# YOUR AWARD WINNING WATER

Drinking Water
Test Results 2014
Massachusetts Water
Resources Authority

| | |
|---|---|
| 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 aversteht. |
| Si usted desea obtener una copia de este reporte en español, llamenos al telefono 617-788-1190. | 这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。 |
| La relazione contiene importanti informazioni sulla qualità dell'acqua della Comunità. Tra-durlo o parlarne con un amico che lo comprenda. | 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。 |
| O relatório contém informações importantes sobre a qualidade da água da comunidade. Tra-duza-o ou peça a alguém que o ajude a entendê-lo melhor. | इस रिपोर्ट में "पीने के पानी" के विषय पर बहुत जरूरी जानकारी दी गई है। कृपया इसका अनुवाद कीजिये, या किसी जानकार से इस बारे में पुछिये। |
| Sprawozdanie zawlera ważne informacje na temat jakości wody w Twojej miejscowści. Poproś kogoś o przellurnaczenie go lub porozmawiaj z osobą która je dobrze rozumie. | របាយការណ៍នេះមានតម្លៃមានសំខាន់អំពីទឹកបរិភោគ ។ សូមបកស្រាយ ឬពិគ្រោះជាមួយអ្នកដែលចេះយល់ របាយការណ៍នេះ ។ |
| يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيداً. | 이 보고서에는 귀하가 주주하는 지역의 수질에 관한 중요한 정고가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오. |
| Η κατωθεν αναφορα παρουσιαζη σπουδαιες πληροφορειες για το ποσιμο νερο σας. Παρακαλω να το μεταφρασετε η να το σζολειασσετε με καποιον που το καταλαβαινη απολητως. | يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيداً. |

Massachusetts Water Resources Authority
and Your Local Water Department

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

## 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 |
| Department of Conservation and Recreation | www.mass.gov/dcr/watersupply.htm | 617-626-1250 |
| Massachusetts Dept. of Public Health (DPH) | www.mass.gov/dph | 617-624-6000 |
| US Centers for Disease Control & Prevention (CDC) | www.cdc.gov | 800-232-4636 |
| List of State Certified Water Quality Testing Labs | www.mwra.com/04water/html/testinglabs.html | 617-242-5323 |
| Source Water Assessment and Protection Reports | www.mwra.com/sourcewater.htm | 617-242-5323 |
| Information on Water Conservation | www.mwra.com/conservation.html | 617-242-SAVE |
| **Public Meetings** | | |
| MWRA Board of Directors | www.mwra.com/02org/html/boardofdirectors.htm | 617-788-1117 |
| MWRA Advisory Board | www.mwraadvisoryboard.com | 617-788-2050 |
| Water Supply Citizens Advisory Committee | www.mwra.com/02org/html/wscac.htm | 413-213-0454 |

**For a large print version, call 617-242-5323.**

AMERICA'S BEST 2014

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Dear Customer,

Clean, fresh water that tastes great – that's what you expect when you fill your glass, and that's what MWRA delivers right to your faucet. In fact, MWRA water was chosen as the best tasting in the country in 2014 at an annual conference of water specialists.

