taken in the last 5 years, 98% were below the 15 ppb level.

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 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 tests of tap water have dropped by over 90 percent since this treatment change.

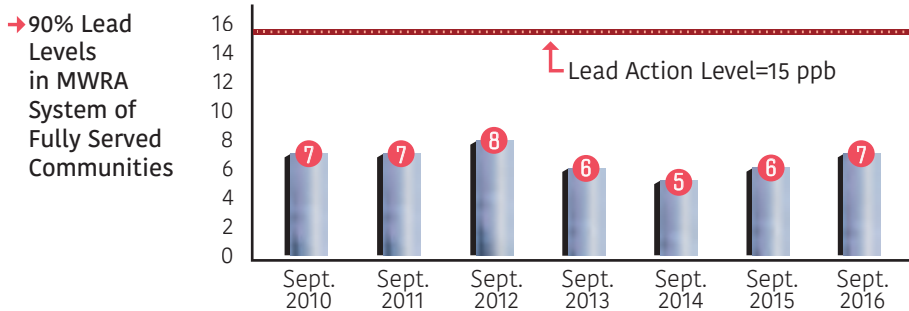
MWRA MEETS LEAD STANDARD IN 2016

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 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 21 sampling rounds over the past twelve years have been below the EPA standard. Results for the 463 samples taken in September 2016 are shown in the table. Nine out of ten houses were below 6.9 ppb, which is below the Action Level of 15 ppb. For lead and copper results for your local water supply please see page 7.

→ Sept. 2016 Lead & Copper Results	Range	90% Value	(Target) Action Level	(Ideal Goal) MCLG	#Home Above AL/ #Homes Tested
Lead (ppb)	0-70	6.9	15	0	10/463
Copper (ppm)	0-0.18	0.09	1.3	1.3	0/463

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.



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.

What Can I Do To Reduce Exposure To Lead 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.

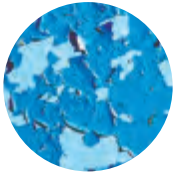
Check your plumbing fixtures to see if they are lead-free. Read the labels closely.

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, dust 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.



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 and pregnant women.

“What do I do if I have a lead service line?”



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 (usually those built 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 in 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 pipe behind - do not lower lead levels, and in many cases, can actually increase lead levels.

MWRA PROGRAM TO REPLACE LEAD SERVICE LINES

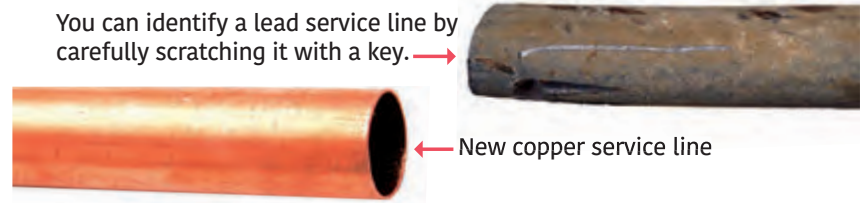
To help communities in removing lead service lines, MWRA and its Advisory Board approved a program to make available \$100 million in zero-interest loans to its member communities to fully replace lead service lines. Under the program, each community can develop its own program, tailored to their local 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 home’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.



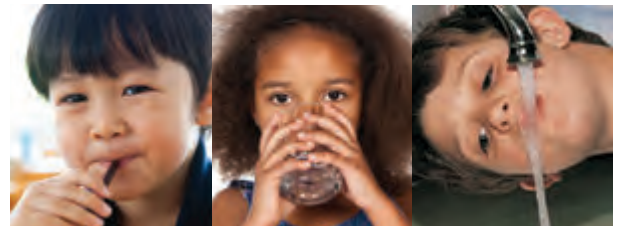
For more information on lead service lines go to mwra.com.

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. Over 14,000 sample bottles from over 300 schools across 35 communities were received, and over 29,000 tests were completed. Most of the 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. 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 letter on page 7.



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. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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).



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/Partial/2016.html.

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.



WATERSHED PROTECTION

is an extra layer of protection 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 some of the best in the country. Since 1985, almost \$150 million has been invested in land protection.

AWARD WINNING



In 2016, MWRA received the DEP Award for Outstanding Performance by a Public Water System.

Water Quality Report for 2016



CITY OF MARLBOROUGH
Department of Public Works
135 Neil Street
Marlborough, Massachusetts 01752
(508) 624-6910 Ext. 33103

**Public Water Supply
2170000**

Water & Sewer Division

This is an annual report on the quality of water delivered by the City of Marlborough to its residents and businesses. It complies with the Federal Safe Drinking Water Act (SDWA) requirement for “Consumer Confidence Reports” and contains information on the source of our water, its makeup and health risks associated with any contaminants. Safe water is vital to our community. Please read the report carefully and if you have any questions please call the number listed below.

The City of Marlborough’s water is supplied from two sources: 80% from the Massachusetts Water Resources Authority (MWRA), and 20% from the Millham Reservoir. During calendar year 2016, the City of Marlborough Department of Public Works supplied 1.55 billion gallons of water for use by our customers.

Pursuant to the SDWA, the City of Marlborough conducts a through water sampling and testing program in order to meet all State and Federal requirements. All tests analyzed were found to be below all federal and state standards with the exception of the items listed below.

