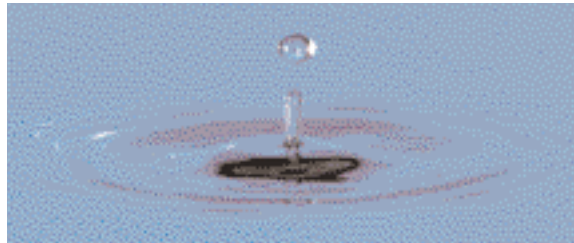


OUR FORMULA FOR SUCCESS BEGINS WITH SOMETHING PURE AND SIMPLE



From the Massachusetts Water Resources Authority
and Your Local Water Department

BULK RATE
U.S. POSTAGE
PAID
CANTON, MA
PERMIT #313



Report to Consumers on Your Drinking Water

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

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.

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. 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.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Η κατάσταση εμφάνισης παρακολούθησης ποιότητας νερού προφορικά για το χώρο νερού σας. Προσπαθήστε να το μεταφράσετε ή να το συζητήσετε με κάποιον που να κατανοεί την αγγλική γλώσσα.

Отчет содержит важную информацию о качестве воды в Вашем районе. Переведите его или попросите друга, хорошо понимающего текст, объяснить Вам его содержание.

بحدوثي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته أو إحد الشخص من مع متحدث لك وفهم هذه المعلومات جيداً.

这份报告中有些重要的信息，讲到关于您所在社区的饮用水的品质。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、日本語に翻訳していただく説明を受けてください。

इस रिपोर्ट में पीने के पानी के गुणवत्ता पर बहुत महत्वपूर्ण जानकारी है। हमारा इच्छा है कि आप इसे समझें, या किसी जानकार से इस बारे में पूछें।

આ અહેવાલમાં પીવાના પાણીની ગુણવત્તા અંગેની મહત્વની માહિતી આપવામાં આવી છે. આ માટે અમારું અભિપ્રાય છે કે તમે તે સમજી શકો છો અથવા તે સમજાવવા માટે કોઈકની મદદ લઈ શકો છો.

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

Bản báo cáo 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.

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.



H₂O

REPORT TO CONSUMERS
ON YOUR DRINKING WATER

REPORT TO CONSUMERS ON YOUR DRINKING WATER

The Massachusetts Water Resources Authority (MWRA) provides water to local water departments in 38 cities and towns of Greater Boston and MetroWest and three in Western Massachusetts. The goal of MWRA and your local water department is to bring you high quality drinking water. We achieve this by following the federal Safe Drinking Water Act to ensure that your water is safe. We wrote this report to tell you about the quality of the water that you drink. This report will discuss:

- Where Your Water Comes From (page 2)
- Major Improvements Underway (page 2)
- 1998 Reservoir Water Test Results (page 3)
- Water Treatment (page 3)
- 1998 Test Results for Water in the Pipelines (page 5)

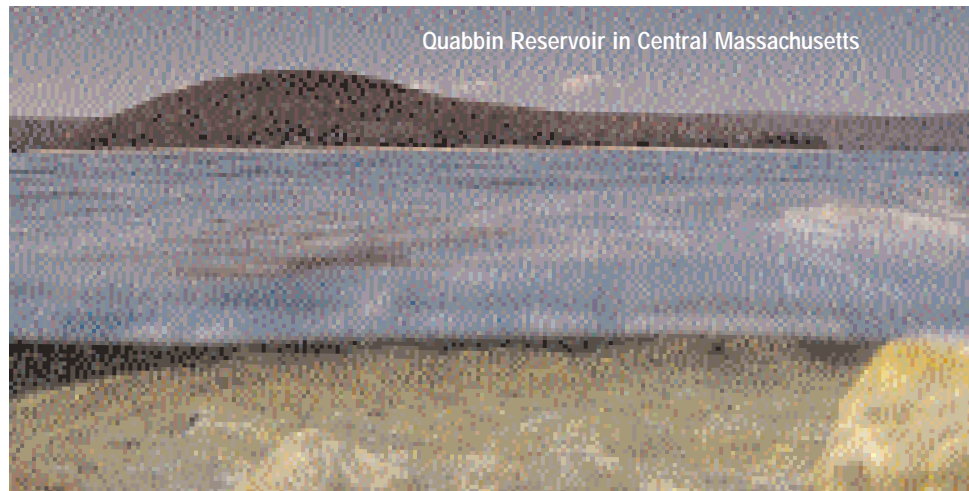
We want you to know and understand the results of our water quality tests. We also know that a report with a lot of data is not easy reading. We have done our best to explain the data in plain terms. Our thanks to local water departments and health groups for helping to write this report. While our customers appreciate a well-designed report, cost is always a concern. We printed and mailed this report for less than 28 cents apiece. If you have questions, please call us at 617-242-5323 or visit us on-line at <http://www.mwra.com>. You can also call your local water department.



