



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. Tra-durlo o parlame con un amico che lo comprenda.

O relatório contém informações importantes sobre a qualidade da água da comunidade. Traduza-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 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 ابحث عن شخص يفهمه هذه المعلومات جيداً.

Hi katalón enoífora porporotóhí stoudeús alaróforés, pór to potíoio vepó eús. Prouktóioi voi to jetoíporoté. Íi voi to stóloioioioi gú katalón pto to katalónioíforé stouíhítes.

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.

这份报告中有您重要的信息。请别关于您所在社区的饮水品质。请您找人翻译一下，或者请能看懂这份报告的朋友向您解释一下。

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。

ဒီ ဂျာနယ် မှာ -ကောင်းတဲ့- အရေးကြီးတဲ့ အချက်အလက်တွေကို တွေ့ရပါမယ်။ ဒါတွေကို အခြားသူတို့က အတိအကျ ရှင်းပြပေးရင် အကောင်းဆုံးပါ။

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이 보고서는 귀하의 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.

Bản báo cáo có ghi những chỉ 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 văn đề này.



MASSACHUSETTS WATER RESOURCES AUTHORITY AND THE CHICOPEE WATER DEPT., SOUTH HADLEY F.D. #1, AND WILBRAHAM WATER DIVISION

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,

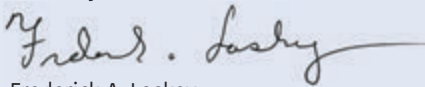
I am pleased to share with you the results of our annual water quality testing. MWRA takes hundreds of thousands of tests each year to ensure your water is safe and of the highest quality. In 2016, we again met every federal and state drinking water standard.

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

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

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

Sincerely,



Frederick A. Laskey
Executive Director

MWRA Board of Directors

Matthew A. Beaton, Chairman • John J. Carroll, Vice-Chair
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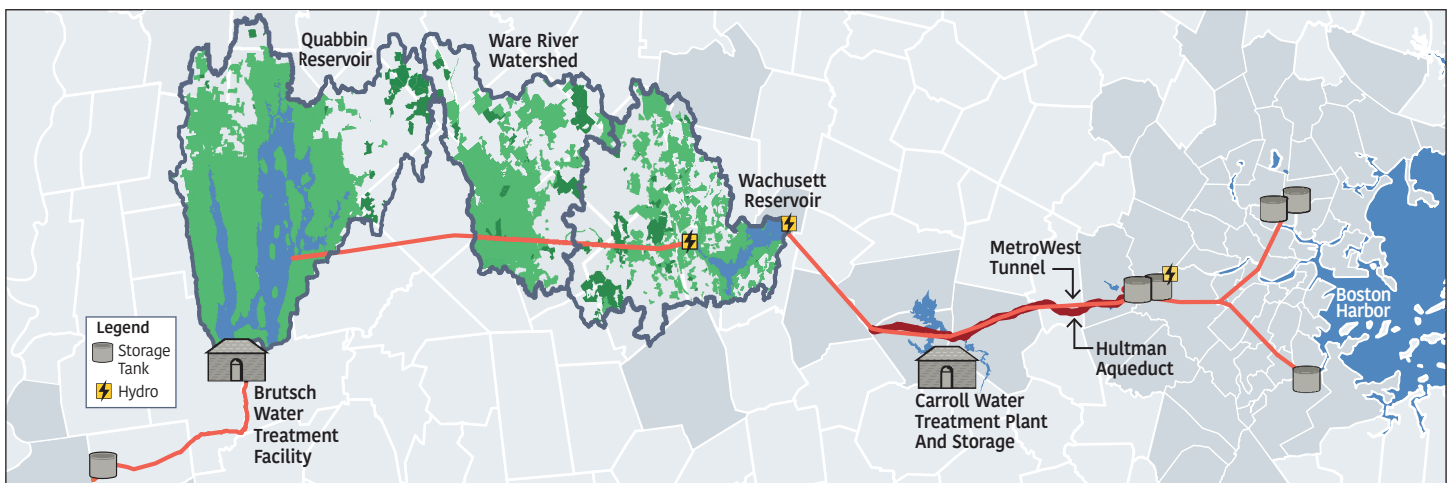
WHERE DOES YOUR WATER COME FROM?

