



Your Drinking Water

FROM THE RESERVOIR TO YOUR GLASS

Massachusetts Water Resources Authority
2006 Drinking Water Report


Massachusetts Water Resources Authority
and Your Local Water Department

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This is a "right-to-know" report required under U.S. environmental protection laws. It contains important information on the quality of your drinking water!

<p>This report contains very important information about your drinking water. Please translate it, or speak with someone who understands it.</p>	<p>Si usted desea obtener una copia de este reporte en español, llámenos al teléfono 617-789-1190.</p>	<p>La relazione contiene importanti informazioni sulla qualità dell'acqua della Comunità. Tradurla o parlarne con un amico che lo comprenda.</p>	<p>O relatório contém informações importantes sobre a qualidade da água da comunidade. Traduz-lo ou peça a alguém que o ajude a entendê-lo melhor.</p>	<p>Sprawozdanie zawiera ważne informacje na temat jakości wody w Twojej miejscowości. Poproś kogoś o przełożenie go lub porozmawiaj z osobą, która je dobrze rozumie.</p>	<p>يحتوي هذا التقرير على معلومات هامة عن نوعية مياه الشرب في منطقتك. برجاء الترجمة أو التحدث مع شخص يفهمها.</p>	<p>Il rapporto contiene informazioni importanti sulla qualità dell'acqua della Comunità. Traducilo o parlane con un amico che lo capisca.</p>	<p>Other countries have no equivalent of this report. Please contact your local water department for more information.</p>
<p>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.</p>	<p>这份报告中包含重要的信息。请翻译成您所在社区的语言，或者请您找人翻译一下，或者请您与懂这份报告的亲友沟通解释一下。</p>	<p>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訳者を受けてください。</p>	<p>este informe es sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda mejor.</p>	<p>この報告書には、あなたの地域の水道水に関する重要な情報が含まれています。内容をよく理解するために、日本語に翻訳して読むか訳者を受けてください。</p>	<p>이 보고서는 귀하의 거주지역의 수질에 관한 중요한 정보가 포함되어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구의 상의하십시오.</p>	<p>Đảm bảo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông thạo, hoặc hỏi một người bạn biết rõ về vấn đề này.</p>	<p>Le rapport contient des informations concernant la qualité de l'eau de votre communauté. Faites-le traduire, ou parlez-en à un ami qui le comprend bien.</p>

FOR A LARGE PRINT VERSION OF THIS REPORT, CALL (617) 242-5323.

Dear Customer,

The Massachusetts Water Resources Authority is pleased to send you the annual report on your drinking water quality. The report contains important information about the water we deliver to your home.

Under strict federal and state guidelines, the MWRA and your local water department test thousands of water quality samples each week. The results for 2006 are excellent. MWRA again met every standard for the 120 contaminants we test for each year.

Since the start-up of the John J. Carroll Water Treatment Plant in July 2005, water quality has continued to improve and the plant is operating even better than expected. Using ozone for disinfection not only means using less chlorine, it has also made the water taste better. We are now working on projects to provide much-needed redundancy and storage to parts of the water system. Projects like the Blue Hills Covered Storage Tank in Quincy will help guarantee safe and reliable drinking water for years to come.

Water conservation is also critical for protecting this precious resource. With your help, water usage in the MWRA service area has decreased by over 100 million gallons a day since the late 1980s. The success of these efforts has allowed for the addition of new communities to the water system with no negative impacts to the source reservoirs or watersheds. We are pleased to welcome Dedham, Westwood and Reading as the newest members of the MWRA water system.

I am also pleased to report that the lead test results for 2006 and the first half of 2007 show that system-wide, MWRA was below the federal Lead Action Level. It is important to remember that lead is not in the source water, but can enter the water through some household plumbing that contains lead- so your home could have higher levels. Please see page 7 to see if your community tested above the Action Level, and read page 5 to learn what MWRA is doing to help reduce lead at the tap and what you can do to reduce lead exposure in your home.