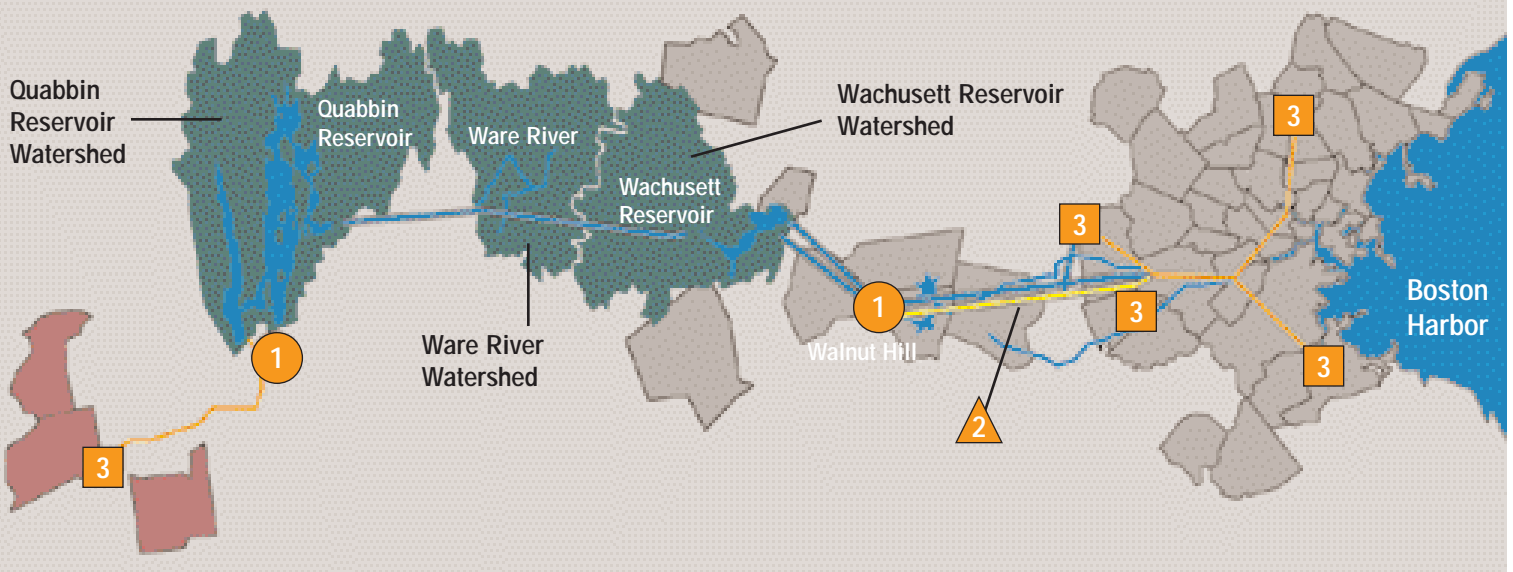
Q. What is the bottom line on MWRA water quality?

A. There is a lot of information and data in this report. But even if you don't read beyond this page, we want to assure you that your water supply is safe. In partnership with your local water department, we run hundreds of tests each week on water throughout the system. What do we find? Not much. Of over 122 potential contaminants we test for, we find only about ten of them in small and non-harmful amounts. And all are below EPA's maximum contaminant levels.

Quabbin Reservoir in Central Massachusetts



The well-protected waters of MWRA's reservoirs provide 250 million gallons per day of high quality drinking water to MWRA communities.



WHERE DOES YOUR WATER COME FROM?

Your water comes from Quabbin Reservoir, about 65 miles west of Boston, and Wachusett Reservoir, about 35 miles west of Boston. Water from the Ware River can also add to the supply at times. Water is sent from the Quabbin Reservoir through the Wachusett Reservoir to 38 MetroWest and Greater Boston cities and towns. Quabbin water also is sent directly southwest to three Chicopee Valley communities.