Water System Compliance

Marlborough exceeded the action level for lead in August with a 90th percentile of 0.016 mg/l, which is over the 0.015 mg/l action limit. After the City shut down the Millham Water Treatment Plant in September due to high chloride levels, the City conducted a voluntary second round of lead testing in November/December and met the lead action level. Marlborough incurred three violations relating to the reported August lead exceedance: 1) Failing to complete delivery of the Lead Public Education Program to all customers by March 2, 2017; 2) Failing to notify both MassDEP within 48 hours and the customers within 30 days of their failure to deliver the Lead Public Education Program; and, 3) Failing to conduct required bi-weekly testing for alkalinity at the point of entry into the distribution system in January and February of 2017. Marlborough is working in conjunction with DEP to take measures to correct these infractions.

Marlborough is evaluating the potential causes for the Lead exceedance by further evaluating its source water, treatment processes, and Lead Service Line (“LSL”) replacement program. The City is taking part in a MWRA loan program to remove all LSL within Marlborough over the next several years. For more information regarding lead in 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.

Water Quality Report for 2016

Water Quality Table

The Water Quality Table below provides information on the results of the city's testing program and is based upon samples taken during 2016. Terms used in the table are defined below or within the table itself. Although many tests were run on a number of contaminants, only those substances listed below were detected.

Regulated Contaminants	Date(s) Collected	Result or Highest RAA*	Range	MCL	MCLG	Violation (Y/N)	Possible Sources
Inorganic Contaminants							
Nitrate (ppm)	6/10/16	0.13	--	10	10	N	Runoff from fertilizer use; erosion of natural deposits
Barium (ppm)	6/27/16	0.039	--	2	2	N	Erosion of natural deposits
Fluoride (ppm)	6/14/16	0.44	--	4**	4	N	Water additive that promotes strong teeth
Disinfectants and Disinfection Byproducts							
Haloacetic Acids (HAA5s) (ppb) Total Trihalomethanes (TTHMs) (ppb)	Quarterly In 2016	13.4* 18.5*	6.6 – 21 3.0 - 50	60 80	-- --	N N	By-products of drinking water chlorination
Total Chlorine (ppm)	42 Samples per Month	2.49*	1.62 – 2.75	4	4	N	Water additive used to control microbes

* Highest RAA= highest running annual average over four consecutive quarters.

** Fluoride also has an SMCL of 2 ppm.

Lend Copper	Date(s) Collected	90 th Percentile*	Action Level	MCLG	# of sites sampled	# of sites above AL	Exceeds	Possible Sources
Lead (ppb)	8/16	0.016	0.015	0	60	7	Y	Service line, plumbing, fixtures
Copper (ppm)	8/16	0.059	1.3	1.3	60	0	N	Service line, plumbing

Lend Copper	Date(s) Collected	90 th Percentile*	Action Level	MCLG	# of sites sampled	# of sites above AL	Exceeds	Possible Sources
Lead (ppb)	11/16-12/16	0.006	0.015	0	60	3	N	Service line, plumbing, fixtures
Copper (ppm)	11/16-12/16	0.072	1.3	1.3	60	0	N	Service line, plumbing

* Nine out of every 10 homes sampled were at or below this level. This number is compared to the action level for each contaminant.

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MARLBOROUGH DPW -- 2016 FINISHED WATER TEST RESULTS

Unregulated and Secondary Contaminants	Date Collected	Result	SMCL	ORSG	Possible Sources
Nickel (ppm)	6/27/16	0.0011	--	100	Natural sources
Sodium (ppm)	6/13/16	220	--	20*	Natural sources; runoff from road salt
Iron (ppb)	7/18/16	ND	300	--	Natural sources; corrosion of cast iron pipes
Manganese (ppb)	7/18/16	10	50	300**	Erosion of natural deposits

* Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure or congestive heart failure should be aware of the levels of sodium in their drinking water where exposures are being carefully controlled.

** US EPA and MassDEP have established health advisory levels for manganese to protect against concerns of potential neurologic effects.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Turbidity	MCL	Lowest Monthly % of Samples < 0.3 NTU	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Turbidity (NTU)	1	-----	0.28	N	Soil runoff
Monthly Compliance*	At least 95% < 0.3 NTU	100	-----	N	

*Monthly turbidity compliance is related to a specific treatment technique (TT). This treatment facility filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.

Definitions

MCL = Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG = Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

AL = Action Level. The AL is the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (µg/l)

NTU = Nephelometric turbidity unit

Unregulated Contaminants = Unregulated contaminants are substances without MCLs for which EPA requires monitoring. For some of these substances, the Massachusetts Office of Research and Standards (ORS) have developed state guidelines or secondary MCLs.

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

ORSG = Office of Research and Standards Guideline. 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.

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The state recommended maximum per capita water use is 65 gallons per person per day. In order to maintain a value below 65 gallons per person per day, we encourage all residents to use water efficiently. Please visit the Marlborough Department of Public Works website for tips on water conservation at www.marlborough-ma.gov.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Please contact Michele Mochnoc Higgins, Assistant Commissioner, Utilities at (508) 624-6910, ext. 33103 for more information or with any questions you may have.

Water Conservation

TIPS FOR SAVING INDOORS AND OUTSIDE YOUR HOME



← 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

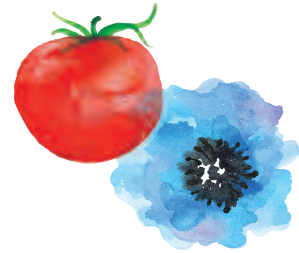
Some showerheads may still use 5 gallons per minute. A low-flow showerhead uses 2.5 gallons or less and can save you over 20 gallons per 10 minute shower. In one year, that's over 7,000 gallons. Faucets can use 2 to 7 gallons of water per minute – a low-flow aerator can reduce the flow by about 25%.



← 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 downspouts 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.