I hope you will take a few moments to read this important report. MWRA has great confidence in the water we deliver to over 2 million customers, and we want you to have the same 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



MASSACHUSETTS WATER RESOURCES AUTHORITY

MWRA BOARD OF DIRECTORS

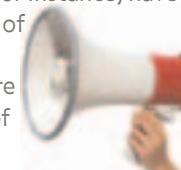
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THIS REPORT IS REQUIRED UNDER THE FEDERAL SAFE DRINKING WATER ACT AND PROVIDES IMPORTANT INFORMATION ON :

- * Where your water comes from..... 2
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- * Information on your local water supply..... 7

SHARE YOUR COMMENTS

Call or email us and let us know what you think about this report or your water. For instance, have you noticed a change in the taste of your water? Water quality complaints from our customers are at an all time low since the start of the new ozone treatment plant.



GREENER REPORT

This report was printed on environmentally friendly paper that includes higher recycled content, and certification from the Forest Stewardship Council. (This report costs about 30 cents to print and mail.)

MASSACHUSETTS WATER RESOURCES AUTHORITY
PWS ID #6000000



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HOW WOULD I
KNOW ABOUT A
PROBLEM WITH THE
WATER SUPPLY?
MWRA AND YOUR



LOCAL WATER DEPARTMENT KEEP
CLOSE WATCH ON THE WATER SUPPLY.
IF THERE IS A PROBLEM WITH YOUR
WATER, YOU WILL GET THE NEWS BY
RADIO, TELEVISION AND NEWSPAPERS,
FROM MWRA, AND LOCAL AND STATE
WATER AND HEALTH OFFICIALS.

WHERE DOES YOUR WATER COME FROM?

The MWRA supplies wholesale water to local water departments in 50 communities, 44 in greater Boston and MetroWest, three in Western Massachusetts, and is a back-up supply for three others. Your water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. The two reservoirs combined supplied about 212 million gallons a day of high quality water to consumers in 2006. Your water also comes from local water supplies. Please see page 7 for more information.

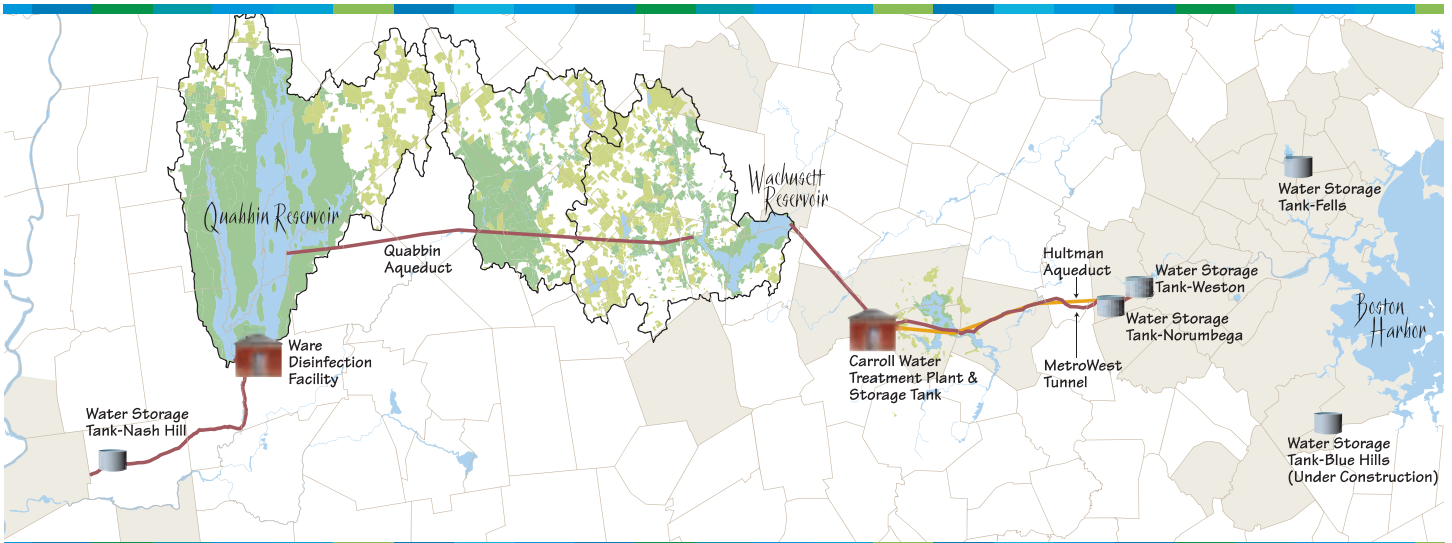
Rain and snow falling on the watersheds - protected land around the reservoirs - turn into streams that flow to the reservoirs. This water comes in contact with soil, rock, plants, and other material as it follows its natural path to the reservoirs. While this process helps to