Reservoir water comes from watersheds - land surrounding the reservoirs. Rain and snow falling in these watersheds turn into streams that flow to the reservoirs. Water comes in contact with soil, rock, plants, and other material as it follows nature's path to the reservoirs. Water can dissolve and carry very small amounts of material into the reservoirs. Minerals from soil and rock do not typically cause problems in our water. But, water can also transport contaminants from human and animal activity. These can include bacteria and viruses, some of which can cause illness, or pesticides and fertilizers used on land. Contaminants can be a threat when they are present in harmful amounts. Our goal is to keep them out in the first place.

Quabbin and Wachusett watersheds are protected naturally, and through MWRA and Metropolitan District Commission (MDC) watershed management. Over 85% of our watersheds are covered in forest and wetlands that help purify water as it flows across the land to the reservoirs. MWRA and MDC control land use and access to the watersheds. About 75% of the total watershed land cannot be developed because we own it or because of agreements we have with land owners. Our scientists make sure that the watersheds, streams and the reservoirs are tested often, and our rangers patrol the watersheds daily.

MAJOR IMPROVEMENTS UNDERWAY

The reservoirs provide about 250 million gallons of clean and clear water each day to the cities and towns we serve. But, before it reaches you, this water must travel through many miles of MWRA aqueducts and distribution mains, one or more storage reservoirs and tanks, and at least a few of the nearly 6,000 miles of community distribution pipe. We are constantly working to maintain and improve this system. The three largest projects underway include:

- 1** **Water Treatment Plants** at Walnut Hill in Marlborough and at the Quabbin Reservoir to improve disinfection and reduce disinfection byproducts
- 2** **MetroWest Water Supply Tunnel** to connect the new treatment plant and storage tanks and provide a back-up to the aging Hultman Aqueduct
- 3** **Covered Water Storage Tanks** at five locations to replace open storage reservoirs near cities and towns and to lessen the risk that contaminants will get into the water.

MWRA is also fixing many of its old pipelines and helping local water departments clean and repair their pipes through a grant/loan program.

Q. How would I know about a problem with the water supply?

A. MWRA and your local water department keep close watch on the water supply system. If we found a problem in the water system, all affected water users would be told about it. You would get the news from radio, television and newspapers, from MWRA, your local water and health departments, and the state Departments of Public Health (DPH), and Environmental Protection (DEP).

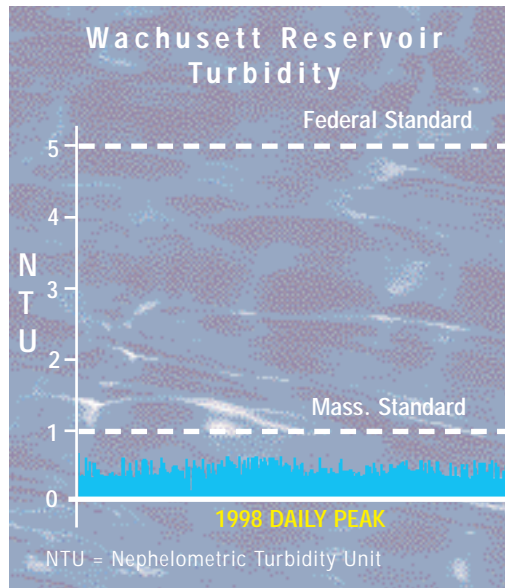


Q. My water has a “funny” taste or odor sometimes. Can I drink it?

A. You can safely drink, cook with, or bathe in this water. Sometimes algae can cause a “fishy” or “grassy” odor. Algae are normal, harmless plants that appear in the reservoirs at certain times of the year. MWRA must sometimes treat the reservoirs to control algae. But, some algae can still enter the water supply system. On occasion, customers may also taste or smell the low levels of chlorine compounds added to disinfect the water. Fill a jug with tap water and put it in the refrigerator to get rid of the taste and odor.

RESERVOIR WATER TEST RESULTS FOR 1998

Test results show that most of the contaminants that we look for are not in our water. Those few that are found are present in very small amounts. MWRA follows, and even goes beyond, federal and state regulatory standards for testing water. One measure is turbidity, or how cloudy the water is. We measure turbidity continuously. Low turbidity is one of the many indicators of safe water. High turbidity might mean that contaminants are present in the water. Wachusett Reservoir almost always has a very low turbidity level as shown in the chart below.