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

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

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

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





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



WATER TREATMENT- FROM THE RESERVOIR TO COMMUNITY PIPELINES

Your water is treated at the new Brutsch Water Disinfection Facility before it enters the Chicopee Valley Aqueduct. The first treatment step is disinfection of reservoir water. MWRA’s licensed treatment operators carefully add measured doses of chlorine, and then further treat the water with ultraviolet (UV) light. Both disinfection processes are designed to kill pathogens (germs) that may be present in the water. Licensed operators in Chicopee perform additional booster disinfection at the point where the local pipes take water from the Aqueduct. Each community also treats the water to reduce leaching of lead from home plumbing.

Water must travel through the 15-mile Chicopee Valley Aqueduct and through some of the hundreds of miles of local

distribution pipes under your streets before it reaches your tap. To continue providing high quality water, each part of the water system needs routine maintenance and, when necessary, improvements or new facilities.

MWRA completed the ultraviolet light (UV) disinfection plant in 2014 to meet new EPA standards. With UV light, CVA water now has state-of-the-art disinfection, and ensures clean water for many years to come.

TESTING YOUR WATER – EVERY STEP OF THE WAY

Test results show few contaminants are found in the reservoir water. The few that are found are in very small amounts, well below EPA’s standards. Turbidity (or cloudiness of water) is one measure of overall water quality. There are two standards for turbidity: all water must be below 5 NTU (Nephelometric Turbidity Units), and only can be above 1 NTU if it does not interfere with effective disinfection. Typical levels at the Quabbin Reservoir are 0.3 NTU and were below the 1 NTU over 99% of the time. The highest level was 2.28 NTU, but this did not interfere with effective disinfection.

MWRA also tests reservoir water for pathogens - such as fecal coliform, bacteria, viruses, and the parasites *Cryptosporidium* and *Giardia*. They can enter the water from animal or human waste. In 2016, all test results were well within state and federal testing and treatment standards.

TEST RESULTS – AFTER TREATMENT

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

WHAT IS UV



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

Test Results After Treatment

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

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



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 are detected in more than 5% of samples in a month, the water system is required to investigate the possible source and fix any identified problems. If a water sample does test positive, we run more specific tests for *E.coli*, which is a bacteria found in human and animal fecal waste and may cause illness. No *E.coli* was found in any MWRA community in 2016. If your community found any total coliform, it will be listed within the community information on page 4.



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 the 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).

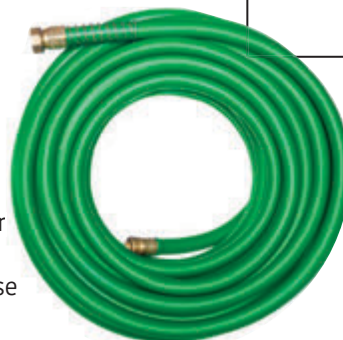


RESEARCH FOR NEW REGULATIONS

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/CVA/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 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.



Your Drinking Water. Important information from your community.

CHICOPEE

Phone: 413-594-3420

PWS ID# 1061000

The Chicopee Water Department's Corrosion Control Facility continues to provide excellent water quality by adjusting the water's pH and alkalinity levels. Sodium Carbonate and Sodium Bicarbonate (baking soda) are used to make this adjustment. A phosphate blend also adds an extra level of protection by further reducing corrosion throughout the system. The benefits of these treatment processes are evident in the reduced level of dissolved metals such as lead, copper, and iron in the city's water supply.

Under the Safe Drinking Water Act, water samples must be collected specifically for the analysis of lead and copper. Household plumbing is the main contributor of these metals in our drinking water and the water's chemistry is adjusted to minimize corrosion well before it reaches the homes of Chicopee's residents.

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

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



WILBRAHAM

Phone: 413-596-2807

PWS ID# 1339000

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

The water usage in 2016 was 453,071,000 gallons. This represents an 2.7 % increase over 2015.