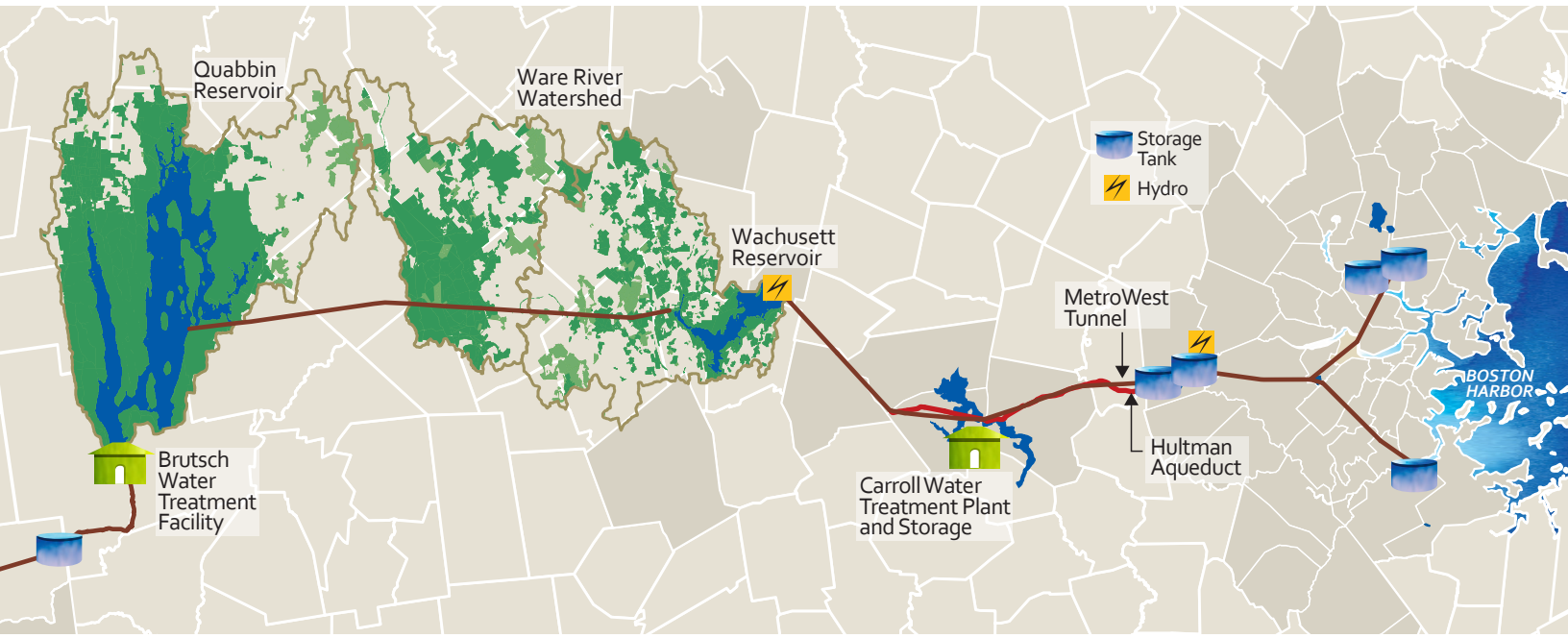
And it's not just the taste of the water that's good. MWRA takes hundreds of thousands of tests each year, and your water met every state and federal drinking water standard. System-wide, we remain below the Lead Action Level. Please read the letter on page 4 for more information on your community's local water system.

There are several reasons our water tastes so good, beginning with high-quality source water. Next is the state-of-the-art treatment we provide - starting with ozone in 2005 and then adding UV light in 2014. After treatment, the water does not see the light of day until it reaches your tap. MWRA is now finishing up construction of the last of its covered water storage projects with the Spot Pond Tank in Stoneham slated for completion later this year.

We hope you take a few moments to read this report. We want you to have the same confidence we have in the water we deliver to over 2 million customers. 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



## WHY YOUR WATER TASTES GREAT - HIGH QUALITY SOURCE WATER

Your water comes from the Quabbin Reservoir, about 65 miles west of Boston, and the Wachusett Reservoir, about 35 miles west of Boston. These pristine reservoirs supply wholesale water to local water departments in 51 communities. The two reservoirs combined supplied about 200 million gallons a day of high quality water to consumers in 2014.

The Quabbin and Wachusett watersheds are naturally protected with over 85% of the watersheds covered in forest and wetlands. To ensure safety, the streams and reservoirs are tested often and patrolled daily by the Department of Conservation and Recreation (DCR).

Rain and snow falling on the watersheds - protected land around the reservoirs - turn into streams that flow to the reservoirs. This water comes in contact with soil, rock, plants, and other material as it follows its natural path to the reservoirs. While this process helps to clean the water, it can also dissolve and carry very small amounts of material into the reservoir. Minerals from soil and rock do not typically cause problems in the water. But, water can also transport contaminants from human and animal activity. These can include bacteria and viruses - 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 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.

## TESTING YOUR WATER - EVERY STEP OF THE WAY

Test results show few contaminants are found in the reservoir water. The few that are found are in very small amounts, well below EPA's standards.