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, viruses, and fertilizers - 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 Quabbin and Wachusett watersheds are protected naturally with over 85% of the watersheds covered in forest and wetlands. About 75% of the total watershed land cannot be built on. The natural undeveloped watersheds help to keep MWRA water clean and clear. Also, to ensure safety, the streams and the reservoirs 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 and Wachusett Reservoirs. The report notes that wildlife (birds and aquatic animals), agriculture, transportation corridors, transmission lines, and residential land use are the key issues in the watershed. 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." The report recommends that we maintain present watershed plans and continue to work with the residents, farmers, and other interested parties to preserve the pristine watershed areas. Your water also comes from local supplies that have a separate report. Information on this report can be found by calling 617-242-5323 or at www.mwra.com/sourcewater.



FROM THE RESERVOIR TO YOUR HOME



WATER TREATMENT STEPS – CARROLL WATER TREATMENT PLANT

Since July 2005, the MWRA water you drink is treated at the John J.

Carroll Water Treatment Plant in Marlborough. The first treatment step is disinfection of reservoir water. MWRA’s licensed treatment operators carefully add measured doses of ozone gas bubbles to the water to kill any pathogens (germs) that may be present in the water. Next, the water chemistry is adjusted to reduce corrosion of lead and copper from home plumbing (see page 5). Fluoride is then added to reduce cavities. Last, we add chloramine, a mild and long-lasting disinfectant combining chlorine and ammonia, which protects the water while it is in the local pipelines. This treatment allows MWRA to meet current and tougher future state and federal water quality standards. Your local water supply may also have different treatment. Please see page 7 for more information.



WHAT IS OZONE?

Ozone consists of three atoms of oxygen. It is created by applying an electrical current to pure oxygen in a specially designed chamber. Ozone provides better disinfection than chlorine alone, especially against *Cryptosporidium* and other hard to kill germs. It also

reduces the amount of potentially harmful chlorine byproducts.

MWRA’S IMPROVEMENTS TO WATER SUPPLY

MWRA has nearly completed its \$1.7 billion Integrated Water Supply Improvement Program. The projects are the largest investments made in the water system since the Quabbin Reservoir was constructed in the 1930s. But, MWRA is still working to improve the system. Construction began on a covered storage tank at the Blue Hills in Quincy last year. MWRA and our community partners will continue to make the necessary investments to maintain and upgrade our facilities, so that we can deliver quality water directly to customers’ taps 24 hours a day, seven days a week for about a penny per gallon.



MAINTAINING THE PIPE SYSTEM

MWRA and its partner communities have an extensive pipe network with thousands of miles of pipes. Many of these pipes are over 50 years old, with some over 100 years old. MWRA provides zero-interest loans to help communities replace and improve these



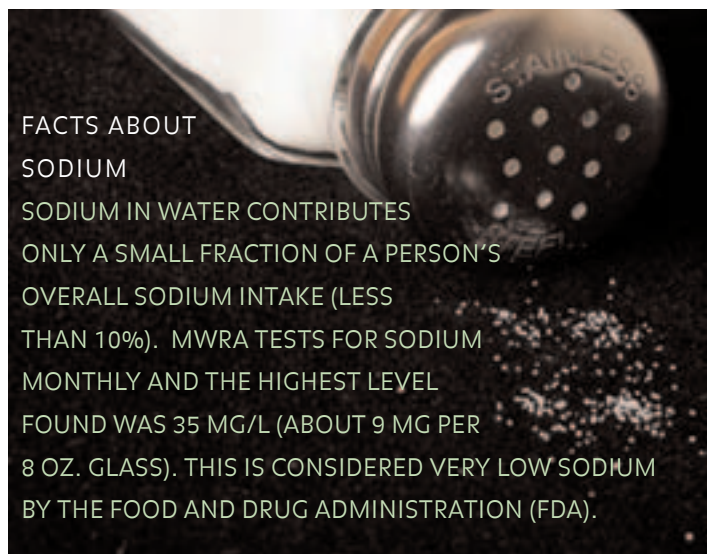
older pipes. To date, \$148 million have been loaned to communities, and nearly 300 miles of pipes have been rehabilitated or replaced. But, there are still hundreds of miles that need to be replaced over the coming years to ensure drinking water quality, system reliability, and adequate water pressure.