SOUTH HADLEY FIRE DISTRICT #1

Phone: 413-532-0666

PWS ID# 1275000

Since 1998, at our treatment facility in Ludlow, sodium silicate is added to the water for corrosion control in order to comply with the federally mandated Lead and Copper Rule. Our sampling round of 30 homes in June of 2016 was successful. All 30 homes in addition to 2 schools were below the Action Level for both lead and copper. Our next sampling round will be 2019.

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

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

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

We feel strongly that the Water Department – Fire District No.1 has been operated very efficiently by providing the residents with a municipal department at the lowest possible cost. We extend our thanks to the Fire and Police Departments, Fire District No. 2 and the Town Departments for their cooperation. Please take a moment to view our website with historical, and frequently updated information at www.shdistrict1.org.



Did You Know? Most cases of lead poisoning are from contact with peeling lead paint and lead paint dust. But drinking water exposed to lead can increase a person's total lead exposure. This is particularly a concern for small children or pregnant women.

WHAT YOU NEED TO KNOW ABOUT LEAD IN TAP WATER

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

treatment to make water less corrosive. This means the water is less likely to absorb lead from pipes and other fixtures.

MWRA MEETS LEAD STANDARD IN 2016

Under Environmental Protection Agency regulations, each year your local water department must test tap water in a sample of homes that are likely to have high lead levels. These are usually older homes with lead service lines or lead solder. The EPA rule requires that 9 out of 10, or 90%, of these sampled homes must have lead levels below the Action Level of 15 parts per billion (ppb). All three CVA communities were below the lead Action Level in 2016.

IMPORTANT
information from EPA about lead



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. MWRA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap water for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or www.epa.gov/safewater/lead.

What Can I Do To Reduce Exposure In Drinking Water?

Let the water run before using: fresh water is better than stale! To save water, fill a pitcher with fresh water and place in the refrigerator for future use.

Any time water has gone unused for more than 6 hours, run each faucet used for drinking or cooking until after the water becomes cold.

Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants.

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

Remove loose lead solder and debris. Every few months remove the aerator from each faucet in your home and flush the pipes for 3-5 minutes.

Be careful of places you may find lead in or near your home. Paint, soil, 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.



MOST RECENT RESULTS	Total Trihalomethanes in ppb MCL=80 ppb (Avg) MCLG=ns		Haloacetic Acids in ppb MCL=60 ppb (Avg) MCLG=ns		Chlorine in ppm MRDL=4 ppm (Avg) MRDLG=4 ppm		Lead in ppb AL=15 ppb MCLG=0		Copper in ppm AL=1.3 ppm MCLG=1.3 ppm		Sodium in ppm
	Annual Average	Range	Annual Average	Range	Annual Average	Range	# Samples over AL	90% Value	# Samples over AL	90% Value	
Chicopee	45.4	20.0-58.3	36.9	15.1-36.7	0.88	0.10-1.51	1 of 30	1.9^	0 of 30	0.15^	14.4
South Hadley FD #1	53.2	34.5-68.6	21.6	9.0-40.1	0.55	0.11-1.18	0 of 30	4.6	0 of 30	0.03	7.21
Wilbraham	64.3	21.4-55.3	25.8	6.6-29.3	0.3	0.2-0.9	0 of 20	4.1^	0 of 20	0.14^	6.87

KEY: The definitions for MCL and MCLG are on page 2. ^= Results from 2015. Next sampling is in 2018. **AL**=Action Level-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. **MRDL**=Maximum Residual Disinfectant Level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. **MRDLG**=Maximum Residual Disinfectant Level Goal. The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination. **ppm**=parts per million **ppb**=parts per billion **ns**=no standard

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

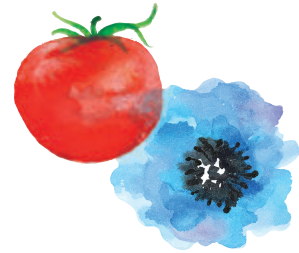
Some showerheads may still use 5 gallons per minute. A low-flow showerhead uses 2.5 gallons or less and can save you over 20 gallons per 10 minute shower. In one year, that's over 7,000 gallons. Faucets can use 2 to 7 gallons of water per minute – a low-flow aerator can reduce the flow by about 25%.



← 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.