We also test the water for fecal coliform bacteria as the water leaves the reservoirs. Fecal coliforms are microorganisms that can come from animal waste. The presence of fecal coliform can mean that harmful pathogens could be in the water. Pathogens (often called “germs”) can cause illness. MWRA’s water met the fecal coliform standard in 1998 as it has every year since 1994. (In January 1999, untreated water was over the standard by just one sample. But, our treatment worked as planned and no fecal coliform was found in treated water.)

We also test for Cryptosporidium and Giardia. These are parasites that can make you sick. MWRA tests water leaving the reservoirs weekly for both parasites. No Cryptosporidium was found in our water system in 1998. Three water samples before treatment suggested, but could not confirm, that Giardia might have been present at very low levels in the water. In July 1998, MWRA made improvements in our primary disinfection step at the reservoirs to kill at least 99.9% of any Giardia that might be present. This step meets the regulatory standard. There is no regulatory standard for Cryptosporidium at this time.

WATER TREATMENT

MWRA’s licensed treatment operators treat water at a number of places in the system. The first treatment process is called primary disinfection. We carefully add measured doses of chlorine to water leaving the reservoirs to kill germs that may be present. The second treatment process is called residual disinfection. We add a mild and long lasting disinfectant called chloramine closer to the city and town systems to help keep the water safe while it is in the city and town pipes.

Our reservoir water has low levels of dissolved minerals. This kind of water is called “soft.” Soft water is good for laundry and shampooing. But, it can also absorb metals from pipes. For instance, soft water can absorb iron from water mains or lead and copper from home plumbing. MWRA adjusts the water’s chemistry so that the water absorbs less of these metals. We add soda ash to adjust alkalinity and carbon dioxide to adjust acidity. We also add fluoride to the water to promote strong teeth.

In 2004 all treatment will take place at the new Walnut Hill Water Treatment Plant in Marlborough. The new ozonation treatment step at this treatment plant will be effective against both Cryptosporidium and Giardia.

Q. Should I worry about byproducts from disinfecting the water?

A. Your water should not cause health problems. The use of chlorine to kill germs in drinking water is necessary. MWRA closely watches how much chlorine goes into your water and has increased testing to make sure it is safe. MWRA water only has about 50 parts per billion (ppb) of these disinfection byproducts, and is under the Maximum Contaminant Level (MCL) of 100 ppb. Also, ozone will replace chlorine as the main disinfectant in our new water treatment plant in 2004, a step that will reduce most disinfection byproducts to even lower levels.

Building the Level of Treatment Necessary. Quabbin and Wachusett Reservoirs are high-quality unfiltered water sources. The Massachusetts Department of Environmental Protection (DEP) found that the additional treatment step of filtration was not needed for Quabbin water in 1991. In 1998 DEP found that filtration was not needed for Wachusett water. DEP then approved MWRA's plan to add ozonation at the new Walnut Hill Water Treatment Plant. DEP also required MWRA to continue to protect the watershed and improve the distribution system pipes. DEP closely watches MWRA water treatment and system changes under a "Consent Order" agreement that requires MWRA to follow special rules for unfiltered waters.

Unfortunately, the federal EPA does not agree with MWRA's and DEP's view that ozonation is the right treatment. A federal judge has ordered a trial to determine whether MWRA's overall water plan would protect the public health as well as a more costly filtration plant. MWRA will provide public updates on this dispute as it moves forward.



Ongoing Research for New Regulations		
Test	Measurement Units	1997-1998 Average
Chloropicrin	mg/l	0.0007
Chloral Hydrate	mg/l	0.0017
Cyanogen chloride	mg/l	0.0010
Haloacetonitriles	mg/l	0.0012
Haloacetic Acids*	mg/l	0.0282
Haloketones	mg/l	0.0016
Total Organic Halides	mg Cl/l	0.2100
Viruses	MPN/l	0.0012

*mg/l = milligrams per liter
 mg Cl/l = milligrams of chloride per liter
 MPN/l = most probable number per liter
 * These compounds will be regulated at 0.06 mg/l in 2001*

MWRA has been working with EPA to define new national drinking water regulations. MWRA gathered data for 18 months as part of this effort. Our results are shown in the table above. Our results will be used with those of other water suppliers to help EPA set regulations for these compounds if they are necessary.

When complete in 2004, the new Walnut Hill Water Treatment Plant will provide improved disinfection, corrosion control, and, if necessary, filtration.

IMPORTANT INFORMATION FROM EPA ABOUT...

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.

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.

Lead in Drinking Water: 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 for 30 seconds to 2 minutes before using tap water.