RESEARCH AND NEW REGULATIONS

MWRA has been working with EPA and other researchers to define new national drinking water standards by testing for contaminants that are not regulated. Our results will be used with those of other water suppliers to help EPA set regulations if they are necessary. MWRA is also participating with Tufts University on a nationally funded study testing for *Cryptosporidium* and *Giardia*.

Ongoing Research for New Regulations		
Test	Measurement Units	2006 Average
Aeromonas	cfu/100 ml	0.6 (0-10)
<i>Cryptosporidium</i>	oocysts per 100L	0.02 [^]
<i>Giardia</i>	cysts per 100 L	0.02
NDMA	ng/L	0.8
Viruses	MPN/L	0.15

cfu/100 ml=colony forming units per 100 milliliters
 ng/L=nanograms per liter (parts per trillion)
 MPN/L=Most Probable Number per liter
[^]Treatment threshold is 1 oocyst per 100 liters



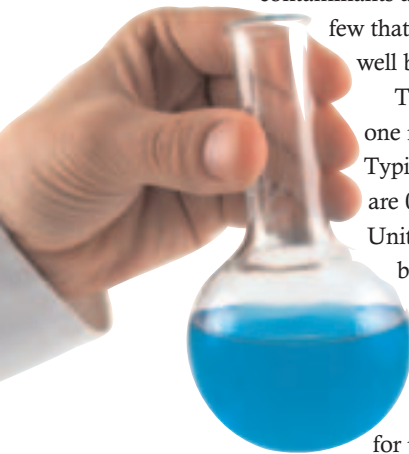
FACTS ABOUT SODIUM

SODIUM IN WATER CONTRIBUTES ONLY A SMALL FRACTION OF A PERSON’S OVERALL SODIUM INTAKE (LESS THAN 10%). MWRA TESTS FOR SODIUM MONTHLY AND THE HIGHEST LEVEL FOUND WAS 35 MG/L (ABOUT 9 MG PER 8 OZ. GLASS). THIS IS CONSIDERED VERY LOW SODIUM BY THE FOOD AND DRUG ADMINISTRATION (FDA).

TESTING YOUR WATER EVERY STEP OF THE WAY

TESTS BEFORE TREATMENT

We test the water as it leaves the reservoir to see how well protected our watersheds are. Test results show that 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. Typical levels at the Wachusett Reservoir are 0.4 NTU (Nephelometric Turbidity Units). In 2006, turbidity was always below both EPA's standard of 5.0 NTU and the stricter Massachusetts standard of 1.0 NTU, with the highest level at 0.85 NTU.

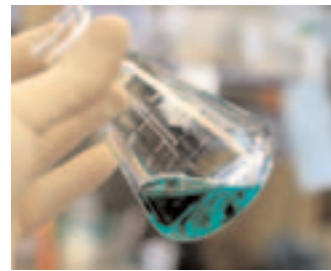
MWRA also tests reservoir water for pathogens - such as fecal coliform, bacteria, viruses, and the parasites *Cryptosporidium* and *Giardia*. They can enter the water from animal or human waste. All test results were well within state and federal testing and treatment standards.

TESTS AFTER TREATMENT

EPA and state regulations also require many water quality tests after treatment to check the water you are drinking. MWRA follows - and even goes beyond - these tests. We conduct tens of thousands of tests per year.

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, these bacteria are not harmful. However, their presence could signal that harmful bacteria from fecal waste may be there as well. The EPA requires that no more than 5% of the samples in a given month may be positive for total coliform. If a water sample tests positive for total coliform, we run more specific tests for *E.coli*. *E.coli* is a pathogen found in human and animal fecal waste and may cause illness.



HOW DID WE DO IN 2006?

The table below reports test results from 10 communities that receive some of their water from MWRA. Total coliforms were found in one community. No *E.coli* was found in any MWRA community in 2006.

Total Coliform Results		
Community	Highest % and month of positive samples	Violations of EPA's 5% limit
Marlborough	3.6% (September)	No
MWRA transmission lines	0.7% (August)	No

WHAT DOES THIS TABLE TELL ME? EPA requires that we test for over 120 contaminants. For a complete list, go to www.mwra.com. MWRA found only those noted in this report. For results on your local water supplies, please see page 7.