Turbidity (or cloudiness of the water) is one measure of overall water quality. All water must be below 5 NTU (Nephelometric Turbidity Units), and water can only be above 1 NTU if it does not interfere with effective disinfection. In 2014, turbidity was always below both the 5.0 and 1.0 NTU standards, with the highest level at 0.62 NTU. Typical levels at the Wachusett Reservoir are 0.3 NTU.

MWRA also tests reservoir water for pathogens such as fecal coliform, bacteria, viruses, and the parasites *Cryptosporidum* 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.

## TESTING 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 2014 test results are in the table below. The bottom line is the water quality is excellent.

### *Sodium facts*

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 34.8 mg/L (about 9 mg per 8 oz. glass). This would be considered **Very Low Sodium** by the Food and Drug Administration.

| 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 | 0.007-0.009 | 2 | No | Common mineral in nature |
| Monochloramine | ppm | 4-MRDL | 1.9 | 0-3.9 | 4-MRDLG | No | Water disinfectant |
| Fluoride | ppm | 4 | 1.02 | 0.87-1.1 | 4 | No | Additive for dental health |
| Nitrate^ | ppm | 10 | 0.06 | 0.01-0.06 | 10 | No | Atmospheric deposition |
| Nitrite^ | ppm | 1 | 0.006 | ND-0.006 | 1 | No | Byproduct of water disinfection |
| Total Trihalomethanes | ppb | 80 | 13.3 | 3.7-17.3 | ns | No | Byproduct of water disinfection |
| Haloacetic Acids-5 | ppb | 60 | 10.2 | 0-15.9 | ns | No | Byproduct of water disinfection |
| Total Coliform | % | 5% | 1.0% (Aug) | ND-1.0% | 0 | No | Naturally present in environment |
| Combined Radium | pCi/L | 5 | 1.76 | 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 **pCi/L**=picoCurie per liter ^As required by DEP, the maximum result is reported for nitrate and nitrite, not the average.

## WHY YOUR WATER TASTES GREAT - WATER TREATMENT

One of the reasons that the Boston area water tastes so good is that MWRA has 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 applying an electrical current to pure oxygen. Ozone has ensured strong protection against microbes and viruses, improved water clarity, and makes the water taste better. Starting in 2014, we also added ultraviolet (UV) disinfection, further improving the quality of the water. UV light is essentially a more potent form of the natural disinfection from sunlight, and ensures that any pathogens potentially in our reservoirs are rendered harmless.

In addition, the water chemistry is adjusted to reduce corrosion of lead and copper from home plumbing. Fluoride is added to promote dental health, and in April 2015 the dose was lowered to 0.7 ppm based on CDC and EPA recommendations. Last, we add monchloramine, a mild and long lasting disinfectant to protect the water as it travels to your home.

## 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. The EPA requires that no more than 5% of the samples in a month may be positive. 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 2014. If your community found any total coliform, it will be listed within the community letter on page 4.

## *Award winning tap water!*

In 2014, MWRA won **Best Tasting Water in the US** at the American Water Works Association Annual Conference. We competed against water suppliers from across the country. MWRA also received the Public Water System Award for excellent performance from the Massachusetts Department of Environmental Protection.

## 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/2014.html**.

## DRINKING WATER AND PEOPLE WITH WEAKENED IMMUNE SYSTEMS

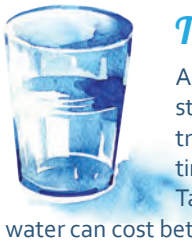
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

## CONTAMINANTS IN BOTTLED WATER

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.

## INFORMATION ABOUT CROSS CONNECTIONS

The 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**.



## *Tap water- the smart choice*

Although tap water and bottled water have to meet the same standards, tap water is delivered straight to your home without trucking or plastic waste. Bottled water produces over 10,000 times the amount of greenhouse gasses compared to tap water. Tap water costs less than a penny per gallon, while bottled water can cost between $1 and $8 per gallon. **Tap water is the smart choice!**

# WATER CONSERVATION

### 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 cause of leaks in faucets and showerheads. A new washer generally costs about 25 cents.