Inadequately Treated Water: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Text of these notices provided by EPA.

More information about these topics can be obtained by calling the EPA's Safe Drinking Water Hotline (1 800 426-4791) or MWRA (617 242-5323).

1998 TEST RESULTS FOR WATER IN THE PIPELINES

What does this table tell me? Only 9 of 122 contaminants we tested for were found. The table also shows the amount (Detected Level) of each contaminant found in the water compared to the highest levels allowed by law (MCL).

Compound	Units	(Highest Level Allowed)	(Highest)	(Ideal Goals)	Violation	How it Gets in the Water
		MCL	Detected Level	MCLG		
Turbidity	NTU	1.0 - 5.0*	0.9	n/a	NO	Soil runoff
Barium	ppm	2	0.008	2	NO	Commonly occurring mineral in nature
Fluoride	ppm	4	1.28	4	NO	Water additive which promotes strong teeth
Nitrite	ppm	1	0.001	1	NO	Formed from the breakdown of water disinfectants
Sodium	ppm	no standard	8.9	no standard	NO	Addition of soda ash for corrosion control
Sulfate	ppm	no standard	6.5	no standard	NO	Sulfate is widely present in natural water
Total Trihalomethanes	ppb	100	51** range = 15 to 96.2	0	NO	Byproducts of water disinfection
Alpha Emitters	pCi/l	15	0.2	0	NO	Erosion of natural mineral deposits
Combined Radium	pCi/l	5	0.6	0	NO	Erosion of natural mineral deposits

KEY: pCi/l = picoCuries per liter NTU = Nephelometric Turbidity Unit ppm = Parts Per Million: 1 ppm is about one drop of water in a 55-gallon drum. ppb = Parts Per Billion MCLG = Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. 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.

* Federal MCL is 5.0, Massachusetts MCL is 1.0. Annual average for Turbidity is 0.41 NTU.

** Weston, Southborough, Framingham, and Marlborough provide additional treatment: customers should check results in local community insert.

MWRA tests the water system-wide for over 122 possible contaminants identified in the regulations. Our tests show that very few of these contaminants are in our water. The few that we do find are only present in very small and non-harmful amounts. If there is any change in that situation, MWRA and your local water department will tell you about it.

MWRA works as a partner with local water departments to test water all the way to the tap. Together we test 300-500 samples of drinking water in the city and town systems each week. We test these samples for bacteria, temperature, pH, and the amount of chlorine. We also test the water for lead and copper.

Bacteria Testing: Local water quality tests include a bacteria test for "total coliform." Coliform bacteria can come from the intestines of warm-blooded animals. They can also be found in soil, on plants and other places. Most of the time, these bacteria are not harmful to humans. But, their presence may signal that harmful bacteria from fecal waste may be there as well. So, if a water sample tests positive for total coliform, we run more specific tests for E.coli. E.coli is a germ found in human and animal fecal waste that can cause illness. In 1998, only one in over 20,000 tests was positive for E. coli.

Lead and Copper Testing: There is almost no lead and copper in reservoir water. But, local water pipes and home plumbing can affect water quality at your tap. Metals such as lead and copper are absorbed from local pipes and home plumbing. Our testing plan looks at those locations most likely to have high lead and copper levels in each community. We do this to gauge our treatment effectiveness. In June 1996, MWRA began new water chemistry treatment to reduce the amount of lead and copper water absorbs from pipes and plumbing. Since then, lead and copper levels in tap water samples decreased as much as 30% in many cities and towns. In July 1998, MWRA made what are expected to be final changes to the treatment processes. The changes have further reduced levels of lead at consumers' taps.

Lead Levels in Worst Case Samples (parts per billion)

	1992	1998	1999
Average	31	20	10
% Below Action Level (AL)	51%	69%	85%

Q. My water is cloudy sometimes but then clears up. Can I drink it?

A. You can safely drink, cook with, and bathe in this water. Water travels under pressure throughout the system. Occasionally, air can become trapped in the water in tiny bubbles causing water to look cloudy. This is only temporary and the water clears up in a short time.

Q. My water is discolored sometimes. Can I drink it?

A. You can safely drink, cook with, and bathe in this water. Old iron pipes in your area can cause a red, brown, or yellow color in water. A yellow color is from iron that is absorbed by water that has been sitting in pipes for a long time. A red or brown color is caused by very small specks of iron. These specks of iron can enter the water if there is quick change in water speed or direction in your local pipes. Such changes can result from valve repair, flushing the system or the testing or use of fire hydrants. Wait until the water clears before doing laundry to avoid staining.