WHAT IS THE BOTTOMLINE? The water quality is excellent. All of the levels are below EPA's allowable limits.

Reservoir Water 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	0.01	0.009-0.012	2	No	Common mineral in nature
Cyanide*	ppm	0.2	0.01	nd-0.07	0.2	No	False Positives - See Below*
Fluoride	ppm	4	1.07	0.02-1.25	4	No	Additive in dental health
Nitrate^	ppm	10	0.20	nd-0.20	10	No	Atmospheric deposition
Nitrite^	ppm	1	0.02	nd-0.02	1	No	Byproduct of water disinfection
Total Trihalomethanes	ppb	80	29.6#	2.1-13.5	ns	No	Byproducts of water disinfection
Haloacetic Acids-5	ppb	60	22.1#	0.6-15	ns	No	Byproducts of water disinfection

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 Avg=Average nd=not detected ns=no standard

* The current EPA sampling method for cyanide is causing false positives by converting organics in the water to cyanide. In the actual water, these organics are converted to non-toxic cyanates.

^ Per DEP requirements the maximum result is reported for nitrate and nitrite, not the average.

The running annual average includes higher numbers from 2005 before new treatment plant was started. The average for 2006 was 5.1 ppb for TTHM and 7.1 ppb for HAA5.

WHAT YOU NEED TO KNOW ABOUT LEAD IN YOUR 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 of concrete, iron and steel, and do not add lead to water. However, lead can get into tap water through pipes in your home, your lead service line, lead solder used in plumbing, and some brass fixtures. Corrosion or wearing away of lead-based materials can add lead to tap water, especially if water sits for a long time in the pipes before it is used.

WHAT IS MWRA DOING TO LOWER LEAD LEVELS? WHAT CAN I DO?

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 over 80% since this treatment change. Local water departments are working to decrease lead corrosion by replacing existing lead service lines. Also, MWRA is working with city and state governments to get rid of lead in all new household plumbing, particularly faucets. Federal law still allows new faucets to contain as much as 8% lead.

To further decrease your potential exposure, you should always use cold, fresh running water for drinking or cooking and buy plumbing fixtures that have no or low lead levels. Read the labels of any new plumbing fixture closely.

MWRA MEETS LEAD STANDARDS IN 2006

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).

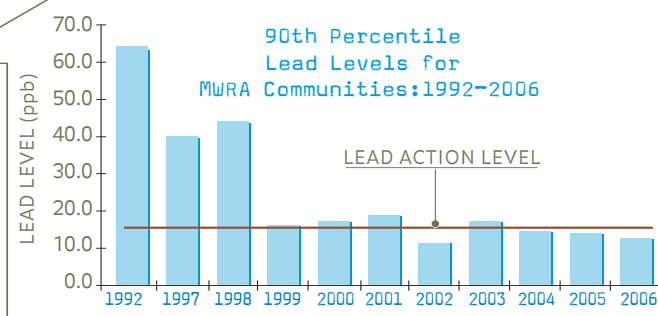
The following results are for the MWRA system. For lead and copper results for your local water supply, please see page 7. Lead levels in sampled worst case homes have dramatically dropped since 1992. Over the last several years, the results have been below the EPA standard. Results for 451 samples taken in September 2006 are shown in the table below, with an overall test score meeting the 90% standard. 9 of 10 houses were below 12.5 ppb, which is below the Action Level of 15 ppb.

Some individual communities had more than one home test above the Action Level for lead. If you live in one of these communities, your town letter on page 7 will provide you with more information.

September 2006 Lead & Copper Results

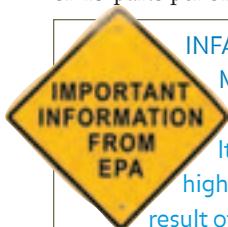
	Range	90% Value	(Target) Action Level	(Ideal Goal) MCLG	# Homes Above AL/# Homes Tested
LEAD	1.2 - 290	12.5 ppb	15 ppb	0	36/451
COPPER	0.008 - 0.6	0.13 ppm	1.3 ppm	0	0/451

AL=Action Level-The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Definition for MCLG available on page 4.



What can I do to reduce exposure to lead in drinking water?