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 for signs of dye indicating a leak. If the dye has appeared in the bowl, 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.

### INSTALL A LOW-FLOW SHOWERHEAD AND FAUCET AERATOR

Some showerheads may still use over 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%.

## 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 on 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 saving water indoors and in your backyard.

## The inch rule for saving water outdoors

Most lawn, shrubs, vegetables, and flowers need just one inch of water per week. If there has been an inch of rainfall during the week, you don't have to water at all.

Overwatering can actually weaken your lawn by encouraging shallow roots that are less tolerant of dry periods and more likely to be damaged by insects.

## Follow outdoor water saving ground rules

- Water your lawn (and other landscaping) in early morning or evening to avoid evaporation.
- Be sure sprinklers water only your lawn, not the pavement.
- Never water on a windy day
- Never use the hose to clean debris from your driveway or sidewalk. Use a broom.
- Apply mulch around plants to reduce evaporation, promote plant growth and control weeds.

## Promote tap water

Let everyone 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 MWRA if you would like to receive a free sticker.

For more water saving ideas and devices, call **617-242-SAVE** or go to **www.mwra.com**.

STRAIGHT FROM THE TAP
Massachusetts Water Resources Authority

## INVESTMENTS IN YOUR WATER SYSTEM

### Preparing Dams for Climate Change

Since 2006, MWRA has spent over $21 million on dam safety projects. All MWRA dams, dikes, spillways and appurtenances are inspected routinely by licensed dam safety engineers and are in good condition.

### Protecting Reservoirs While Providing Open Space

The best way to deliver clean, safe water is to start with high quality source water. Since 1985, $134.5 million has been invested in land preservation around the Quabbin, Ware and Wachusett watersheds.

### 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.

### Taking Advantage of Gravity

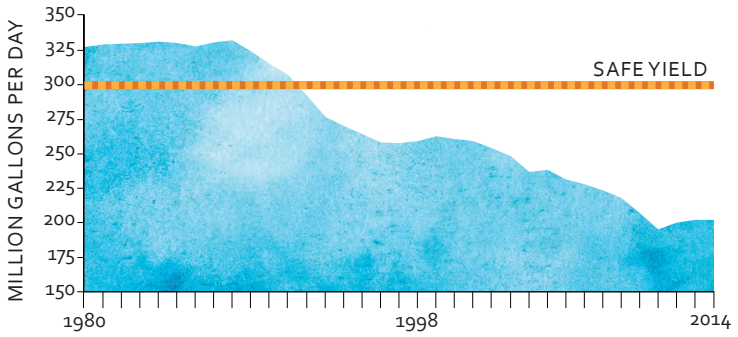
MWRA operates three hydroelectric generators that capture the energy of the water as it flows east providing $1.5 million in renewable energy annually.

### Covered Storage Keeps Water Safe and Clean

MWRA has constructed a network of covered storage tanks across the service area that keep your water protected from the treatment plant to your tap. The Spot Pond Tank in Stoneham will open later this year.

## Water conservation works

On average, MWRA delivers 200 million gallons of water each day - over 120 million gallons less than it did in the 1980s.




## What you need to know about lead in tap water

MWRA water is lead-free when it leaves the reservoirs, and MWRA and local pipes do not add lead to the water. However, lead can get into water through household plumbing including some service lines (the pipe from the street to your house). Check with your local water department if you have a lead service line. If you do, you should replace it.

Under EPA rules, each year your local water department must test water in homes that are likely to have high lead levels. The requirement is that 90% of the sampled homes must have lead levels below the Lead Action Level of 15 ppb. Since corrosion control treatment began in 1996, lead levels in tested homes have dropped over 90%, and 19 straight sampling rounds have been below the EPA Action Level.

For tips on how to reduce your possible exposure to lead at **www.mwra.com/lead**.

### SEPTEMBER 2014 LEAD & COPPER RESULTS

| | Range | 90% Value | (Target) Action Level | (Ideal Goal) MCLG | # Home Above AL/# Homes Tested |
|---|---|---|---|---|---|
| Lead (ppb) | 0-66 | 5.4 | 15 | 0 | 7/450 |
| Copper (ppm) | 0-0.5 | 0.1 | 1.3 | 1.3 | 0/450 |

**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 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 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, or MWRA at 617-242-5353 or www.mwra.com/lead.