When the new MetroWest Water Supply Tunnel is complete in 2004, this connecting section will help deliver the water that reaches Metro Boston. The new tunnel will end our current reliance on a single aging pipeline for water supplied to 38 different communities.

What does this table tell me? The table lists the results of drinking water tests for each city and town for total coliform, lead and copper. It also shows the amount of each contaminant found in the water compared to the highest levels allowed by law. Data is for 1998, or earlier if sampling was not required in 1998. A summary of more recent lead data is shown on page 5.

TOTAL COLIFORM <i>MCL = 5% or less of monthly samples MCLG = 0</i>			YOUR CITY OR TOWN Find your test results	LEAD <i>Action Level (AL) of 15 MCLG = 0</i>		COPPER <i>Action Level (AL) of 1.3 MCLG = 1.3</i>	
% for year	Highest % (and month)	E. coli* # positive		# sites exceed AL	90th % value	# sites exceed AL	90th % value
0.00%		None	Arlington	8	38.0	0	0.199
0.34%	3.7% (Apr.)	None	Bedford (P)	0	6.0	0	0.558
0.24%	2.9% (May)	None	Belmont	1	13.0	0	0.419
0.24%	1.6% (Aug.)	None	Boston	5	34.0	1	0.451
0.34%	2.9% (Jan.)	None	Brookline	1	13.0	0	0.351
0.35%	4.0% (Aug.)	None	Cambridge	0	5.0	0	0.048
0.00%		None	Canton (P)	0	31.0	0	0.261
0.00%		None	Chelsea	4	27.0	0	0.459
0.00%		None	Everett	2	15.0	0	0.452
0.00%		None	Framingham	5	38.0	0	0.349
0.00%		None	Lexington	9	53.0	1	0.531
0.00%		None	Lynnfield W.D.	3	58.0	0	0.340
0.25%	1.6% (May)	None	Malden	11	39.0	0	0.534
0.00%		None	Marblehead	2	20.0	0	0.316
0.85%	5.8% (Sept.)***	None	Marlborough (P)	6	11.0	0	0.138
0.00%		None	Medford	6	60.0	0	0.455
0.00%		None	Melrose	6	97.0	0	0.470
0.00%		None	Milton	4	27.0	0	0.563
0.00%		None	Nahant	0	9.0	0	0.207
0.00%		None	Needham (P)	20	25.0	26	2.200
0.00%		None	Newton	11	72.0	0	0.639
0.19%	1.9% (Aug.)	None	Norwood	8	48.0	0	0.466
0.00%		None	Peabody (P)	0	9.0	0	0.220
0.00%		None	Quincy	5	33.0	0	0.556
0.00%		None	Revere	3	21.0	0	0.504
0.00%		None	Saugus	4	41.0	0	0.677
0.00%		None	Somerville	6	81.0	0	0.458
6.73%	27.3% (July) ***	None	Southborough	7	38.0	0	0.460
1.41%	12.2% (Mar.)***	None	Stoneham	3	25.0	0	0.446
0.00%		None	Swampscott	4	41.0	0	0.517
0.00%		None	Wakefield (P)	12	31.0	2	1.000
0.00%		None	Waltham	1	11.0	0	0.473
0.00%		None	Watertown	6	47.0	0	0.664
0.61%	2.5% (Aug.)	1	Wellesley (P)	9	20.0	38	2.400
0.61%	5.2% (June)	None	Weston**	2	14.0	0	0.445
0.00%		None	Winchester (P)	0	9.0	0	0.142
0.00%		None	Winthrop	5	44.0	0	0.508
0.00%		None	Woburn (P)	20	26.0	35	3.200

*P = partially-supplied community. MCL = Maximum Contaminant Level (highest allowed) MCLG = Maximum Contaminant Level Goal (ideal goals)
AL = Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper 90% of the samples must be less than the AL. Lead concentrations are measured in parts per billion (ppb) and copper concentrations are measured in parts per million (ppm).
*E. coli is an indicator of possible fecal contamination. It is tested for if there is a total coliform detection. Additional follow-up sampling occurs if E. coli is detected.
**Weston collects fewer than 40 samples per month so that community's MCL = 2 positives which was not exceeded.
***see community inserts/report on actions taken to address the 5% Coliform Rule exceedence*