- * Be careful of places you may find lead in or near your home. Paint, soil, dust, and some pottery may contain lead.
- * Run the tap until after the water feels cold. To save water, fill a pitcher with fresh water and place in the refrigerator for future use.
- * Never use hot water from the faucet for drinking or cooking - especially when making baby formula or other food for infants.
- * Ask your local water department if there are lead service pipes leading to your home.
- * Test your tap water. Contact MWRA (617-242-5323 or www.mwra.com) for more tips and a list of certified labs.
- * Call the Department of Public Health at 1-800-532-9571 or EPA at 1-800-424-LEAD for health information.



INFANTS AND YOUNG CHILDREN ARE TYPICALLY MORE VULNERABLE TO LEAD IN DRINKING WATER THAN THE GENERAL POPULATION.

It is possible that lead levels in your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Infants and children who drink water containing lead in excess of the

action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap until after it is cold before using tap water.



IMPORTANT EPA AND DEP INFORMATION

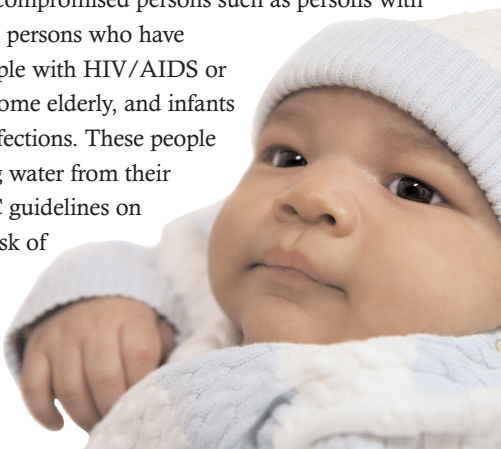
CONTAMINANTS IN BOTTLED WATER AND TAP WATER

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.

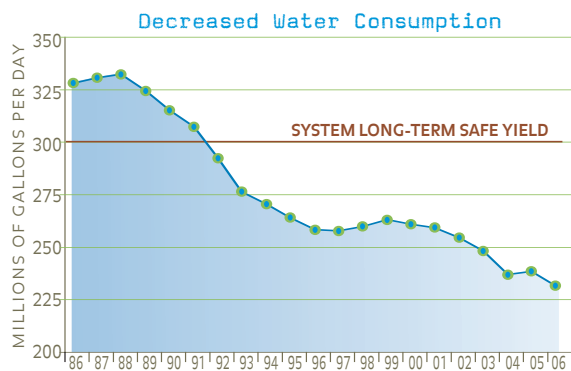
DRINKING WATER AND PEOPLE WITH WEAKENED IMMUNE SYSTEMS

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 Safe Drinking Water Hotline (1-800-426-4791).



NEWS ON WATER CONSERVATION

Conservation in the MWRA service area is paying off. Demand has dropped and water usage is lower than it has been in over 20 years. But, there is still more work to be done. On average each person still uses about 65 gallons of water each day. There are many simple ways you can conserve water, including: fixing leaks, installing low-flush toilets and low-flow shower heads, or minimizing your outdoor watering. To find out more, contact the MWRA at 617-242-SAVE or visit www.mwra.com. Remember, water is a precious resource.



* FOR FURTHER INFORMATION

Massachusetts Water Resources Authority (MWRA)
Massachusetts Department of Environmental Protection (DEP)
Department of Conservation & Recreation (DCR)
Massachusetts Department of Public Health (DPH)
US Centers for Disease Control & Prevention (CDC)
List of State Certified Water Quality Testing Labs
Source Water Assessment and Protection Report

WEBSITES

www.mwra.com
www.mass.gov/dep
www.mass.gov/dcr
www.mass.gov/dph
www.cdc.gov
www.mwra.com/water/html/qual6.htm
www.mwra.com/sourcewater.htm
www.mass.gov/dep/brp/dws/swap.htm

PHONE

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PUBLIC MEETINGS

MWRA Board of Directors	www.mwra.com/org/html/gov.htm	617-788-1117
MWRA Advisory Board	www.mwraadvisoryboard.com	617-742-7561
Water Supply Citizen's Advisory Committee	www.mwra.com/org/html/wscac.htm	413-586-8861

* If you would like more in-depth information on your water quality, a monthly report is available. Please visit our website www.mwra.com or call 617-242-5323. Thank you for reading this report.