**TOWN OF BEDFORD**
**DEPARTMENT OF PUBLIC WORKS**

**Public Water Supply # 3023000**

## TOWN'S WATER SUPPLY

Bedford uses an average of 900,000 gallons of water a day with a summer peak of 3.4 million gallons per day. About 85% of this water is supplied by the MWRA through three 12-inch diameter connections along the Lexington town line. The remaining 15% is supplied by Bedford from the Shawsheen Groundwater Treatment Facility series of three gravel packed wells. The wells aid in times of high demand and offset the full purchase price of MWRA water. In an emergency, Bedford can also be supplied by the Town of Burlington.

## WATER DEPARTMENT OPERATIONS

In addition to the Shawsheen Groundwater Facility, the Bedford Water Division maintains and operates approximately ninety miles of water main, eight hundred fire hydrants and three elevated storage tanks. We have annual programs for leak detection, water main rehabilitation, replacing older water meters, hydrant flushing and responding to the needs and concerns of our residents and business consumers. We also maintain an active Cross Connection Control Program, semiannually inspecting commercial and industrial buildings to test devices that protect the water system from backflows.

## SOURCE WATER ASSESSMENT

Mass DEP conducted a Sanitary Survey in November 2013 to assess the daily operations of the Town's water distribution system. Although the final report hasn't been issued by DEP yet, we are confident that the system has a very low susceptibility to contamination. Bedford provides treatment of the groundwater supply that meets all drinking water standards. We also conduct extensive monitoring as described below.

## WATER ANALYSIS

Bedford and the MWRA analyze water samples regularly to ensure we meet all federal standards. In 2013, we tested for more than 1500 parameters. The Table below shows the amount and regulated limit of each contaminant that was tested. Bedford has successfully maintained lead and copper levels well below the EPA requirements. However, if you have any questions or concerns about lead in your drinking water and would like to have it tested, please contact the DPW.

If you would like to find out more about Bedford's water supply, please call or visit our website at contacts below.

Peter Churchill, Water & Sewer Operations Mgr. (781) 275-7605
www.bedfordma.gov

| Parameter | Units | MCL (Highest Level Allowed) | Highest Level Found | MCLG (Ideal Goals) | Violation | How it gets in the water |
|---|---|---|---|---|---|---|
| Fluoride[1] | ppm | 1.3 | 1.5* Single day spike | 0.9 to 1.2 | No | Added to the water to fight tooth decay. |
| Secondary Contaminants | ppm | No set level | 20 tests demonstrated high quality water | | No | Naturally present in environment. |
| Perchlorate[2] | ppb | 2 | 0.08 | 0 | No | Constituent of a fuel propellant. |
| Nitrate | ppm | 10 | 0.43 | 10 | No | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits. |
| Total Coliform | P | 1 positive/month | 13 | 0 | Yes | Naturally present in environment. |
| Total Trihalomethanes | ppb | 80[3] | 48.8[4] | 0 | No | Byproducts of drinking water disinfection. |
| Haloacetic Acids | ppb | 60[3] | 15.1[4] | 0 | No | Byproducts of drinking water disinfection. |
| Lead | ppm | AL=0.015[5] | 0.002[5] | 0 | No | Corrosion of household plumbing systems. |
| Copper | ppm | 1.3 | 0.158 | 0 | No | |
| Volatile Organic Chemicals: 240 tests were conducted and one analyte came back with a level of 0.9 parts per billion which does not pose a public health condition. All other tests came back "ND", Not Detected. | | | | | | |
| ppm=parts per million, ppb=parts per billion, P=present, MCL=maximum contaminant level. [1] Fluoride is a measure of the amount of chemical added to the water by Bedford. [2] Due to our proximity to an airport, we perform this precautionary test. [3] Highest levels allowed (MCL) for this substance is based on the average of four quarterly samples. [4] Highest detected level is based on average of four quarterly samples. [5] For lead, the Action Level (AL) and the highest level found are based on the 90th percentile of the samples. | | | | | | |